



A NEW PERSPECTIVE FOR YOUR FARM.

Our multi-brand strategy.



2014 HARVEST REPORT





The seed corn business is in our blood.

Dear Grower,

We understand how the family farm works because, we have been farm family owned since 1935. We are different from the corporate-type seed companies. We stick to the basics. We are like a football team that blocks and tackles very well plus runs the ball consistently, executing the fundamentals every day creating a winning tradition. That is Burrus. Burrus has been winning for decades and it is no surprise. Here are the secrets to our success:

Integrity. For four generations we have honored our word. We have done what we said we would do and growers know they can trust us. We are willing to earn your trust. If you recognize your current supplier is stacking the deck against your long-term success then maybe it is time to rethink your past decision. If you don't trust your supplier explicitly, change.

Persistence. The competition likes to say "The family operations can't survive! They are getting our seconds – they can't compete." Well folks, we have been in the business 80 years and the mantra has never changed. You know what, we are doing just fine! In fact many of the companies singing those songs have gone by the wayside. Growers know that if three seed companies are all that is left, they will be paying twice the price for their seed! Growers want us to succeed. And the surest way to be certain that happens is to buy our seed, not because we provide competition, but because we bring better value, better performance, and that means better profitability for you. Believe me, we are just as persistent as we were eight decades ago when our grandfathers started. We never quit regardless of the nay-sayers' message. We know better and can prove it!

Local testing. We not only conduct tests on flat black ground but purposefully, have many locations where soils stress even in a normal year. This provides an environment to better predict the stress tolerance of products. Optimum®AQUAmax® and Agrisure® Artesian™ are monikers on several products that have excelled in high-yield situations as well as drought- stressed environments. These marker bred systems also prove their worth in field demonstrations, too. Breakout genetics matched with breakthrough traits will help you grow more corn. Our local testing provides



the best avenue to predicting future performance. We are having another outstanding year compared to our competitors. Read the results. Selecting products for "our footprint" is a winner.

Performance. Nothing is as vital to corn production as matching products to your soil, farm by farm, tract by tract. Our Crop Optimization Planner (COP) is a proven, non-emotional product selection tool that can make you an extra 8 bu/a. Big yields start with a strong stand. Our PowerShield® seed treatment is the best in class, in any class. It provides the umph to come up under cold, wet conditions. With our 100% Free replant policy on seed corn and PowerShield treated beans, we are just as interested in you getting a stand as you are!

Compassion. To be able help in tough times, it is important that you understand the needs. We get it. We help growers with solid recommendations to improve product performance and profitability. And besides that, we care. Your success is our success!

Choice. Everyone likes to have choices. We provide more choice

than the single-supplier brands. In the past, growers bought from three suppliers to insure genetic diversity. Today, you can buy from us and know you have divided your risk by trait and genetics without dividing your volume discount.

It can be difficult today to tell one seed company from another. Give us a chance to prove we are different. To prove we are better. For those who have planted us for decades, thank you for your continued support. We appreciate every unit and box of seed you order as you place your trust in us. If you are considering us for the first time, thank you. Join the increasing number of growers recognizing the performance of our multi-brand strategy. You'll be glad you did!

Successfully,

Tom Burrus and David Hughes



A hand shake still works at Burrus. While it is an old fashion way, we still do business with a hand shake

Agronomic “Corn Talk” Meeting Schedule for 2014-2015

Town	Day/Date/Starting Time	Restaurant	Phone # to call for reservations	
Effingham, IL	Mon., Nov. 24 at 11:30 a.m.	K of C Hall	618-980-8676 - Joe Fletcher	RSVP by: Nov. 20
Peoria, IL	Tues., Dec. 2 at 7 a.m.	Rhythm Kitchen	800-529-7480 - Dick Burns	RSVP by: Nov. 28
Chillicothe, MO	Tues., Dec. 2 at 11:30 a.m.	Chillicothe Country Club	800-284-8490 - Seth Link	RSVP by: Nov. 28
Macon, MO	Wed., Dec. 3 at 11:30 a.m.	Comfort Inn	573-470-4352 - Jordan Watson	RSVP by: Nov. 28
Fairbury, IL	Fri., Dec. 5 at 11:30 a.m.	McDonald's Family Restaurant	800-491-1747 - Dennis Mueller	RSVP by: Dec. 2
Sherman, IL	Mon., Dec. 8 at 11:30 a.m.	Poe's Catering	309-241-7564 - John Williams	RSVP by: Dec. 4
Macomb, IL	Thurs., Dec. 18 at 11:30 a.m.	The Red Ox	309-299-3850 - Jeff Hyde	RSVP by: Dec. 16
Higginsville, MO	Mon., Jan. 5 at 11:30 a.m.	Lions Club Building	660-247-1388 - Donny Marnin	RSVP by: Dec. 30
Marshall, MO	Tues., Jan. 6 at 11:30 a.m.	Farm Credit Building	660-247-1388 - Donny Marnin	RSVP by: Dec. 30
Hannibal, MO	Wed., Jan. 7 at 11:30 a.m.	Fiddlesticks	217-577-3644 - Keith Martin	RSVP by: Jan. 5
Kankakee, IL	Fri., Jan. 9 at 11:30 a.m.	The Homestead	800-491-1747 - Dennis Mueller	RSVP by: Jan. 6
Jacksonville, IL	Mon., Jan. 12 at 11:30 a.m.	Burrus Jacksonville Office	217-491-6575 - Ross Brockhouse	RSVP by: Jan. 7
Liberty, MO	Tues., Jan. 20 at 11:30 a.m.	TBA	660-413-1212 - Riley Young	RSVP by: Jan. 15
Maryville, MO	Wed., Jan 21 at 11:30 a.m.	TBA	816-244-9526 - Rob Church	RSVP by: Jan. 15

Contact your Account Manager or call our office at 877-4BURRUS to attend a meeting in your area or check if additional meetings have been scheduled.

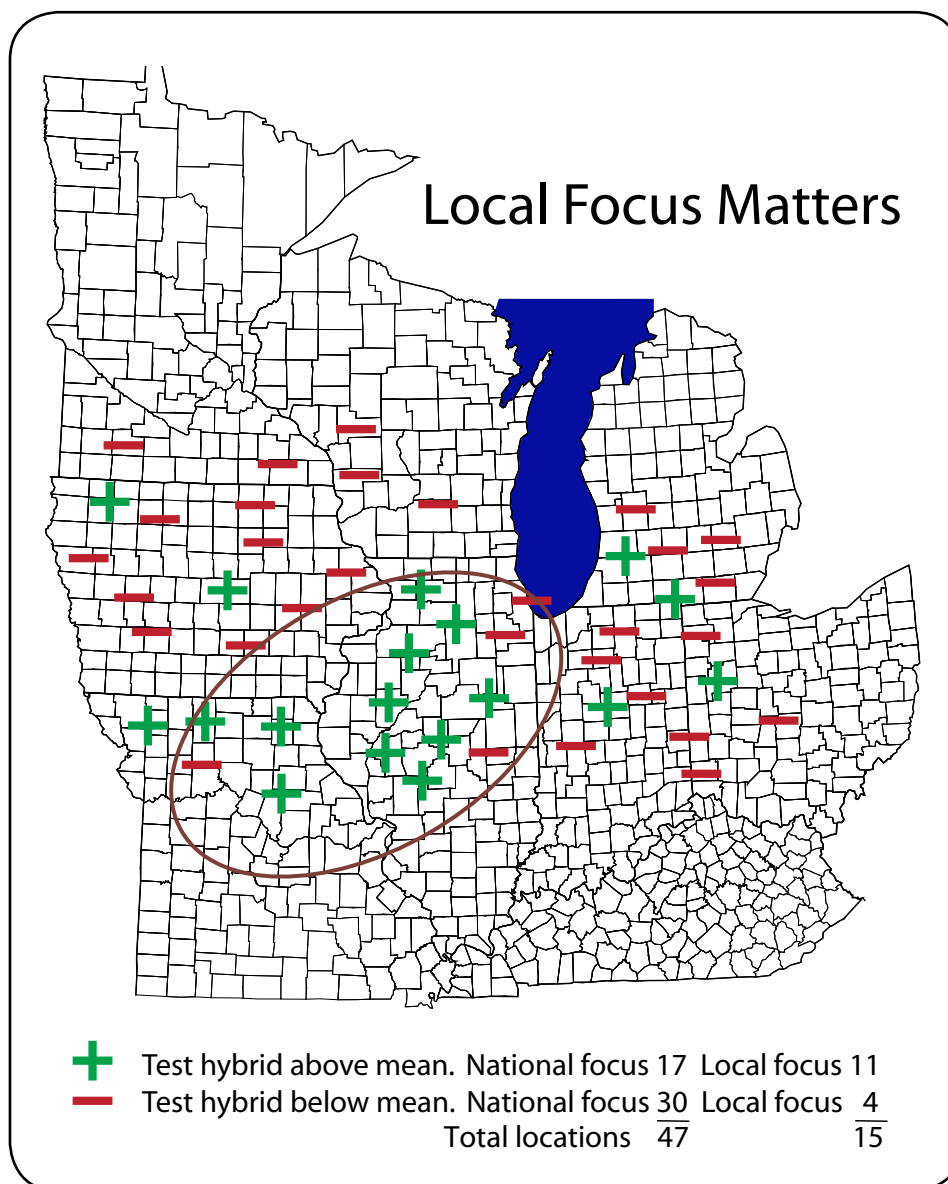
Selecting product for our market footprint

Testing on all soils is a winner

Take a look at the performance map. The green pluses represent locations where the product yielded above the mean of the plot. The red minuses are locations where it was below the mean. Overall, across the corn belt, this product performed slightly above the mean with 17 of the 30 locations above the mean. Now look within the circle, representing the Burrus/Hughes footprint. Here this product was above the mean 11 out of the 15 locations. It is an excellent product for us to commercialize. The national brands are looking for products that can be used over wide geography, rather than the best product for a smaller area.

We have an extensive testing program that is used to identify the best products for our footprint. We have areas with high organic soils and areas that have more stress prone soils. We test on all soils, while competitors focus on black soils so they can have low coefficient of variation numbers. We routinely utilize the best techniques to analyze data and are expanding our plant density studies to fine tune our Crop Optimization Planner.

Our production techniques are more meticulous than the competitors. Quality is not something you stamp on the bag when you apply seed treatment. Studies have demonstrated up to 18 bu/a more performance out of the highest quality seed. That is why we meticulously grow our own seed. Whether it is spraying Liberty® or Roundup® with our hooded sprayer to remove any plants that are carrying the desired trait, or double graviting and color sorting every unit, Burrus cuts no corners. And then we apply our PowerShield® seed treatment package for optimum stand establishment and it adds yield.



The map illustrates 47 plot locations across the Midwest. Those plot locations with a green plus sign show the test hybrid above the mean. Those plot locations with red minus signs show the test hybrid was below the mean. At Burrus/Hughes we focus on hybrids that provide exceptional performance in our footprint. Consequently, we commercialized it. Today it is outperforming the national brands.

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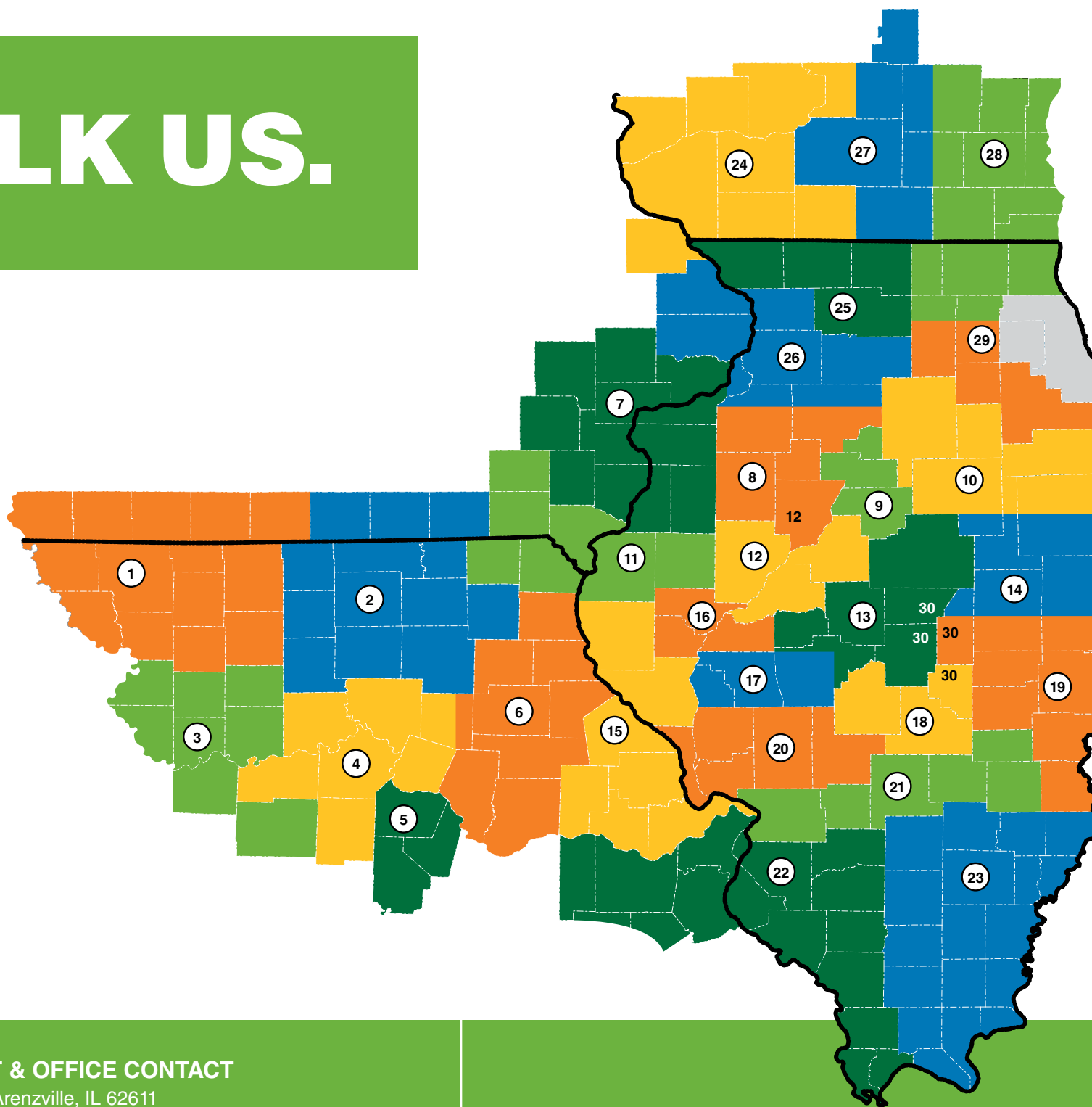
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We care! Be more successful.
We want to help solve your problems. Put our resources to work!

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ADAMS

Kent Shriver
Quincy, IL

Planted: April 21 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 8. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: VRT, K: VRT. **Herbicide:** Degree Xtra, Atrazine. **Insecticide:** Tombstone. **Soil Type:** Heavy loam
✓**Check Hybrid:** Power Plus® 6C41 S™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
✓ Check	271.5		20.4	60.0
POWER PLUS 4J93AM™*	249.4	6	17.7	59.4
POWER PLUS 4J94AMX-R™*	254.0	5	17.9	60.5
POWER PLUS 6N83AM™*	241.4	8	16.6	60.2
BURRUS 5Z41 GT	233.2	10	17.6	62.4
POWER PLUS 4G46AMX™*	247.8	7	18.4	58.5
POWER PLUS 6F74AMX™*	250.2	4	19.3	62.7
POWER PLUS 7H23 S™*	267.4	2	17.2	60.3
BURRUS 6T54 3000GT	261.7	3	20.1	58.0
POWER PLUS 7U15AM-R™*	269.6	1	18.5	59.6
POWER PLUS 7A18AM1™*	234.6	9	19.3	61.7
✓ Check	259.0		19.8	61.9
Average	253.3		18.6	60.4
Check Average	265.3		20.1	61.0

BROWN

Wow!

COMPARE! Dan Wagner
Mt. Sterling, IL



Planted: May 5 in 30" rows. **Planting Population:** 34,000. **Harvested:** September 23. **Previous Crop:** Corn. **Soil Type:** Heavy loam. **Weather:** May–wet, June–wet, July–wet, August–wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
BURRUS 6T54 3000GT	249.5	29.9	100	56.8	36
POWER PLUS 4J94AMX-R™*	248.6	25.6	100	57.6	34
POWER PLUS 7H23 S™*	247.6	26.2	48	57.3	36
POWER PLUS 7A18AM1™*	243.9	29.6	88	58.9	34
POWER PLUS 6N83AM™*	242.7	28.4	20	56.3	33
POWER PLUS 6F74AMX™*	241.1	25.6	100	60.0	33
POWER PLUS 4G46AMX™*	239.7	23.8	76	59.8	35
POWER PLUS X4V45™*	237.5	25.3	100	57.6	32
BURRUS XP5008 3122	232.9	29.6	100	57.4	32
BURRUS 5Z41 GT	230.5	28.1	100	55.4	36
Average	241.4	27.2	83	57.7	34

Multi-hybrid test

CORN ON CORN Len Wiese
Versailles, IL

Planted: April 17 in 30" rows. **Harvested:** October 6. **Previous Crop:** Corn. **Soil Type:** Heavy clay. **Weather:** May–wet, June–wet, July–wet, August–wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 6P71/6F74AMX™*	236.7	30.0
POWER PLUS 6P71/6F74AMX™*	236.5	30.0
POWER PLUS 6F74AMX™*	236.4	30.0
POWER PLUS 6P71™*	235.5	30.0
POWER PLUS 6P71/6F74AMX™*	231.5	30.0
Average	235.3	30.0

ILLINOIS

Managing Rootworm Resistance

By Matt Montgomery

The area prone to rootworm trait resistance increased in size over the past year and the scope of trait resistance did as well.

Rootworm trait resistance really became a regional issue this year. As of October, 2014 – western corn rootworm resistance had been confirmed in an expanding territory that now covers at least four states. The scope of resistance expanded as well. Previously, resistance had only been confirmed to Monsanto's YieldGard® Rootworm trait (Cry3Bb1). Over the past season though, cross resistance was confirmed to Agrisure® Rootworm (mCry3A). While rootworm injury was less extensive in the midwest this growing season, it was not absent – and once again, Burrus received reports of every trait at least suffering a "chew through" event (including the DuPont Herculex® RW Trait – Cry 34/35Ab1). A "chew through" (a typical damage to a traited rootworm product) does not necessarily equal the presence of "resistance."

Burrus has recommended that growers approach any "chew through" as if it were actually resistance, implementing appropriate management techniques to curb injury and/or possible resistance development. What are appropriate management techniques though? The suitability of management techniques really depends upon the situation at hand. While growers should consider the potential benefits of such techniques, they should always be conscious of the costs as well – factoring those costs into their final decision. A quick review (available in this article "A summary of rootworm management techniques") shows that few management techniques are perfect, requiring an integrated approach to rootworm management and resistance management.

This season granted us a brief rootworm reprieve in much of the Burrus footprint, but rootworm management must be a priority before we hit the 2015 growing season. Rootworms will again prune roots despite our recent break.

A summary of rootworm management techniques – costs and benefits

Management technique: refuge compliance

Refuge compliance is all about diluting the expression of resistant genes. Rootworm beetles sexually reproduce, which of course means that parents each provide half of their offspring's genetic material. A refuge encourages the crossing of resistant and susceptible root-

Fields at high risk for corn rootworm.

- Continuous corn planted three or more years.
- Same rootworm trait used each year.
- Insufficient refuge use in the past.
- Illinois and Iowa documented areas of rootworm resistance.

Options to manage rootworm.

- Rotate rootworm traits.
- Plant soybeans.
- Plant hybrids with no rootworm traits and add soil insecticide.
- Use Poncho® 1250 on rootworm-traits seed.
- Follow refuge guidelines.

worms. The hopeful end is the death of offspring possessing both resistant and non-resistant genes before they have a chance to mate and pass on resistance.

Benefits: If there is a key to resistance management, refuge compliance is it. A lack of refuge compliance likely played a role in many cases of rootworm trait resistance.

Other considerations/costs: Refuge compliance is a requirement and an imperative. Fudge in this area, and rootworm traits will eventually fail for you or your neighbors. The advent of Refuge In a Bag (RIB) products has made refuge compliance much easier, but it has not eliminated the need to diligently follow refuge requirements.

Management technique: crop rotation

Crop rotation has been the historic method by which growers managed rootworms. Because rootworms historically deposited their eggs in corn, because rootworms only hatch the following growing season, and because corn roots are needed to sustain rootworms, crop rotation represented a nice way by which to kill rootworms via starvation. Larvae hatched in bean fields only to find unsuitable root material and quickly died.

Benefits: The benefits of crop rotation are fairly straightforward. Without using an insecticide, growers are able control rootworms – and they gain the yield advantages of crop rotation to boot. Even trait resistant rootworms need the nourishment of corn roots. Remove that nourishment and trait resistant rootworms die with their resistance genes. Where rotation still works, it dilutes the expression of resistance within the overall population minus an additional input cost.

Other considerations/costs: Yes, rotation limits the corn acreage options for a grower. However, there is another significant issue associated with rotation – it doesn't work everywhere. Some rootworms have learned to work their way around rotation. In such cases, rootworm

eggs are deposited in soybean ground (ground that will soon rotate to corn), allowing the resulting larvae to survive. Growers in the east central portion of Illinois are all too familiar with this issue. The resistance management benefits of rotation might be muted for growers in that portion of the Burrus footprint.

Management technique: trait rotation

A key component of any resistance management program is to not rely upon the same pest management technique season after season after season. Once again, many cases of rootworm trait resistance occurred where growers continuously used the same rootworm trait. Trait rotation breaks the vicious cycle of resistance, exposing a pest to a different pest management tool each growing season. If resistance to one trait arises, that resistance is eliminated via the next, different trait. Burrus is fortunate to offer both Agrisure® and Optimum® AcreMax® corn rootworm events so you can rotate and still plant "all Burrus."

Benefits: Trait rotation is one of the few resistance management techniques actually left in our toolbox. By rotating between traits, the grower may be able to maintain a large toolbox of effective rootworm traits while minimizing cost.

Other considerations/costs: Trait rotation is a very different and difficult mindset to embrace. Finding a trait that one likes and then using something different the next growing season does not represent the way growers have typically made decisions. The comfort factor of jumping from the known to the unknown might be too high for some – but this recommendation is a must. While different traits are available, they all use the same basic technique (destruction of the insect's gut) to control rootworms. This close relationship makes rotation that much more necessary. Allow resistance to a specific trait to develop within a field, and the suitability of using that trait in rotation decreases.

**Management technique:
planting pyramid hybrids**

A pyramided hybrid possesses two or more traits targeted against the same pest. In the case of rootworm management, a pyramided trait possesses more than one trait targeted at rootworms specifically.

Benefits: The benefits of using a pyramid actually mirror those of trait rotation. If a portion of the pest population expresses resistance to one trait, it hopefully does not yet express resistance to the other present trait. This should result in elevated beetle mortality which should keep beetles from producing resistant offspring. Because pyramid products are RIB products (in this case, 95% traitled corn with a 5% blended refuge), using this management technique is fairly convenient.

Other considerations/costs: As with other RIB products, pyramids sometimes come with a more cost per unit of seed. Confirmed resistance to YieldGard Rootworm and Agrisure Rootworm has also raised concerns over the suitability of 5% blended pyramids to resistance management. In the 2014 Proceedings of the National Academy of Sciences, Dr. Eric Gassman and his colleagues expressed concern that resistance to the two previously mentioned blend components might accelerate resistance to Herculex RW (the other blend component currently not displaying confirmed resistance) if the refuge blend component is not increased. Growers truly wishing to avoid resistance may want to consider refuge border rows (at the least) in pyramid hybrid acres to push refuge acreage a little higher than that in the bag. Or you can add some refuge rows at one end of your planter as there are no requirements using this

method because you are exceeding the minimum requirements.

**Management technique:
adult beetle suppression**

Adult beetle suppression involves the application of an insecticide (typically by airplane) to eliminate adult beetles. The goal is to kill off reproductive beetles and thus eliminate the spread of resistance (because potential parents are killed before they mate and/or lay eggs).

Benefits: As with other noted management strategies, this method is very effective at eliminating those adults expressing resistance. This management technique is not new to agriculture, having been used extensively before the advent of rootworm traitled corn.

Other considerations/costs: Adult beetle control adds an additional expense to the grower's balance sheet, often requiring aerial applications to get the job done. Adult beetle control has also previously resulted in insecticide resistance, thus reiterating the need for scouting to trigger adult beetle control rather than annual prophylactic applications. Insecticides will also not control all the adult beetles in a field. Some will withstand the application due to sublethal exposure while others will emerge after the insecticide has degraded. Because insecticides are broad spectrum neurotoxins, the application of an insecticide will also impact parasites and pathogens that check the development of other corn pests (natural controls). An EPA advisory scientific panel recently recommended that adult control only be used when "greater than expected damage" was encountered "during the current season in fields with resistant populations."

**Management technique:
soil insecticides**

Soil insecticides represent a historic method of rootworm control and most growers are familiar with ideal soil insecticides for rootworm management. Applied in furrow or in a T-band, the application of such materials does significantly reduce rootworm injury where the pest is present.

Benefits: The benefit of insecticide application is root protection and dramatic root protection at that.

Other considerations/costs: Soil insecticides add a cost (sometimes necessary) to the grower's expense line. Thoughts related to insecticide use with a trait have what might be called an "evolving history." In the EPA's preliminary review of Bt technology (just previous to the release of the first/Monsanto rootworm trait), the agency almost embraced the concept of using soil insecticide use stating that "if resistance is confirmed, all acres (Bt fields and non-Bt refuges) should be treated with insecticides targeted at ... larvae." An EPA advisory scientific panel recently disputed this approach stating that insecticide could be considered with a non-Bt hybrid but that "the use of a soil insecticide with a Bt hybrid should not be done." Where rootworm technology is still effective, University studies appear to indicate little benefit to reduced root injury. Burrus has only recommended the use of insecticide where a grower has observed unusual injury or beetle numbers or where a field is positive for risk factors (see chart) yet lacks accurate scouting data. The latter should only be used the following season following scouting and root digs.

Ask your dealer or an Account Manager about how to qualify for up to a \$35/unit rebate for using Force insecticide in addition to the Agrisure RW traits.

Golden G09E98	221.4	23.6
Stone 5828 RIB	212.8	22.0
Pioneer P0636AM1	212.6	23.7
Stone 5428RIB	211.3	19.8
Pioneer P0987AM1	211.3	23.7
Stone 6404GVT3P	208.8	25.8
Stone 6058RIB	208.5	22.1
POWER PLUS 4G46AMX™*	208.4	23.8
Stone 5418RIB	208.3	18.8
Pioneer P1221AMXT	206.6	25.2
Stone 5914VT3P	205.8	22.8
Stone 5628RIB	205.7	21.3
Stone 6158RIB	205.4	25.1
Stone 6328RIB	203.8	25.3
Stone 6148RIB	203.5	25.3
Stone 6258RIB	200.8	24.0
Stone 5914VT3P	197.8	22.7
Stone 5838RIB	194.9	23.0
Beck's 5842EZ	194.7	23.8
Stone 6328RIB	194.5	25.8
Golden G12J11-3011A	192.2	25.1
Pioneer P0496AMX	192.0	20.7
Phoenix 5552EZ	189.8	22.9
Golden G10D98-3122	181.6	22.9
Golden G11U58-3122	178.3	24.2
Average	211.1	24.2



Kent Shriver saw his Adams Co. plot average 253.3 bu/a.



With the phenomenal growing conditions the yields were so high the multi-hybrid planter showed little difference in Brown Co. for Len Wiese.



Power Plus® 7A18AM1™* looks beautiful in the Greg Steele plot in Bureau Co.

Brian Hornbeek

Brian Hornbeek has joined Burrus as our Financial Lead. He was previously employed with Tom Lange Company as a staff accountant working with six domestic and two foreign corporations. His financial and accounting knowledge deliver Burrus on solid footing.

Brian was raised in nearby Jacksonville, IL. He detasseled for Burrus during his teenage years so he has roots and heritage with Burrus. After graduating from Illinois State University in Normal, IL, Brian went on to receive his Master's of Accountancy from University of Illinois, Springfield, IL. Brian has also passed exams to become a Certified Public Accountant.

Brian's hobbies include watching sports and playing hockey. He enjoys spending time outdoors and listening to live music.

Brian can be contacted at our office



toll free at 877-4-BURRUS or by e-mail at brian.hornbeek@burrusseed.com. We are glad to have Brian on our team as he uses his wealth of experience to guide the financial portion of the business.

BUREAU

Power Plus® 7U15AM-RTM* wins plot

COMPARE! Kent Bickett
Princeton, IL



Planted: May 10 in 30" rows. **Planting Population:** 33,500. **Harvested:** October 7. **Previous Crop:** Corn. **Soil Type:** Heavy loam. **Weather:** May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 7A18AM1™*	247.6	26.7
Stone 6438RIB	244.9	26.6
Stone 6378RIB	239.6	26.2
Stone 6448RIB	238.7	26.4
Golden G14R38-30000GT	233.2	26.6
Golden SJ7381-GT	227.9	30.6
Great Lakes 5939	225.2	23.2
POWER PLUS 4J94AMX-R™*	224.5	26.7
Beck's 5828XL	224.1	24.7
Stone 6358RIB	222.3	25.4
Stone 6278RIB	222.0	25.6



Battling weed resistance

By Matt Montgomery

Burrus has been educating growers about an important message at field days, in articles, during field visits, and at agonomic meetings. That critical message has gone something like this:

Resistance is the single greatest agronomic issue facing growers. The outcome of this battle will influence agriculture for decades to come. It ranks equally with low commodity prices, high input costs, and high cash rents. As with those issues, the issue of resistance (and specifically how a farmer responds to it) will literally determine if individual growers will or will not continue farming.

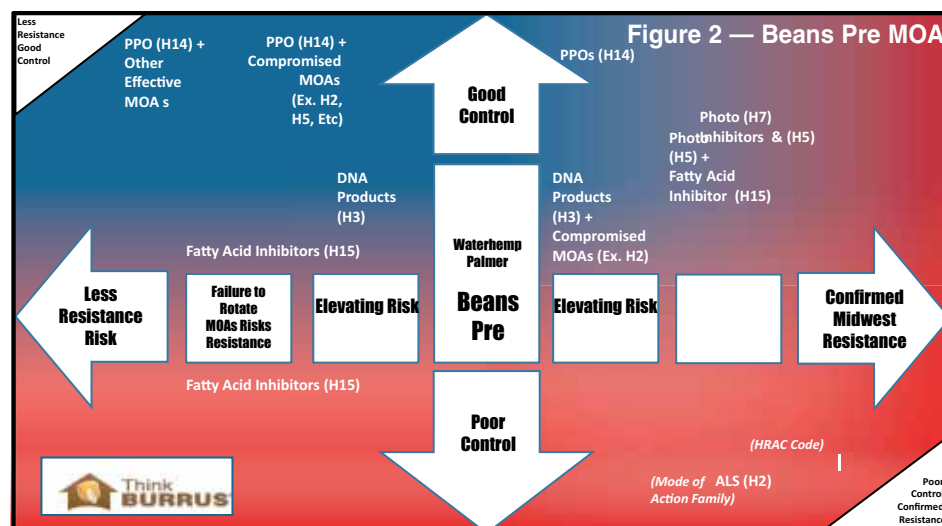
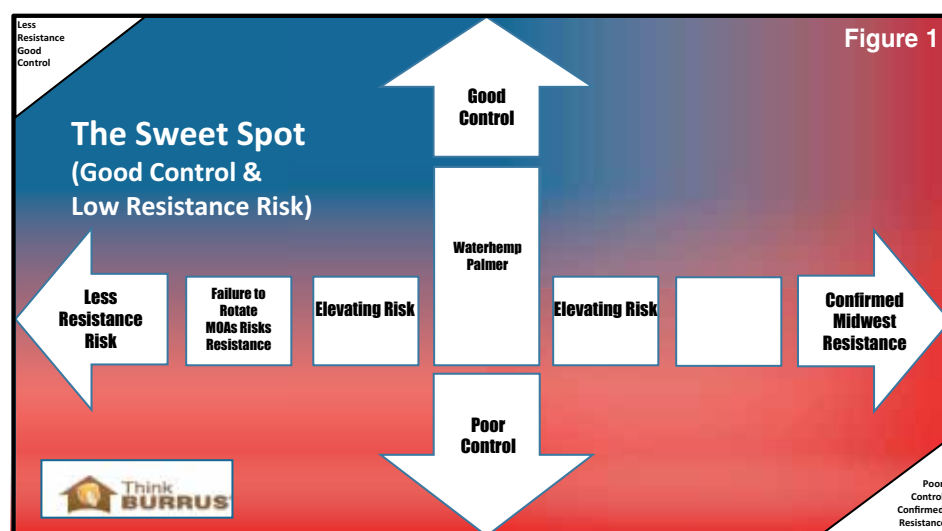
The issue of resistance has been displayed in every arena of pest management. Diseases – frogeye leaf spot for instance – have displayed resistance to certain fungicides and insects. Rootworms for instance, have developed resistance to some of our best management techniques. However, the devastating impact of resistance has been most dramatically displayed in the arena of weed management (especially in the arena of Roundup® resistance). A brief 2014 drive through the northern half of Missouri and portions of west central Illinois provided plenty of great Roundup resistance examples (see photo). Burrus is not being dramatic when we state that weed resistance has literally reached epidemic proportions within some of our footprint.

Managing resistance is a complex topic. However, managing weed resistance essentially comes down to a five-step approach – an approach that Burrus highlighted in our 2015 *Product Selection Guide* and that we again highlight here.

1. Ambitiously scout fields. Growers need a clear picture of historic weed pressure in each field. Detecting a problem requires that growers know the spectrum of weeds present within their field. Detecting a problem also requires growers to know if that spectrum has recently changed. We stressed this in our 2015 *Product Selection Guide*. There we noted that scouting must be the cornerstone of an ambitious resistance management program stating that “windshield observations cannot provide that type of insight.” Resistance management is needed and absolutely necessary for every grower, but it has to start off on the right foot – that foot is weekly scouting.



Waterhemp infested bean field in northwestern MO.



2. Error on the side of caution. Waiting to battle resistance until it shows up is too little too late. The goal of resistance management is to deter resistance before it ever gets started – to maintain lots of management tools in a great big tool box. After resistance arrives – the tool box irreparably shrinks. Growers should assume that resistance is currently waiting quietly in their field right now and should start to manage resistance right now. Here are a few factors that may hint at resistance being silently or not so silently present:

- Weeds that escape minus obvious applicator errors.
- The appearance of a single “hard to control” species rather than multiple “hard to control species.”
- Plants only displaying herbicide injury symptoms while being subjected to rates that once proved lethal.
- A recent shift toward weed escapes in a field historically prone to good or excellent weed control.
- Frequent or continuous reliance upon one herbicide mode of action.

3. Engage in a “lockdown” strategy.

Growers need to restrict current and/or future resistant weed access to their field/fields. The goal is to keep resistant seed from entering new locations or spreading within a field to new locations. This requires that seed access to fields be restricted/locked down. The following steps must be taken:

- Weed control in corn must be as important as weed control in beans. Failure to keep corn clean will only help spread resistant weeds.
- Suspect, resistant weeds should be removed where present to eliminate seed production. This means that even a few escapes should be removed and they should be removed by hand if necessary.
- Suspect, resistant weeds residing near a field should be removed. Mowing roadsides, ditch banks, and waste areas has never been more important.
- Suspect, resistant weeds should be avoided during harvest. Resistant weeds and the area immediately surrounding them should be left alone with those resistant weeds removed soon after harvest. Combines are, unfortunately, great tools for spreading resistant weed seed. Once a combine plows through a patch of resistant weeds, the seed from those weeds works



Try Hughes 388HY hybrid alfalfa. This Sunstra hybrid alfalfa is the ultimate with very fine stems, rapid recovery, and is easy to chop.

its way into every nook and cranny.

- Equipment, products, materials, etc. suspected to harbor resistant weed seed should be avoided by growers. Finding out “where it has been” or “where it has come from” absolutely must precede any purchase.

4. Give herbicides a fighting chance.

The 2015 *Product Selection Guide* noted that “one of the quickest ways to encourage herbicide resistance is less than lethal herbicide exposure. However, there are other pathways leading to this same spot/other situations that lead to less than lethal herbicide exposure. They include:

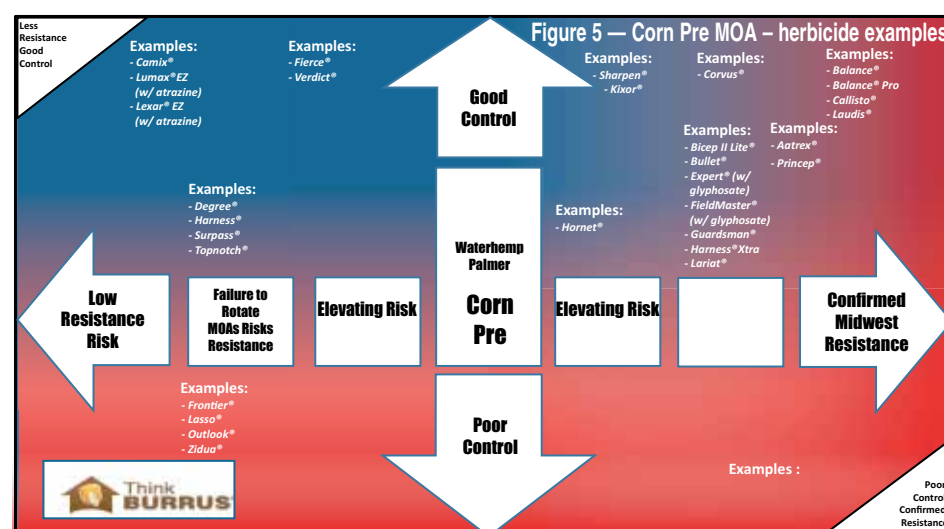
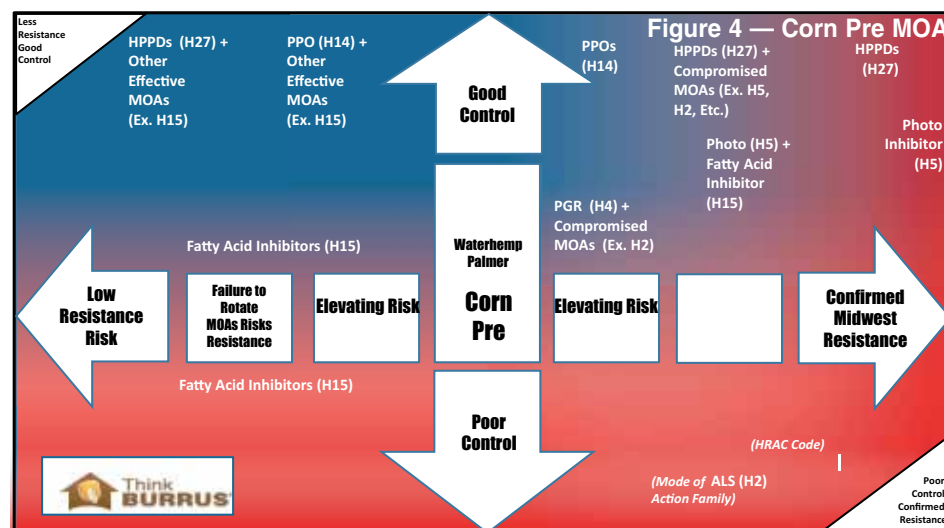
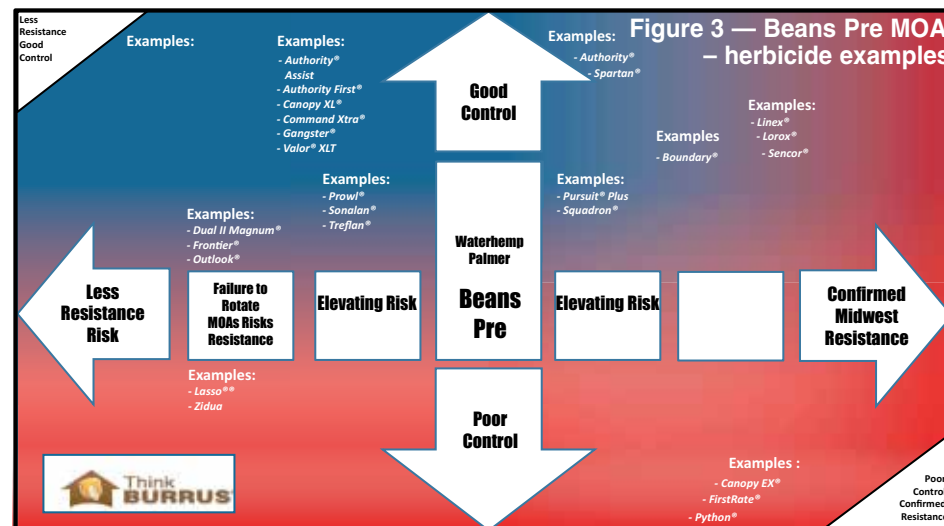
- Applying an incorrect rate of herbicide given the size of the plant.
- Applying a product knowing rain may soon wash much of it from the plant.
- Applying a product in such a way that it does not adequately cover the plant.

5. Move beyond just number 9, etc.

It would be incorrect to say that Roundup (glyphosate resistance) is the only herbicide resistance issue facing growers. However, it does represent the most pressing herbicide issue facing the majority of growers in Burrus country. Glyphosate (Roundup) is classified as an HRAC 9 herbicide (HRAC stands for Herbicide Resistance Action Committee). A vigorous resistance management program must move beyond reliance upon only HRAC 9 (or any single HRAC group for that matter). Other modes of action should be used. While we are being a little hard on HRAC 9/glyphosate, the same principle applies for other frequently used modes of action. Rotating through modes of action is key to avoiding resistance and/or recovering from resistance (Note: weed scientists would technically say the appropriate term is “site of action.” Considering occasional rotation to LibertyLink® beans or movement to LibertyLink beans, along with the use of LibertyLink herbicide, represents one post-emerge example of “moving beyond number 9.” Cell membrane disrupting herbicides (herbicides that burn weeds and soybean alike) represents another post-emerge example of “moving beyond number 9.” Using pre-emerge options represents another simple way to get additional chemistry into the herbicide lineup.

How to use Burrus pre-emerge herbicide charts

- Two slides are included per crop (two for corn and two for beans)
- The first slide for each crop provides information on Mode of Action families
- The second slide for each crop provides product examples for each Mode of Action family
- As noted in Figure 1., the upper left hand corner is the sweet spot where control is good and resistance risk is low
- The right hand side of the chart, where the chart shifts to red, represents increasing resistance risk (the further right you go the more red the chart gets and the more resistance risk increases)
- The bottom of the chart, where the chart also shifts to red, represents decreasing control for waterhemp (the further you move down on the chart the chart gets more red and control decreases)
- Growers should rotate between chemistries within the “sweet spot” and those on the fringe of the sweet spot to decrease resistance risk while maintaining adequate weed control.



We have included a herbicide chart for pre-emerge herbicides in Figures 1-5. It

references amaranth control (waterhemp and Palmer amaranth control).



Levi Garrison, son of Burrus dealer Brian & Cheryl Garrison, drives his York barrow that he purchased from Burrus at the Clay Co. fair.

BUREAU

Power Plus® 5C17 AMXT™* is third!

Green Prairie Products Princeton, IL

COMPARE! CORN ON CORN

Planted: May 8 in 30" rows. Planting Population: 36,000. Harvested: October 20. Previous Crop: Corn. Soil Type: Heavy loam. Weather: May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
Pioneer P1142AMX	283.3	21.3	60.9
Pioneer P1417AMX	279.7	23.6	59.6
POWER PLUS 5C17AMXT™*	268.6	20.5	60.3
VPMmax 7844	263.4	20.4	59.9
VPMmax 8899	259.5	22.6	59.5
POWER PLUS 7A18AM1™*	258.2	23.7	61.6
POWER PLUS 4J95AMX™*	257.3	19.6	61.3
Pioneer P1257AMX	257.0	22.8	59.8
Wyffels W7888RIB	255.2	22.1	59.6
Pioneer P0909CHR	253.7	21.5	60.4
FS E6404X1	252.5	20.1	60.1
DynaGro D652SS91	251.9	22.1	61.7
Wyffels W5138RIB	251.2	20.2	58.6
Agrigold A6499STX	250.9	20.9	60.6
DeKalb DKC63-33RIB	247.4	19.8	60.6
VPMmax 8539	247.1	20.9	60.7
DeKalb DKC64-87RIB	246.3	20.4	60.2
Agrigold A6538STXRIB	244.5	21.0	58.7
DeKalb DKC62-08RIB	241.1	22.4	58.2
DynaGro DH85538SS	240.8	21.2	61.2
POWER PLUS 6P75AMX™*	239.6	22.7	58.1
FS 64MX1	238.3	20.4	58.9
LG LG5630VT3PRIB	237.8	20.2	59.8
DeKalb DKC62-77RIB	235.3	20.6	59.3
DeKalb DKC61-54RIB	232.0	18.9	59.1
Agrigold A6492SSRIB	231.5	18.9	59.5
Agrigold A6496SSRIB	230.9	19.9	60.0
Wyffels W7718RIB	228.0	19.9	61.1
Wyffels W6628RIB	227.7	19.1	60.6
Agrigold A6559STXRIB	226.8	23.3	58.5
DeKalb DKC57-92RIB	224.9	19.4	59.3
DeKalb DKC60-67RIB	223.1	19.4	60.3
VPMmax 6991	216.2	19.7	58.9
Agrigold A6442	213.0	20.5	60.4
FS 602X1	212.4	20.2	59.1
Agrigold A6553 SS	195.7	22.4	57.2
Average	242.3	20.9	59.8

Seed corn technology review

Technology				Herbicide	Different insects controlled by technology								Refuge Requirement	
	ECB Trait	CRW Trait	Broad Lep	RR	LL	ECB	CRW	BCW	FAW	CEW	WBC	SB		
Herculex® XTRA (HXT)	♦	●		✓	✓	C	C	C	C	s	C	NoA	20%	
Herculex® XTRA/RR (HXT/RR)	♦	●			✓	C	C	C	C	C	s	C	NoA	20%
Herculex® I (HX1)	♦				✓	C	NoA	C	C	C	s	C	NoA	20%
Optimum® AcreMax® (AM-R)	♦♦			✓		C	NoA	C	C	s	C	NoA	5%	
Optimum® AcreMax® 1 (AM1)	♦	●			✓	C	C	C	C	C	s	C	NoA	10% & 20%
Optimum® AcreMax® RW (AMRW-R)		●				NoA	C	NoA	NoA	NoA	NoA	NoA	NoA	10%
Optimum® AcreMax® Xtra (AMX-R)	♦♦	●		✓		C	C	C	C	s	C	NoA	10%	
Optimum® AcreMax® Xtreme (AMXT)	♦♦	●●			✓	C	C	C	C	C	s	C	NoA	5%
Optimum® TRIsect™ (CHR)	♦	●			✓	C	C	C	C	C	s	C	NoA	20%
Optimum® Intrasect® (YHR)	♦♦			✓	✓	C	NoA	C	C	s	C	NoA	5%	
Optimum® Intrasect® XTRA (YXR)	♦♦	●			✓	C	C	C	C	C	s	C	NoA	5%
Optimum® Intrasect® XTreme (CYXR)	♦♦	●●			✓	C	C	C	C	C	s	C	NoA	20%
Agrisure® GT/CB/LL	♦			✓	✓	C	NoA	NoA	s	s	NoA	s	20%	
Agrisure® 3000GT	♦	●			✓	C	C	NoA	s	s	NoA	s		20%
Agrisure® Viptera® 3110	♦		■		✓	C	NoA	C	C	C	C	C	C	20%
Agrisure® Viptera® 3111	♦	●	■	✓	✓	C	C	C	C	C	C	C	20%	
Agrisure® 3122 E-Z Refuge™	♦♦	●●			✓	C	C	C	C	C	C	s		5%
Agrisure® Viptera® 3220 E-Z Refuge™	♦♦		■		✓	C	NoA	C	C	C	C	C	C	5%
Agrisure® Duracade™ 5122	♦♦	●●	■	✓	✓	C	C	C	C	C	C	s	5%	
Agrisure® Duracade™ 5222	♦♦	●●	■		✓	C	C	C	C	C	C	C	C	5%
YieldGard VT Triple® (VT3)	♦	●			✓	C	C	NoA	s	s	NoA	s		20%
Genuity® VT Double PRO® (GENVT2P)	♦			✓		C	NoA	NoA	C	C	NoA	NoA	5%	
Genuity® VT Triple PRO® (GENVT3P)	♦	●			✓	C	C	NoA	C	C	NoA	NoA		10%
Genuity® SmartStax® (GENSS)	♦♦	●●			✓	✓	C	C	C	C	C	C	NoA	5%
Refuge Advanced® Powered by SmartStax®	♦♦	●●		✓	✓	C	C	C	C	C	C	NoA	5%	

KEY:

- ECB - European corn borer
- CRW - Corn rootworm
- BCW - Black cutworm
- FAW - Fall armyworm
- CEW - Corn earworm
- WBC - Western bean cutworm
- SB - Common stalk borer
- ♦ - TC1507 (European Corn Borer event)
- ◆ - MON 810 (European Corn Borer event)
- ◆ - BT11 (European Corn Borer event)
- ◆ - MON89034 (European Corn Borer event)
- - DAS591227 (Corn Rootworm event)
- - MIR604 (Corn Rootworm event)
- - MON88017 (Corn Rootworm event)
- - Event 5307 (Corn Rootworm event)
- - MIR162 (Broad Lepidopteran control)

C = Control of the insect
s = Suppression of the insect
NoA = No activity on the insect

- ✓ - Liberty (Glufosinate) herbicide tolerance
- ✓ - Roundup (Glyphosate) herbicide tolerance

Corn Belt Refuge guidelines

- 20% non-B.T. refuge must be within field or directly adjacent
- 20% non-B.T. refuge must be within 1/2 mile of the field
- 5% is single bag refuge with refuge blended in the bag, no separate refuge needed
- 10% is single bag refuge with refuge blended in the bag, no separate refuge needed
- 5% non B.T. refuge must be within 1/2 mile of the field
- 10% & 20% means 10% of CRW refuge is blended in the bag plus 20% non B.T. refuge for ECB must be within 1/2 mile from the field

The Burrus/Hughes multi-brand, multi-trait supplier strategy provides us the most diversity and protection for your farm.

Ron Brockhouse
Virginia, IL

Planted: April 25 in 30" rows. Planting Population: 34,000. Harvested: October 23. Previous Crop: Soybeans. Soil Type: Medium loam.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 5C16™*	226.5	16.1	61.0
POWER PLUS 5C16™*	224.9	16.4	61.0
Wyffels W7477	222.9	16.2	59.0
Average	224.8	16.2	60.3

Power Plus® 6P71™*
at 281.6 bu/a

Ron Kuhlmann
Beardstown, IL



Planted: April 22 in 30" rows. Planting Population: 34,000. Harvested: October 8. Previous Crop: Corn. Fertilizer: N: 140, P: 200, K: 250. Herbicide: Bicep/Roundup. Insecticide: Force. Soil Type: Medium loam. Weather: May-wet, June-wet, July-wet, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6P71™*	281.6	18.1	58.0	35
POWER PLUS 7H23 S™*	262.9	16.4	59.0	32
BURRUS XP5008 3122	255.7	17.3	57.3	33
POWER PLUS 4G46AMX™*	253.5	17.3	62.3	34
POWER PLUS 4J95AMX™*	253.2	16.9	58.7	34
POWER PLUS 6F74AMX™*	252.5	18.1	62.0	35
POWER PLUS 6N83AM™*	251.6	19.1	57.7	34
POWER PLUS 2N82AM™*	237.5	15.4	57.5	33
Average	256.1	17.3	59.1	34

Burrus Seed Farms
Arenzville, IL

Planted: May 19 in 30" rows. Planting Population: 32,000. Harvested: October 11. Previous Crop: Soybeans. Herbicide: Bicep II Lite Magnum, Impact. Insecticide: Aztec. Soil Type: Silt loam. Weather: May-normal, June-normal, July-normal, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6P75AMX™*	261.0	24.2	77	56.2	32
BURRUS 6T54 3000GT	241.0	27.8	71	57.3	31
POWER PLUS 6C41 S™*	239.0	28.7	59	59.2	34
POWER PLUS 6F74AMX™*	228.0	24.6	80	59.9	30
POWER PLUS 7U15AM-R™*	227.0	27.2	20	58.7	33
POWER PLUS 4J93AM™*	224.0	22.0	61	57.7	31
POWER PLUS 6F71 R™*	222.0	24.8	81	59.2	29
POWER PLUS 5N48™*	221.0	22.4	69	60.1	32
BURRUS 6G64	221.0	25.3	87	57.7	31
CATALYST 7893 3111	217.0	28.4	13	56.2	33
BURRUS 750	216.0	25.8	85	59.9	31
POWER PLUS 4G46AMX™*	212.0	21.5	43	60.5	33
BURRUS 5Z44 3122	211.0	24.1	89	55.8	32
POWER PLUS 4J95AMX™*	209.0	22.1	81	57.8	32
POWER PLUS 7H23 S™*	209.0	22.2	55	57.6	30
BURRUS 5D30	208.0	23.8	85	59.8	33
POWER PLUS 7A18AM1™*	205.0	26.4	41	59.8	32
POWER PLUS 5C17AMXT™*	203.0	22.9	46	59.7	32
POWER PLUS 6C40™*	199.0	26.4	73	59.1	33
CATALYST 4685 3111	198.0	24.2	78	54.6	32
BURRUS 5Z41 GT	198.0	25.1	82	56.2	32
BURRUS XP5008 3122	195.0	24.6	86	56.7	29
POWER PLUS 6N83AM™*	194.0	27.0	36	56.8	31
POWER PLUS 2N82AM™*	193.0	20.0	71	58.1	32
POWER PLUS 2V56AMX™*	193.0	21.2	55	59.9	30
POWER PLUS 4P11 R™*	191.0	21.0	63	58.3	33
POWER PLUS 4V45AM™*	187.0	21.9	23	58.2	30
POWER PLUS 4Y27AMX™*	185.0	23.1	59	60.4	33
Average	211.0	24.2	63	58.3	32

CARROLL

Power Plus® 4J95AMX™*
wins at 248 bu/a

Dan Lamoreux
Lanark, IL



Planted: May 6 in 30" rows. Harvested: October 20. Previous Crop: Corn.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4J95AMX™*	248.8	19.9

ILLINOIS

DeKalb DKC60-67RIB	244.3	21.5
Pioneer P0987AMX	241.9	21.1
Pioneer P0157AMX	241.4	21.8
POWER PLUS 7A18AM1™*	241.3	23.8
POWER PLUS 2V56AMX™*	233.2	21.6
DeKalb DKC64-87RIB	224.0	24.6
Pioneer P0496AMX	223.9	19.6
Pioneer P1142AMX	222.4	23.0
Agrigold A6499STX	221.5	24.3
Pioneer P0636AMX	221.3	20.7
Pioneer P1257AMX	218.2	25.5
Pioneer P1417AMX	216.8	23.1
Pioneer P1352AMXT	216.3	21.8
Pioneer P1221AMXT	213.1	23.8
DeKalb DKC62-08RIB	210.4	24.3
DeKalb DKC55-20	209.7	18.9
Agrigold A6442	209.0	22.0
Agrigold A6267	206.7	18.4
Pioneer P0419AMX	206.3	18.8
DeKalb DKC57-75RIB	200.2	20.0
DeKalb DKC63-33RIB	191.7	22.3
Average	221.0	21.9

CASS

Kinze multi-hybrid test

SDM Carls, Inc.
Beardstown, IL

Planted: April 14 in 30" rows. Harvested: October 10.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 6P71/6F74AMX™*	244.8	16.2
POWER PLUS 6P71™*	243.7	16.2
POWER PLUS 6P71/6F74AMX™*	240.6	16.2
POWER PLUS 6P71/6F74AMX™*	240.3	16.2
POWER PLUS 6P71/6F74AMX™*	237.5	16.2
POWER PLUS 6P71/6F74AMX™*	234.0	16.2
POWER PLUS 6F74AMX™*	225.0	16.2
Average	238.0	16.2



Integrated refuge products in a single bag.
Convenience of single bag refuge products are available
for above and below ground insect control.

Bill Stock
Virginia, IL

Planted: April 20 in 30" rows. **Planting Population:** 31,000. **Harvested:** September 29. **Previous Crop:** Soybeans. **Herbicide:** Halex GT. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-wet, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 4J94AMX-R™*	245.8	14.7	58.0
DeKalb DKC62-08	237.5	15.3	57.0
Average	241.6	15.0	57.5

Ron Brockhouse
Virginia, IL

Planted: April 24 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 20. **Previous Crop:** Soybeans. **Soil Type:** Heavy loam.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4J94AMX-R™*	248.1	16.7
DeKalb DKC60-67RIB	247.5	16.7
Average	247.8	16.7

CHRISTIAN



Danny Cameron
Pana, IL

Planted: May 7 in 30" rows. **Planting Population:** 33,000. **Harvested:** October 1. **Previous Crop:** Soybeans. **Herbicide:** Capreno. **Soil Type:** Heavy loam. **Weather:** May-wet, June-normal, July-dry, August-wet. **✓Check Hybrid:** Power Plus 6C40™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
DeKalb DKC65-18	220.3	11	26.7	100	34
✓Check	224.0		23.7	100	33
DeKalb DKC62-06	223.7	6	23.2	99	29
POWER PLUS 6P71™*	218.1	8	24.0	100	34
✓Check	216.0		24.8	100	30
BURRUS XP5008 3122	210.6	10	24.1	100	26
POWER PLUS 2N82AM™*	205.2	12	19.7	100	30
✓Check	207.7		24.3	95	30
BURRUS 5Z41 GT	206.4	9	23.6	100	31
BURRUS 6J36 3000GT	214.7	3	21.7	100	29
✓Check	207.4		23.7	100	31
BURRUS 6T54 3000GT	209.5	5	27.9	100	26
POWER PLUS 6N83AM™*	211.2	4	26.0	100	33
✓Check	208.8		26.0	97	31
POWER PLUS 6F71 R™*	198.8	14	23.9	100	29
Dairyland DS-9111SSX	202.5	7	26.7	100	33
✓Check	199.6		25.6	100	29
POWER PLUS 7A18AM1™*	215.1	1	26.3	100	32
Dairyland DS-9314	210.0	2	27.0	100	35
✓Check	200.8		26.3	97	29
POWER PLUS 6F74AMX™*	195.6	15	23.4	100	31
POWER PLUS 4G46AMX™*	203.6	13	19.6	100	25
✓Check	211.8		23.4	88	30
BURRUS 5D30	199.8	16	22.4	100	28
Average	209.2		24.3	99	30
Check Average	209.5		24.7	97	30



Danny Cameron
Pana, IL

Planted: May 7 in 30" rows. **Planting Population:** 33,000. **Harvested:** October 1. **Previous Crop:** Corn. **Herbicide:** Capreno. **Soil Type:** Heavy loam. **Weather:** May-wet, June-normal, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
DeKalb DKC62-06	215.5	22.3	99	57.5	28
POWER PLUS 6C40™*	195.4	22.7	100	56.6	35
BURRUS 5D30	188.3	19.9	100	57.9	28
POWER PLUS 6C40™*	185.6	22.1	99	57.5	28
DeKalb DKC65-18	169.3	24.4	100	58.0	33
Average	190.8	22.3	100	57.5	30

CLAY



Bruce Garrison
Louisville, IL

Planted: May 7 in 30" rows. **Planting Population:** 27,700. **Harvested:** October 18. **Previous Crop:** Corn. **Fertilizer:** N: 150, P: 150, K: 150. **Herbicide:** Lexar EZ, Aatrex, Baythroid XL. **Insecticide:** Warrior. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-dry, August-dry. **✓Check Hybrid:** Power Plus 7U15AM-R™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	170.3		18.7	25	
POWER PLUS 6F74AMX™*	143.6	8	18.4	26	
POWER PLUS 4V45AM™*	134.5	9	17.9	25	
CATALYST 4685 3111	134.8	7	18.6	27	
POWER PLUS 2N82AM™*	158.8	2	16.5	27	
✓Check	149.0		17.8	28	
CATALYST 7893 3111	143.2	4	19.3	25	
BURRUS 5Z41 GT	158.9	1	18.1	24	
POWER PLUS 4J95AMX™*	149.4	3	16.9	25	
POWER PLUS 6N83AM™*	145.2	5	17.6	28	
POWER PLUS 7H23 S™*	144.2	6	16.6	24	
✓Check	160.0		18.9	25	
Check Average	159.8		18.5	26	

CLINTON

David Gerdes
Bartleso, IL

Planted: May 12 in 36" rows. **Planting Population:** 28,000. **Harvested:** October 24. **Previous Crop:** Soybeans. **Fertilizer:** N: 160, P: 70, K: 90. **Herbicide:** Lexar. **Corn Borer Rating:** Light. **Soil Type:** Silt loam.

Brand/Product	Bu. Per Acre	% Moisture
BURRUS 187233	255.9	16.4
POWER PLUS 6P75AMX™*	254.8	13.8
POWER PLUS 7A18AM1™*	250.2	15.0
BURRUS 154860	249.9	14.2
BURRUS 780946	247.7	14.2
BURRUS 735025	247.1	14.3
POWER PLUS 6F71 R™*	246.7	15.0
CATALYST 7893 3111	246.2	14.6
POWER PLUS 7A18AM1™*	243.3	14.8
BURRUS 6J36 3000GT	239.1	14.1
BURRUS 152174	238.3	14.3
BURRUS 589605	238.2	14.8
POWER PLUS 7A18AM1™*	237.7	15.3
POWER PLUS 5C17AMXT™*	235.6	14.9
BURRUS 6T54 3000GT	234.3	17.2
POWER PLUS 4J93AM™*	232.4	15.1
POWER PLUS 7H23 S™*	232.4	15.0
POWER PLUS 7A18AM1™*	231.7	14.5
POWER PLUS 4V43 S™*	231.1	14.2
CATALYST 4685 3111	227.7	14.0
BURRUS 6J35 GT	227.6	14.6
POWER PLUS 2V56AMX™*	225.7	14.4
POWER PLUS 6F74AMX™*	221.1	14.7
POWER PLUS 6N83AM™*	219.7	15.7
BURRUS 6J36 3000GT	218.4	14.4
POWER PLUS 6F74AMX™*	217.9	15.4
BURRUS 359902	215.8	14.6
POWER PLUS 6F74AMX™*	215.4	15.3
BURRUS 425394	214.5	15.0
BURRUS 101413	214.4	14.2
BURRUS 543117	211.4	14.7
POWER PLUS 6F74AMX™*	210.0	16.5
POWER PLUS 2N82AM™*	208.8	14.5
BURRUS 554048	207.4	15.2
POWER PLUS 6F71 R™*	205.9	15.3
Average	230.1	14.9

Troy Horton

Troy Horton is the new Burrus IT specialist but he carries more titles than that. He is a computer wizard, a problem solver, an office manager, and just a general go-to guy. We are glad to have him on the team. Troy brings a wealth of experience after working at State Farm Insurance for many years as a technical and project lead, as well as an lead analyst.

Troy received Bachelor Degrees from Western Illinois University, Macomb, IL in both Agricultural Science and Computer Science. He also has completed course work towards his Master's degree in Entomology from Purdue University, Lafayette, IN. While at Purdue he was a Graduate Research Assistant and worked at the Crop Diagnostic Training and Research Center. So Troy brings an agricultural knowledge to compliment his computer skills. It's a great combination to assist Burrus as we move forward.

Troy resides in Petersburg with his wife, Carrie. They have 3 children. They have 2 daughters Kaitlynn, 19 and Baylee, 14 along with 1 son, Jacob, 10. They enjoy



spending time together doing outside activities like hunting, fishing, camping, and hiking.

We are pleased to have Troy onboard. You can rest assured that the Burrus team is working hard each day for our customers' benefit.

EFFINGHAM

At high population
Burrus 6T54 3000GT
wins at 225 bu/a

Lagerhausen Farms Ltd.
Shumway, IL

Previous Crop: Soybeans. **Fertilizer:** N: 120, P: 300, K: 100. **Herbicide:** Roundup, Callisto, Atrazine. **Insecticide:** Force. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-normal, August-wet. **✓Check Hybrid:** Power Plus 4V43 S™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
CATALYST 7893 3111	206.1	5	28.5	34
POWER PLUS 7U15AM-R™*	213.0	2	24.2	36
POWER PLUS 7H23 S™*	188.1	11	24.1	33
✓Check	197.5		24.7	35
BURRUS 6J36 3000GT	207.4	6	26.2	35
BURRUS 6T54 3000GT	225.7	1	28.5	37
POWER PLUS 6F74AMX™*	213.2	9	25.3	35
✓Check	218.7		25.6	32
POWER PLUS 6N83AM™*	218.4	8	28.5	33
BURRUS 5Z41 GT	229.1	4	28.4	36
POWER PLUS 2N82AM™*	182.2	12	21.0	32
✓Check	216.1		27.2	33
POWER PLUS 4J93AM™*	216.2	7	26.1	36
CATALYST 4685 3111	201.9	10	27.8	36
POWER PLUS 4V45AM™*	216.3	3	26.8	34
✓Check	200.4		26.8	31
Average	209.4		26.2	34
Check Average	208.2		26.1	32



Ron Breckon of Burrus Seed Farms, Inc. loads his plot spraying rig to help manage our outside test locations.



WHAT'S NEW



EFFINGHAM

Medium population

Lagerhausen Farms Ltd.
Shumway, IL

Planted: May 23 in 30" rows. **Planting Population:** 29,600. **Harvested:** October 8. **Previous Crop:** Soybeans. **Fertilizer:** N: 120, P: 300, K: 100. **Herbicide:** Roundup, Callisto, Atrazine. **Insecticide:** Force. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-normal, August-wet. **✓Check Hybrid:** Power Plus 4V43 S™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
CATALYST 7893 3111	194.3	10	28.3	100	27
POWER PLUS 7U15AM-R™*	219.9	1	27.7	100	29
POWER PLUS 7H23 S™*	213.7	4	25.1	100	30
✓Check	208.8		25.3	100	27
BURRUS 6J36 3000GT	196.7	8	27.0	100	31
BURRUS 6T54 3000GT	215.1	3	29.6	100	29
POWER PLUS 6F74AMX™*	215.2	2	26.8	100	28
✓Check	209.1		25.6	100	29
POWER PLUS 6N83AM™*	197.0	9	30.6	100	27
BURRUS 5Z41 GT	214.7	5	29.4	100	28
POWER PLUS 2N82AM™*	181.2	12	22.4	100	29
✓Check	210.6		27.3	100	30
POWER PLUS 4J93AM™*	196.8	7	25.8	100	30
CATALYST 4685 3111	182.1	11	30.2	100	30
POWER PLUS 4V45AM™*	206.5	6	28.0	100	32
✓Check	203.5		27.2	100	28
Average	204.1		27.3	100	29
Check Average	208		26.4	100	29

FULTON

Burrus 6T54 3000GT takes second



Spangler Grain Co.
Marietta, IL

Planted: April 22 in 30" rows. **Planting Population:** 35,000. **Harvested:** September 30. **Previous Crop:** Corn. **Soil Type:** Heavy loam. **Weather:** May-wet, June-wet, July-wet, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
Wyffels 7736RIB	273.0	23.7
BURRUS 6T54 3000GT	269.5	22.0
ProHarvest 8244RIB	268.6	21.8
Channel 213-59STX	261.1	22.1
Agrigold A6472	258.6	20.4
POWER PLUS 6N83™*	258.1	23.0
Wyffels W7108RIB	258.0	20.1
POWER PLUS 6F74AMX™*	251.1	20.7
Wyffels W7888RIB	250.1	23.5
POWER PLUS 7A18AM1™*	246.0	24.1
DeKalb DKC63-33RIB	245.4	19.7
BURRUS XP5008 3122	244.1	21.4
ProHarvest 8388SSTX-RIB	243.7	25.0
Agrigold A6533	243.1	21.7
POWER PLUS 4G46AMX™*	242.9	20.2
Agrigold A6573	241.6	23.2
Golden Harvest G12J11-3011A	241.3	22.8
Agrigold 6408GT	236.1	19.7
Average	251.8	22.0

Farm Family of the Year



Burrus Sales Manager John Williams presented the 2014 Farm Family of the Year award to the Rundquist family of Butler, IL. Jack Rundquist accepted the award on behalf of the family.

Burrus and *Illinois AgriNews* recently named Evergreen Farms of Butler, IL the 2014 Illinois Farm Family of the Year. The award was presented at the University of Illinois' Salute to Agriculture celebration. It was the perfect setting for the family to accept the award because of their close ties to the U of I.

Evergreen Farms is operated by three generations of the Rundquist family. Jack and Anita (Turner) Rundquist still live on the family farm and are involved in all aspects of its operation. They were students at the University of Illinois when they met. Jack and Anita are the parents of five children, Ann Butler, Barbara Clark, John, Martha O'Mara, and Rebecca Wedekind. Evergreen Farms incorporated many years ago and all siblings are directors. The directors (including new family members) meet several times a year to make decisions for the farming operation. John is in charge of the day-to-day operations. Rebecca keeps the financial records while Barbara markets the grain. All five of the siblings have different educational backgrounds and life experiences and thus bring diverse views of agriculture that keep the farm

viable and sustainable. In addition to raising corn, soybeans, and wheat, the farm contract finishes 7,000 hogs per year.

Anita Rundquist's great grandfather was Jonathan Baldwin Turner. In 1854, he purchased what would later become Evergreen Farms for \$10 per acre. Mr. Turner was not a typical farmer. He studied classical literature at Yale University and taught at Illinois College in Jacksonville. His attention was focused on the betterment of humanity through such avenues as public education, agricultural research (with a special focus on developing Osage orange as a living fence), and abolition. He worked with representatives in Washington to pass the Morrill Act which established the land grant university system and transformed agricultural research and education in the US.

The family is dedicated to conservation and good land stewardship. Cover crops, grass waterways, tiling, and terraces are a few of the conservation practices employed on the farm. Jack reads and researches the latest techniques in agronomy. Anita even tried to cook with the radishes that were planted as a cover crop in 2013.

Jack and Anita have participated for many years in the U of I College of Agriculture, Johnathan Baldwin Turner scholarships. The scholarships are given to outstanding incoming freshmen on the basis of their academic achievements and leadership potential. They have also established the Rundquist Family Scholarship given to a Hillsboro High School graduate. In addition, they have generously donated to Illinois College and Montgomery County 4-H. Jack and Anita have instilled in family members a drive to continually make things better, not only on the family farm, but also in other professional activities and throughout the world.

Evergreen Farms is the epitome of the family farm by leading first with faith, family, and farm. Family farms tend to help the community through their service and help conserve the land for future generations. Burrus feels a strong connection to the family farm because we are farmers too and have been an independent, family owned seed company since 1935 and now in our fourth generation of family ownership.

We congratulate Evergreen Farms on being selected as the Farm Family of the Year!



Andrew Stuckey
Canton, IL

Planted: May 5 in 30" rows. **Planting Population:** 33,500. **Harvested:** October 30. **Previous Crop:** Corn.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4J95AMX™*	232.7	15.0

POWER PLUS 5C17AMXT™*	214.7	14.8
POWER PLUS 6N83AM™*	209.4	14.4
CATALYST 4685 3111	200.2	13.0
POWER PLUS 6F74AMX™*	198.7	15.0
BURRUS 6T54 3000GT	197.9	15.8
POWER PLUS 4G46AMX™*	197.2	15.2
POWER PLUS 7A18AM1™*	195.9	16.2
Average	205.8	14.9

The Burrus mission is to provide quality seed, consistent performance, and exceptional value ensuring the ongoing success of our customers.

ILLINOIS



Own your corn yield data? When you deal with Burrus/Hughes on the MyFarmsSM you own your yield data.

GREENE

**282 bu/a for
Power Plus[®] 6C41STM***



**Larry Meyer
Carrollton, IL**

Planted: April 22 in 30" rows. **Planting Population:** 34,000. **Harvested:** September 30. **Previous Crop:** Soybeans.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6C41 S TM *	282.8	18.3	58.0	34	
POWER PLUS 7H23 S TM *	270.7	15.8	58.0	34	
Pioneer P1257AMX	268.4	16.9	58.0	34	
DeKalb DKC64-87RIB	266.6	16.3	58.0	34	
POWER PLUS 6F71 R TM *	264.7	16.1	58.0	34	
Pioneer P1417AMX	264.1	17.0	59.0	34	
Pioneer P1197CHR	262.6	17.0	58.0	34	
DeKalb DKC62-08RIB	260.0	16.7	60.0	34	
DeKalb DKC60-67RIB	258.9	16.1	60.0	34	
POWER PLUS 6F74AMX TM *	258.6	16.9	61.0	34	
DeKalb DKC62-97RIB	258.5	16.3	59.0	34	
Pioneer P0945AMX	256.4	16.4	59.0	34	
DeKalb DKC26-28RIB	255.4	16.7	59.0	34	
POWER PLUS 7A18AM1 TM *	253.7	17.6	61.0	34	
Pioneer P1215AM1	251.4	17.2	58.0	34	
POWER PLUS 4J93AM TM *	248.3	16.0	59.0	34	
BURRUS 5Z41 GT	239.0	16.2	57.0	34	
BURRUS 5Z41 GT	238.5	15.8	58.0	34	
Average	258.8	16.6	58.8	34	

Power Plus[®] 4J95AMXTM*
wins again



**Doug & Joe Thornton
Carrollton, IL**

Planted: May 5 in 30" rows. **Planting Population:** 36,480. **Harvested:** October 23. **Previous Crop:** Soybeans. **Fertilizer:** N: 196, P: 92, K: 120. **Herbicide:** Corvus, Atrazine. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam. **Weather:** May-normal, June-wet, July-wet, August-dry. **✓Check Hybrid:** Power Plus 7A18AM1TM*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	225.8		16.2	70	36
POWER PLUS 4G46AMX TM *	215.3	7	15.8	95	25
POWER PLUS 4J95AMX TM *	245.1	1	14.7	97	35
POWER PLUS 6F74AMX TM *	239.1	4	16.3	99	36
POWER PLUS 6N83AM TM *	244.2	2	16.5	45	36
BURRUS 6T54 3000GT	242.4	3	17.6	95	35
POWER PLUS 7H23 S TM *	235.6	5	14.7	70	35
CATALYST 7893 3111	234.4	6	18.2	80	34
✓Check	224.0		15.8	80	36
✓Check	229.1		16.8	85	36
Average	233.5		16.3	82	34
Check Average	226.3		16.3	78	36



Ron & Jenni Kuhlmann of Cass Co. saw Power Plus[®] 6P71TM* TRIsect win the plot at 281.6 bu/a. Power Plus[®] 6P75TM* will be our AMX version.

HANCOCK

Power Plus[®] 4J95AMXTM*
& 5C16TM*



**Michael McDowell
Dallas City, IL**



Planted: May 10 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 27. **Previous Crop:** Corn. **Fertilizer:** N: 200, P: 70, K: 90. **Herbicide:** Corvis/Atrazine. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Loam. **Weather:** May-wet, June-normal, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 4J95AMX TM *	247.6	18.0	100	57.9	31
POWER PLUS 5C16 TM *	247.3	18.1	100	60.7	32
BURRUS 6T54 3000GT	245.0	20.8	100	56.6	33
POWER PLUS 7H23 S TM *	240.0	17.5	97	57.8	32
POWER PLUS 7U15AM-R TM *	238.0	18.2	98	60.6	33
POWER PLUS 6N83AM TM *	228.5	19.4	100	57.0	30
POWER PLUS 4G46AMX TM *	227.3	17.7	100	60.9	31
POWER PLUS 6F74AMX TM *	226.1	19.2		60.8	30
POWER PLUS 7A18AM1 TM *	223.0	19.8	100	60.4	33
BURRUS 5Z41 GT	221.9	18.0	98	55.9	33
Average	234.5	18.7	99	58.9	32

**Richard Douglas
Dallas City, IL**

Planted: April 26 in 30" rows. **Planting Population:** 36,000. **Harvested:** October 17. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: 70, K: 120. **Insecticide:** None. **Corn Borer Rating:** Moderate. **Soil Type:** Heavy loam. **Weather:** May-wet, June-wet, July-normal, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6C40 TM *	243.7	21.5	81	59.4	34
BURRUS 6G64	243.1	21.5	94	58.4	34
POWER PLUS 6C40 TM *	238.2	22.0	83	59.5	34
POWER PLUS 750 TM *	237.6	22.1	95	59.5	34
POWER PLUS 5N48 TM *	233.7	19.8	96	60.9	34
BURRUS 5D30	228.3	19.2	85	61.7	34
Average	237.4	21.0	89	59.9	34

Power Plus[®] 7H23 STM*
at 243 bu/a

**Tim Bolton
Nauvoo, IL**

Planted: April 20 in 36" rows. **Planting Population:** 27,700. **Harvested:** October 12. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: 90, K: 120. **Herbicide:** Capreno & Atrazine.



Burrus 5Z41 GT was first in Clay Co. for Bruce & Brian Garrison.

Stephanie Porter

Stephanie Porter joined Burrus as an agronomist this spring. Her responsibilities include educating growers and staff on all types of pests that affect corn, soybeans, and alfalfa production. Her territory includes a portion of Illinois and into the Hughes sales territory in Wisconsin.

Stephanie's background and education are a powerful combination for our customers. She grew up on a farm and had an active role in it. She received both her Bachelor of Science in Crop Sciences with honors and Master Degree in Plant Pathology with honors from the University of Illinois. She is also a Certified Crop Advisor. In addition she was elected to the Illinois Arborist Association Board. Stephanie was previously with the University of Illinois Plant Clinic. She has extensive knowledge in troubleshooting and loves to figure out what has impacted plant growth.

Stephanie resides in Taylorville, IL with her husband Greg and family. Her family includes daughter Cora, age 19 and son Griffin, age 9. Cora attends Lincoln Land Community College and Griffin enjoys baseball and YouTube.



Stephanie has a passion for traveling, crafts, wineries, and spending time with family and friends.

Put Stephanie's know-how and skills to work on your farm. If you have an agonomic question, don't hesitate to call her. She will enjoy finding out an answer for you while getting to know you.

Insecticide: None. **Corn Borer Rating:** Heavy. **Soil Type:** Loam. **Weather:** May-normal, June-wet, July-wet, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 7H23 S TM *	243.7	14.7	96		26
BURRUS 6T54 3000GT	241.8	17.2	100	58.3	26
POWER PLUS 4J93AM TM *	235.5	14.4	98		26
BURRUS 6G64	217.7	15.8	82	57.0	26
POWER PLUS 6C40 TM *	213.8	16.2	83	61.0	26
BURRUS 5D30	213.2	14.2	82		26
POWER PLUS 750PP TM *	203.3	16.3	85	62.0	26
Average	224.1	15.5	89	59.6	26

HENDERSON

**Burrus 6T54 3000GT
wins at 246.7 bu/a**



**Leary Farms
Little York, IL**

Planted: April 23 in 30" rows. **Planting**

Population: 34,000. **Harvested:** September 25. **Previous Crop:** Corn. **Herbicide:** Sure Start, Roundup, Impact/Atrazine. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam. **Weather:** May-normal, June-normal, July-dry, August-normal. **✓Check Hybrid:** Power Plus 4J95AMXTM*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	235.2		19.7	100	30
POWER PLUS 2V56AMX TM *	223.5	9	19.2	100	29
POWER PLUS 4G46AMX TM *	231.0	6	19.7	100	35
POWER PLUS 4J94AMX-R TM *	237.0	4	19.4	100	35
CATALYST 4685 3111	227.8	8	20.0	100	33
BURRUS 5Z41 GT	230.6	7	20.7	96	30
✓Check	235.6		18.4	100	34
BURRUS 6T54 3000GT	246.7	1	23.5	100	32
POWER PLUS 6F74AMX TM *	238.9	3	20.4	100	33
POWER PLUS 7A18AM1 TM *	243.4	2	20.5	92	35
CATALYST 7893 3111	228.6	5	21.4	84	30
✓Check	231.5		18.3	100	33
Average	234.2		20.1	98	32
Check Average	234.1		18.8	100	59



Emil & Melissa Lagerhausen saw Burrus 6T54 3000GT & Power Plus[®] 7U15AM-RTM* go one-two in Effingham Co. at high population.



Bruce & John Spangler saw their Fulton Co. plot average 251.8 bu/a!



Did Mother Nature cause corn disease to be a problem in 2014?

The main foliar corn diseases that were observed within the Burrus footprint during the 2014 growing season were gray leaf spot, northern corn leaf blight, and Goss's wilt. All of these foliar diseases can significantly decrease yield, especially if their lesions cover leaves near the ear at corn pollination or cover upper leaves during grain fill. Every corn hybrid has a disease rating for gray leaf spot, northern corn leaf blight, or Goss's wilt. Check the disease rating for your hybrid. If it is a low number, you could more likely to benefit from use of a fungicide (for gray leaf spot or northern corn leaf blight) at corn pollination.

When it comes to plant disease spread, we usually assume a rainy season, humidity, moisture, and even dew are favorable conditions for foliar corn diseases. Some made the assumption that most areas were getting precipitation during the 2014 growing season, but in reality, some areas received minimal rainfall in July within the Burrus footprint during corn pollination.

In addition, most plant disease pathogens require a narrow range of specific temperatures, before they will sporulate or initiate infection. Gray leaf spot, a fungal disease, started to appear on susceptible corn hybrids in southern, western, and in areas of central Illinois in mid-July during 2014, just a few weeks before pollination. These were areas within the Burrus footprint with the earliest planting dates during 2014. So, the question was, why were we not seeing gray leaf spot in other areas of the Burrus footprint?

One reason could be that some corn fields may have had less residue present, which could harbor disease. Another reason could be that the last few growing seasons were dry and there might be less build-up of disease inoculum within residue. But, the main reasons were that some areas might not have been humid or temperatures were not favorable.

Gray leaf spot requires warmer temperatures (75° - 85°F) for disease infection to occur and if conditions stay conducive, symptoms will develop after several weeks. The average temperature range in northern Illinois, Wisconsin, and Iowa was 65° - 70°F during July. Another disease called northern corn leaf blight began to be visible on susceptible hybrids in the Northern part of the Burrus footprint in mid-July of 2014. This is because north-

ern corn leaf blight symptoms will develop at lower temperatures, when compared to gray leaf spot. See photo of gray leaf spot and northern leaf blight.

Gray leaf spot symptoms typically appear first on lower leaves because it overwinters on residue. A wound is not needed for the infection of gray leaf spot or northern corn leaf blight disease. Northern corn leaf blight also overwinters within corn residue, however spores can blow into fields from very, long distances, then infect susceptible hybrids. Lesions can develop every 7 - 12 days in a favorable environment. Northern corn leaf blight causes larger "cigar shaped" lesions, when compared to gray leaf spot symptoms, which are small, tan, and rectangular in shape. Northern corn leaf blight causes larger lesions and can spread a bit quicker when compared to the gray leaf spot; therefore, we become a bit more concerned about this disease in growing seasons that are favorable for northern corn leaf blight spread and infection. Based on disease scouting during pollination, disease pressure, and forecasted wet weather, the grower can make the decision if a fungicide application is needed. Northern corn leaf blight seems to be advancing at the most rapid rate of the afore mentioned diseases.

Another corn disease that made an appearance during early August within northern Illinois, Wisconsin, and Iowa was Goss's wilt. It is a leaf blight caused by a bacteria that infects after corn silking; however, on rare occasion, this bacterial pathogen can also cause a systemic wilt. This bacterial pathogen can survive in corn residue from 10 months - 2 years. Many think that it is becoming more widespread because of susceptible hybrids, corn after corn rotations, conservation tillage, and favorable weather. Most Burrus hybrids have fairly good Goss's wilt ratings, but keep in mind, no hybrid is immune from this disease. Because Goss's wilt is a bacterial disease, fungicides are useless. The main way to manage this disease is to plant resistant corn hybrids. See photo of Goss's wilt.

Goss's wilt favors temperatures from 70° - 80°F for infection and the average temperatures in parts of northern Illinois and southern Iowa during mid-July to August were within the favorable range for Goss's wilt infection to develop. But, in order for bacterial infection to occur,

there must be wounds made by hail, blowing debris, or other mechanical injury. One example of a storm that brought hail occurred on June 30th and this is only one of many storms that occurred during 2014 that could have caused wounding for entry of the Goss's wilt bacteria, that was needed for disease infection to take place on susceptible corn hybrids.

At the end of the 2014 growing season, there were many concerned that there could be some issues with corn root lodging or stalk lodging at harvest. Often times, if early corn growing conditions consist of no stress before pollination (high moisture or nitrogen), which most likely increases the potential of grain production, but later in the growing season (post pollination), factors can take place that hinder corn photosynthesis, that can hinder the flow of sugars to grain. Sugars can then be taken from the stalk, which could predispose the corn plant to be infected by stalk rot pathogens.

In fact, research has shown that high incidences of foliar diseases such as gray leaf spot, northern corn leaf blight, and Goss's can indirectly predispose corn to stalk rot. In addition, insects such as corn rootworm larvae can feed on roots and cause root lodging. European corn borer (ECB) (usually the 2nd generation) can tunnel into the corn ear shank and cause ear dropping or tunnel into the stalk and cause stalk lodging. Of course, ECB injury is more often found on corn hybrids without GM traits to help suppress or control the ECB. Often times, if there is ECB injury above the ear, stalk rot can ensue.

Depending on soil type, amount of soil moisture, and root development, corn hybrids can be blown over during a wind event. However, some strong winds can overcome the best root development. Corn damaged due to weather can be more susceptible to disease and infection of stalk rot pathogens at points of injury on the stalk. For example, if hail occurs after pollination, stalk rot is almost always inevitable. On June 30th, massive storms swept through areas of the Burrus footprint. The winds and hail that this storm brought were a true evaluation of the strength of the corn hybrids, that were nearing growth stages during pollination.

Other stresses such as high plant populations, extremes in soil moisture, nutrient deficiencies or imbalances, cloudy weather, drought, corn-on-corn rotations, high ear placement, or hybrid stalk strength can cause corn to be prone to lodging or stalk rot. High plant populations can increase



Gray leaf spot lesions on corn



Northern corn leaf spot lesion on corn



Goss's wilt lesions

plant competition for light and reduce stalk diameter. Extremes in soil moisture can cause root rot or compromised roots due to lack of oxygen. We were especially concerned with nitrogen loss this year. If corn plants are without adequate levels of nitrogen, they could be less vigorous and put all their energy into grain development; therefore, stalks could be compromised and more likely to be infected by stalk rot pathogens and lodging. On the flip side, corn growing within higher nitrogen levels (promotes lush foliage growth) along with low levels of potassium (encourages premature stalk death) can also cause corn to be more prone to stalk rot or lodging. Late season cloudy weather, which occurred mostly in the northern part of the Burrus footprint in 2014, may hinder photosynthesis in order to keep ears alive. If the drought threshold of corn is reached, this could also cause a drastic reduction in photosynthesis, so irrigation should not be reduced during grain fill.



Your enemy? You need to know the nature and status of your enemy and weeds are that enemy.

	Gray leaf spot	Northern corn leaf spot
	<i>(Cercospora zea-maydis)</i>	<i>(Setosphaeria turcica)</i>
Fungal spore survival	overwinters in leaf debris	overwinters in leaf debris
Temperatures	75° - 85°F	64° - 80°F
humidity/moisture	high humidity/wet	prolonged moisture/dew
Plant part affected	leaves	leaves
occurrence	silking to maturity	silking or after silking
lesion development	1 1/2 - 2 weeks	7 - 12 days
management	resistance/tillage/rotation fungicides	resistance/fungicides



In Henderson Co. Burrus 6T54 was ranked #1 for Terry, Collin, Chuck, Dillon, Derrick & Anthony Leary.

JO DAVIESS

Hughes 5124 GT was best as check



Kyle Embry
Hanover, IL

Planted: May 9 in 30" rows. Planting Population: 34,300. Harvested: October 18. Previous Crop: Soybeans. Soil Type: Heavy clay. ✓ Check Hybrid: Hughes 5124 GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	204.2		18.7	100	32
HUGHES 2987 3011A	218.0	2	14.3	100	37
POWER PLUS 1M45AMRW-R™*	199.1	4	13.8	100	38
HUGHES 3953 3000GT	202.5	5	17.5	100	38
Pioneer P0407AMXT	201.4	8	17.7	90	34
Pioneer P0496AMX	234.6	1	16.0	100	34
✓Check	221.3		18.4	100	33
POWER PLUS 2V56AMX™*	232.1	3	19.9	100	32
POWER PLUS 4Y27AMX™*	219.6	6	20.4	100	34
HUGHES 5456 3000GT	213.1	9	18.7	100	36
POWER PLUS 4G46AMX™*	224.9	11	20.8	10	34
POWER PLUS 4J94AMX-R™*	235.9	7	26.2	100	35
POWER PLUS 6F74AMX™*	230.4	10	26.8	100	36
✓Check	258.1		18.9	100	36
Average	221.1		19.2	93	35
Check Average	227.9		18.7	100	34

Kyle Embry
Hanover, IL

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✓Check	204.2		18.7	100	32
HUGHES 2987 3011A	218.0	6	14.3	100	37
POWER PLUS 1M45AMRW-R™*	199.1	9	13.8	100	38
HUGHES 3953 3000GT	202.5	10	17.5	100	38
Pioneer P0407AMXT	201.4	11	17.7	90	34
Pioneer P0496AMX	234.6	2	16.0	100	34
✓Check	221.3		18.4	100	33
POWER PLUS 2V56AMX™*	232.1	4	19.9	100	32
POWER PLUS 4Y27AMX™*	219.6	7	20.4	100	34
HUGHES 5456 3000GT	213.1	8	18.7	100	36
POWER PLUS 4G46AMX™*	224.9	5	20.8	10	34
POWER PLUS 4J94AMX-R™*	235.9	1	26.2	100	35
POWER PLUS 6F74AMX™*	230.4	3	26.8	100	36
✓Check	210.3		18.7	100	36
Average	217.7		19.1	93	35
Check Average	211.9		18.6	100	34

Burrus continues to expand
Jacksonville office is now open

In early 2013 Burrus bought a 78,000 square foot facility in Jacksonville, IL to provide much-needed extra warehouse space. Jacksonville is only 25 minutes from our Arenzville seed plant and conveniently located at Interstate 72/Hwy 36 and Hwy 104/Hwy 67 aiding in the logistics of getting our products to our customers

in the most efficient manner. We utilized the warehouse space of more than 65,000 square feet for the past 2 years. As we added more staff members, it became evident that we were outgrowing our office space at Arenzville. It was decided to remodel what had previously been office space at the Jacksonville facility to fit our needs. In all the Jacksonville

office has additional offices, a cafeteria, a customer service area, and 3 conference rooms. Burrus is growing and on the move. While some of our staff will be working from this new location in Jacksonville, calling Burrus will be as easy as ever – just dial 1-877-4BURRUS and let our friendly staff assist you.



KANE



Robert Klotz
Maple Park, IL

Planted: April 26 in 30" rows. Planting Population: 35,500. Harvested: October 17. Previous Crop: Soybeans. Weather: May–wet, June–wet, July–dry, August–normal.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
BURRUS 6T54 3000GT	228.3	30.5	58.7	36
POWER PLUS 6F74AMX™*	227.9	26.5	58.7	36
Yield Direct 4L48RIB	221.4	24.8	56.2	36
Yield Direct 5M83	220.6	25.3	56.3	36
POWER PLUS 4P11 R™*	217.8	23.0	55.7	36
Yield Direct 6X61	216.7	27.4	56.8	36
POWER PLUS 7A18AM1™*	216.5	29.1	59.3	36
POWER PLUS 4J94AMX-R™*	216.2	26.7	57.7	36
Yield Direct 5E58-RIB	210.7	23.9	55.9	36
POWER PLUS 2V56AMX™*	210.2	24.0	57.0	36
Yield Direct 5X13	209.8	22.1	55.5	36
HUGHES 5456 3000GT	207.5	25.4	57.3	36
POWER PLUS 4G46AMX™*	206.9	25.7	56.4	36
POWER PLUS 4Y27AMX™*	203.5	26.3	56.5	36
CATALYST 4685 3111	199.4	26.4	57.5	36
Yield Direct 5L33	196.6	24.9	56.7	36
Average	213.1	25.7	57.0	36



KANKAKEE

Jason Zimmer
Reddick, IL

Planted: May 7 in 30" rows. **Planting Population:** 35,000. **Harvested:** September 30. **Previous Crop:** Soybeans. **Herbicide:** Volley ATZ followed by Roundup/Status. **Insecticide:** Aztec. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–normal, August–wet. ✓**Check Hybrid:** Burrus 6T54 3000 GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	227.3		27.5	100	32
BURRUS 408189	223.1	14	24.5	100	35
BURRUS 187233	257.4	2	24.8	97	37
POWER PLUS 4P11 R™*	219.8	16	21.8	88	37
✓Check	236.6		27.3	100	32
BURRUS 359902	211.8	19	28.9	99	32
HUGHES 5456 3000GT	206.6	20	21.8	100	34
BURRUS 999741	185.1	21	23.7	100	33
POWER PLUS 5C17AMXT™*	227.9	12	20.6	100	32
BURRUS 505519	234.5	9	26.6	100	31
POWER PLUS 4J95AMX™*	249.1	4	22.6	90	36
CATALYST 4685 3111	212.3	18	22.8	90	40
BURRUS 5241 GT	219.4	17	24.5	95	30
✓Check	241.0		27.3	100	31
POWER PLUS 2N82AM™*	233.3	10	20.4	95	32
POWER PLUS 6N83AM™*	243.9	7	25.6	100	33
POWER PLUS 4G46AMX™*	245.1	6	20.9	90	32
✓Check	261.4		23.9	100	30
POWER PLUS 6P75AMX™*	252.2	3	22.5	75	39
BURRUS 502792	222.9	15	23.3	80	40
✓Check	247.8		26.3	100	33
BURRUS X7A18	248.3	5	25.1	60	32
POWER PLUS 6F74AMX™*	239.7	8	20.8	90	41
CATALYST 7893 3111	223.9	13	29.1	90	41
BURRUS 5241 GT	232.3	11	28.9	100	34
✓Check	255.7		24.5	90	36
BURRUS 130796	259.2	1	24.8	100	38
✓Check	236.9		29.8	100	40
Average	234.1		24.7	94	35
Check Average	243.8		26.7	98.6	33

KNOX

Tim Carlson
Galesburg, IL

Planted: April 19 in 30" rows. **Planting Population:** 35,600. **Harvested:** October 6. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: 46, K: 90. **Herbicide:** LexarEZ, Roundup, Callisto Extra. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam. **Weather:** May–dry, June–wet, July–dry, August–dry. ✓**Check Hybrid:** Burrus 5Z41 GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	271.4		21.3	78	36
POWER PLUS 4G46AMX™*	242.5	11	18.6	60	35
POWER PLUS 4J93AM™*	256.4	2	17.5	30	35
POWER PLUS 6F74AMX™*	240.2	8	18.8	80	34
✓Check	256.2		21.7	70	35
BURRUS 6T54 3000GT	252.1	1	24.5	40	35
POWER PLUS 6N83AM™*	244.5	7	18.1	5	34
POWER PLUS 7A18AM1™*	228.4	12	21.0	20	35
✓Check	263.2		21.2	70	34
POWER PLUS 4G46AMX™*	247.2	5	17.6	50	35
POWER PLUS 4J93AM™*	245.2	6	17.3	50	35

ILLINOIS

Rough corn borer year – take two

European corn borer, ECB, was a topic addressed in the 2013 Burrus *Harvest Report*. It had been a few years since the pest was addressed. At one point Burrus made the following comment about observed infestations: "In at least a few locations, Burrus observed corn borer feeding that rivaled worst case scenarios from 20 – 30 years ago." (2013 Burrus *Harvest Report*, page 38)

We went on to note that these sometimes devastating infestations occurred in non-GM corn and we warned readers that they should expect repeats of 2013 in years to come. It turns out that 2014 was one of those "repeat" years. European corn borer appeared once again, and as of press time, it appears that some of those infestations rivaled 2013's severe levels. For some growers that meant a loss of a couple to few dozen bushels. For others timely rains minimized the impact of corn borer feeding. Let's once again review the history of European corn borer and also take a moment to review corn borer scouting procedures.

In the 2013 Burrus *Harvest Report* it was noted the European corn borer first appeared in the United States around 1917 and the pest reached the midwest in the late 1930s/early 1940s. The pest was so devastating that the University of Illinois began to conduct an annual

fall corn borer survey. Extension agents would drive through the countryside each fall, examining plants to determine percent infestation, and the number of corn borer larvae within each infested plant.

Figure 1 depicts the results of that survey, results that span about a 60 year time-frame. As seen in that diagram, infestations went "all over the place" from one year to the next. There literally was not a relationship between one season's infestation level and the next season's infestation level. That all changed in 1996 when the advent of Bt corn initiated a steady decline in corn borer damage. As can be seen in Figures 2 – 4, the adoption of Bt corn was dramatic and steady. Within a decade, Bt hybrids were planted on about 40% of Midwest corn acres. Within a decade and a half, Bt hybrids were planted on about 65% of Midwest corn acres. The reasons for adoption were very clear, Bt hybrids minimized the use of insecticides (products that growers hated to use), minimized spillover effects (injury to non-target species, contamination issues, etc.), and effectively/efficiently controlled European corn borer, then the number one pest of Midwest corn. By 2010, the pest had been so injured by the use of Bt products that the University of Illinois discontinued its annual fall survey.

The 2013 Burrus *Harvest Report* article

reminded readers that the University of Illinois was not the only organization conducting corn borer surveys each growing season. Burrus Account Managers have conducted their own survey of non-GM/only herbicide tolerant products each season. Our survey is very different from that one conducted by the U of I because we do not randomly select fields. Instead, we examine non-insect traited hybrids to determine what the "background noise" for European corn borer looks like (i.e. we annually get a feel for what type of injury corn borers might have inflicted if a grower was not using insect traited products). On some test plot results, the corn borer infestation is noted. In Hancock County, IL, Tim Bolton's plot is rated as heavy corn borer infestation.

As noted when reviewing that information last season, we stressed that European corn borer was not "devastated" as some had claimed. The 2009 growing season marked the "low point" for moderate to severe infestation, but since that time our Account Managers have consistently detected moderate to severe corn borer infestations above 10% (sometimes even above 20%). For this reason, Burrus warned non-GM growers that European corn borer was still a very present danger, cautioning that future growing seasons might provide a repeat

POWER PLUS 6F74AMX™*	248.2	4	19.1	70	36
✓Check	257.5		20.8	60	34
BURRUS 6T54 3000GT	251.0	3	25.6	30	33
POWER PLUS 6N83AMX™*	237.6	10	20.6	23	35
POWER PLUS 7A18AM1™*	239.1	9	20.3	30	36
✓Check	262.2		21.0	68	35
Average	249.6		20.3	49	35

Burrus experimentals hit 273 bu/a

Tim Carlson
Galesburg, IL

Planted: April 25 in 3" rows. **Harvested:** October 6. **Previous Crop:** Soybeans. **Fertilizer:** N: 210, P: 46, K: 90. **Herbicide:** SB-Fall Valor XLT 240, Round Weather Max Outlook. **Insecticide:** None.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 2V56AMX™*	239.0	18.2
POWER PLUS 4Y27AMX™*	255.1	19.2
BURRUS 743660	239.4	18.1
POWER PLUS 2N82AM™*	243.4	18.0
✓Check	252.2	25.1
✓Check	249.2	25.1
POWER PLUS 5C17AMXT™*	249.2	21.2
BURRUS 154860	247.6	19.8
POWER PLUS 4G46AMX™*	259.7	18.3
HUGHES 5456 3000GT	260.8	22.4
BURRUS 408189	273.2	19.0
BURRUS 941589	254.6	19.7
POWER PLUS 6F74AMX™*	227.0	19.8
POWER PLUS 4J95AMX™*	261.5	20.0

✓Check	234.1	25.3
BURRUS 651887	247.0	17.9
POWER PLUS 6F71 R™*	224.6	20.6
POWER PLUS 4P11 R™*	237.1	17.8
BURRUS 6J36 3000GT	228.2	20.0
POWER PLUS 7H23 S™*	243.2	19.9
POWER PLUS 6N83AM™*	261.9	19.9
POWER PLUS 6F71 R™*	249.1	23.2
BURRUS 6J35 GT	224.7	21.4
BURRUS 831552	242.8	21.3
BURRUS 393828	225.6	26.4
✓Check	264.2	26.1
BURRUS 589605	240.9	24.8
BURRUS 999741	229.1	21.1
✓Check	241.0	26.3
POWER PLUS 6P75AMX™*	242.2	21.4
✓Check	255.1	25.8
POWER PLUS 7A18AM1™*	235.5	24.2
BURRUS 187233	239.2	29.3
BURRUS 721256	215.1	24.6
BURRUS 425394	264.2	24.3
POWER PLUS 7A18AM1™*	237.2	23.6
Average	244.3	21.9

LASALLE

Jeff Busch
Tonica, IL

Planted: April 26 in 30" rows. **Planting Population:** 32,500. **Harvested:** September 29. **Previous Crop:** Soybeans. **Fertilizer:** N: 230, P: 69, K: 90. **Herbicide:** Corvus fol-

lowed by Glyphosate. **Insecticide:** Aztec. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–normal, August–wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
BURRUS 6T54 3000GT	235.8	29.9	70	57.4	31
POWER PLUS 4J94AMX-R™*	235.2	24.4	100	59.0	31
POWER PLUS 4G46AMX™*	227.8	23.7	80	61.4	30
HUGHES 5456 3000GT	219.7	22.5	60	57.6	31
POWER PLUS 6F74AMX™*	214.6	28.7	100	61.2	28
POWER PLUS 7A18AM1™*	195.8	27.7	20	59.9	31
Average	221.5	26.1	72	59.4	30

LEE

Kent Reed
Steward, IL

Planted: May 6 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 28. **Previous Crop:** Soybeans. **Soil Type:** Heavy loam. **Weather:** May–normal, June–wet, July–dry, August–normal.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 5C17AMXT™*	254.1	19.9	60.7
POWER PLUS 4J95AMX™*	253.1	19.5	58.2
POWER PLUS 4J95AMX™*	245.3	19.5	58.5
POWER PLUS 4J95AMX™*	244.2	19.3	57.3



Does ownership matter? American, farm-family ownership gives Burrus/Hughes an edge. Find our contact information in this book!

of the 2013 story. Our preliminary survey numbers make that statement once again. As can be seen in Figure 5, our surveys currently point toward levels of moderate to severe infestation roughly similar to that experienced last growing season.

We offer the same cautionary note that we did in 2013. Because European corn borer has not been eliminated and because it seems to have found a new equilibrium point (at least 10% moderate to severe infestation each growing season), we believe that repeats of 2014 are likely. Those repeats will occasionally be this severe if not more so.

The likelihood of occasional severe infestations means growers must vigilantly scout their fields for European corn borer (definitely within non-GM corn but also within traired hybrids, just in case resistance ever develops). At least two (some would say more than two) generations of corn borer occur each growing season and the scouting techniques for both are very different. We have provided a brief review of those scouting techniques with this article (see side note). While both generations can be damaging, the second generation seems to be the one that most growers miss. Burrus encourages our customers to scout their fields every few days next year and to contact their local Account Manager or Sales Agronomist should there be questions.

European corn borer (scouting side note)

- First generation (when to scout: June/July)
- How to scout:
 - Examine 20 plants in each of 5 locations
 - Record percent whorl feeding
 - Dissect 2 damaged plants per location noting number of larvae per plant and their growth stage
- Second/subsequent generation (when to scout: July- Sept.)
- How to scout:
 - Examine 50 random plants for egg masses (usually found on the underside of leaves near the ear)
 - Record stage of egg masses and total number per 50 plants
- Economic threshold: The threshold for managing European corn borer varies based upon commodity prices, insecticide cost, and crop growth stage. A worksheet can be used to determine the need for treatment. That worksheet is accessible at https://ipm.illinois.edu/fieldcrops/insects/european_corn_borer.pdf

Figure 1.
Corn borer infestation level trend line (University of Illinois fall ECB survey) 1943-2010

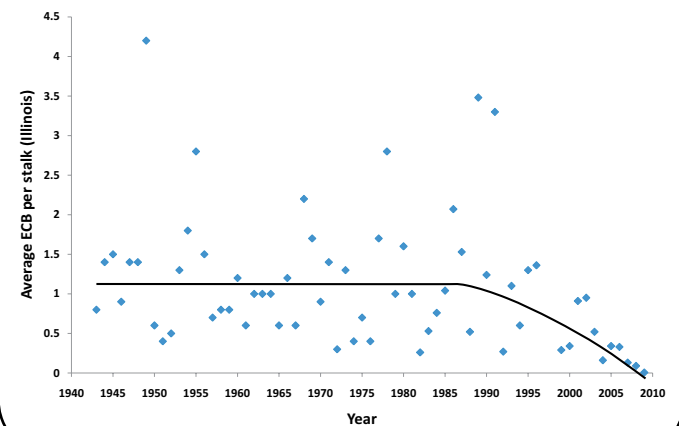


Figure 2.
Percent corn borer Bt trait use (Illinois) 1995-2015

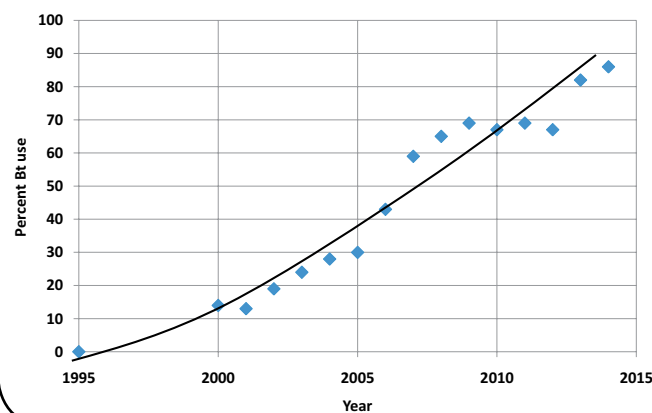


Figure 3.
Percent corn borer Bt trait use (Missouri) 1995-2015

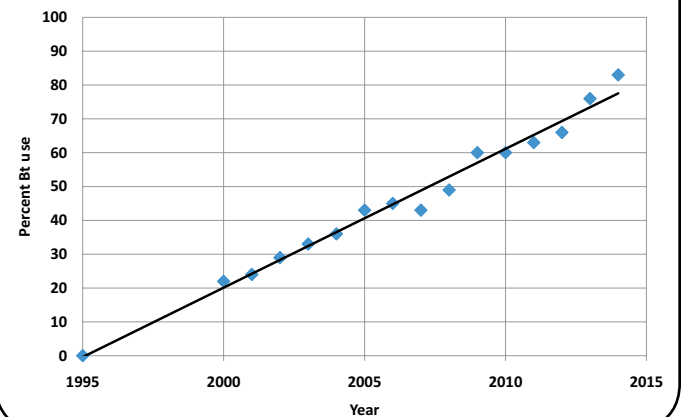


Figure 4.
Percent corn borer Bt trait use (Wisconsin) 1995-2015

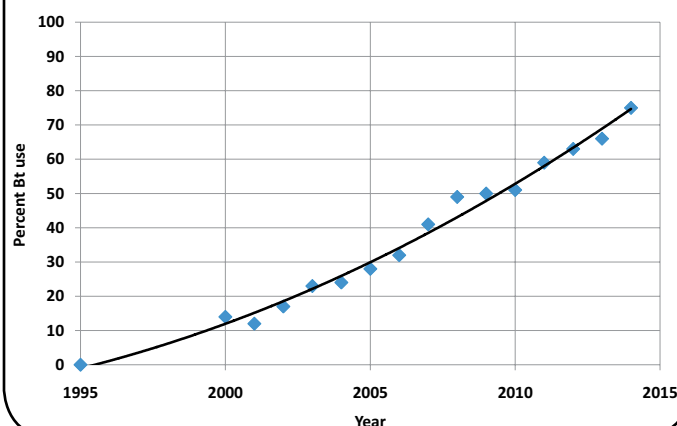
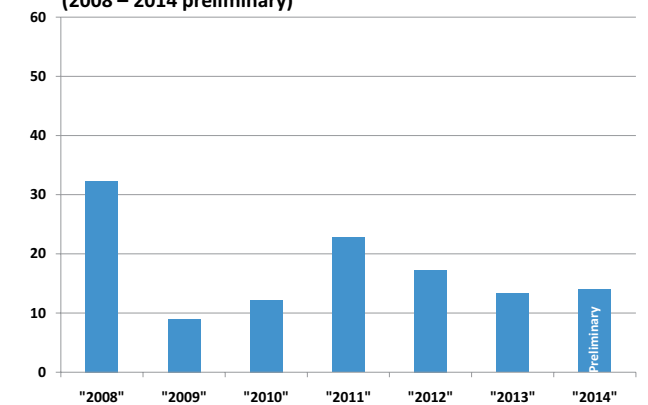


Figure 5.
Percent plants moderately to severely infested with European corn borer (ECB) (2008 – 2014 preliminary)



POWER PLUS 4J95AMX™*	242.2	19.6	58.4
POWER PLUS 6P75AMX™*	239.6	21.1	56.5
POWER PLUS 4G46AMX™*	238.5	20.0	60.8
Stone 5828 RIB	236.1	17.6	57.5
HUGHES 5456 3000GT	235.8	18.2	56.7
POWER PLUS 6F74AMX™*	234.2	21.8	61.0
POWER PLUS 4Y27AMX™*	230.4	19.4	60.9
POWER PLUS 2V56AMX™*	229.3	19.0	60.0
Stone 5628RIB	224.5	17.0	57.6
Stone 5418RIB	217.7	16.4	58.1
CATALYST 4685 3111	213.5	21.5	55.2
Average	235.9	19.3	58.5



Look how they've grown! The Frye boys (left) of Mason Co. proudly wore their Burrus caps as youngsters. Now they (right) also proudly display their loyalty to the University of Illinois. Landon & Logan are both alums as are their parents, Jay & Noreen. Lucas, is a senior and was recently elected student trustee. The Burrus-Frye connection has been strong for seven decades!



MISCELLANEOUS



At 235 bu/a Nettie & Kyle Embry saw their Power Plus® 4J94AMX-R™* take first place in Jo Daviess Co.



Power Plus® whipped Pioneer, DeKalb & AgriGold in Carroll Co. for Dan Lamoreux.



Power Plus® 7H23 S™* & Burrus 6T54 3000GT go one-two for Tim Bolton & Tim Dickerson in Hancock Co.



Experimentals dominated in Kankakee Co. for Jason & Ed Zimmer.

Call 844-203-3003

Looking for a place to deliver AgrisureViptera™ grain?

In the spring of 2014, there was concern over planting the AgrisureViptera™ technology because some grain elevators were not sure if they were going to accept the harvested grain. Uncertainty ruled the roost. That has changed as Syngenta (owners and developers of Agrisure corn traits) and Gavilon Grain, LLC, are offering guaranteed delivery locations for grain harvested from the 2015 planting season.

For the 2015 growing season, Syngenta has teamed up with Gavilon Grain, LLC to offer the *Right to Grow* program. This program is designed to provide participating growers the support to properly handle grain that is not yet approved for import in certain markets. The 2015 *Right to Grow* program offers growers marketing alternatives for the AgrisureDuracade™ trait.

Gavilon will also provide consultative services to help growers appropriately steward and market 2015 Viptera grain at harvest also. Gavilon Grain, LLC, is an expert in the field of commodity management. They connect producers and

consumers of feed, food, and fuel through their global supply chain network, while also providing a variety of services including storage, handling, marketing, and distribution. The Gavilon services will provide access to an expanded network of end-use locations that include on-farm feeding, accepting elevators, feedlots, feed mills, and other approved destinations.

The number to call for Viptera grain marketing consultation is 844-203-3003.

Growers should be prepared to give a list of towns where they would consider selling their grain. The consultants search their database by town – not county nor facility. The call center will help connect growers to accepting locations. There is tremendous flexibility to work with an extensive network of Gavilon locations and other accepting grain handlers. Growers are neither required nor expected to sell their grain to Gavilon if they use the services of the call center.

Some keys to consider when planting a technology that must be channeled:

- Select a field that allows for the separation of grain at harvest
- Use block configurations and plant border rows
- Clean planter and properly dispose of unused seed
- Harvest field separately and flush combine and all equipment that handles your grain
- Deliver all grain containing that trait plus all of the grain harvested to flush the combine, to a previously arranged delivery point
- If storing channeled grain on your farm, bin it separately
- Clean bin floor after removal of grain

Catalyst 4685 3111 and 7893 3111 are two top-flight hybrids that contain the AgrisureViptera trait. These hybrids are designed to work on many farms in the Burrus marketing footprint. Order yours today! If you need additional assistance on where to market grain from these two hybrids just call your Burrus or Hughes Account Manager.

LEE

Power Plus® 4J95AMX™* takes second



Lyle Schilpp
Harmon, IL

Planted: May 7 in 30" rows. **Planting Population:** 36,000. **Harvested:** October 24. **Previous Crop:** Corn. **Soil Type:** Medium sand. **Weather:** May-normal, June-wet, July-dry, August-normal. **✓Check Hybrid:** Agrigold A6533VT3PRIB

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
✓Check	221.0		19.6	55.6
POWER PLUS 7A18AM1™*	227.7	7	20.9	60.2
Pioneer P1417AMX	222.5	8	21.9	59.0
✓Check	215.7		20.1	54.2
Pioneer P1352AMXT	201.4	14	20.8	57.8
AgriGold A6559STXRIB	192.6	15	19.6	58.7
Pioneer P1257AMX	229.8	3	20.5	57.9
AgriGold A6538STXRIB	185.6	16	19.1	56.7
✓Check	204.1		19.5	54.6
Pioneer P1142AMX	217.5	5	20.7	58.3
AgriGold A6492SSRIB	208.5	9	18.0	57.4
Pioneer P1197AM*	235.0	1	21.2	57.2
AgriGold A6499STX	203.8	12	20.2	58.9
AgriGold A6442	199.4	13	18.7	57.8

POWER PLUS 4J95AMX™*	231.4	2	19.7	56.5
Pioneer P0909CHR	205.5	11	18.9	56.8
AgriGold A6472VT3P	224.6	4	18.7	57.8
POWER PLUS 2V56AMX™*	206.2	10	19.0	59.6
Pioneer P0636AMX	217.3	6	18.4	58.0
✓Check	206.8		19.0	56.3
Average	212.8		19.7	57.5
Check Average	211.9		19.6	55.2

LIVINGSTON



Lou Zabel
Dwight, IL

Planted: May 7 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 8. **Previous Crop:** Corn. **Fertilizer:** N: 180, P: 69, K: 90. **Herbicide:** Roundup. **Insecticide:** Aztec. **Soil Type:** Medium loam.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 7A18AM1™*	254.5	19.8
BURRUS 6T54 3000GT	241.6	21.3
CATALYST 7893 3111	241.5	22.8
POWER PLUS 5C17AMXT™*	234.7	21.7
POWER PLUS 6P75AMX™*	234.1	20.3
BURRUS 5008 3122	232.1	18.7
POWER PLUS 2V56AMX™*	231.5	16.6
POWER PLUS 4J95AMX™*	228.5	21.7
POWER PLUS 6F74AMX™*	226.8	18.0
CATALYST 4685 3111	225.8	18.5
Average	235.1	19.9



Lou Zabel
Dwight, IL

Planted: May 7 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 8. **Previous Crop:** Corn. **Fertilizer:** N: 180, P: 69, K: 90. **Herbicide:** Roundup. **Insecticide:** Aztec. **Soil Type:** Medium loam.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4Y27AMX™*	223.0	15.8
BURRUS 425394	221.8	19.4
POWER PLUS 4G46AMX™*	215.4	16.0
✓Check	218.1	18.2
BURRUS 941589	205.3	17.3
CATALYST 5008 3122	188.7	17.4
HUGHES 5456 3000GT	190.2	15.4
CATALYST 4685 3111	215.2	17.8
✓Check	209.9	20.2
POWER PLUS 5C17AMXT™*	214.7	15.4
BURRUS 780946	213.4	16.5
CATALYST 4685 3111	171.5	19.4
✓Check	165.3	18.0
POWER PLUS 4J95AMX™*	161.8	15.0
POWER PLUS 6F74AMX™*	172.7	17.3
BURRUS 220968	159.1	16.7
POWER PLUS 2N82AM™*	166.0	15.2
BURRUS 5Z41 GT	196.5	17.6
BURRUS 543117	206.9	15.7
BURRUS 743660	139.3	16.5
BURRUS 6J35 GT	165.6	18.2
BURRUS 359902	136.6	19.0
BURRUS 101413	157.4	21.2
BURRUS 831552	171.5	18.9
CATALYST 4685 3111	163.3	18.6
BURRUS 651887	170.1	18.5

ILLINOIS



We are winning!
Hard work + dedication = the Burrus and Hughes way.

POWER PLUS 6N83AM™*	180.3	16.0
POWER PLUS 7H23 S™*	208.4	17.0
BURRUS 6J36 3000GT	209.1	17.0
BURRUS 999741	249.8	18.9
✓Check	240.5	19.4
BURRUS 589605	222.2	21.3
✓Check	221.5	21.4
CATALYST 7893 3111	224.9	22.3
POWER PLUS 7A18AM1™*	228.0	23.3
BURRUS 187233	191.2	23.0
BURRUS 152174	195.3	18.0
✓Check	222.8	19.5
BURRUS 408189	218.9	17.6
Average	195.7	18.2

LOGAN

Power Plus® 7H23 S™* first at 266 bu/a

Kent Kleinschmidt
Emden, IL

Planted: April 26 in 30" rows. Planting Population: 34,500. Harvested: September 24. Previous Crop: Soybeans. Fertilizer: N: 200, P: 120, K: 120. Herbicide: Harness followed by Roundup. Insecticide: None. Corn Borer Rating: Light. Soil Type: Silt loam. Weather: May-normal, June-wet, July-wet, August-wet. ✓Check Hybrid: Burrus 6T54 3000GT

Brand/Product	Bu. Per Acre	% Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	273.8	26.9	95	33	
BURRUS 408189	262.2	15	23.6	95	33
POWER PLUS 2V56AMX™*	235.1	22	24.6	95	32
✓Check	255.6	30.0	95	32	
POWER PLUS 4P11 R™*	250.0	14	23.3	80	34
BURRUS 359902	232.2	21	28.4	90	34
HUGHES 5456 3000GT	246.7	18	24.3	70	33
BURRUS 999741	235.0	20	28.6	75	32
✓Check	261.1	29.7	85	31	
POWER PLUS 5C17AMXT™*	266.1	6	25.2	100	32
POWER PLUS 4J95AMX™*	257.8	11	25.9	95	31
CATALYST 4685 3111	238.5	23	28.2	100	32
BURRUS 5241 GT	261.8	10	28.0	75	32
✓Check	264.4	29.4	75	33	
BURRUS 651887	229.2	24	25.0	75	34
POWER PLUS 7A18AM1™*	266.7	5	28.8	65	33
BURRUS 941589	243.8	17	25.2	100	32
POWER PLUS 4G46AMX™*	252.3	12	25.1	100	33
✓Check	254.1	29.5	85	32	
POWER PLUS 6P75AMX™*	255.9	7	28.7	85	31
POWER PLUS 6P71™*	264.6	2	26.9	50	32
BURRUS 6J36 3000GT	215.6	25	24.8	70	32
BURRUS 735025	257.9	8	27.5	10	31
✓Check	258.1	29.9	75	31	
POWER PLUS 4J93AMX™*	261.0	4	24.3	85	32
POWER PLUS 7A18AM1™*	255.5	9	28.8	85	32
POWER PLUS 6F74AMX™*	231.7	19	26.8	100	31
CATALYST 7893 3111	245.0	13	30.5	35	30
✓Check	247.2	30.2	85	33	
POWER PLUS 7H23 S™*	266.0	1	26.2	85	32
BURRUS 130796	237.5	16	30.8	85	33
BURRUS 187233	254.8	3	31.4	90	31
Average	251.2	27.4	81	32	
Check Average	259.2	29.4	85	32	

Hassebrock Farms Inc.
Beason, IL

Planted: May 5 in 30" rows. Planting Population: 35,000. Harvested: October 20. Previous Crop: Soybeans.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test WL
Wyyfels W7888RIB	271.7	18.4	60.8

Gains \$70 per unit of seed in additional value

The Burrus/Hughes Crop Optimization Planner

To illustrate how well the Crop Optimization Planner (COP) is doing, we used the Burrus Show plot, located at Arenzville, IL. The COP, powered by MyFarmsSM, selected 4 products for each of 4 categories.

1. Products with corn rootworm protection with an integrated refuge
2. Products with corn rootworm protection with a structured refuge
3. Products with corn borer protection
4. Non-GM products

At Arenzville, they are compared to the other products in each category

not selected by the COP. The results gained 31.8 bu/a, 25.8 bu/a, 18.6 bu/a and 17.7 bu/a with an average of 23.5 bu/a. That is \$82 per acre gain at \$3.50 corn and \$206 per unit of seed advantage. Comparison also was made to the average of all products offered by Burrus within each category. The COP recommended products were 17.4 bu/a, 5.2 bu/a, 6.2 bu/a, 3.5 bu/a above the average, respectively. The overall average was 8.1 bu/a or **\$70 per seed unit gain using the COP.**

We recommend using both Refuge in

Corn Yield Comparison Report										Harvest Date: 9/13/2014	
Name: Burrus Seed Farms			Address: 826 Arenzville Rd. Arenzville, IL			Zip: 62611		County: Morgan			
Row Width: 30"		Number of Rows: 2		Date Planted: 4/11/2014		Planting Population: 36,000					
Previous Crop: Corn			Fertilizer N: _____			P: _____		K: _____			
Herbicide(s) (current year): Bicep II Lite Magnum Pre-emergence, Impact & Aatrex Post										Herbicide(s) (previous year): _____	
Tillage Practice: Conventional			Insecticide: Aztec						Irrigated: No		
Soil Type: Worthen Silt Loam			Weather Conditions: May: Normal			June: Normal		July: Normal, Cool		August: Wet, Cool	
Plot Type: Other			Corn Borer Rating 25 Plants: _____			Check Hybrid: _____					
Picture (L-R) _____						Remarks: _____					
						Weighed By: _____					
Grain Price: _____											
Drying Cost: _____											
(Drying cost based on per bushel, per point of moisture above 15%)											
Yield = Wet Weight X Factor X (100-moisture) / row length / row width / # of rows											
Crop Factors: Corn = 109.815											
Order	Brand	Hybrid	Wet Wt (lbs)	% Moist.	TW (lbs/bu)	Row Length (ft)	Population	Adj. TW	Wet Yield	Dry Yield	% Lodging
1	Power Plus	2V56AMX	750	20.6	55.7	606.8	31000	57.8	192.3	179.6	3%
2	Power Plus	4Y27AMX	860	21.1	58.2	606.8	32000	60.4	220.5	204.7	6%
3	Power Plus	4G46AMX	930	21.5	56.0	606.8	34000	58.4	238.5	220.2	3%
4	Power Plus	4J95AMX	960	23.0	54.5	606.8	30000	57.3	246.1	223.0	3%
7	Power Plus	5C17AMXT	1070	23.0	54.3	606.8	35000	57.1	274.3	248.5	0%
	Burrus	5Z44 3122	960	24.5	51.0	606.8	35000	54.2	246.1	218.6	0%
10	Power Plus	6F74AMX™*	990	22.2	56.4	606.8	35000	58.9	253.8	232.3	0%
11	Power Plus	6P75AMX	990	25.2	50.7	606.8	35000	54.0	253.8	223.4	6%
							COP recommendation		258.1		
							everything but what the COP picked		226.3	31.8	COP better than the rest
							average of all in this category		240.7	17.4	COP better than planting all
9	Burrus	6T54 3000	1010	25.1	52.6	606.8	35000	55.9	259.0	228.2	0%
12	Power Plus	7A18AM1™*	920	25.1	54.6	606.8	35000	57.9	235.9	207.9	6%
5	Catalyst	4885 3111	980	24.4	50.3	606.8	37000	53.4	251.3	223.5	0%
8	Catalyst	7893 3111	1060	27.6	51.5	604.8	34000	55.4	272.7	232.3	6%
							COP recommendation		244.6	3.9	Bushels structured refuge is better than integrated refuge
14	Power Plus	2N82AM	860	21.1	54.0	600.5	28000	56.2	222.8	206.8	11%
16	Power Plus	4J93AM	960	22.0	52.5	584.2	34000	55.0	255.7	234.6	3%
15	Power Plus	4V45AM	920	21.3	53.6	591.5	31000	55.9	242.0	224.0	3%
18	Power Plus	6N83AM	920	23.1	52.8	570.8	35000	55.6	250.8	226.9	6%
20	Power Plus	7U15AM-R™*	880	24.8	54.3	556.3	33000	57.5	246.1	217.7	3%
							COP recommendation		248.6		
									222.8	25.8	COP better than the rest
									243.5	5.2	COP better than planting all
19	Power Plus	7H23S	930	22.4	53.2	563.9	36000	55.8	256.6	234.2	3%
17	Power Plus	6C41S	960	25.8	52.9	577.8	32000	56.4	258.5	225.7	3%
21	Power Plus	4P11R	730	20.4	55.0	549.8	33000	57.0	206.5	193.4	0%
22	Burrus	5241GT	860	23.4	51.7	541.8	30000	54.6	247.0	222.6	3%
23	Burrus	6T51GT	880	25.8	51.1	535.4	32000	54.6	255.7	223.2	0%
24	Power Plus	6F71R™*	900	22.9	55.8	528.1	36000	58.5	265.1	240.5	0%
							COP recommendation		254.4		
									235.8	18.6	COP better than the rest
									248.2	6.2	COP better than planting all
26	Power Plus	5N48™*	780	21.9	56.5	515.8	31000	59.0	235.3	216.2	0%
25	Burrus	5D30	830	21.4	55.9	522.8	33000	58.2	247.0	228.4	3%
27	Power Plus	6C40	850	25.0	53.4	508.7	30000	56.7	260.0	229.4	7%
28	Burrus	6G64	740	25.5	52.1	500.9	32000	55.5	229.8	201.4	3%
30	Burrus	750	780	24.8	55.1	489.4	33000	58.3	248.0	219.4	3%
							COP recommendation		247.5		
									229.8	17.7	COP better than the rest
									244.0	3.5	COP better than planting all
overall categories											
									23.5		COP better than the rest
									8.1		COP better than planting all

POWER PLUS 5C16™*	270.5	17.9	59.9
Pioneer P1257AMX	270.3	17.5	57.7
Pioneer P1417AMX	269.3	17.6	59.1
Nutech 5D612	268.7	17.8	60.9
Pioneer P1142AMX	268.2	17.4	59.0
POWER PLUS 7A18AM1™*	265.8	19.0	59.8
Nutech 5F512	263.3	18.7	60.7
POWER PLUS 4G46AMX™*	262.1	17.8	60.7
Pioneer P0945AMX	262.1	17.3	61.0
POWER PLUS 4J95AMX™*	262.0	17.3	57.7
Pioneer P1339AM1	259.0	17.6	59.6
Nutech 5R113	258.9	18.4	61.7
Pioneer P1215AM1	258.3	17.8	58.2
Nutech 5L811	258.3	18.3	61.4
Wyffels W7718RIB	254.9	17.8	61.1
Wyffels W5138RIB	252.1	16.9	59.4
Wyffels W6628RIB	250.0	18.1	59.7
Average	262.5	17.9	59.9



Corn-on-corn strategies for 2015

Don't go crazy and don't cut corners

By Matt Montgomery

Corn-on-corn is a difficult prospect in 2015. Regardless of location within the Burrus footprint, continuous corn lags behind other cropping systems in average per acre estimated income.

There are reasons that individuals will still practice continuous corn though. Landlords sometimes demand it. Local marketing opportunities sometimes encourage it. Past government policies have sometimes promoted it. Previous chemical and/or fertilizer programs sometimes dictate it. Pest management issues sometimes force one into it. Cropping plans sometimes necessitate it.

The story behind depressed corn-on-corn income potential is pretty easy to follow and is commonly mentioned whenever this topic is discussed. Continuous corn can yield 10% – 25% less than rotated corn, land costs run higher, diseases and other pests tend to be a little more prevalent, etc. Those facts are not new to continuous corn or to explanations for lower income potential. Yet, 2015 will present unique income challenges for this cropping system.

The difference between continuous corn in 2015 and continuous corn over the last few years really comes down to a change in the market and a lack of change in the marketplace. Commodity prices have tumbled back to 2007 pre-boom levels while input costs have remained flat. What does that mean? Managing income potential in continuous corn is even more important in the coming growing season. The correct approach is this “do not go crazy but do not cut corners.” That approach must be taken in each area of corn-on-corn investment – seed, field prep, planting, weed management, insect management, disease management, fertilizer, harvesting/storage, and marketing.

Seed

Making continuous corn work in 2015 will require attention to return on investment. The temptation to “cut corners” is the temptation to “do something in the easiest, quickest or cheapest way, while often inflicting potential harm.” The temptation to “go crazy” is the temptation to “go beyond what is necessary.” If there is an input capable of diverting a grower to either, seed is it.

Let's begin by discussing how we might “go crazy” when it comes to seed

(how we might go beyond what is necessary). Let's do so by asking some probing questions. First, does your situation really require a pyramid or single trait RIB hybrid (i.e. does it require a hybrid with multiple traits targeted against the same pest or does it require a single trait pour and go/no-refuge hybrid)? A resistant rootworm population or a bulk fill planter may require both, but if that doesn't describe your operation then ignoring a cheaper single trait/non-RIB product might be “going crazy.” If a cheaper single trait/non-RIB product helps you get to “necessary,” does it really make sense (given the market) to aim for “extraordinary?” Are there other seed-related issues that might trend toward going a little crazy? Carefully consider what you need and what you want. There is a difference and continuous corn will dictate “need” rather than “want” to cash flow.

Let's now discuss how we can “cut corners.” It is tempting to go cheap in 2015 when it comes to seed, to merely look at price and discard all other considerations. Saving dollars should always be on the grower's mind, but it must not come via cut corners. Seed selection holds the most potential to make corn-on-corn work. Conversely, it can also make corn-on-corn a disaster. Yes, a Burrus sales agronomist is making that statement, but that doesn't make the statement less true. A poor seed choice will negatively impact continuous corn and will likely tighten up margins. A selected hybrid must fit the actual productivity level. It must fit the most likely environment encountered. A selected hybrid must perfectly fit the seeding rate desired by the grower. It must have a good synch between pollen shed and silk emergence (i.e. good nick). These considerations are always important in hybrid selection, but they are not negotiable in continuous corn. Continuous corn does not allow the grower to simply pull any hybrid off the shelf.

Planting

Planting is another area where “don't go crazy” seems to be the appropriate starting point. Bluntly stated, unless you are already in the market for a new planter or new planter attachments and have been for a while, dramatic investments in equipment or attachments will often fall beyond what is necessary in continuous corn. Any dramatic “gadget investment” had better help capture increased yield of several additional bushels the majority of the time.

What about “not cutting corners” when it comes to planting? Take some time to calibrate the equipment or attachment.

New attachments won't make a difference when a planter is dropping lots of doubles or when the spacing between kernels begins to swing wildly. Make sure you are getting uniform drop, stand and planting depth. Then... check things out throughout the season. Calibrating and observing planter performance post-calibration are not wasted efforts. Poor calibration costs growers income each year and you can't afford lost income with continuous corn.

Field Preparation

Fuel costs are one of the biggest line item expenses for the grower and growers are rightfully on the hunt for ways to reduce their fuel bill. Even with recent positives in the fuel/energy sector, fuel expenses will remain significant. It is tempting to save dollars by eliminating tillage. The suggestion “don't go crazy and don't cut corners” applies when we speak of no-till in 2015. Let's again ask some probing questions.

Does the hybrid selected lend itself to no-till or to conditions that might accompany no-till? Do you have experience with no-till or would this be your first shot at the practice? Will the continuous corn field lend itself to your skill with no-till or will it not?

A hybrid with a low no-till score is not going to suddenly perform at its' peak when a grower places it in no-till. A hybrid less suited to “wet feet” is not going to perform well if no-till causes a field to hold excessive moisture. Placing such a hybrid in such a situation is “cutting a corner” and kind of “crazy” at the same time. You are ignoring the necessary and expecting a good result.

Embracing no-till is admirable and possibly a great long-term goal. However, the tight margins of 2015 might not be the time for tillage-prone growers to jump exclusively on the no-till wagon. No-till takes a skill set. Well practiced no-till takes a well-earned skill set. Eliminating tillage minus any experience in doing so may potentially “cut corners,” and if you really aren't very good at it – you're going to look “crazy.”

Any piece of ground can be no-tilled. However, some tracts are more easily no-tilled than others. For instance, bottomland gumbo can be no-tilled – but it proves a difficult prospect for many. The decision to go continuous corn is not the time to play bold and pretend a practice is within your comfort zone. Be honest with yourself. If you know you cannot make the practice work in your situation and you none-the-less try it anyway, you are “cutting a corner.” You are “going crazy” when you try to cram your square peg into the field's round hole.

Weed Management

A weed management program in corn doesn't need to be extravagant (i.e. crazy), but it does need to provide a good product mix. An appropriate mix of chemical options/applications might at first appear extravagant when compared to past post-emerge programs – but a good product mix is far from being “crazy.” Pre and post applications should be used. Residual products should be used along with less persistent products. Resistance dictates this approach, and moving to a one-pass post-emerge program (with the hope of hypothetically reducing herbicide costs) is production suicide. Resistance is lurking.

On paper, a one-pass program may look appealing, but for most growers the practice will only save money on paper – not in reality. When that program fails, subsequent (often futile) trips will continuously thrust the sprayer back into the field. When done right, a mixed and multiple application herbicide program will provide great control while reducing the number of trips across the field.

Insect Management

Savings in this area really depends on the grower. Are you good at scouting? Do you know how to do it well? Do you scout when and as often as you need to? The answer to those questions will determine if insect management qualifies as a cheap endeavor or insanity embraced.

Growers with well-honed and frequently practiced scouting skills can save money when it comes to insect management. They will be able to spot the rise of a problem, control that problem when it hits threshold and reap the financial rewards. Applying insecticides prophylactically when scouting skills are well-honed and frequently practiced is “crazy.” Trust in that skill and save yourself some money. Do what is necessary, but don't shoot for extravagant or extraordinary.

Growers less skilled/less vigilant when it comes to scouting must do two things. First, they need to correct that lack of skill. Economic thresholds have been designed to benefit the grower's bottom line. Scouting is a tool that can detect when those thresholds are met and it should be used. However, if you must plant corn-on-corn and you don't have those skills, you need to invest in traits that will control a broad spectrum of butterfly/moth larvae and rootworms. To ignore traits and ignore scouting represents a serious cut corner. It will likely reduce grower income.



Scoop your hand in and see. Open a bag of seed under the Burrus umbrella of brands and see the quality for yourself.

Disease Management

Pathogens responsible for disease can afflict any field, be that field corn after beans or corn-after-corn. However, some diseases are a little more likely in continuous corn. Additionally, the reduced yield potential of continuous corn makes the impact of disease that much more potent. Don't go crazy by applying fungicides to a crop that fails to show economically significant evidence of disease. Likewise, don't cut corners by investing in a hybrid that does not have a good resistance package. Choosing a good resistance package can reduce pesticide costs. Remember to rotate hybrids and technology to break up the resistance cycle.

Fertilizer

What does your current nutrient situation look like? Would your fertilizer program qualify as insane or potentially harmful in continuous corn?

Let's start by considering phosphorus (P) and potassium (K). If P and K are currently at adequate build up levels, leave them there and merely replace what you remove (i.e. go with a maintenance fertilizer rate). To invest in more than what the soil needs right now would be crazy. If soils are not adequate though, you must invest in both buildup and maintenance. Not getting soil "where it needs to be" will reduce yields and it is a cut corner.

Nitrogen investments represent another area where balance is necessary. Return on investment must be the goal (i.e. achieving what is necessary while straying well away from potential harm). Now is the time to embrace a return to nitrogen approach, the approach promoted by many midwestern universities.

The evidence for other nutrient invest-

ments is pretty sketchy/pretty thin. Because we must squeeze more dollars out of continuous corn, it makes little sense to invest in much more than needed lime, P, K, and N.

Harvesting/Storage

The thoughts here mirror those of planting. Unless you are already in the market for new equipment, bells, and/or whistles do not purchase equipment, bells, and/or whistles. To do so is crazy. Don't cut corners though. Once again, make sure the piece of equipment or attachment is calibrated before harvest, and make sure you are satisfied with performance during harvest. Are you blowing too many kernels out the back? Are concaves set right? From a storage standpoint, reduce some energy cost by selecting a hybrid that dries down well in the field. A bin fan can represent considerable saving over the LP needed by a drying bin.

Marketing

We have stated, throughout this article, that continuous corn systems must seek to optimize income. Striking a healthy balance between not "going crazy" with inputs and not "cutting corners" with inputs is the only way to press income potential higher in corn following corn. We therefore must mention marketing.

Because potential continuous corn income is already at a disadvantage, a grower simply cannot pick and sell in the fall. Nor can the grower flippantly sell at other times of the year. Corn-on-corn is not a system suited to marketing all one's crop at once and it is not a system suited to ignoring the commodity market. Work with people skilled in squeezing additional value from the market.

MARION

Power Plus® 4J93AMTM *
at 244 bu/a

Steve Brummel
Salem, IL

Planted: May 26 in 30" rows. Planting Population: 28,000. Harvested: October 24. Previous Crop: Soybeans. Herbicide: Lexar, Atrazine. Insecticide: Warrior. Corn Borer Rating: Light. Soil Type: Clay loam.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4J93AM TM *	244.0	19.9
POWER PLUS 7H23 S TM *	228.4	23.2
BURRUS 780946	228.0	22.8
BURRUS 6J36 3000GT	227.1	23.1
POWER PLUS 7A18AM1 TM *	223.5	26.1
CATALYST 4685 3111	217.4	21.6
BURRUS 154860	216.7	21.2
POWER PLUS 4P11 R TM *	214.8	18.2
POWER PLUS 4V43 S TM *	214.3	21.0

BURRUS 6T54 3000GT	214.0	29.9
BURRUS 831552	211.4	23.4
POWER PLUS 7A18AM1 TM *	211.4	26.2
POWER PLUS 6N83AM TM *	211.2	25.3
BURRUS 5Z41 GT	207.1	25.3
POWER PLUS 6F71 R TM *	206.2	24.4
POWER PLUS 7A18AM1 TM *	206.1	24.6
POWER PLUS 6F74AMX TM *	203.6	22.9
BURRUS 152174	202.6	26.0
POWER PLUS 6F74AMX TM *	202.3	23.4
POWER PLUS 2N82AM TM *	201.6	17.5
POWER PLUS 7A18AM1 TM *	200.6	26.2
POWER PLUS 6F74AMX TM *	199.4	23.2
CATALYST 7893 3111	199.2	28.7
POWER PLUS 7A18AM1 TM *	196.8	25.6
BURRUS 589605	196.7	31.7
BURRUS 735025	196.0	24.1
BURRUS 187233	193.9	31.8
POWER PLUS 6P71 TM *	191.2	24.6
BURRUS 721256	190.3	26.9
BURRUS 130796	188.3	28.6
BURRUS 424394	184.8	27.3
BURRUS 554048	182.3	26.2
POWER PLUS 6F74AMX TM *	178.4	25.4
POWER PLUS 4J95AMX TM *	177.2	24.8
POWER PLUS 6F74AMX TM *	172.7	22.9
BURRUS 393828	163.2	32.3
Average	202.9	24.9

MARSHALL

Power Plus® 4J94AMX-RTM *
tops at 245 bu/a

Monier Seed & Service
Sparland, IL

Planted: April 26 in 30" rows. Planting Population: 33,000. Harvested: October 17. Previous Crop: Soybeans. Fertilizer: N: VRT, P: VRT, K: VRT. Herbicide: Touchdown, Pre-emerge: Lexar. Insecticide: Force. Soil Type: Medium loam. Weather: May-normal, June-wet, July-normal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.
POWER PLUS 4J94AMX-R TM *	245.1	20.0	100	57.0
BURRUS 6T54 3000GT	239.7	22.1	100	56.5
DeKalb DKC64-87RIB	239.6	17.4	100	57.3
POWER PLUS 4J94AMX-R TM *	236.1	20.1	95	57.0
DeKalb DKC60-67RIB	234.0	19.7	100	58.9
BURRUS 6J36 3000GT	233.6	19.1	80	53.7
POWER PLUS 6F74AMX TM *	231.7	18.2	50	58.5
POWER PLUS 4G45AMX-R TM *	229.7	17.8	100	59.5
POWER PLUS 4G45AMX-R TM *	225.9	18.7	40	59.6
POWER PLUS 4P11 R TM *	224.2	17.7	60	57.4
DeKalb DKC60-67RIB	220.7	17.3	100	57.3
BURRUS 5Z41 GT	218.4	24.0	55	56.0
POWER PLUS 7A18AM1 TM *	217.8	23.1	30	59.7
DeKalb DKC63-33RIB	205.9	20.0	100	58.0
Average	228.7	19.7	79	57.6

MASON

Midwest Central High School
Manito, IL



Planted: April 23 in 120" rows. Planting Population: 30,000. Harvested: October 27. Previous Crop: Corn.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 7A18AM1 TM *	265.5	17.9
Beck's 5828AMX	262.3	16.8
AgriGold A6499STX	259.6	17.0
Pioneer P1339AM1	258.3	18.3
POWER PLUS 7H23 S TM *	254.3	17.1
DynaGro D53VC13	253.4	17.0
FS Seeds 63SX1 RIB	252.9	17.8
NK Brand N79Z-3111	252.0	21.0
DeKalb DKC66-40	249.8	17.5
Channel 213-59STXRIB	249.6	16.8
Beck's 6348A3	245.0	16.8
AgriGold A6559STXRIB	245.0	16.2
DynaGro D52SS91RIB	244.6	17.4
Pioneer P1215AM1	242.3	17.2
DeKalb DKC63-33RIB	239.7	16.5
BURRUS 6T54 3000GT	237.2	18.3
FS Seeds 60ZX1 RIB	234.8	16.6
NK Brand N70J-3011A	231.5	17.4
DeKalb DKC61-54RIB	222.7	16.8
Average	247.4	17.4

Roger Parr
Mason City, IL

Planted: April 18 in 30" rows. Planting Population: 35,000. Harvested: September 29. Previous Crop: Corn.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 7A18AM1 TM *	243.7	18.9

DeKalb DKC63-33RIB	241.6	18.0
DeKalb DKC61-88RIB	235.8	17.9
CATALYST 7893 3111	234.9	20.4
BURRUS 6T54 3000GT	234.0	17.8
BURRUS 6J36 3000GT	232.7	21.2
POWER PLUS 6F71 R TM *	214.2	19.3
CATALYST 4685 3111	214.0	18.6
Average	231.4	19.0



Six Burrus/Hughes products were above 255 bu/a in Knox Co. for Isaiah, Tim & Dale Carlson.



University of Illinois student Rachel Allen of Logan Co. was awarded a Jonathan Baldwin Turner Scholarship sponsored by Burrus.



Tina & Jeff Busch saw Burrus 6T54 3000GT in a dead heat with Power Plus® 4J94AMX-RTM in LaSalle Co.



Full season entries excelled for Larry & Louis Zabel, Burrus Account Manager Dennis Mueller & Research Technician Chip Turner in Livingston Co..



WHAT'S NEW



What is AgrisureDuracade™?

Does corn rootworm (CRW) pressure have you scratching your head? Corn rootworms are irritating pests to corn growers. It is estimated that this pest costs U.S. corn growers more than \$1 billion annually in yield losses and treatment costs.

Today there are growers on both sides of the dreaded CRW issue. Some growers feel that they haven't experienced tremendous CRW pressure while others are seeing that some rootworm traits (Cry1 3ab) are failing in field scenarios in many different areas. But both sides know that corn rootworm can be both an unpredictable and devastating pest so they need to find ways to manage around it. Preservation of traits and rootworm technology in general is a key focus for new products entering the market.

One new face in the fight against rootworms that you will begin to hear a lot more about is AgrisureDuracade™. This

new proprietary piece of rootworm technology features a novel mode of action as it protects against Western, Northern and Mexican CRW.

AgrisureDuracade is claiming to be the first corn rootworm trait launched with insect resistance management in mind. It will only be available stacked with a second corn rootworm trait Agrisure RW (MIR604). The most complete stack will be AgrisureDuracade 5222. This trait package will include AgrisureDuracade along with Agrisure RW, Agrisure CB/LL, Herculex® I, Agrisure Viptera® and Agrisure GT. Growers will have two control measures for both rootworm and corn borer along with glyphosate tolerance and the Agrisure Viptera for protection against the most destructive lepidopteran corn pests. The 5222 E-Z Refuge® provides a 5% integrated, single bag refuge option for corn growers.

The advantages of Duracade are

clear and will provide unmatched corn rootworm control. Duracade features the industry's first hybrid Bt insect control protein, eCry3.1.A. Studies conducted by Syngenta claim reduction in corn rootworm beetle emergence by 99.79% – the highest of any CRW trait on the market.

Burrus and Hughes have viewed the Duracade technology in plot locations and are excited to run this encouraging technology through our battery of tests. AgrisureDuracade has cultivation approval in the U.S. and Canada, as well as key import approval in Japan, Korea, Taiwan, Australia, and New Zealand. Syngenta has submitted and is working to gain approval in China and the European Union. Syngenta launched a program called *Right to Grow* in 2014 that will help growers secure a delivery location within the U.S. for their 2015 grain.

We will keep you updated on all of the latest developments.

POWER PLUS 7A18AM1™*	255.6	21.3	98	61.3	34
POWER PLUS 6N83AM™*	255.2	24.2	86	56.0	31
POWER PLUS 7U15AM-R™*	249.7	19.8	92	59.9	33
POWER PLUS 4G46AMX™*	239.4	20.3	100	59.0	33
POWER PLUS 2V56AMX™*	237.8	18.6	100	59.6	35
Average	254.4	21.2	97	58.9	34

MCHENRY

Simons Farms
Marengo, IL

Planted: May 16 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 23. **Previous Crop:** Soybeans. **Herbicide:** 2QT Volley, Roundup Post. **Insecticide:** 4.4lb Force 3G. **Soil Type:** Heavy loam. **Weather:** May–wet, June–normal, July–dry, August–wet. ✓**Check Hybrid:** Power Plus 4P11 R™*

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	212.9		20.8
HUGHES 2987 3011A	209.1	7	19.2
POWER PLUS 1M45AMRW-R™*	207.3	8	17.7
HUGHES 3953 3000GT	226.1	1	20.1
POWER PLUS 2V56AMX™*	220.4	3	21.5
✓Check	208.5		23.0
POWER PLUS 4Y27AMX™*	209.8	6	25.2
HUGHES 5456 3000GT	223.2	2	24.1
POWER PLUS 4G46AMX™*	211.7	9	26.4
POWER PLUS 4J94AMX-R™*	219.5	5	29.2
POWER PLUS 5C17AMXT™*	225.8	4	26.8
✓Check	224.1		21.5
Average	216.5		23.0
Check Average	215.2		21.8

MCLEAN

Cory Gordon
McLean, IL

Planted: May 3 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 29. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: 120, K: 120. **Herbicide:** Roundup. **Insecticide:** None. **Corn Borer Rating:** Light. **Weather:** May–normal, June–wet, July–wet, August–wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
DeKalb DKC63-33RIB	234.7	16.9	56.2
POWER PLUS 4J95AMX™*	234.4	17.0	57.8
Becks 5385A3	234.0	17.9	58.5
Croplan 5975VT3P/RIB	230.6	19.1	59.2
POWER PLUS 6F74AMX™*	229.7	17.9	60.0
POWER PLUS 7A18AM1™*	228.2	19.2	57.2
Sun Prairie SP2639VT3P	227.2	18.8	58.7
POWER PLUS 4G46AMX™*	227.0	18.1	60.5
Stone 6404GVT3P	226.5	16.7	57.2
POWER PLUS 6F74AMX™*	224.8	18.1	60.0
CATALYST 7893 3111	224.2	19.1	55.7
CATALYST 4685 3111	221.9	18.4	55.5
BURRUS 6T54 3000GT	220.3	19.0	59.7
Dairyland DS-9311RA	216.2	17.3	55.3
Average	227.1	18.1	58.0



Burrus 6T54 3000GT won in Mercer Co. for Staci, Hannah & Brant Sell.

MASSAC

Power Plus® 7U15AM-R™*
wins at 224 bu/a

Bremer Bros
Metropolis, IL

Planted: May 6 in 30" rows. **Planting Population:** 30,000. **Harvested:** September 30. **Previous Crop:** Soybeans. **Fertilizer:** N: VRT 190, P: VRT, K: VRT. **Herbicide:** Touchdown/2-4D/Lumax followed by Hallex GT. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–dry, August–wet. ✓**Check Hybrid:** Power Plus 6F74AMX™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	189.9		17.0	100	36
POWER PLUS 2V56AMX™*	187.5	11	15.8	100	29
POWER PLUS 4V45AM™*	197.3	5	16.8	100	27
POWER PLUS 4J93AM™*	193.4	8	17.0	100	26
POWER PLUS 6N83AM™*	206.4	4	18.4	95	32
POWER PLUS 6F74AMX™*	197.4	6	18.2	100	30
✓Check	190.9		18.2	100	30
POWER PLUS 7H23 S™*	216.1	2	17.7	100	29
CATALYST 7893 3111	191.5	9	18.9	100	29
BURRUS 6T54 3000GT	212.0	3	19.1	100	26
POWER PLUS 7U15AM-R™*	224.3	1	19.5	100	30
POWER PLUS 7A18AM1™*	194.1	10	20.3	100	30
POWER PLUS 8V08 S™*	200.7	7	26.0	100	60
✓Check	198.0		19.3	100	28
Average	200.0		18.7	100	31
Check Average	192.9		18.2	100	31

MCDONOUGH

Power Plus® hybrids
over 280 bu/a!

John Cook
Sciota, IL

Planted: April 24 in 30" rows. **Planting Population:** 35,600. **Harvested:** October 25. **Previous Crop:** Soybeans. **Fertilizer:** N: 170, P: 75, K: 90. **Herbicide:** Harness Xtra. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam.

Brand/Product	Bu. Per Acre	% Moisture
BURRUS 6T54 3000GT	285.0	17.0
POWER PLUS 6P75AMX™*	281.5	12.1
POWER PLUS 7H23 S™*	281.2	15.4
POWER PLUS 6N83AM™*	281.1	17.2
POWER PLUS 4V43 S™*	278.9	16.2
BURRUS 5Z41 GT	277.7	15.8
POWER PLUS 6F71 R™*	273.9	16.9
BURRUS 6T54 3000GT	272.6	17.7
BURRUS 187233	271.5	18.3
BURRUS 6T54 3000GT	270.8	17.1
BURRUS 6T54 3000GT	269.1	19.7
BURRUS 130796	268.9	19.3
BURRUS 6T54 3000GT	266.8	17.6
BURRUS 6T54 3000GT	266.7	19.3
POWER PLUS 7A18AM1™*	258.7	18.0
POWER PLUS 6P71™*	256.9	16.0
BURRUS 721256	255.5	17.6
POWER PLUS 2N82AM™*	255.1	15.4
POWER PLUS 5C17AMXT™*	254.7	14.9
POWER PLUS 4J93AM™*	254.6	15.5
POWER PLUS 4J95AMX™*	253.3	16.9
POWER PLUS 6F74AMX™*	251.1	15.6
BURRUS 6J36 3000GT	248.9	15.1
BURRUS 6T54 3000GT	247.4	16.7
BURRUS 154888	246.6	15.6
POWER PLUS 6P75AMX™*	246.5	16.1
POWER PLUS 6F74AMX™*	246.4	17.9
BURRUS 589605	244.9	18.4

POWER PLUS 2V56AMX™*	242.9	15.7
BURRUS 941589	242.9	17.5
HUGHES 5456 3000GT	240.4	16.4
BURRUS 999741	235.9	15.2
POWER PLUS 4Y27AMX™*	232.6	13.3
BURRUS 831552	214.3	15.9
Average	258.1	16.6

Burrus 6T54 3000GT & Power Plus® 4J93AM™*
above 260 bu/a

John Cook
Sciota, IL

Planted: April 18 in 30" rows. **Planting Population:** 34,700. **Harvested:** September 25. **Previous Crop:** Soybeans. **Fertilizer:** N: 170, P: 70, K: 120. **Herbicide:** Harness xtra 5.6. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam. **Weather:** May–wet, June–wet, July–wet, August–wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
BURRUS 6T54 3000GT	268.7	26.2	100	58.0	34
POWER PLUS 4J93AM™*	260.2	20.0	96	58.0	35
POWER PLUS 7H23 S™*	259.8	19.7	95	58.9	32
POWER PLUS 6F74AMX™*	259.1	21.8	100	60.4	34
POWER PLUS 4J94AMX-R™*	258.3	19.8	100	57.9	34



Burrus 6T54 3000GT as the check was not ranked but stood 3rd for Kent Kleinschmidt of Logan Co. & averaged 259.2 bu/a.

ILLINOIS



Our multi-brand strategy brings more choices.
We access traits and genetics from multiple suppliers
to bring diversity and meet individual needs.

A \$50 reward can be yours

Just get your picture in the paper

Would you like to earn an extra \$50? Laurie Link of Linn County, MO wore her Burrus sweatshirt with pride as she was featured in the *Missouri Farm Today* publication.

Missouri Farmer Today featured Laurie Link of Linn County, MO in a recent edition. Laurie is a talented photographer and recently won a photo contest with the same publication. She has a blog where she shares about her family's life on the farm called *Country Linked*.

If a photo of you wearing the Burrus, Hoblit, Hughes, Catalyst®, or Power Plus® logo on a cap, jacket, or shirt is published in a magazine, newspaper or appears on

television, Burrus will send you a check. It's that easy. All you have to do is wear your favorite seed supplier's name proudly! Simply send us the clipping explaining when and where it was published and we will issue you a check for \$50 as our way of saying "thank you." (Sorry, if your photo appears in a Burrus, Hoblit, or Hughes publication it does not qualify for the reward.)

To make sure you never miss an opportunity, wear your Burrus, Hoblit, Hughes, Catalyst®, or Power Plus® logo every day.

Remember, Laurie got a reward and you can, too.



Laurie Link poses for a photo with her daughter Tessa, 4, on their Linn County, MO farm. Link shares some of her farm experiences and photography on her blog at countrylinked.wordpress.com.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 7A18AM1™*	236.0	18.7	75	60.6	30
POWER PLUS 4J93AM™*	231.9	20.1	99	59.5	34
POWER PLUS 7H23 S™*	230.0	16.5	98	59.2	33
BURRUS 6G64	228.7	20.2	99	58.5	32
POWER PLUS 6C40™*	226.6	19.9	99	59.9	31
POWER PLUS 6F70™*	222.4	18.7	98	60.6	31
CATALYST 4685 3111	221.1	18.1	95	55.5	32
CATALYST 7893 3111	220.6	21.5	65	58.4	31
POWER PLUS 6N83AM™*	217.5	20.5	96	59.2	32
BURRUS 5Z41 GT	211.8	19.9	99	57.4	32
POWER PLUS 2N82AM™*	200.3	17.3	99	58.3	29
POWER PLUS 4V45AM™*	197.2	20.4	99	58.5	30
Average	220.3	19.3	93	58.8	31

Catalyst 4685 3111 wins at 280 bu/a

COMPARE! Chris Howell
Columbia, IL

Planted: April 18 in 30" rows. **Planting Population:** 32,500. **Harvested:** September 29. **Previous Crop:** Wheat, double crop beans. **Fertilizer:** N: 170, P: 100, K: 100. **Herbicide:** Degree Xtra, Princep, Roundup. **Insecticide:** None. **Soil Type:** Clay loam.

Brand/Product	Bu. Per Acre	% Moisture
CATALYST 4685 3111	280.7	13.7
BURRUS 780946	272.3	14.3
BURRUS 425394	270.0	14.0
BURRUS 154860	269.3	14.1
CATALYST 7893 3111	265.9	14.6
CATALYST 4685 3111	265.1	14.4
CATALYST 4685 3111	264.1	13.7
BURRUS 735025	260.2	14.2
POWER PLUS 6F74AMX™*	259.7	14.9
POWER PLUS 6F71 R™*	257.2	15.2
POWER PLUS 4J93AM™*	255.1	14.1
POWER PLUS 5C17AMXT™*	252.7	13.9
POWER PLUS 4P11 R™*	249.0	13.5
POWER PLUS 7H23 S™*	247.5	14.8
POWER PLUS 6P75AMX™*	246.7	14.9
BURRUS 543117	244.1	13.9
POWER PLUS 6N83AM™*	243.7	14.3
BURRUS 6T54 3000GT	240.5	15.0
POWER PLUS 6F74AMX™*	240.3	14.4
POWER PLUS 7A18AM1™*	240.1	14.8
BURRUS 408189	240.0	14.8
BURRUS 589605	239.2	14.5
CATALYST 4685 3111	239.0	13.1
BURRUS 6J36 3000GT	238.1	14.3
POWER PLUS 6F74AMX™*	236.6	15.1
BURRUS 5Z41 GT	236.4	14.3
POWER PLUS 2V56AMX™*	234.1	14.2
BURRUS 101413	233.9	15.2
CATALYST 4685 3111	231.8	13.6
BURRUS 152174	230.9	14.8
POWER PLUS 2N82AM™*	230.8	12.9
POWER PLUS 6F74AMX™*	230.4	15.2
BURRUS 187233	224.7	16.9
BURRUS 5008 3122	219.6	14.4
POWER PLUS 6F74AMX™*	210.1	14.3
BURRUS 780946	198.6	14.8
Average	244.4	14.4

MERCER

Above 275 bu/a with Burrus 6T54 3000GT

COMPARE! Scott Olson
Joy, IL

Planted: May 5 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 20. **Previous Crop:** Soybeans. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-normal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
BURRUS 6T54 3000GT	275.4	22.8	100	57.6	35
POWER PLUS 4J94AMX-R™*	247.4	18.6	90	58.6	33
CATALYST 7893 3111	245.9	23.0	98	57.7	35
POWER PLUS 5C17AMXT™*	238.8	18.5	91	62.6	32
POWER PLUS 2V56AMX™*	237.0	17.0	100	61.3	33
CATALYST 4685 3111	233.7	20.7	100	57.2	32
POWER PLUS 6F74AMX™*	228.0	19.7	100	60.9	36
POWER PLUS 7A18AM1™*	221.5	19.9	76	60.9	35
POWER PLUS 4G46AMX™*	217.1	18.7	84	62.6	36
POWER PLUS 4V45AM™*	207.8	18.5	70	60.6	34
Average	235.3	19.7	91	60.0	34

Population test

Scott Olson
Joy, IL

Planted: May 5 in 30" rows. **Harvested:** October 20. **Previous Crop:** Soybeans. **Insecticide:** None. **Corn Borer Rating:** Light.



Hughes 3953 3000GT & 5456 3000GT went one-two in McHenry Co. for Marsha & Cliff Simons.

Soil Type: Medium loam. **Weather:** May-wet, June-normal, July-normal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
CATALYST 7893 3111	247.8	22.0	100	57.5	31
CATALYST 7893 3111	247.6	22.7	100	57.6	29
CATALYST 7893 3111	245.9	23.0	98	57.7	35
CATALYST 7893 3111	234.7	23.6	100	57.9	31
CATALYST 7893 3111	229.5	21.6	100	57.4	34
CATALYST 7893 3111	226.2	21.8	100	57.4	28
Average	238.6	22.4	100	57.6	31

Burrus 6T54 3000GT wins at 270 bu/a

COMPARE! Brant Sell
New Boston, IL

Planted: April 23 in 30" rows. **Planting Population:** 33,600. **Harvested:** October 11. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: 60, K: 120. **Herbicide:** Lexar Roundup 2,4-D. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam. **Weather:** May-normal, June-wet, July-wet, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
BURRUS 6T54 3000GT	270.4	24.8	100	58.2	33
POWER PLUS 6F74AMX™*	256.8	21.1	100	62.3	33
POWER PLUS 4J94AMX-R™*	255.7	20.9	100	58.2	32
BURRUS 5Z41 GT	248.2	21.9	100	57.4	34
CATALYST 7893 3111	245.5	24.6	90	57.2	34
CATALYST 4685 3111	245.4	23.9	100	56.9	34
POWER PLUS 4G46AMX™*	241.3	20.6	100	61.2	33
POWER PLUS 7A18AM1™*	236.4	22.4	96	62.5	33
POWER PLUS 2V56AMX™*	214.4	19.4	100	60.7	33
Average	246.0	22.2	98	59.4	33



Chris Smith saw Power Plus® 4J94AMX-R™* top his Morgan Co. plot.

Multi-hybrid planter test

Scott Olson
Joy, IL

Planted: May 6 in 30" rows. **Harvested:** October 20. **Previous Crop:** Soybeans. **Insecticide:** Force. **Corn Borer Rating:** Light. **Soil Type:** Medium clay. **Weather:** May-wet, June-normal, July-normal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6F74AMX™*	223.6	19.6	60.9	33
POWER PLUS 6P71/6F74AMX™*	217.4	20.9	59.2	30
POWER PLUS 6P71™*	217.0	21.0	58.3	33
POWER PLUS 6P71/6F74AMX™*	215.2	19.8	59.9	30
POWER PLUS 6P71/6F74AMX™*	214.3	21.6	59.4	30
Average	217.5	20.6	59.5	31

MONROE

Top three above 230 bu/a

Chris Howell
Columbia, IL

Planted: May 6 in 30" rows. **Planting Population:** 32,500. **Harvested:** October 4. **Previous Crop:** Wheat/beans. **Fertilizer:** N: 170, P: 75, K: 50. **Herbicide:** Degree Xtra, Altrazine, Simazine. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Medium clay. **Weather:** May-wet, June-wet, July-normal, August-normal.



Kevin & Gayle Casner repurposed their 2013 Burrus Harvest Report as gift wrap for Matt & Casey Ivy's wedding present!



At 249.2 bu/a Power Plus® 7H23 S™* performed for Ron Staake of Morgan Co.



WHAT'S NEW



Conventional, non-GM hybrids?

Burrus is the answer.

Conventional, non-GM corn hybrids are once again reaching a favored status with many growers. While some companies drifted away from conventional hybrids for the fully traited product offerings, Burrus continued its effort of offering choices like non-GM hybrids to growers without hesitation. Burrus maintains the commitment of offering a wide range of maturities from 104-115 days in great performing, non-GM hybrids.

There are two distinct groups of growers ordering conventional products. One group is looking for a way to lower production cost, leaving the traited versions to buy at lower prices. The second is a group of growers who have "grain premium opportunities" nearby that can draw a premium for their identity preserved, non-GM corn.

Offering a slate of top non-GM hybrids is not an afterthought to us. We continue with the tradition of industry-leading hybrid choices for the 2015 growing season with the addition of new Power Plus® 2T35™* (with Optimum® AQUAmax®), new Power Plus® 7H20™* and new Hughes 3442.

Our stable of powerful non-GM hybrids includes Burrus 5D30, 6G64 and 750 along with Power Plus® 5N48™* and Power Plus® 6C40™*.

At Burrus, we recognize a significant part of our marketing footprint has demand for non-GM hybrids. Our research team continues to look for new, non-GM products that can attract grain premiums too. We strive to bring top-notch yields along with an ultimate goal of incorporating heavy test weight grain on several products. We are interested in your success on every acre and deliver our very best products in a non-GM version whenever possible.

Our lineup of non-GM hybrids works on a variety of soil types and offers a range in maturity for growers. Burrus is committed to the non-GM customer and we will continue to be committed to the future non-GM grain market as long as there are competitive premiums paid for grain and consistent demand from growers.

Entomologists are recommending the use of non-GM hybrids with granular insecticide as a way to break up the cycle

of using the same rootworm trait year after year. If you are in an area where the corn rootworm event Cry3Bb1 continues to struggle with rootworm control, consider planting a conventional hybrid with soil insecticide in 2015.

If you are looking to capture premium opportunities with your non-GM grain, it is always prudent to have a signed contract with your grain buyer. Many market factors complicate the premium issue for grain buyers. We understand non-GM premiums are constantly moving and that some end-users of grain are hesitant to commit to premiums for the grain coming off the 2015 growing season. The current commodity prices produce increased interest levels of high performing, non-GM hybrids as a way to control some seed input cost but it also lessens the premium opportunities out there for the long time, non-GM producer. Please contact your Burrus or Hughes Account Manager for opportunities in your area. We continue to keep our eye on the target.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 4J94AMX-R™*	260.1	14.3	56.0
POWER PLUS 5C16™*	249.7	17.3	58.3
POWER PLUS 7A18AM1™*	244.2	18.3	58.5
POWER PLUS 7H23 S™*	242.0	18.2	58.5
POWER PLUS 4V45AM™*	238.4	14.6	56.0
POWER PLUS 6C41 S™*	225.0	15.2	55.0
CATALYST 7893 3111	220.1	16.6	56.2
BURRUS 6T54 3000GT	206.4	18.0	56.5
CATALYST 4685 3111	199.4	15.1	55.0
POWER PLUS 6F74AMX™*	191.3	17.5	55.4
Average	227.7	16.5	56.5

Bruce Thompson
Jacksonville, IL

Planted: April 18 in 30" rows. **Planting Population:** 32,000. **Harvested:** September 30. **Previous Crop:** Soybeans. **Soil Type:** Medium loam.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 7U15AM-R™*	239.1	19.4	60.7
POWER PLUS 7U15AM-R™*	230.9	19.7	60.9
DeKalb DKC62-58	218.1	17.5	59.4
DeKalb DKC62-58	216.2	18.2	59.5
Average	226.1	18.7	60.1

Bruce Thompson
Jacksonville, IL

Planted: April 18 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 7. **Previous Crop:** Soybeans.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 6C41 S™*	233.1	19.6	59.9
POWER PLUS 6C41 S™*	232.9	19.5	59.9
DeKalb DKC61-89RIB	228.1	17.2	58.8
DeKalb DKC61-89RIB	224.1	17.3	58.8
Average	229.6	18.4	59.4

Bruce Thompson
Jacksonville, IL

Planted: April 19 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 17. **Previous Crop:** Soybeans. **Soil Type:** Medium loam.

Brand-Variety	Bu. Per Acre	% Moisture	Adj. Test Wt.
DeKalb DKC62-98	228.5	16.4	59.5
POWER PLUS 7H23 S™*	220.6	16.4	59.0
POWER PLUS 7H23 S™*	219.8	16.7	59.2
DeKalb DKC62-98	219.0	17.0	59.8
Average	222.0	16.6	59.4

MONTGOMERY

Carl Marten
Raymond, IL

Planted: April 26 in 30" rows. **Planting Population:** 35,500. **Harvested:** September 25. **Previous Crop:** Soybeans. **✓Check Hybrid:** Pfister 2770

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	252.3		20.5
Dyna-Gro D50SS43	236.7	29	18.3
Croplan 5975VT3P/RIB	263.8	7	18.8
FS 63SX1 RIB	263.2	8	21.9
Golden G11T28-3111	232.5	30	18.2
LG Seeds 5603RIB	241.7	24	18.1
✓Check	250.8		21.5
Dairyland DS-9111RA	241.7	25	19.0
Pfister 3366RA	249.8	18	20.9
Stone 6438RIB	261.9	12	21.2
Wyffels W6628RIB	252.4	16	18.6
POWER PLUS 6P71™*	252.3	17	19.2
✓Check	253.4		21.3
Beck's 5828AMX	251.7	20	18.1
Pioneer P0945AMX	257.0	15	17.4
Pro Harvest 8330 StaxRIB	270.6	9	20.8
VPMmaxx R8899AM	272.5	11	20.6
Agrigold A6499STX	278.3	3	19.8
✓Check	264.6		20.7
Dairyland 9314RA	251.9	27	20.4
FS 60ZX1 RIB	255.7	22	18.6
LG Seeds LG5618STX-RIB	277.8	5	19.9
Dyna-Gro D52SS91RIB	286.1	1	20.3
Stone 6258RIB	253.6	23	17.8
✓Check	261.9		20.2
Pioneer P1417AMX	259.0	19	18.9

ILLINOIS

Golden G14R38-3000GT	274.0	6	20.7
Agrigold A6517VT3PRIB	261.6	14	19.3
DeKalb 6065SS/RIB*	251.6	21	18.1
BURRUS 6T54 3000GT	263.1	13	20.9
✓Check	257.6		19.9
Pfister 2672RA	242.6	28	18.5
Phoenix 5832A3	268.3	10	20.0
Pro Harvest 8220 StaxRIB	246.5	26	18.1
VPMmaxx RL7844AM	273.2	4	17.5
Wyffels W7888RIB	276.3	2	19.8
✓Check	256.7		20.3
Average	258.5		19.6
Check Average	256.8		20.6

MORGAN

Ronald Smith
Ashland, IL

Planted: April 17 in 30" rows. **Planting Population:** 36,000. **Harvested:** September 25. **Previous Crop:** Soybeans.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	250.0		17.7
DeKalb DKC64-87	259.2	8	19.7
DeKalb DKC63-33RIB	255.8	9	17.3
DeKalb DKC60-67RIB	251.8	10	18.1
✓Check	255.4		17.6
CATALYST 7893 3111	260.9	7	19.6
POWER PLUS 6P71™*	266.5	4	18.2
CATALYST 5008 3122	262.6	6	16.9
POWER PLUS 6F74AMX™*	267.7	2	19.2
BURRUS 6T54 3000GT	260.2	5	17.5
POWER PLUS 4J95AMX™*	271.3	1	18.7
POWER PLUS 4G46AMX™*	263.3	3	17.0
✓Check	245.8		17.1
Average	259.3		18.0
Check Average	250.4		17.5

Power Plus® 4J94AMX-R™* wins at 260 bu/a

Robert & Chris Smith
Chapin, IL



Planted: April 20 in 30" rows. **Planting Population:** 30,000. **Harvested:** October 10. **Previous Crop:** Corn. **Weather:** May-normal, June-wet, July-wet, August-normal.

Ryne Brewer

Ryne Brewer has joined the Burrus sales team as an Account Manager servicing a region from Champaign, IL and south along the Indiana border. He graduated from Illinois State University with a degree in Marketing with a minor in Sales. His background has been in sales with an emphasis on providing excellent customer service. Ryne is a proven sales professional with an outstanding track record.

Ryne and his wife, Marie reside in Champaign, IL where she works as a Benefits Processor for State University Retirement Systems. They are the parents of 2 year old Gavin. Ryne is a huge sports enthusiast, with baseball being his favorite. He is a loyal Chicago Cubs fan (is there any other kind?). He also cheers for the Denver Broncos. In his spare time he enjoys fishing, hunting, and watching Gavin chase the ducks and geese around their pond.



At Burrus, we strive to bring you the highest return on your seed investment dollar. Put Ryne to work for your farm operation.



Burrus/Hughes are leaders in variable rate planting.
If you are getting equipped to use variable rate planning, call us.
Our system works on all models of controllers.

Power Plus® 6C41 STM* takes top honors



Burrus Seed Farms
Arenzville, IL

Planted: April 11 in 30" rows. Planting
Population: 36,000. Harvested: September 13.
Previous Crop: Corn. Herbicide: Bicep II Lite
Magnum Pre-Emergence, Impact & Aatrex.
Insecticide: Aztec. Soil Type: Silt loam.
Weather: May-normal, June-normal, July-nor-
mal, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6C41 STM*	258.5	25.8	97	56.4	32
POWER PLUS 5C17AMXTM*	248.5	23.0	100	57.1	35
POWER PLUS 6F71 RTM*	240.5	22.9	100	58.5	36
POWER PLUS 4J93AMXTM*	234.6	22.0	97	55.0	34
POWER PLUS 7H23 STM*	234.2	22.4	97	55.8	36
POWER PLUS 6F74AMXTM*	232.3	22.2	100	58.9	35
CATALYST 7893 3111	232.3	22.6	94	55.4	34
POWER PLUS 6C40TM*	229.4	25.0	93	56.7	30
BURRUS 5D30	228.4	21.4	97	58.2	33
BURRUS 6T54 3000GT	228.2	25.1	100	55.9	35
BURRUS XP5008 3122	227.9	23.7	100	55.9	37
POWER PLUS 6N83AMXTM*	226.9	23.1	94	55.6	35
POWER PLUS 4V45AMXTM*	224.0	21.3	97	55.9	31
CATALYST 4685 3111	223.5	24.4	100	53.4	37
POWER PLUS 6P75AMXTM*	223.4	25.2	94	54.0	35
BURRUS 6T51 GT	223.2	25.8	100	54.6	32
POWER PLUS 4J95AMXTM*	223.0	23.0	97	57.3	30
BURRUS 5Z41 GT	222.6	23.4	97	54.6	30
POWER PLUS 4G46AMXTM*	220.2	21.5	97	58.4	34
BURRUS 750	219.4	24.8	97	58.3	33
BURRUS 5Z44 3122	218.6	24.5	100	54.2	35
POWER PLUS 7U15AM-RTM*	217.7	24.8	97	57.5	33
POWER PLUS 5N48TM*	216.2	21.9	100	59.0	31
POWER PLUS 7H20TM*	215.1	24.6	93	55.2	30
POWER PLUS 7A18AM1TM*	207.9	25.1	94	57.9	35
POWER PLUS 2N82AMXTM*	206.8	21.1	89	56.2	28
POWER PLUS 4Y27AMXTM*	204.7	21.1	94	60.4	32
BURRUS 6G64	201.4	25.5	97	55.5	32
POWER PLUS 4P11 RTM*	193.4	20.4	100	57.0	33
POWER PLUS 2V56AMXTM*	179.6	20.6	97	57.8	31
Average	222.1	23.4	97	56.6	33

Power Plus® 7H23 STM* takes second

Ron Staake
Arenzville, IL

Planted: April 21 in 30" rows. Planting
Population: 34,000. Harvested: September 24.
Previous Crop: Corn. Soil Type: Medium loam.
Weather: May-wet, June-wet, July-wet, August-
wet.

Brand/Product	Bu. Per Acre	% Moisture
DeKalb DKC62-97	249.7	16.8
POWER PLUS 7H23 STM*	249.2	16.4
Wyffels W7888RIB	245.0	17.6
DeKalb DKC63-33RIB	244.9	15.8
BURRUS 6T54 3000GT	241.2	17.6
DeKalb DKC62-97	237.6	16.6
Wyffels W7108RIB	233.6	16.2
Agrigold A6559STXRIB	231.4	17.3
POWER PLUS 7A18AM1TM*	229.8	18.6
Wyffels 7448RIB	229.0	17.6
Pioneer P1215AM1	229.0	17.4
Four Star 6573RR	228.8	17.9
DeKalb DKC62-77RIB	227.8	17.5
POWER PLUS 4J95AMXTM*	223.2	16.6
Merit Seeds 6408GT	223.2	15.8
Pioneer P0993AM1	215.2	16.6
Average	233.7	17.0

Save big \$\$\$ on your seed

Wise seed selection choices might be the difference between profit and loss for the next couple of years. Buying seed based on value rather than price is the first step in the process towards success. Realize that higher value seed might actually save money on other expenses like chemicals or application fees to protect against insect damage. Those same products might also improve yields by protecting the crop from losses due to insect damage. Using seed traits to protect against yield loss can be a great investment.

Obviously, bigger yields is the key to buying seed with greater value. Once the proper product is selected, then consideration should be given to lowering the seed cost. There are 6 ways to earn significant seed cost savings.

1. Cash discounts can be used to

reduce seed costs by as much as \$35/unit. Requesting a monthly statement acts as a reminder to take full advantage of discounts and savings. Also when you return from your tax advisor, having a statement in hand to pre-pay a seed bill minimizes your tax load.

2. Sign all technology-use agreements promptly. This easy step can reduce seed costs by \$10/unit for corn and \$4/unit for soybeans. Sign your agreements when you place your order.
3. Seed size choices can also reduce seed costs up to \$20/unit. The small BX3s and the large BX6s and BX7s are the best choices. Ask about availability.
4. Utilize programs to reduce seed costs. Special discounts can be

earned by being 100% loyal to Burrus, by increasing your Burrus order, and by doing more volume of business with Burrus.

5. Consider using structured refuge products. The shift towards integrated refuge has left the portfolio of products to include only structured refuge choices with outstanding choices.
6. If you are looking for every way you can save on seed cost per acre — select flex ear products (called group C). To lower your planting populations and your seed costs per acre, read Stephanie Porter's article on optimum population.

The savings captured from each of these sources can easily be identified on your statement. Buy Burrus and save big dollars.

OGLE

Power Plus® 6P75AMXTM* & 4J94AMX-RTM* go one & two



Anthony Borgmann
Leaf River, IL



Planted: May 11 in 30" rows. Planting
Population: 34,000. Harvested: October 17.
Previous Crop: Corn. Soil Type: Heavy loam.
✓Check Hybrid: Pioneer P0448 AMRW

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	238.1		21.0	100	36
Pioneer P0157AMX	242.1	4	20.9	90	35
Renk RK633SSTX	221.3	15	17.0	50	36
Pioneer P0496AMX	231.1	10	22.1	100	32
POWER PLUS 2V56AMXTM*	222.5	14	24.2	65	31
Renk RK712	227.5	12	22.9	70	32
Renk 696	211.3	19	25.6	100	33
Pioneer P0636AMX	245.0	3	26.4	100	32
Renk RK776SSTX	225.8	13	26.6	40	32
Renk RK791SSTX	227.5	11	25.3	100	32
✓Check	234.7		21.3	50	32
LG Seeds LG2544VT3PRIB	212.2	18	26.9	100	34
POWER PLUS 4J94AMX-RTM*	248.1	2	28.2	100	34
Pioneer P0987AMX	230.2	9	26.3	100	31
Renk RK752SSTX	213.2	16	28.5	10	34
POWER PLUS 6F74AMXTM*	235.0	6	29.4	40	30
Renk 834	211.6	17	30.5	0	32
BURRUS XP5008 3122	200.2	20	29.9	90	34
POWER PLUS 6P75AMXTM*	247.1	1	31.9	70	30
Pioneer P1142AMX	231.5	7	29.8	100	34
POWER PLUS 5C17AMXTM*	229.9	8	31.6	100	34
Pioneer P1257AMX	234.2	5	31.6	70	31
✓Check	229.6		22.6	60	33
Average	228.2		26.1	74	33
Check Average	234.1		21.6	70	34

David Baker
Polo, IL

Planted: May 6 in 30" rows. Planting

Population: 34,000. Harvested: October 11.
Previous Crop: Soybeans. Weather: May-wet,
June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 1M45AMRW-RTM*	229.2	20.8	56.2
POWER PLUS 4J94AMX-RTM*	223.3	27.0	56.8
BURRUS XP5008 3122	219.7	31.0	54.8
POWER PLUS 4Y27AMXTM*	213.1	26.3	55.5
POWER PLUS 4G46AMXTM*	212.4	31.4	57.8
POWER PLUS 2V56AMXTM*	210.9	25.1	57.3
POWER PLUS 1M45AMRW-RTM*	200.4	24.3	53.0
Average	215.6	26.6	55.9

PEORIA

Burrus 6T54 3000GT makes 266 bu/a

Jim & Jeff Smith
Princeville, IL

Planted: May 7 in 30" rows. Planting
Population: 32,000. Harvested: October 7.
Previous Crop: Soybeans. Soil Type: Medium
loam. Weather: May-normal, June-wet, July-
wet, August-normal. ✓Check Hybrid: Munson
7400SS

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	250.4		22.2
Agrigold A6472VT3P	264.3	3	19.7
DeKalb DKC60-67RIB	268.0	2	18.3
FS 61JX1 SS	255.8	10	20.0
Agrigold A6499STX	279.6	1	21.2
BURRUS 6T54 3000GT	266.4	4	22.8
ProHarvest 8244RIB	255.3	12	20.8
POWER PLUS 6F74AMXTM*	263.5	7	19.8
✓Check	256.9		23.6
Munson 7322VT3P	258.5	9	19.0
ProHarvest 8220 SS	254.5	11	18.9
Munson 7218VT3P	251.3	14	18.2
DeKalb DKC63-33RIB	245.6	16	18.1
Agrigold A6553 SS	241.0	15	21.2
Munson 7397VT3P	246.3	13	20.6
ProHarvest 8330 SS	257.8	6	21.4
CATALYST 7893 3111	256.1	8	23.5
✓Check	245.4		24.2

PIKE

Multi-hybrid planter test

J & J Farms
Pittsfield, IL

Planted: April 28 in 30" rows. Harvested:
October 25. Previous Crop: Soybeans. Soil
Type: Medium loam. Weather: May-normal,
June-wet, July-wet, August-normal.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.
POWER PLUS 6P71/6F74AMXTM*	254.5	18.1	90	59.5
POWER PLUS 6P71TM*	240.5	18.6	90	61.6
POWER PLUS 6F74AMXTM*	238.7	18.8	65	61.7
POWER PLUS 6P71/6F74AMXTM*	236.9	18.3	90	61.5
POWER PLUS 6P71/6F74AMXTM*	234.1	18.2	80	60.5
Average	240.9	18.4	83	61.0

Dave Lagemann
Pearl, IL

Planted: May 5 in 36" rows. Planting
Population: 29,800. Harvested: October 21.
Previous Crop: Soybeans. Fertilizer: N: 140, P:
150, K: 100. Soil Type: Loam.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 7A18AM1TM*	236.9	19.2	63.7
POWER PLUS 4V45AMXTM*	235.0	16.9	61.2
POWER PLUS 6F74AMXTM*	233.3	18.2	61.5
POWER PLUS 6F71 RTM*	227.7	17.7	63.4
POWER PLUS 4J94AMX-RTM*	227.6	17.0	59.3
POWER PLUS 6F71 RTM*	222.6	17.9	63.5
CATALYST 7893 3111	220.1	18.1	55.5
BURRUS 6T54 3000GT	219.0	19.6	59.9
POWER PLUS 4G46AMXTM*	217.9	17.4	61.3
CATALYST 4685 3111	215.9	16.6	55.2
BURRUS 5Z41 GT	215.7	16.3	59.0
Average	224.7	17.7	60.3



Should I adjust my nitrogen program in 2015?

By John Williams and
Matt Montgomery

Nitrogen (N) fertilizer is a crucial input for maximizing yield and profitability of corn. The expense and environmental impact of N fertilizer has heightened the need for efficient N management practices. A sidedress application of N fertilizer is one option to improve N use efficiency by reducing the risk of N loss prior to plant uptake. However, wet field conditions during times of planned sidedress applications can seriously delay the timing or eliminate application. Thus a concern arises as to the impact of later-applied N on corn yield, profit, and fertilizer N efficiency. Some producers like fall anhydrous ammonia applications because they fit into their management system better. They also apply N in the fall for several important reasons – often drier soils, potentially less compaction, getting the job done, avoiding planting delays or stand problems, and reducing workloads in busy spring or sidedress time periods. In the past, the N price is cheaper in the fall and the supply-distribution system can more easily get N products to the field when application occurs over a wider time period.

Does this mean fall N application is the most efficient and cost-effective for meeting corn N needs? No, typically use efficiency is not as high as with spring or sidedress application, costs can be higher, returns lower, and crop production less consistent. However, if fall applications are targeted then success can be improved. For example, do not apply until soils are cold (<50°F and cooling to slow nitrification), use only anhydrous ammonia, and do not apply to soils with potential for excess nitrate leaching or denitrification (for example, soils that are sandy, shallow to fractured bedrock, in sensitive groundwater areas, or subject to ponding). Use of a nitrification inhibitor in combination with cold soils (<50°F) can help to further slow conversion to nitrate. Spring or sidedress application closer to corn use is preferable, especially when soils in the fall are fully recharged with moisture (increased potential to be excessively wet the next spring).

Best options for sidedressing, in order from most to least preferable, include: injected anhydrous ammonia, UAN or urea, broadcast dry ammonium nitrate, ammonium sulfate or urease treated urea, surface dribbling UAN solution between

rows, broadcast UAN, and broadcast urea. Sidedress injection can begin immediately after planting if corn rows are visible or GPS guidance positioning equipment is used. For corn after corn, there is a greater chance that additional N is needed for early growth. Preplant or starter N can help meet that need and is especially important if sidedressing is delayed significantly in either rotation.

Broadcasting urea or ammonium sulfate across growing corn might cause some leaf spotting or edge browning where fertilizer granules fall into the corn whorl. The chances of this happening increases with larger corn. As long as the fertilizer distribution is good and not concentrated over plants, the leaf damage should only be cosmetic. Because UAN solution is comprised of one-half urea and one-half ammonium nitrate, it has less volatile loss concern than dry urea. A urease inhibitor with surface applied and non-incorporated urea and UAN will help reduce volatile loss. Rainfall will eliminate volatile loss and is needed to move surface applied N into the root zone. Broadcast application of UAN solution across growing corn also has the potential to cause leaf burn and reduced early growth. Depending upon the severity of damage, reduced plant growth might be visible for several weeks after application. Many pre-emergence herbicides are applied using UAN as the carrier to minimize trips across fields. However, this strategy is only recommended prior to crop emergence. Almost all herbicides prohibit application in N solutions after corn has emerged, so check herbicide labels closely.

If corn becomes too tall for normal sidedressing equipment, it is possible to use high clearance equipment to apply N. The N source typically will be UAN solution, with equipment available to either dribble the solution onto the soil surface with drop tubes or shallow inject with coulter-shank bars (coulter-disk injected) or dry urea, which can be broadcast spread across the top of corn.

If attempts to get N applied preplant or early sidedress have failed or there are concerns about N supply from prior fertilizer or manure applications, then mid- to late-vegetative-stage application can be a helpful rescue. If possible, have some non-N limiting (approximately 50% more than normal rate) reference strips or areas in the field to use for comparison. These areas can be used to visually determine if corn would respond to additional N, or as a check to see if earlier N applications or carryover N is not sufficient. These reference areas are also needed for N stress sensing tools (such as chlorophyll meters

or canopy sensors) to help guide application rates. These reference areas should be planned and N applied early in the season or be field areas that are known to be non-N deficient. Plant and canopy sensing can begin when corn is at approximately the V9-V10 growth stage. If late N application is needed, it should be applied as quickly as possible and not later than the tassel stage.

Many growers feel that their nitrogen program held them back from capturing the most out of the 2014 growing season and they have started to wonder if they should push N rates higher in 2015. Should you adjust your nitrogen program in 2015 in response to “missed” 2014 yields? We did not engage in a fertility program that allowed us to “capture the most yield” from 2014 in some fields.

Yes, available nitrogen likely did hold some fields back (even before available nitrogen was reduced by rainfall). However, Burrus is not sure that was an entirely bad strategy. There are a few different reasons we believe that grower’s approach to 2014 was not a bad approach (and by extension that 2015 nitrogen rates do not require adjustments if they have been historically adequate).

First, we never manage based upon the outlier year. An outlier is defined as “a thing situated away or detached from the main...” It simply is something that does not fall in the “norm.” Let’s be very honest about 2014 – it was not the norm.

During 2014 field visits, many growers stated that “in their XX (insert the number) years of farming” they had “never seen a year as good as this one.” University specialists (often a conservative lot by nature)

even expressed the same. We applied nitrogen fertilizer expecting a normal year with normal yields. We did not apply nitrogen fertilizer expecting yield potential to go through the roof and stay through the roof. That is a superb strategy. At home, when writing up a budget, you draft a budget based upon the expected “norm.” It’s foolish to write a budget expecting to win the lottery because winning the lottery is a rare event. We won the production lottery in many fields during 2014 and that’s a rare event. Fertilizing as if we will repeat that every season is as foolish as basing your financial future on the outcome of a lottery ticket.

Second, some fields were able to make up the difference. The University of Missouri notes that when nitrogen is applied it should be applied with “normal yields” in mind and they note that excellent (abnormal) yield potential often does not require a boost in nitrogen application (so long as conditions retain and do not leach/volatilize nitrogen). They make this bold statement because good growing conditions tend to indicate good soil conditions which tend to promote exceptional microbial activity. Microbial activity tends to increase something called “mineralization” which tends ... to result in additional inherent nitrogen supply.

While nitrogen is lost quickly from the soil and while nitrogen levels vary throughout the growing season, soils actually do supply a surprising (although not adequate) amount of nitrogen. We have a hard time picking out when – where – and to what extent this happens, but it does happen. In years with slightly elevated yield potential, this inherent supply is





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enough to keep available nitrogen in the adequate range for many fields. Once again, we shoot for the norm – and nature often makes up the difference.

Third, although we talk a lot about nitrogen applications being based on yields, that approach is somewhat dated. We often stated (and for convenience often still state) that about a pound of nitrogen to a pound and a half of nitrogen is required per each bushel of historic corn yield (the three year average of five year of data with the high and low yields being eliminated). This at least allows one to quickly convey the importance of nitrogen. After all, no other applied nutrient is required at this level by the corn plant. However, those numbers begin to fall apart as yields increase. In other words, as yields go high, the amount of required nitrogen creeps beyond a pound to pound and a half for each additional bushel. When yields go incredibly high, the response to nitrogen levels out (i.e. you eventually hit a point where no additional nitrogen can push yields higher). Agronomists refer to this as a curvilinear relationship.

In addition, so many additional regional factors influence nitrogen response that a “one size fits all” response curve becomes very questionable. Using only yield to guide nitrogen application is a very tricky business. Nitrogen response and yield have just too fluid a relationship. In the end, a grower really needs to know if they will maximize their return on nitrogen investment not if they will crank out as many bushels as possible. For this reason, many universities have begun to use the concept of “Return to Nitrogen” (RTN)

to guide nitrogen use. Online tools are used to generate RTN consider the price of corn per bushel, generate a regional estimate of gross returns and subtract out nitrogen costs. The resulting profit per nitrogen investment actually proves to be a much better, more statistically reliable, tool for guiding nitrogen use.

Additional yield is not the goal – additional income is – and that is the right approach to using N. If a grower has historically generated the best returns using their current nitrogen program, do they really want to ignore likely return and embrace possible yield? We honestly think return on investment is the right approach.

Let’s summarize the points made in this article. Our tendency to discourage a nitrogen tweak based upon 2014 yields is not a discouragement toward rescue nitrogen. If we get too much rain, rescue N might be needed, but that is different than completely adjusting one’s original nitrogen program. Now, let’s summarize those important points. Yes, we likely ran a little short of nitrogen this year. No, we should not adjust nitrogen based upon 2014 because it is an outlier year. Yes, nature can make up the difference in a more typically good year. No, yield really is not what should guide nitrogen application, return on investment should, and 2014 will likely not change the Return to Nitrogen (RTN) story.

Take a deep breath, remember some amazing yields in 2014, maybe even shed a tear or two if your neighbor squeezed out a few more bushels, but forget 2014 when you plan your 2015 nitrogen program.

DeKalb DKC62-77RIB	259.5	21.6
Pioneer P1417AMX	259.4	22.2
Channel 209-53	258.8	20.8
Pioneer P1257AMX	257.1	21.5
DeKalb DKC60-67RIB	256.8	20.4
Wyffels W7108RIB	255.1	20.4
Pioneer P1360CHR	255.1	21.8
Channel 211-35STXRIB	255.1	22.4
Channel 211-24STXRIB	253.5	21.2
Agrigold A6573VT3PRIB	251.7	23.0
Wyffels W6628RIB	248.3	20.6
Pioneer P0945AMX	248.1	21.2
Agrigold A6533VT3PRIB	247.8	20.9
Agrigold A6559STXRIB	244.3	22.3
Wyffels 7448RIB	242.2	20.3
Channel 213-59STXRIB	241.7	21.6
POWER PLUS 4G46AMX™*	235.6	20.8
POWER PLUS 7A18AM1™*	223.1	22.7
Agrigold A6408VT3PRIB	217.2	17.0
Average	255.9	21.5



Dave Baker saw the Ogle Co. plot average 215 bu/a.

With the Crop Optimization Planner from MyFarmsSM

Your information is safe with us.

Burrus and Hughes Hybrids have formed an exciting partnership with MyFarmsSM, the leader in on-farm data management. Successful growers know the value of using the Crop Optimization Planner (COP). The COP serves as an electronic bridge between the grower’s unique management plan and hybrid performance knowledge collected by Burrus.

Growers use a cropping plan as part of their management strategy. The cropping plan usually has a multi-faceted approach to hybrid and soybean selection with emphasis on placing the right products in the right environment for optimum performance. A list of specific questions about soil types, herbicide programs, insect pressure, previous crop as well as management techniques are often considered with products prescribed for each particular environment. The managerial questions are aimed to help growers design a package to fit their specific needs. The COP then leverages that data from the grower and Burrus, automatically retrieves soil type and agronomic information to produce powerful, field-specific hybrid recommendations.

The MyFarmsSM approach integrates an easy, automated tool designed to help meet all of those critical points of interest. Our research team has worked closely with the MyFarmsSM team to develop the protocol for the COP. And yes, you can place both corn and soybeans with our convenient system.

In 2014, Burrus and Hughes implemented the cropping plan service to a whole new level by adding the variable rate planting feature as an added bonus. This feature is now broadly available to all growers who plant the Burrus family of hybrids. Our system works with virtually all of the planter monitors on the market

today. We are not “locked” into one specific monitor from any company like some of the competitors.

The COP will be based on specific hybrid selection and placement utilizing a state-of-the-art database that will be the most scientific, site-specific program in the industry. Grower information about field attributes, yield potential, fertility program, machinery, and management practices will be blended with the Burrus and Hughes knowledge from genetic research, test plots, traits, agronomics, and population studies. The new software will analyze this vast amount of information and generate a plan for optimal hybrid placement for each field.

Today’s growers have high expectations — the Burrus/Hughes organization recognizes that fact and strives to deliver more for their customers. These challenges and opportunities can only be achieved through innovative information technology. The great part of this tool is that the grower keeps all of their information, not the seed company. Many other seed companies try to capture the grower’s information and then view it as their own property. We gave the system the COP acronym because it is your information and it is secure — you control it. Our goal is to be a partner with the grower. The grower can use the MyFarmsSM data with their fertilizer company, their chemical supplier, etc.

This exciting and valuable COP tool is available for all Burrus growers. It is convenient and efficient. Many growers have already signed up to help unlock the value of their acres. The COP system is accurate, efficient, and convenient.

If you are interested in learning more about or utilizing this new value-added technology for your farming operation, contact your Burrus or Hughes Account Manager today.

SANGAMON

Kevin Foran
Williamsville, IL

Planted: April 26 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 6. **Previous Crop:** Soybeans. **Weather:** May–wet, June–wet, July–wet, August–wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
DeKalb DKC62-97RIB	247.0	17.8	60.4	33
BURRUS 6T54 3000GT	243.0	20.8	58.6	33
POWER PLUS 6F74AMX™*	241.7	18.4	62.7	32
POWER PLUS 4J94AMX-R™*	237.9	17.7	59.7	33
POWER PLUS 4G46AMX™*	237.8	18.0	62.4	33
BURRUS 5Z41 GT	235.9	18.4	57.8	32
Average	240.6	18.5	60.3	33

SCHUYLER

Multi-hybrid planter

Greg Rebman
Frederick, IL

Planted: April 18 in 30" rows. **Harvested:** October 9. **Previous Crop:** Soybeans. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–wet, August–wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 6P71™*	246.1	18.9
POWER PLUS 6P71/6F74AMX™*	242.1	19.3
POWER PLUS 6P71/6F74AMX™*	239.7	19.0
POWER PLUS 6P71/6F74AMX™*	237.2	18.4
POWER PLUS 6F74AMX™*	236.0	17.6
Average	240.2	18.6

Power Plus[®] 7H23 STM* at 277 bu/a wins!



JR Briney and Sons
Bluffs City, IL

Planted: May 5 in 30" rows. **Planting Population:** 34,000. **Harvested:** September 24. **Previous Crop:** Soybeans. **Soil Type:** Heavy loam. **Weather:** May–wet, June–wet, July–wet, August–wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 7H23 S™*	277.1	20.0
Great Lakes 6462STXRIB	274.6	22.5
Great Lakes 6462STXRIB	273.8	22.9
DeKalb DKC66-40RIB	273.0	23.2
Wyffels W7888RIB	267.5	22.4
Channel 217-08VT3PRIB	267.3	23.6
Pioneer P1417AMX	266.9	22.5
DeKalb DKC62-08RIB	266.4	20.6
Great Lakes 6530VT3PRIB	264.4	22.8
Pioneer P1360CHR	262.8	21.9
DeKalb DKC62-54	262.4	21.2
DeKalb DKC64-87RIB	262.4	21.3
Pioneer P1215AM1	260.4	21.0



WHAT'S NEW



Tori Werries

Tori Werries joined the Burrus office staff in April. Tori was previously employed by the Village of Meredosia as the village clerk.

Meredosia is Tori's hometown and she and her family reside there. She received an AAS Legal Secretary Degree from John Wood Community College in Quincy, IL.

Tori and her husband Brian have two sons, Nick, age 15, and Nate, age 12. They have a very busy household as both boys are active in sports all year. Nick plays golf, basketball, and runs on the track team. Nate plays football, basketball, and baseball. So Tori and Brian spend a lot of time cheering.

Tori enjoys long weekend shopping trips with her family. In the fall, she likes being outside sitting around a bonfire in the evening with friends.

Next time you call the Burrus office,



you might hear the friendly voice of Tori. If you are ever in our office, take time to introduce yourself.

SHELBY

229 bu/a for
Power Plus® 7H23 S™*
brand

Schultz Farms
Stewardson, IL

Planted: May 7 in 30" rows. Planting Population: 32,300. Harvested: October 17. Previous Crop: Soybeans. Fertilizer: N: 175, P: 150, K: 150. Herbicide: Roundup, Split Shot. Soil Type: Medium loam. Weather: May-wet, June-normal, July-normal, August-wet. ✓Check Hybrid: Power Plus 6F71 R™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
✓Check	221.0		20.4	26
POWER PLUS 4V45AM™*	221.9	2	19.7	28
POWER PLUS 6N83AM™*	221.9	3	22.3	31
BURRUS 5Z41 GT	208.5	6	21.0	28
BURRUS 6T54 3000GT	221.6	4	23.6	32
✓Check	239.6		21.0	28
POWER PLUS 6F74AMX™*	204.1	7	21.1	27
POWER PLUS 7U15AM-R™*	213.8	5	20.6	32
POWER PLUS 7H23 S™*	229.3	1	20.1	32
✓Check	219.4		21.0	33
Average	220.1		21.1	30
Check Average	226.7		20.8	29

Population test

Schultz Farms
Stewardson, IL

Planted: May 7 in 30" rows. Harvested: October 17. Previous Crop: Soybeans. Fertilizer: N: 175, P: 150, K: 150. Herbicide: Roundup, Split Shot. Soil Type: Medium loam. Weather: May-wet, June-normal, July-normal, August-wet. Remarks: Corn population study.

ILLINOIS

Beck's 6175AMXT	272.8	10	19.2
✓Check	247.1		20.8
Croplan 6265SSRIB	267.2	14	19.8
LG 5618SSRIB	282.7	1	21.0
✓Check	249.6		20.8
Stone 6258RIB	251.5	22	18.7
Channel 211-24STXRIB	275.8	6	18.2
✓Check	250.6		19.7
Croplan 6065SS/RIB*	265.7	16	19.7
Steyer 11103SSRIB	268.3	18	19.0
✓Check	257.6		20.4
Wyffles W7108RIB	268.2	19	18.6
Stine R9632SS	256.6	23	18.1
✓Check	254.7		19.8
Average	263.7		20.2
Check Average	251.9		20.4

WHITESIDE

Power Plus® 5C17AMXT™*
wins at 260 bu/a



Ron Merema
Fulton, IL

Planted: May 5 in 30" rows. Planting Population: 36,000. Harvested: September 30. Previous Crop: Corn. Soil Type: Heavy loam. Weather: May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
BURRUS 6T54 3000GT	240.8	4	25.0	30	35
POWER PLUS 7A18AM1™*	237.5	5	25.0	90	35
POWER PLUS 6P75AMX™*	248.8	3	24.0	90	35
✓Check	247.6		23.2	100	35
POWER PLUS 6F74AMX™*	256.7	2	23.5	90	35
CATALYST 4685 3111	215.4	9	19.5	20	35
POWER PLUS 5C17AMXT™*	260.8	1	21.9	90	35
✓Check	248.6		23.1	100	35
POWER PLUS 2V56AMX™*	231.8	7	23.3	60	35
POWER PLUS 4G46AMX™*	231.6	8	23.6	40	35
HUGHES 5456 3000GT	235.0	6	17.7	90	35
✓Check	284.6		22.9	100	35
Average	244.9		22.7	75	35
Check Average	260.3		23.1	100	35



Marc Schutz
Rock Falls, IL

Planted: May 5 in 30" rows. Planting Population: 35,000. Harvested: October 15. Previous Crop: Corn. Soil Type: Heavy loam. Weather: May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4J95AMX™*	260.9	19.7
DeKalb DKC62-08RIB	244.5	21.3
Average	252.7	20.5

Russ Ottens
Lyndon, IL

Planted: May 5 in 30" rows. Planting Population: 32,000. Harvested: October 6. Previous Crop: Corn. Soil Type: Heavy loam. Weather: May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
BURRUS 6T54 3000GT	241.0	29.5	56.4
POWER PLUS 4J95AMX™*	233.7	26.0	58.4
POWER PLUS 7A18AM1™*	232.3	28.0	60.0
POWER PLUS 6F74AMX™*	224.7	26.1	59.4
CATALYST 4685 3111	222.7	26.6	55.0
POWER PLUS 4G46AMX™*	222.0	23.7	59.9
HUGHES 5456 3000GT	217.3	21.0	58.0
BURRUS XP5008 3122	213.4	27.0	57.2
Average	225.9	26	58



At 245.1 bu/a, Power Plus® 4J95AMX™* took the rest to task in Greene Co. for Shirley & Doug Thornton.



Burrus 6T54 3000GT & Power Plus® 6F74AMX™* take the Kane Co. plot for Bob & Allison Klotz.



Molly & Michael McDowell saw three entries roll out over 245 bu/a in Hancock Co.



Power Plus® 4J93AM™* rolled out 244 bu/a for Steve Brummel of Marion Co.



With high yield, no stress conditions, all comparisons did well with the multi-hybrid test in Mercer Co. for Art & Scott Olson.



Build a package using all Burrus. The Burrus family of products has the right hybrids and varieties with multiple trait packages and herbicide choices. It is diverse and complete.



The new Burrus/Hughes products excelled in Whiteside Co. for Jeff Merema.



After Power Plus® 7H23 ST™, Power Plus 4V45AM™ was second in Shelby Co. for Kay & Ron Schultz.



Kent Wagner of WW AgSeeds, Inc. saw his Winnebago Co. plot average 212.8 bu/a.



Burrus dealer Pete Gill of Stark Co. shares the benefits of planting Burrus on the WMBD noon radio show.



Connor Carmody, son of Burrus Sales Manager Tim & Maria Carmody & Griffin Greene, son of Tim & Lori Greene were both awarded their state FFA Degrees in June 2014.

Catalyst 4685 3111 is third

Kent Ackerman
Prophetstown, IL

Planted: May 4 in 30" rows. **Planting Population:** 33,000. **Harvested:** September 29. **Previous Crop:** Soybeans.

Brand/Product	Bu. Per Acre	% Moisture
DeKalb DKC62-77RIB	207.1	22.5
DeKalb DKC64-87RIB	199.1	21.3
CATALYST 4685 3111	198.2	20.4
DeKalb DKC63-33RIB	193.2	20.2
DeKalb DKC61-54RIB	192.3	20.9
Pioneer P0636AMX	191.7	20.0
DeKalb DKC60-67RIB	187.9	19.5
DeKalb DKC57-75RIB	187.7	17.8
Pioneer P0987AMX	182.6	21.2
Pioneer P0945AMX	180.2	19.6
Golden G05T82-3122	177.4	19.6
Average	190.7	20.3

Marc Schutz
Rock Falls, IL

Planted: May 11 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 10. **Previous Crop:** Soybeans. **Soil Type:** Sand. **Weather:** May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 2V56AMX™*	194.4	18.1
Great Lakes 5283STXRIB	171.2	15.9
Average	182.8	17.0



Marc Schutz
Rock Falls, IL

Planted: April 26 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 13. **Previous Crop:** Corn. **Insecticide:** Force. **Soil Type:** Medium sand. **Weather:** May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4J95AMX™*	250.0	19.5
DeKalb DKC62-08RIB	247.2	21.8
Average	248.6	20.6



Marc Schutz
Rock Falls, IL

Planted: April 26 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 13. **Previous Crop:** Corn. **Insecticide:** Force. **Soil Type:** Medium sand. **Weather:** May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
DeKalb DKC62-08RIB	263.9	22.9
POWER PLUS 4J95AMX™*	255.4	19.6
Average	259.6	21.2



Marc Schutz
Rock Falls, IL

Planted: April 27 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 15. **Previous Crop:** Corn. **Soil Type:** Heavy loam. **Weather:** May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4J95AMX™*	250.4	19.4
DeKalb DKC62-08RIB	235.8	19.1
Average	243.1	19.2

WINNEBAGO

Power Plus® 4594AMX-R™* is second



WW AgSeeds, Inc.
Rockford, IL

Planted: May 12 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 27. **Previous Crop:** Corn. **Fertilizer:** N: 230, P: 100, K: 120. **Weather:** May-wet, June-wet, July-dry, August-dry. **✓Check Hybrid:** Agrigold A6499STXRIB

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
✓Check	208.0		31.8	30
AgriGold A6257	203.6	13	19.6	32
HUGHES 2987 3011A	192.6	25	18.0	28
AgriGold A6267	203.3	14	19.7	30
POWER PLUS 1M45AMRW-R™*	200.9	16	19.7	30
HUGHES 3953 3000GT	200.7	21	22.6	30
AgriGold A6300	211.7	12	17.4	32
Pioneer P0496AMX	209.8	15	19.1	27
Pioneer P0407AMXT	190.3	28	22.0	26
AgriGold XA51310	230.3	1	19.7	30
✓Check	222.0		32.6	30
POWER PLUS 2V56AMX™*	219.9	10	23.3	26
AgriGold A6351	225.4	5	21.4	33
HUGHES 5456 3000GT	204.5	24	23.8	29
AgriGold A6376	208.5	19	26.5	28
AgriGold A6416	228.1	3	23.7	29
POWER PLUS 4Y27AMX™*	219.4	9	23.5	29
AgriGold XA41311	196.5	26	29.2	22
POWER PLUS 4G46AMX™*	219.0	11	26.0	29
AgriGold A6442	225.3	4	27.6	30
✓Check	220.5		31.8	30
POWER PLUS 4J94AMX-R™*	228.7	2	27.2	30
BURRUS XP5008 3122	205.5	23	27.4	28
POWER PLUS 5C17AMXT™*	223.6	7	21.8	28
AgriGold A6492SSRIB	207.0	22	27.6	29

AgriGold A6496SSRIB	208.8	18	29.1	32
CATALYST 4685 3111	198.3	27	27.0	24
AgriGold A6358VT3P	211.3	17	32.2	30
POWER PLUS 6F74AMX™*	224.9	8	26.5	34
Pioneer P1221AMXT	209.5	20	23.7	32
AgriGold A6553	226.6	6	30.5	34
✓Check	224.6		31.1	33
Average	212.8		25.1	29
Check Average	218.8		31.8	31

Power Plus® 5C17AMXT™* at 270 bu/a

TNT Farms
Winnebago, IL

Planted: May 6 in 30" rows. **Planting Population:** 32,600. **Harvested:** October 20. **Previous Crop:** Soybeans. **Insecticide:** Force 3G. **Soil Type:** Heavy loam. **Weather:** May-wet, June-wet, July-dry, August-dry. **✓Check Hybrid:** Hughes 5456 3000GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
✓Check	234.5		21.9	33
HUGHES 2987 3011A	239.1	6	15.3	34
POWER PLUS 1M45AMRW-R™*	235.7	8	17.2	34
HUGHES 3953 3000GT	231.0	10	17.0	33
Pioneer P0407AMXT	239.3	7	19.2	34
Pioneer P0496AMX	253.7	3	18.7	33
POWER PLUS 4P11 R™*	254.3	2	19.4	32
✓Check	240.2		21.5	32
POWER PLUS 4Y27AMX™*	239.8	11	21.4	34
POWER PLUS 2V56AMX™*	241.8	9	21.7	32
POWER PLUS 4J92AM-R™*	250.9	5	21.8	32
POWER PLUS 4J94AMX-R™*	259.1	4	24.0	36
POWER PLUS 4G46AMX™*	247.6	12	22.2	34
POWER PLUS 5C17AMXT™*	270.3	1	22.5	34
CATALYST 5008 3122	216.5	13	22.6	34
✓Check	259.5		18.6	33
Average	244.6		20.3	33
Check Average	244.7		20.7	33

Jon Kent

Jon Kent recently joined the Burrus Account Manager team. He will be providing first-rate service in central Illinois including the Macon County area. He has a farm background as he was raised in the small farming town of Palestine, IL. Jon received a Bachelor of Science from Millikin University in Decatur, IL.

Jon is a proven sales professional with a successful background in relationship building. He is a natural communicator who prides himself in having excellent listening skills. Use his skills to help you match the right hybrids for your farming operation.

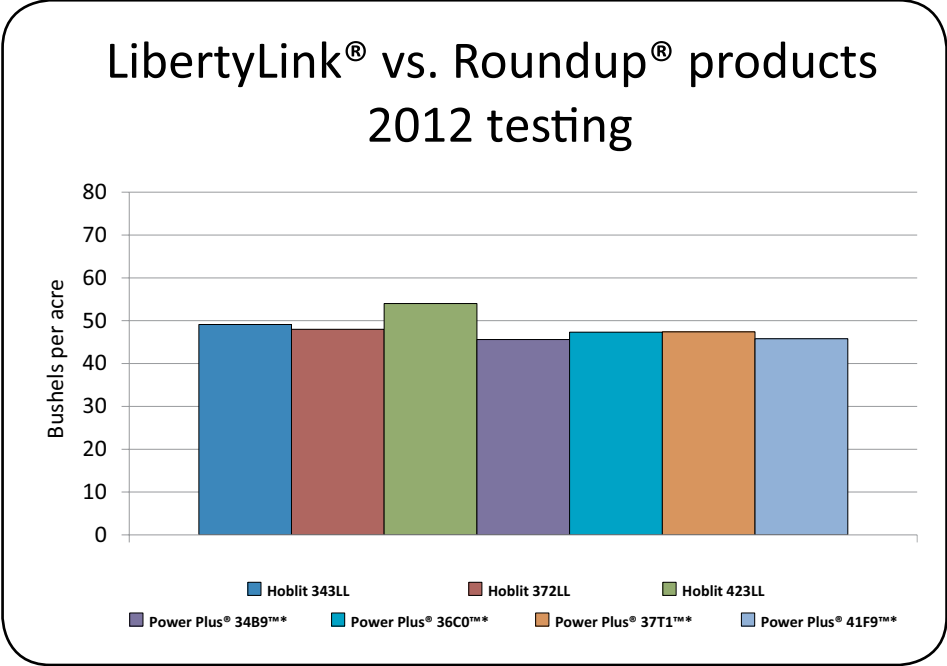
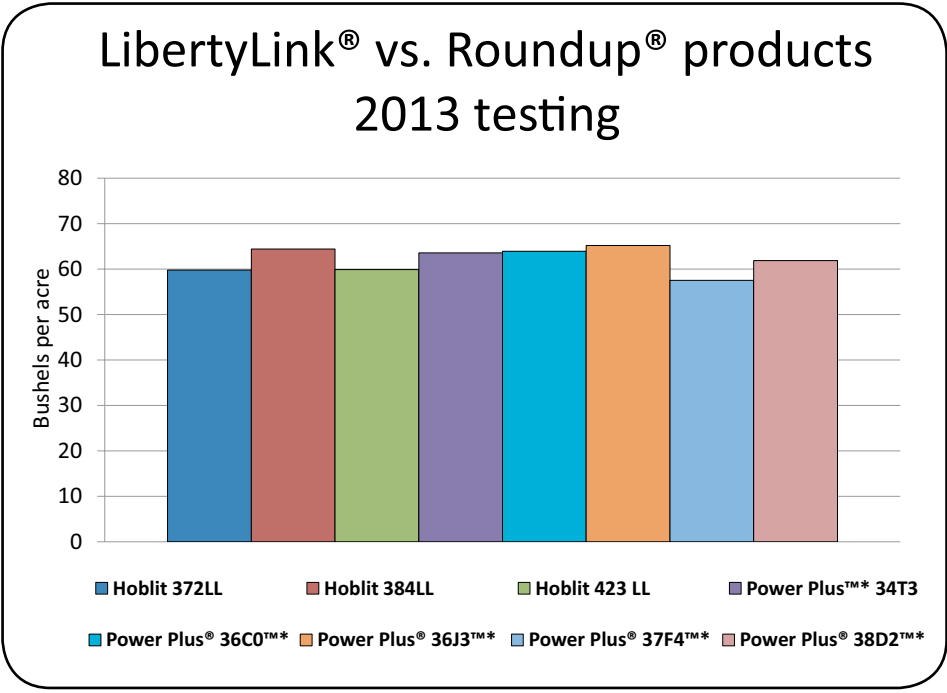
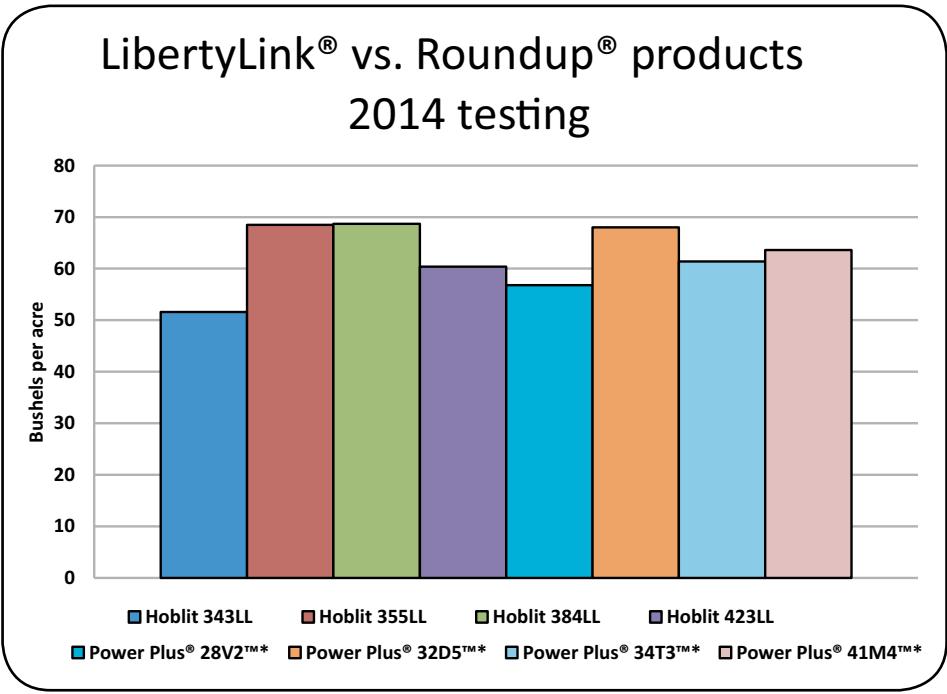
He and his wife, Jan, along with their family reside in Forsyth, IL. Jan is employed at Janssen Pharmaceutical as an Executive Institutional Specialist. Jon and Jan have two sons, Janzen, age 15, and Jace, age 10. Janzen loves football and music while Jace enjoys playing all sports and hanging out with the family's two dogs. Jon and Jan are huge Dallas Cowboy fans and enjoy Illini basketball where they have held tickets at the State Farm Center for 10 years.

Jon calls himself a "golf nut." He loves



to play golf with friends and family when there is time. Watching the boys play sports and watching them grow and develop are a few of Jon's favorite activities.

Jon can be reached at 217-412-6018 or at jon.kent@burrusseed.com. Our multi-brand strategy brings more choices for growers. When you buy seed from Burrus you get the genetic diversity and trait protection you need. Put Jon to work for your farm for greater profitability.



John & Janet Cramer of Livingston Co., MO enjoyed themselves on the Burrus trip to San Antonio as a celebration for their 25th wedding anniversary.



Wyatt Link shows his sure and steady showmanship skills as he guides his pig around the ring at the Linn Co., MO fair. Wyatt is the son of Burrus Sales Manager Seth & Laurie Link.



Aaron McCombs and his daughters love spending quality time on the family farm.



Burrus Agronomist Matt Montgomery takes a photo of insects in a soybean field. Our agronomists love helping growers capture more profit with sound management decisions.

AUDRAIN

**Power Plus® 7H23 STM*
whips Channel**

COMPARE! CE Grain – Carl Ehrlich
Laddonia, MO

Planted: March 15 in 30" rows. **Planting Population:** 35,000. **Harvested:** September 26. **Previous Crop:** Sunflowers. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May–normal, June–wet, July–dry, August–wet.

Brand/Product	Bu. Per Acre	% Moisture	1000 Plants /Acre
POWER PLUS 7H23 STM*	250.0	19.4	31
POWER PLUS 7H23 STM*	241.0	21.0	29
Channel 217-08VT3PRIB	236.0	23.5	30
Average	242.3	21.3	30

BOONE

**294.5 bu/a for
Burrus 6T54 3000GT**

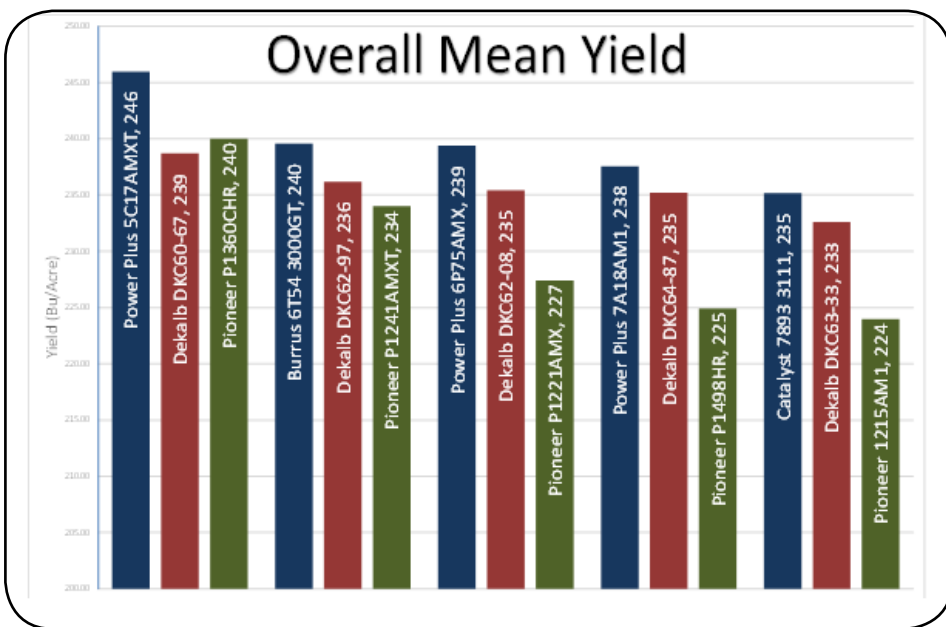
**John Lorentzen
Sturgeon, MO**

Planted: May 7 in 30" rows. **Planting Population:** 28,500. **Harvested:** October 7. **Herbicide:** Corvus and Capreno. **Insecticide:** Pounce. **Soil Type:** Timber clay.

Brand/Product	Acre	Moisture
BURRUS 6T54 3000GT	294.5	22.4
POWER PLUS 6P71™*	238.9	18.9
BURRUS 187233	238.8	21.0
BURRUS 187233	234.7	24.7
CATALYST 4685 3111	230.8	18.4
BURRUS 101413	228.6	17.9
POWER PLUS 7A18AM1™*	228.1	21.0
CATALYST 4685 3111	227.6	18.4
BURRUS 589605	225.7	19.8
BURRUS 425394	221.2	19.7



Bayer has a new planter lubricant. Growers who applied Bayer Fluency have been pleased with the product when applied at the recommended rates and stirred into the seed.



The graph compares the highest yielding product from each brand, then the second highest yielding products, etc. Burrus is Blue, Dekalb is red, Pioneer is green. The fifth best Burrus product (Catalyst 7893 3111) out performed the second best Pioneer and the third best Dekalb. This demonstrates why we have a multi-brand strategy for better performance for you.

BURRUS 5008 3122	220.9	17.3
CATALYST 4685 3111	220.2	18.4
BURRUS 780946	219.6	19.4
CATALYST 7893 3111	218.7	24.0
CATALYST 4685 3111	217.4	17.7
CATALYST 4685 3111	217.3	24.4
POWER PLUS 6F74AMX™*	216.2	19.1
POWER PLUS 6P75AMX™*	215.9	19.1
BURRUS 130796	215.0	22.0
POWER PLUS 4V43 S™*	214.0	17.6
POWER PLUS 6F74AMX™*	213.8	17.2
BURRUS 359902	212.9	18.0
POWER PLUS 6F74AMX™*	211.6	18.2
POWER PLUS 6N83™*	209.8	18.3
POWER PLUS 2N82AM™*	209.1	16.9
POWER PLUS 7H23 S™*	208.4	21.5
POWER PLUS 6F71 R™*	206.7	17.3
BURRUS 152174	206.2	17.6
POWER PLUS 4J93AM™*	205.0	17.4
POWER PLUS 6F71 R™*	204.9	19.0
BURRUS 5Z41 GT	196.9	19.1
POWER PLUS 4P11 R™*	192.7	17.3
BURRUS 6J36 3000GT	192.4	18.8
POWER PLUS 6F74AMX™*	188.5	18.9
Average	217.7	19.3

BUCHANAN

Power Plus® 7N23 S™* wins plot

Jeff Gibson
Gower, MO

Planted: May 22 in 30" rows. **Planting Population:** 28,000. **Harvested:** September 26. **Previous Crop:** Soybeans. **Herbicide:** Roundup. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-wet, August-wet. **✓Check Hybrid:** Power Plus 6F74AMX™*.

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
✓Check	225.8		18.4	24
POWER PLUS 4J93AM™*	223.6	4	15.4	26
POWER PLUS 6N83AM™*	217.1	5	18.6	24
BURRUS 5Z41 GT	209.8	6	17.6	25
✓Check	210.2		17.8	22
POWER PLUS 6F74AMX™*	215.0	3	17.6	24
POWER PLUS 7H23 S™*	235.8	1	16.8	25
POWER PLUS 7U15AM-R™*	235.8	2	20.4	25
✓Check	212.0		19.2	23
Average	220.6		18	24
Check Average	216		18.5	23

CARROLL

The check hybrid wins!



Jenkins Farms
DeWitt, MO

Planted: April 17 in 30" rows. **Planting Population:** 32,000. **Harvested:** September 17. **Previous Crop:** Corn. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-wet. **✓Check Hybrid:** Power Plus 6C41™*.

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	233.9		22.1	100	31
POWER PLUS 2N82AM™*	205.5	9	18.2	100	30
POWER PLUS 6N83AM™*	234.1	2	21.5	100	31
POWER PLUS 4J93AM™*	219.2	8	19.3	100	31
BURRUS 5Z41 GT	230.0	5	19.0	100	30
✓Check	240.3		22.6	100	32
CATALYST 7893 3111	230.4	3	24.3	100	32
POWER PLUS 7H23 S™*	222.5	6	20.5	100	30
POWER PLUS 4G46AMX™*	197.6	10	18.7	95	30
POWER PLUS 6F74AMX™*	208.8	7	19.5	100	29
BURRUS 6T54 3000GT	215.9	4	22.3	100	32
POWER PLUS 7U15AM-R™*	220.9	1	19.9	100	32
✓Check	213.0		20.4	100	32
Average	220.9		20.6	100	31
Check Average	229.1		21.7	100	32

Rick and Rex Paris
Hale, MO

Planted: April 11 in 30" rows. **Harvested:** September 9. **Previous Crop:** Soybeans. **Fertilizer:** N: 125, P: 75, K: 100. **Herbicide:** Keystone. **Insecticide:** Permec. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
DeKalb DKC64-89RIB	219.2	20.8	59.3
POWER PLUS 6F71 R™*	218.8	17.4	59.6
Merschman M-1314D-16RIB	212.1	21.9	58.0
POWER PLUS 7H23 S™*	210.6	17.5	56.8
Pioneer P1498	207.8	21.3	59.0
POWER PLUS 7U15AM-R™*	201.2	19.3	58.4
DeKalb DKC62-98RIB	198.7	18.2	59.1
POWER PLUS 7U15AM-R™*	193.2	20.4	57.8
DeKalb DKC64-69	188.5	19.6	58.4
Average	205.6	19.6	58.5



Casner Farms
Carrollton, MO

Planted: April 19 in 30" rows. **Planting Population:** 31,700. **Harvested:** September 30. **Previous Crop:** Soybeans. **Corn Borer Rating:** Moderate. **Soil Type:** Medium loam. **Weather:** May-normal, June-wet, July-dry, August-wet. **✓Check Hybrid:** Burrus 6T54 3000GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
✓Check	240.5		15.8	31
POWER PLUS 7H23 S™*	246.7	7	15.3	31
POWER PLUS 2V56AMX™*	227.0	22	14.6	32
POWER PLUS 4P11 R™*	231.6	21	14.2	31
HUGHES 5456 3000GT	238.4	17	14.0	31
✓Check	238.5		17.4	31
POWER PLUS 4J93AM™*	251.5	4	13.2	31
CATALYST 4685 3111	253.3	3	12.9	30
BURRUS 5Z41 GT	239.2	15	13.4	31
BURRUS 780946	224.6	23	14.3	31
✓Check	241.9		15.0	31
BURRUS 6J36 3000GT	241.0	13	15.3	31
POWER PLUS 2N82AM™*	217.7	25	14.4	31
BURRUS 408189	254.0	2	13.6	31
POWER PLUS 2N82AM™*	220.0	24	13.5	30
✓Check	239.5		14.9	31
POWER PLUS 4V45AM™*	243.9	9	14.6	31
POWER PLUS 6N83AM™*	237.0	18	14.5	31
POWER PLUS 7H23 S™*	241.8	12	14.4	31
POWER PLUS 7A18AM1™*	246.8	6	15.9	31
✓Check	251.6		15.6	32
CATALYST 7893 3111	247.6	5	56.0	31
POWER PLUS 8V08 S™*	246.6	8	16.7	31
POWER PLUS 6F71 R™*	240.3	14	16.3	31
POWER PLUS 6F74AMX™*	236.7	19	15.9	31
BURRUS 941589	236.0	20	15.2	31
✓Check	237.4		15.0	31
BURRUS 662236	243.3	10	15.1	30
BURRUS 999741	242.8	11	15.3	31
BURRUS 187233	239.0	16	18.1	31
POWER PLUS 8V08 S™*	258.1	1	17.4	31
✓Check	259.5		16.2	31
Average	241.1		15.1	31
Check Average	244.1		15.7	31

Gary Sanders
Carrollton, MO

Planted: April 12 in 30" rows. **Planting Population:** 29,500. **Harvested:** September 16. **Previous Crop:** Soybeans. **Herbicide:** Lexar. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 6C41 S™*	254.5	22.5	58.6
POWER PLUS 6C41 S™*	246.7	24.1	59.0
POWER PLUS 6C41 S™*	245.1	22.5	58.6
Pioneer P1248AM	244.1	22.2	56.5
Pioneer P1248AM	240.5	22.7	56.6
Average	246.2	22.8	57.9

Kaiser Family Farms Property
Carrollton, MO

Planted: April 22 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 4. **Previous Crop:** Soybeans. **Soil Type:** Silt loam.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
DeKalb DKC67-72RIB	289.2	21.0	56.2
DeKalb DKC67-58RIB	285.9	22.3	57.9
DeKalb DKC66-42RIB	281.7	21.7	56.4
DeKalb DKC65-81RIB	278.5	20.4	56.5
Pioneer P1197AM*	275.7	18.6	56.7
DeKalb DKC64-89RIB	275.0	18.9	58.8

DeKalb DKC63-55RIB	269.7	19.0	56.3
DeKalb DKC64-69	269.3	20.0	55.6
DeKalb DKC61-89RIB	268.2	18.2	57.8
POWER PLUS 7H23 S™*	266.1	19.4	56.1
Pioneer P1257AMX	265.9	17.8	55.1
DeKalb DKC62-98RIB	265.0	18.3	56.9
Pioneer P1498AM	264.4	20.9	58.0
DeKalb DKC63-35RIB	263.6	18.8	57.5
Pioneer P1479AM*	263.5	19.7	56.1
DeKalb DKC62-08RIB	263.3	18.9	56.4
DeKalb DKC61-79RIB	260.7	18.7	56.8
DeKalb DKC62-77RIB	254.4	19.5	55.7
Croplan 7927VT3P/RIB*	253.6	20.5	56.5
POWER PLUS 7U15AM-R™*	253.3	18.6	57.1
DeKalb DKC61-54RIB	252.2	18.8	58.5
DeKalb DKC60-55RIB	250.9	18.1	59.0
Croplan 7927VT3P/RIB*	250.8	20.5	58.5
Pioneer P1151R	250.4	18.9	58.9
DeKalb DKC61-89RIB	248.9	17.8	56.6
POWER PLUS 4J93AM™*	247.5	18.7	57.0
Croplan 6065SS/RIB*	238.7	18.7	58.1
DeKalb DKC61-89RIB	235.1	18.3	57.2
Average	262.2	19.3	57.1

CHARITON

McCormick Farms
Sumner, MO

Planted: May 5 in 30" rows. **Planting Population:** 30,000. **Harvested:** October 6. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: 80, K: 100. **Herbicide:** Degree, Atrazine. **Insecticide:** Mustang Max. **Corn Borer Rating:** Moderate. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
MorCorn XP613	259.5	19.9	59.0
MorCorn XP607	259.0	18.1	60.6
MorCorn MC4344	258.2	16.7	61.8
MorCorn XP606	256.0	17.3	60.6
POWER PLUS 6C41 S™*	254.3	20.5	60.4
MorCorn XP605	251.4	19.6	59.9
DeKalb DKC63-55RIB	251.3	16.5	60.8
Pioneer P0115AM1	250.5	18.0	61.5
POWER PLUS 7U15AM-R™*	249.3	19.2	59.5
DeKalb DKC63-55RIB	247.8	17.4	62.0
MorCorn MC3544	247.2	16.6	59.7
POWER PLUS 6C41 S™*	244.9	20.6	60.2
MorCorn XP604	244.6	17.7	58.4
Pioneer P1498AM	243.9	19.3	61.9
POWER PLUS 4V45AM™*	243.4	17.9	60.3
POWER PLUS 6C41 S™*	243.2	20.6	61.2
DeKalb DKC61-79RIB	242.0	17.0	60.3
MorCorn MC3859	241.1	16.6	60.8
POWER PLUS 6N83AM™*	240.8	18.2	55.2
POWER PLUS 6F74AMX™*	240.8	18.8	61.3
DeKalb DKC61-89RIB	240.2	16.3	61.0
CATALYST 7893 3111	239.7	21.3	57.0
POWER PLUS 7H23 S™*	238.5	19.1	59.9
DeKalb DKC66-42RIB	238.0	18.9	59.5
DeKalb DKC65-81RIB	237.6	18.8	59.7
MorCorn MC4354	237.6	17.2	60.6
DeKalb DKC67-58RIB	237.4	19.8	61.9
DeKalb DKC64-89RIB	237.0	17.5	61.4
MorCorn XP614	235.7	20.3	59.7
MorCorn XP608	235.0	18.7	60.0
DeKalb DKC62-98RIB	234.9	17.5	60.9
POWER PLUS 4J93AM™*	232.5	18.3	59.1
POWER PLUS 2N82AM™*	230.5	17.8	59.8
MorCorn MC4154	229.9	16.4	61.1
MorCorn XP603	229.6	17.3	60.2
BURRUS 6T54 3000GT	228.5	20.6	59.6
DeKalb DKC62-08RIB	225.8	17.8	60.2
Pioneer P0115AM1	225.0	17.3	62.1
MorCorn XP609	216.5	17.0	60.2
DeKalb DKC64-69	214.9	18.3	61.1
Average	240.4	18.3	60.3



Corn residue management strategies

By Stephanie Porter

During the 2014 harvest, many are concerned with the high amount of corn residue appearing in fields. One of the main reasons that we are seeing a higher amount of residue is because of the higher yields. A 200 bu/a corn crop can leave around 5 tons or 12,000 – 16,000 lb/a of residue on the soil surface. Corn produces over twice the amount of residue in comparison to other crops and more than twice the residue necessary to provide 100% soil cover. There are other factors that have occurred over the past several years that have caused higher levels of corn residue such as higher plant populations, foliar fungicides, Bt traited products with higher stalk quality, reduced tillage, high fertility or productive soils, corn-on-corn rotation, as well as favorable environmental conditions that affect the rate of microbe decomposition.

If residue is allowed to build on the soil surface, many problems can occur. A high percent of residue on the soil surface can cause soil temperatures to remain cooler in the spring, that can result in emergence issues. Poor stands due to delayed germination can also result because of residue in the seed furrow, especially in corn on corn rotations, because of poor soil to seed contact. In light of 2014 environmental conditions, a few herbicide injury issues were seen of a high amount of corn residue on a field. Many diseases are harbored within residue and in some cases, allelopathy or chemicals leaching out from corn trash might delay early crop growth. Lastly, nutrients, such as nitrogen can be tied-up within residue.

Residue can be a very important source of nitrogen, however, if a high amount of corn residue is present, immobilization will take place, which means that plant usable forms of nitrogen are tied up within the soil. Various soil microbes, depending on temperature, available oxygen, and moisture will decompose this residue into humus, and then organic matter. Once residue is decayed, mineralization can take place, and plant available sources of nitrogen, such as ammonium (NH₄), become available to plants. Corn stalks consist of a carbon to nitrogen (C:N) ratio of 40 – 80 and in order to be broken down to humus by microbes, the C:N ration must be brought down to 10.

The first point of trash escape into the field is via the combine at harvest. Stalks, cobs, and chaff should be distributed evenly across the field as much as possible. A dense mat of trash on the

soil surface in the spring can delay soil moisture loss and soil warming. The goal is to avoid thick residue in areas and bare soil showing in other areas of the field. Choppers, batt, and chaff spreaders can help to spread and evenly distribute trash, which in turn, can increase the decomposition rate. However, a chopper head can cost more, weigh more, and possibly over process residue, which can lead to erosion issues. Crushing knife rolls or tapered snapping rolls on the combine head can aid in processing residue by crimping, chopping, or crushing of stalks, which allows many points for decomposers to enter the stalk.

Trash reduction kits added to a combine can help to reduce power usage and possibly help to increase speed at harvest. Set the corn head higher, so that taller stalks remain standing to increase air movement down rows to encourage decomposition, but in a no-till operation, standing stalks can cause planting issues. This also allows the stalk to remain intact and anchored into the soil, which helps to eliminate erosion.

Some might choose to chop or mow down stalks, but one of the biggest problems is that trash can form a flat mat on the soil surface. If trash is matted between rows, it is more likely to plug tillage and planting equipment later. Be sure to choose a mower that will ensure an even residue distribution such as a flail mower and not a rotary mower, which can cause increase windrowing of residue that can hinder residue distribution. Chopped residue can be more easily washed away; therefore, erosion can ensue. Some recommend that if you want to chop residue, just let the combine do this job.

Fall grazing or baling corn residue are options for growers with livestock. Along the same lines - and another "hot topic" - is harvesting fodder for biofuel. This can provide some additional income and can solve some planting equipment challenges. The two issues that come along with these options are erosion as well as nutrient and carbon removal.

Corn stover can consist of around 17 lbs of nitrogen (N), 4 lbs of phosphorus (P), and 20 lbs of Potassium (K) per ton and if removed, these nutrients will need to be replaced. Carbon is critical when it comes to maintaining soil quality and productivity. If you are a livestock grower, the removal of carbon and nutrients from the soil can be replaced by adding manure. However, those with just cash crops will need to replace nutrients by purchasing costly commercial fertilizer. However, carbon is not as easily replaced in the absence of manure, especially in a corn-on-corn operation that is intensively managed. Other

problems that can result from fall grazing can be disease, compaction, reduced soil temperature in the spring, as well as germination problems.

There are some who believe that liquid nitrogen, such as urea or ammonium sulfate broadcasted over the top of corn stalks or residue in the fall or with UAN in the spring, will increase their decomposition rate. This theory is based on the process of nitrogen immobilization. Corn stalks consist of a higher amount of carbon over nitrogen. In order for microbes to build their populations and decompose the corn stalks, the microbes are in need of nitrogen to build their cells. Research has shown that the addition of nitrogen to residue in the fall does not help to increase microbial populations, because temperatures are too cold for microbial residue breakdown to occur. Therefore, if adding nitrogen to corn stalks in the fall, the limiting factor is not nitrogen, but low temperatures. When liquid nitrogen is placed over the top of high residue in the spring, it can leach quickly. If temperatures are warm, up to 20% nitrogen loss can occur due to volatilization. Soil microbes need to get their nitrogen from the soil; therefore it is recommended that sources of nitrogen be incorporated or injected to encourage decomposition.

There has also been some talk of placing sugars or numerous other products, sometimes with liquid nitrogen, over the top of corn residue. The idea is that the sugars provide a food source for microbes to feed on, while decomposing corn residue. These sugars or other products are applied during the spring or fall in hopes that trash will breakdown before the next planting season.

The application of sugars is more often done south of I-70. Some claim they work better in the south because there is a longer duration of warm temperatures for decomposition by microbes to take place. There has not been much research or evaluation done of sugars or other products. Some say certain products work better with incorporation, but this could be because tillage alone encourages the breakdown of residue.

When managing residue, cultivation is most important because the incorporation of tillage within a farm operation will significantly increase decomposition rates by soil microbes. Fall tillage decomposition rates are around 5% – 10% higher than spring tillage. Additional tillage is often needed after the second year of corn to incorporate residue and speed up decomposition. With cultivation, benefits can be warmer soil temperatures in the spring and less interference of residue during planting operations. But, there also can be draw-

backs when it comes to cultivation. Some tillage equipment might not be equipped to handle high residue levels and cultivators equipped for high residue levels can cost several more dollars per acre if compared to conventional models.

In general, with tillage, there comes increased production costs and more soil erosion can occur with the decrease of residue. Continuous no-till operations can also improve bio and microbial activity in fields, breakdown crop residue, and release nutrients back into the soil. Of course, a no-till operation is much easier within a corn and soybean rotation. The drawbacks of no-till are poor emergence during cold or wet springs, lower spring soil temperatures, and uneven crop debris across the soil surface.

Ultimately, we should strive for "healthy soil" and one sign of a well maintained soil is earthworms. Some ways that we can obtain a good healthy soil is a continuous no-till operation with a crop rotation, continue to return organic residues such as manure or compost to soil, and the use of cover crops when fields are fallow. Cover crops can create a "micro climate" under its canopy that creates a moist environment, full of potential decomposers of crop residue. Not only do cover crops help to speed up the decomposition process, they also add biodiversity to corn residue, so they can feed microbes that, in turn, will feed on corn residue. However, one must ensure that cover crops do not dry out soil or create additional, unwanted residue.

If residue is not managed, we must find ways to deal with increased trash on the soil surface at planting, so that it does not hinder crop emergence. Some ways to deal with extra residue at planting is to mount tillage tools such as cleaning disks, sweeps, brushes, rolling finger, or plows. The basic goal is to make sure that at least 1/3 of the row area consists of less than 10% residue. In a continuous corn operation, row cleaners are needed to avoid seed contact with trash. With strip-till, the use of residue cleaners or managers are used at planting in order to obtain an 8 inch zone that is free of residue. If anhydrous is involved with a strip-till operation, there should be a 6 – 8 inch tilled zone to prevent nitrogen loss or other problems with seed germination. In no-till, there can be issues with standing stalks when planting, so coulters, openers, gauge wheels, and press wheels may be needed.

Some claim that those with no-till operations should be weary of coulters, which cut residue, loosen soil, and reduce wear on the seed furrow opener in abrasive soil. If coulters are set too deeply, they can cause air pockets to occur in the seed zone. If residue levels are too high in a



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no-till situation, some may run a residue mover up front and then follow that by a spiked residue mover. Be sure that residue movers are not doing more harm than good. Some can move residue over the row, which may hinder crop emergence. There is no single management technique that will make this breakdown of residue occur instead, an integrated approach throughout the growing season during planting, nutrient application, and harvesting will be needed to be incorporated into a farming operation.

CHARITON

Big Red Farms
Salisbury, MO

Planted: April 1 in 30" rows. Planting Population: 30,000. Harvested: October 16. Previous Crop: Soybeans. Fertilizer: N: 180, P: 60, K: 80. Insecticide: None. Corn Borer Rating: Heavy. Soil Type: Medium loam. Weather: May-normal, June-normal, July-dry, August-wet. ✓Check Hybrid: Burrus 6T54 3000GT

Brand/Product	Bu. Per Acre	Rank	% Moisture
POWER PLUS 7A18AM1™*	221.6	5	17.7
POWER PLUS 6F74AMX™*	211.5	7	17.9
CATALYST 4685 3111	196.5	18	18.0
POWER PLUS 2V56AMX™*	197.2	17	17.7
POWER PLUS 4P11 R™*	185.4	25	16.0
HUGHES 5456 3000GT	198.1	16	16.7
✓Check	217.7		19.7
POWER PLUS 4J93AM™*	192.2	22	16.3
CATALYST 4685 3111	191.1	24	18.7
BURRUS 5241 GT	164.7	27	16.9
BURRUS 780946	188.2	23	16.1
✓Check	209.9		19.9
BURRUS 6J36 3000GT	210.6	6	16.8
POWER PLUS 6F74AMX™*	204.6	10	17.4
BURRUS 735025	209.7	8	18.6
POWER PLUS 2N82AM™*	194.4	19	16.0
✓Check	218.3		20.0
POWER PLUS 4V45AM™*	211.0	9	17.5

POWER PLUS 6N83AM™*	206.6	12	18.1
POWER PLUS 7H23 S™*	195.0	20	18.6
POWER PLUS 7A18AM1™*	221.1	4	18.4
✓Check	216.7		19.0
POWER PLUS 6F74AMX™*	195.8	21	19.2
POWER PLUS 6F71 R™*	182.4	26	18.0
POWER PLUS 6F74AMX™*	204.6	14	17.7
POWER PLUS 8V08 S™*	214.2	11	18.0
✓Check	223.6		20.7
CATALYST 7893 3111	233.9	2	20.1
BURRUS 359902	205.0	15	18.7
BURRUS 187233	236.5	1	20.9
POWER PLUS 6F74AMX™*	211.2	13	18.0
POWER PLUS 7A18AM1™*	228.5	3	17.9
Average	206.2		18.2
Check Average	217.2		19.9

CLINTON

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Walkup Farm Supply
Gower, MO

Planted: April 22 in 30" rows. Planting Population: 30,300. Harvested: October 20. Previous Crop: Soybeans. Fertilizer: N: 180, P: 60, K: 50. Corn Borer Rating: Light. Soil Type: Medium loam. Weather: May-wet, June-wet, July-wet, August-wet. ✓Check Hybrid: Power Plus 6C41 S™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
✓Check	268.8		15.0	27
CATALYST 4685 3111	201.9	8	14.7	29
POWER PLUS 4J93AM™*	223.2	5	14.9	28
POWER PLUS 6N83AM™*	236.6	4	14.8	27
BURRUS 5241 GT	217.6	7	14.7	27
✓Check	267.0		14.7	28
POWER PLUS 6F74AMX™*	219.5	6	14.9	26
POWER PLUS 7H23 S™*	238.6	3	14.7	28
CATALYST 7893 3111	246.3	2	14.6	25
POWER PLUS 7U15AM-R™*	250.2	1	14.8	29
Average	239.3		14.8	27
Check Average	266.0		15.0	27

Quinn Moller

Quinn Moller has joined the Burrus team in east-central Illinois and western Indiana. His territory includes Champaign, Iroquois, Vermillion, and Ford counties in Illinois as well as Warren, Benton, Tippecanoe, and White Counties in Indiana.

He graduated from Champaign Centennial High School and attended Parkland Junior College in Champaign, IL. He then received a Bachelor's Degree from the University of Central Arkansas.

Quinn and his wife Tracy reside in Pine Village, IN. Tracy works for Purdue University as a Vet Research Tech. They are the parents of two children, Morgan, age 11, and Jake, age 9. The family keeps busy as Quinn and Tracy coach the baseball/softball teams in the spring and summer. Quinn is also a den leader for the local Boy Scout pack. His hobbies include hunting, fishing, snowmobiling,



and mowing their three acres of grass (and we all know how much time that took this summer).

Put Quinn to work for your farming operation. Quinn looks forward to bringing a valuable package of Burrus products to your farm to improve your profitability.



At Burrus we are always looking to improve and so a prime example of that is our recently installed new software called SeedWareSM. You might have noticed your Burrus/Hughes seed invoice had a new look. You might also have noticed our new plot results map at www.bur-russeed.com, as well as a customizable product selection tool for corn and soybeans. All of these improvements are the result of implementing SeedWare.

As before, Burrus/Hughes Account Managers and dealers can access customer information such as orders and statements online at any time. Now orders can be edited even during off-hours.

SeedWare works on traditional computers as well as a wide variety of mobile devices, such as tablets and smart phones. Information is updated instan-

taneously between the office, the online system, and even the production staff. We continue our long-standing practice of only accepting orders for product/treatment/seed size combinations we expect to be able to fill. Seed availability estimates are now up to the minute with SeedWare.

The search that ultimately led us to SeedWare involved analysis of existing bottlenecks and a thorough investigation of all viable alternatives. SeedWare was the most progressive and user-friendly option we could find. The primary developers have seed experience and understand the intricacies of the industry.

The move to SeedWare demonstrates the Burrus/Hughes continued commitment to bring more accurate information, faster, and easier to our customers.



Ron Surber of Linn Co., MO is a long-time Burrus supporter who loves to raise sweet corn & volunteer his time at the local fair.



Matthew Burrus, son of Burrus dealer Brian & Larua Burrus, prepares to receive his State FFA Degree.



In McDouough Co. four hybrids topped 280 bu/a with Burrus 6T54 3000GT leading the way for John, Dylan & Clayton Cook & Jim Lutz.



Cover crops – benefits, risks, and reality

By Matt Montgomery
and John Williams

Should you look into cover crops? Will your fields benefit? Does the use of cover crops assist weed control? Are all cover crops equal? Are there risks associated with cover crops? It's time to run through a list of benefits, to highlight a couple risks, and to emphasize a little reality about this popular topic.

Defining the term

What exactly are cover crops? While many of us can think of different types of cover crops and some species that might be used, it would perhaps be useful to provide a definition for the term "cover crops."

Cover crops are crops raised not for their direct economic value but for the indirect benefits of subsequent cash crops and/or their direct environmental benefits where those crops are raised. Because we rotate crops and do not let ground sit idle, cover crops usually refer to a grass or legume which is seeded, grown, and killed sometime between fall harvest and spring planting.

Benefits

Thinking of positive aspects first rather than negative outcomes is the approach of this article. Four benefits come to mind when discussing the subject of cover crops.

First, cover crops act as a green/manure mulch. Green manure/mulch has some direct crop-related value and some direct environmental-related value. Grass cover crops (cereal ryegrass for instance) will help maintain nitrogen (along with other essential nutrients). Such crops absorb and assimilate nitrogen/nutrients, removing them from the soil environment where they might be subject to loss.

Legume crops (vetch or crimson clover for instance) will add to the nitrogen sum. Such crops undertake the energy-intensive process of removing nitrogen from the atmosphere and fixing it into a form that might be used by plants. A portion of that fixed nitrogen (along with currently present nitrogen) is absorbed and assimilated by the plant. Once again, this removes nitrogen from the soil profile, decreasing loss. Legume crops thus provide some immediately available nitrogen to the subsequent cash crop while eventually (like cereal rye-



grass) supplying nitrogen via the decomposition process. How much N are we talking about? As mentioned in last year's edition of the *Harvest Report*, that benefit has sometimes totaled 8 bu/a where corn followed a grass cover crop and 25 bu/a where corn followed a legume cover crop. Some additional nitrogen fertilizer may be required to "speed up" that release of nitrogen by microbes. The mulch-like characteristics of a no-tilled cover crop can help maintain soil moisture which provides an indirect benefit to the crop.

The direct environmental benefits of a cover crop come in the process of nutrient sequestration. Because nitrogen and other nutrients become part of the plant, they are removed from the soil and potential loss. Depending upon the grass cover crop, some studies have shown a 75% - 95% reduction in nitrate loss which benefits water quality.

Second, cover crops provide plenty of soil-related benefits. The root system of cover crops physically holds soil particles in place during storm events reducing sheet, rill, and gully erosion. The foliage of the plant also plays a role in reduced erosion. Leaf blades absorb some of the kinetic energy in falling raindrops and moving water, thus increasing the chance that water will flow into rather than over soil. Tilled cover crops may reduce soil erosion by as much as 50%, with no-till sometimes reducing erosion by 90%. Keeping soil where it belongs is not the only benefit provided to the soil by cover

crops though. Decomposing organic material forms organic compounds that act as natural glue which promotes granulated structure in the top soil. The resulting pore space provides an improved avenue for gas exchange, water storage, and root penetration. Perhaps most importantly, those organic glues provide the type of structure needed to ward off compaction or increase tilth.

Third, cover crops can act as a potential feed source while serving as a green manure. Chief among these grazed cover crops would be the forage turnip. The forage turnip should be planted at least 30 days before the first killing frost. The seeding rate for a drill is 7 pounds per acre at 1/2-inch depth, and broadcasted at 12 pounds per acre at 3/4-inch depth. The forage turnip can sequester lots of nutrients (they also require plenty of nutrients perhaps on par with small grains). They can be grazed within about two and a half months of seeding.

Finally, there are some weed control-related benefits associated with cover crops. The weed control properties of a cover crop largely stem from ground shading which decreases seed germination and subsequent competition (some allelopathic chemicals likely play a role as well). As noted in the next section though, the weed management value of cover crops could be a little questionable.

Risks

A true evaluation of any practice pro-

vides a clear description of the benefits associated with that practice, but it also does not shy away from a detailed description of risk. The potential for yield losses, misperceptions related to weed control, and potential herbicide resistance risks make up that risk description.

Yield losses are a potential issue associated with the use of cover crops if those crops are not managed correctly. The struggles around yield loss are a function of physical impediments, plant competition, and nutrient immobilization.

The inclusion of a cover crop in a no-tillage system increases the amount of surface residue that can interfere with planter operation, seed placement, and the resulting stand. This physical impediment to yield might be solved via the use of row cleaners or other residue managing systems.

The University of Illinois Agronomy Handbook states that "most research has shown that corn planted into a grass cover crop often yields less than when grown without a cover crop." That publication suggests that the cover crop be killed at least two weeks previous to planting or that the cover crop be killed soon after resuming spring growth. Why does a cover crop sometimes reduce yield? Allelopathic chemicals may be released that inhibit the development of the crop and/or reduce stands. A standing cover crop can siphon desperately needed moisture from the crop in a dry year or could maintain too much moisture in a wet year. The crop can also compete for nitrogen if not eliminated in a timely manner, and it could actually tie up nitrogen as decomposition plods along.

Experience indicates that it may be beneficial to use a starter fertilizer and to increase total nitrogen fertilizer rates by 10% to avoid the previously noted nutrient problems. The stand inhibiting tendencies of a cover crop sometimes require that seeding rates be increased by 10% as well, a recommendation also intended to address yield related issues associated with cover crops.

Weed management is sometimes a misunderstood topic when discussing cover crops. Intuition would indicate that cover crops must reduce weed pressure. However, this has not necessarily been shown to be the case. Studies appeared to indicate mixed results with winter annual control according to the University of Missouri. While cereal rye provided some of the best general summer annual and amaranth control in Missouri studies, most cover crops actually yielded little benefit.



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The germination window of many summer annuals might account for this as some plants continue to sprout as residue breaks down, etc.

A risk associated with the use of cover crops is false weed control security. Cover crops likely help with weed control, but they will fail if not accompanied by a good pre and post herbicide program.

Herbicide resistance is also a risk associated with cover crop use. Annual ryegrass, often noted as a potential cover crop, is ranked as one of the top 15 weed species for herbicide resistance by the Weed Science Society of America according to Dr. Kevin Bradley, University of Missouri.

Reality

Growers, upon noting associated cover crop risks and counting potential cover crop gains, might decide that cover crops are a desired addition to their operation. The reasons to do so make sense. However, they could come to that conclusion only to find that the window of opportunity has been closed.

Purdue notes that many herbicides can eliminate the possibility of planting cover crops in the fall. The problem is herbicide carryover. Some leaching chemistries can negate the majority of cover crops for more than a year. Some cell disrupting chemistries could negate the majority of cover crops until spring. Some ALS chemistries can actually negate the majority of cover crops for more than a year.

Growers used a more varied spectrum of chemistries than what they have for a long time in 2014. If they want to pursue cover crops, they might want to check their herbicide labels. Those documents might just say that reality will not allow it this growing season.

Brian Reed

Brian Reed joined Burrus as a Sales Manager this year. He brings a wealth of sales experience as he was previously with Cargill, Inc. Brian leads our bi-weekly webinars and our new customer relation management tool. His career objective is to lead a world class selling team to the top of our industry and he's assembling the sales force to accomplish that goal!

He was raised in Champaign, IL and received a Bachelor of Arts degree from Eastern Illinois University in Charleston, IL.

Brian and his wife Stacey have recently moved into their new home in Mahomet, IL. They are the parents of two children, Carson, age 9 and Haley, age 7. Carson loves sports with baseball and basketball being his favorites. Haley enjoys singing, dancing, and soccer. They have a busy household. Brian enjoys golf, basketball, and coaching youth baseball. He is an avid Illini fan, too.

COOPER

The Power Plus[®] 6C41 STM* show



Donald Esser
Blackwater, MO

Planted: May 10 in 30" rows. Planting Population: 30,000. Harvested: October 27. Previous Crop: Soybeans. Herbicide: Fall-Basis Blend Relam Q. Corn Borer Rating: Light. Soil Type: Heavy loam. Weather: May-wet, June-normal, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 6C41 S TM *	267.1	18.5	57.6
POWER PLUS 4V45AM TM *	259.6	15.8	60.0
POWER PLUS 4J93AM TM *	255.1	15.6	59.0
POWER PLUS 7U15AM-R TM *	253.9	16.0	60.5
POWER PLUS 6N83AM TM *	253.4	16.5	59.7
CATALYST 7893 3111	252.0	16.8	57.7
BURRUS 6T54 3000GT	249.3	16.7	59.2
POWER PLUS 7H23 S TM *	248.4	16.0	59.5
POWER PLUS 6F74AMX TM *	238.8	16.5	61.2
POWER PLUS 2N82AM TM *	232.3	15.0	58.5
Average	251.0	16.3	59.3

Darrell Spaedy
Bunceton, MO

Planted: May 10 in 30" rows. Planting Population: 30,000. Harvested: October 22. Previous Crop: Soybeans. Fertilizer: N: 180, P: 70, K: 70. Herbicide: Realm Q, Altrazine. Insecticide: None. Corn Borer Rating: Light. Soil Type: Medium loam. Weather: May-wet, June-normal, July-dry, August-wet. ✓Check Hybrid: Power Plus 6C41 STM*

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
✓Check	210.5		20.3	58.0
POWER PLUS 7U15AM-R TM *	224.5	2	18.0	60.5
POWER PLUS 7H23 S TM *	223.9	3	16.6	59.7

Joe Fletcher

Joe Fletcher services Burrus customers in Madison, Bond, Fayette, Effingham, Cumberland, and Jasper counties as an Account Manager. Joe began with Burrus this spring after a successful career with Cargill where he assisted producers in forming marketing plans and working to understand customer's problems and needs.

Joe is originally from the Wood River area. Following graduation from Roxana High School, he attended Southern Illinois University in Edwardsville, IL. He received a Bachelor of Science Degree in Business Administration with a specialization in management.

Joe resides in Alton, IL with his wife Debbie and their son Jacob. Joe enjoys spending time with family, deer hunting, golf and cheering for his favorite baseball team, the St. Louis Cardinals. Debbie works as a clerk at East Elementary in the Alton School District. She enjoys reading, scrapbooking, and family time. Jacob,



age 16, likes horseback riding, swimming, bowling, and of course girls.

Joe looks forward to developing relationships with current as well as future customers to share the excellent Burrus product line up. Let Joe help you raise your profit margin.

CATALYST 7893 3111	211.1	7	19.1	56.2
✓Check	225.8		19.4	59.7
POWER PLUS 4V45AM TM *	220.0	5	16.1	58.0
POWER PLUS 4J93AM TM *	225.6	4	17.4	58.3
POWER PLUS 6N83AM TM *	217.1	6	17.6	58.4

POWER PLUS 2N82AM TM *	238.5	1	16.0	59.0
✓Check	223.9		19.2	60.7
Average	222.1		18.0	58.9
Check Average	220.1		19.6	59.5



Take a look at our entire bean lineup & choose the best bin busters for your farm.



Burrus Account Manager Dick Burns along with wife Colleen were honored at the University of Illinois for being selected as the "I" family of the year.



Joel Schultz, son of Jeff & Janet Schultz of Shelby Co. is all smiles after receiving his Illinois State FFA Degree in Springfield, IL.



Is it waterhemp or Palmer amaranth?

By Stephanie Porter

The Amaranth family contains approximately 1800 genera and 2,500 species of plants. Within the amaranth family, there are some common weeds such as pigweed, waterhemp, and Palmer amaranth. Here are tips on how to identify these weeds:

First, examine the stem to distinguish pigweeds (Redroot or Smooth) from waterhemp or Palmer amaranth. If the stems appear hairy (Photo 1), the weed is a pigweed and if the stems are smooth (Photo 2), the weed is a waterhemp or Palmer amaranth. Pigweed, waterhemp, and Palmer amaranth can have either green or red stems.

Amaranth weeds can hybridize, which can make identification difficult, when relying on some leaf characteristics such as shape. Waterhemp usually has more elongated leaves, when compared to Palmer amaranth, which is said to have more ovate leaves. Palmer amaranth leaves can have a white or purple “chevron” present on the top of the leaf (Photo 3), but this marking on the leaf is not always present. If the “chevron” is not present, you may need to focus on other plant characteristics for identification.

The leaves of Palmer amaranth consist of a small notch with a prominent hair at the tip of the leaf (Photo 5). Waterhemp leaves rarely (but sometimes) also have a hair located on their leaf notch, especially in the western Corn Belt. Not every leaf on a single Palmer amaranth plant will have a prominent hair on the leaf notch.

The petiole attaches the leaf to the stem of a plant. The Palmer amaranth’s older leaves usually consist of petioles that are longer than the leaf (Photo 6). A waterhemp’s older leaf petioles will be much shorter and only half the size of the leaf.

Palmer amaranth’s general growth pattern of its apical meristem, which consists of ovate leaves attached to the stem by long petioles, often appears as a rosette shape or dense cluster of leaves, when viewed from the top of the plant. A waterhemp’s elongated leaves are often arranged in a less patterned, rosette appearance, with an open canopy.

Photo 7 shows the rosette shape of Palmer amaranth in comparison to a waterhemp plant stature.

The identification or differentiation between Palmer amaranth and waterhemp seedlings or juveniles can be extremely difficult. In Photo 8 the Palmer amaranth seedling, you can see the broad ovate shaped cotyledons and leaves with notched tip, with no waxy sheen. The picture of



Photo 1: Pigweed stem – hairy

Photo courtesy of Peter Smith



Photo 2: Waterhemp stem – not as hairy

Photo from http://www.illinoiswildflowers.info/weeds/plants/water_hemp.htm



Photo 3: Palmer amaranth has ovate leaves that may or may not have a white or purple “chevron” marking on their leaves.

Photo from <http://bulletin.ipm.illinois.edu/?p=923>



Photo 4: Leaves from hybrid Amaranthus plants—common waterhemp (L), redroot pigweed (R), and waterhemp X redroot pigweed hybrids (center two).

Photo from <http://agronomyday.cropsci.illinois.edu/2000/waterhemp/>

the waterhemp seedling shows egg shaped cotyledons as well as the narrow true leaves that have a notched tip with waxy sheen.

When identifying weeds, our goal is to identify the weed early in their growth stages. However, in the case of the differentiation between Palmer amaranth and waterhemp, identification during the vegetative growth stages might prove to be difficult. Of all the vegetative plant traits, the most consistent, when it comes to the



Photo 5: Leaf hair on the leaf notch located at the tip of a Palmer amaranth leaf.

(Picture taken from <http://bulletin.ipm.illinois.edu/?p=923>)

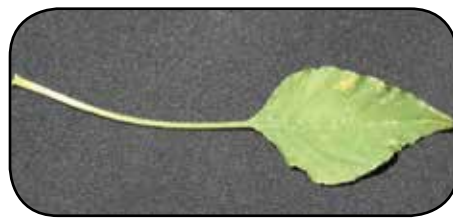


Photo 6: Shows the long petiole on the true leaf of Palmer amaranth.

Photos from <http://extension.entm.purdue.edu/pestcrop/2012/issue27/index.html>



Palmer amaranth
Photo 7: The rosette shape of Palmer amaranth in comparison to a waterhemp plant stature.



Waterhemp

Photo courtesy of <http://www.ilsos.org/prof-ility/weed-management/resistant-weeds>



Palmer amaranth
Photo 8: (left) Palmer amaranth seedling and (right) waterhemp seedling



Waterhemp

differentiation of Palmer amaranth from waterhemp, is the length of the leaf petioles. The leaf shape, leaf watermark, and leaf tip hair can help to confirm a Palmer amaranth, but these characteristics are variable within the amaranth species.

Identification of amaranth weeds is more likely to occur during their reproduction stage by examining their seed heads (Photo 9). Pigweeds such as redroot and smooth tend to have short terminal seed heads. Powell pigweed consist of longer terminal seed



Photo 9: Various amaranth species' terminal seed heads

Photo courtesy of Aaron Hager, University of Illinois

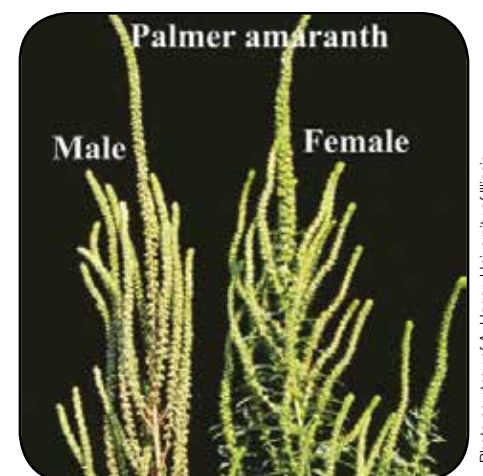


Photo 10: Male and female seed heads of Palmer amaranth

Photo courtesy of A. Hager, University of Illinois



Agrisure® Artesian™ corn hybrids convert water into grain more effectively. In extreme drought stress Artesian™ corn hybrids produced 40% higher yields compared to the plot average.

Amaranthus Female Flowers and Inflorescences

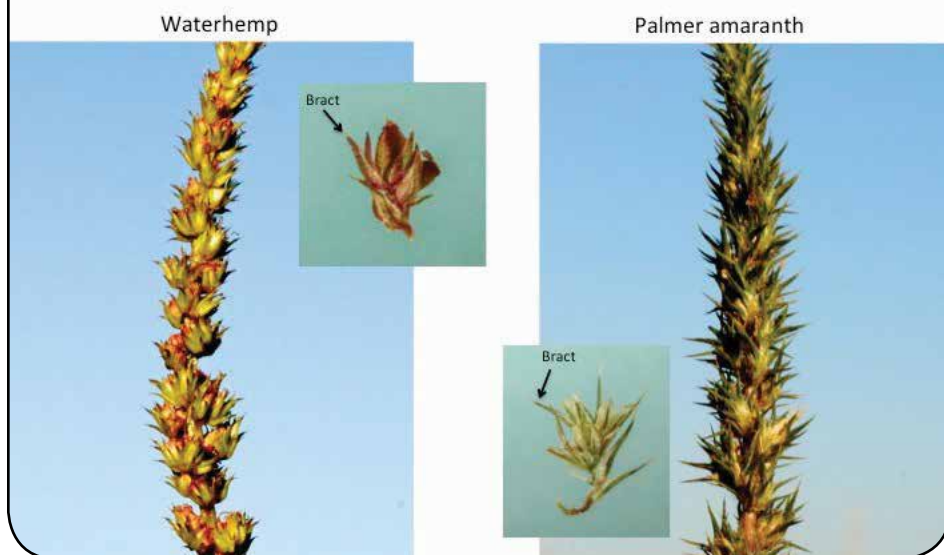


Photo 11: Waterhemp with short, smooth bracts on terminal seed head and Palmer amaranth with long, sharp bracts on terminal seed head

head, which can resemble the terminal seed heads of Palmer amaranth. But remember, the smooth stem will aid in the identification of Powell pigweed and differentiate this amaranth from Palmer amaranth or waterhemp.

Both Palmer amaranth and waterhemp are dioecious, which means that they have separate male and female plants. Their terminal seed heads can be variable, but in general Palmer amaranth (Photo 10) tends to have seed heads up to 3 feet long and greater than 1/2-inch in diameter, with some branching. Waterhemp tends to have shorter seed heads that are more slender and branched. There are some species of waterhemp that exhibit longer inflorescences that are greater than 1/2 diameter, that are branched.

The most reliable way to differentiate

between Palmer amaranth and waterhemp are the bracts that grow within the flowers on the terminal seed heads (Photo 11). Palmer amaranth will have much longer bracts that extend beyond the seed in the seed head. These bracts on the much longer seed heads of Palmer amaranth are sharp to touch. The shorter bracts on the waterhemp, which have shorter seed heads, will be smooth to the touch. Spiny amaranth or spiny pigweed can have sharp bracts on their seed heads as well; however, spiny amaranth has a hairy stem, bushy growth pattern, and the seed head will have these sharp bracts throughout its entire lifecycle. Palmer amaranth will only have sharp bracts in its seed head later in maturity during the reproductive stages.

Lynn McKibben

Join us in welcoming Lynn McKibben as a Burrus Account Manager. Lynn lives in East Peoria, IL and will provide the top-notch service that Burrus customers have come to expect in DeWitt, Logan, Macon, McLean, Menard, Peoria, and Sangamon counties.

Lynn grew up on a farm near Marshalltown, Iowa and has an Associate degree in Ag Business from North Central Missouri College. He has over 30 years experience working in retail fertilizer, seed, and chemical sales. Lynn enjoys helping farmers meet and exceed their goals in production.

He and wife, Kay have 3 grown sons. Kay is the chief operating officer for Central Illinois Radiology Associates. Nate and his wife live near them in East Peoria. Their middle son, Aaron and his wife live in Charlotte, NC. Their youngest son, Tyler lives in Kansas City, MO. Lynn and Kay enjoy their 5 grandchildren. In his spare time, Lynn enjoys golf and bow hunting.

Lynn can be reached at 309-202-



6378 or lynn.mckibben@burruseed.com. His knowledge can help your farm be more profitable. Let Lynn put together a complete program of matching hybrids, technologies, and seed treatments for your farm.

Drought tolerance and water optimization

It is no secret that researchers are working diligently on finding ways to produce more grain with less water. At Burrus/Hughes we are fortunate to be able to offer two ways to take advantage of water optimization products, Optimum® AQUAmax® and Agrisure® Artesian™ products. A focus on drought tolerance and increasing water optimization is a goal for many corn breeding programs. Groundwater resources are now under increased scrutiny in many areas of the western Corn Belt.

The complexity surrounding drought tolerance and water optimization is unique. Developing traits for water optimization and drought tolerance is different for corn breeders than developing either herbicide or insect resistance. Variables such as soil, fertility program, heat, disease, nutrient uptake, and insect pressure, along with the timing of water stress can vary greatly under different circumstances and are crucial components in understanding the effect they have on drought tolerance of a plant and overall yield.

Optimum AQUAmax hybrids offer growers additional choices to help minimize risk and maximize their productivity and profitability on every acre by delivering a yield advantage in water-limited environments and offering top-end yield potential under more favorable growing conditions. These hybrids are equipped with strong agronomics and the latest technology packages. Developed using DuPont's proprietary Accelerated Yield Technology (AYT™) system, a suite of tools including molecular breeding techniques, researchers are able to rapidly scan and identify genes responsible for increasing yields and other beneficial traits. Optimum AQUAmax hybrids benefit growers by maximizing water access and minimizing risk.

Hybrids with Agrisure Artesian technology maximize yield when it rains and increases yield when it doesn't, improving

the return on a grower's total crop investment. Agrisure Artesian technology helps to reduce financial, emotional, and crop stress during gaps in rainfall. In developing Artesian corn hybrids, Syngenta employs a unique scientific process to select, validate, and deploy natural corn genes that help the plant optimize water. The advantage of this approach is that Artesian corn hybrids carry elite genetics that respond to water stress in multiple ways at a state of growth, allowing the corn plant to produce top yields on virtually any acre – regardless of the weather.

Artesian corn hybrids can help central and eastern Corn Belt growers stabilize yields in years of inconsistent rainfall or in fields with variable soil types and/or low soil moisture-holding capacity. A huge area of research is targeted for the western Corn Belt to bring corn growing possibilities to marginal land. The key to success will be to find genetics suited for light soils that more often tend to suffer from drought conditions even in a normal year.

We are fortunate to offer two options for water optimization, as part of our multiple choice/multiple brand strategy. The hybrids that carry the Agrisure Artesian designation in our lineup are Hughes 2987 3011A (the "A" depicts the Artesian™ characteristics), and Hughes 2428GTA. The Optimum AQUAmax hybrids in our lineup are Power Plus® brands 2N82AM™*, 2T35™*, 2V56AMX™*, 4J93AM™*, 4J95AMX™*, 4Y27AMX™* and 6N83AM™*.

Talk to your Burrus or Hughes Account Manager about how you can incorporate any one of those hybrid choices on your farm.

Product performance in water-limited environments is variable and depends on many factors such as the severity and timing of moisture deficiency, heat stress, soil type, management practices, and environmental stress as well as disease and pest pressure. All hybrids may exhibit reduced yield under water and heat stress. Individual results may vary.

Power Plus® Optimum® and AQUAmax® are trademarks of Pioneer Hi-Bred Optimum® brand. Power Plus® brand seed is distributed by Burrus.



Tom & Marcy Burrus enjoy some quality family time with grandchildren Griffin & Gannon Greene along with Pete & Taylor Mitchell.



Which Burrus Hybrids are right for your farm?



	General characteristics						Planting information			Response to environmental conditions			Protection from pests				
	Days to maturity	Roundup Ready®	Liberty Link®	Plant height	Ear height	Ear type	Speed of emergence	Corn on corn	Refuge requirement	Drought tolerance	Water optimization	Greensnap	Nematode	Corn borer	Corn rootworm	Western bean cutworm	Wire worm
Above & Below ground insect control																	
Hughes 1286 3000GT	94	■	■	7	7	Fixed	7	Suitable	20%	7	None	8	Yes	Yes	Yes	No	No
Hughes 2987 3011A	101	■	■	7	7	Flex	8	Excellent	20%	10	Artesian™	8	Yes	Yes	Yes	No	Yes
Hughes 3953 3000GT	103	■	■	8	8	Intermediate	8	Suitable	20%	8	None	8	Yes	Yes	Yes	No	Yes
Power Plus 2V56AMX™*	105	■	■	6	6	Intermediate	8	Excellent	Integrated refuge	10	AQUAmax®	5	Yes	Yes	Yes	Yes	Yes
Hughes 5456 3000GT	107	■	■	8	7	Flex	9	Excellent	20%	8	None	6	Yes	Yes	Yes	No	Yes
Power Plus 4Y27AMX™*	108S/107N	■	■	5	5	Fixed	8	Excellent	Integrated refuge	10	AQUAmax®	8	Yes	Yes	Yes	Yes	Yes
Power Plus 4G46AMX™*	108S/107N	■	■	7	6	Intermediate	7	Good	Integrated refuge	8	None	8	Yes	Yes	Yes	Yes	Yes
Power Plus 4J95AMX™*	109	■	■	6	6	Intermediate	7	Good	Integrated refuge	10	AQUAmax®	8	Yes	Yes	Yes	Yes	Yes
Catalyst 4685 3111	109S/112N	■	■	5	5	Flex	7	Good	20%	8	None	8	Yes	Yes	Yes	Yes	Yes
Power Plus 5C17AMX™*	110	■		7	6	Intermediate	7	Good	Integrated refuge	7	None	8	Yes	Yes	Yes	Yes	Yes
Burrus 5Z44 3122	111	■		6	5	Intermediate	9	Excellent	None needed	8	None	6	Yes	Yes	Yes	Yes	Yes
Power Plus 6F74AMX™*	113	■	■	7	7	Intermediate	8	Excellent	Integrated refuge	9	None	8	Yes	Yes	Yes	Yes	Yes
Burrus 6T54 3000GT	113	■	■	8	6	Intermediate	8	Excellent	20%	8	None	8	Yes	Yes	Yes	No	Yes
Power Plus 6P75AMX™*	113	■	■	8	8	Intermediate	7	Good	Integrated refuge	7	None	7	Yes	Yes	Yes	Yes	Yes
Power Plus 7A18AM1™*	114	■	■	8	8	Intermediate	8	Excellent	20% structured refuge	8	None	7	Yes	Yes	Yes	Yes	Yes
Catalyst 7893 3111	115	■	■	7	6	Flex	8	Good	20% structured refuge	8	None	8	Yes	Yes	Yes	Yes	Yes
Above ground insect control																	
Power Plus 6N83AM™*	104	■	■	8	6	Intermediate	7	Suitable	Integrated refuge	10	AQUAmax®	7	Yes	Yes	No	Yes	Yes
Power Plus 2N82AM™*	105	■	■	5	5	Intermediate	7	Good	Integrated refuge	10	AQUAmax®	8	Yes	Yes	No	Yes	Yes
Power Plus 4V45AM™*	108	■	■	6	6	Intermediate	8	Good	Integrated refuge	9	None	5	Yes	Yes	No	Yes	Yes
Power Plus 4J93AM™*	109	■	■	6	6	Intermediate	7	Good	Integrated refuge	10	AQUAmax®	8	Yes	Yes	No	Yes	Yes
Power Plus 6C41 S™*	112	■	■	9	8	Flex	9	Good	20%	8	None	7	Yes	Yes	No	Yes	Yes
Power Plus 7H23 S™*	114	■	■	7	6	Intermediate	7	Excellent	20%	8	None	8	Yes	Yes	No	Yes	Yes
Power Plus 7U15AM-R™*	114	■		8	8	Intermediate	8	Excellent	Integrated refuge	8	None	7	Yes	Yes	No	Yes	Yes
	Days to maturity	Roundup Ready®	Liberty Link®	Plant height	Ear height	Ear type	Speed of emergence	Corn on corn	Refuge requirement	Drought tolerance	Water optimization	Greensnap	Nematode	Corn borer	Corn rootworm	Western bean cutworm	Wire worm
Glyphosate tolerance																	
Hughes 2428 GTA	100	■		7	7	Flex	8	Good	None needed	10	Artesian™	8	Yes	No	No	No	Yes
Power Plus 1B44 R™*	102	■		5	5	Intermediate	7	Suitable	None needed	9	None	8	Yes	No	No	No	Yes
Hughes 5124 GT	107	■		8	7	Flex	9	Excellent	None needed	8	None	6	Yes	No	No	No	Yes
Power Plus 4P11 R™*	108S/105N	■		6	6	Intermediate	8	Good	None needed	9	None	5	Yes	No	No	No	Yes
Burrus 5Z41 GT	111	■		6	5	Intermediate	9	Excellent	None needed	8	None	6	Yes	No	No	No	Yes
Power Plus 6F71 R™*	113	■		7	7	Intermediate	8	Excellent	None needed	9	None	8	Yes	No	No	No	Yes
Burrus 6T51 GT	113	■		8	6	Intermediate	8	Excellent	None needed	8	None	8	Yes	No	No	No	Yes
Hughes 3442	102			7	6	Fixed	8	Suitable	None needed	8	None	7	Yes	No	No	No	Yes
Non-GM conventional																	
Power Plus 2T35™*	104			6	5	Intermediate	7	Good	None needed	10	AQUAmax®	7	Yes	No	No	No	Yes
Burrus 5D30	110			6	6	Intermediate	7	Good	None needed	8	None	8	Yes	No	No	No	Yes
Power Plus 5N48™*	110S/108N			6	6	Intermediate	8	Suitable	None needed	9	None	7	Yes	No	No	No	Yes
Power Plus 6C40™*	112			7	7	Flex	9	Good	None needed	8	None	7	Yes	No	No	No	Yes
Burrus 6G64	113			6	5	Intermediate	8	Good	None needed	8	None	8	Yes	No	No	No	Yes
Power Plus 7H20™*	114			7	6	Intermediate	7	Excellent	None needed	8	None	8	Yes	No	No	No	Yes
Burrus 750	115			8	8	Intermediate	7	Excellent	None needed	7	None	8	Yes	No	No	No	Yes
Other																	
Power Plus 1M45AMRW-R™*	102	■		5	5	Intermediate	7	Suitable	Integrated refuge	9	None	8	Yes	No	Yes	No	Yes

General rating scale: 10 = Outstanding 5 = Average 1 = Poor
(1)–Besides their insecticidal properties, hybrids treated with Poncho Xtra, Poncho 500 or High rate Poncho emerge more rapidly and establish more stand.

R is Roundup Ready Corn 2 (NK603) or Glyphosate tolerance, Agrisure GT
S is Herculex I/RR2
B is Herculex I Corn Borer Bt & Liberty resistance
AMRW-R is Optimum® AcreMax® Rootworm AM1 is Optimum® AcreMax® 1
AMX is Optimum® AcreMax® Xtra
AMX-R is Optimum® AcreMax® Extra

BL is Agrisure CB/LL & Liberty resistance
Q is Herculex XTRA and Roundup
3000GT is Agrisure CB/LL, RW and GA21 Glyphosate tolerance



What makes us different?
We provide better products, better quality, and better service.

Adaptability						Protection from diseases					Harvest description								
High organic soils	Timber soils	Clay and varied soils	Wet soils	Sand irrigated	Sand dryland	Northern leaf blight	Anthracnose	Gray leaf spot	Goss's wilt	Diplodia ear rot	Stalks	Roots	Drydown	Ear retention	Grain quality	Test weight	High tonnage silage	Harvest residue	
Above & Below ground insect control																			
10	8	8	7	9	7	6	NR	7	8	NR	9	7	9	8	7	6	8	7	Hughes 1286 3000GT
9	9	9	8	9	8	6	7	7	8	6	9	8	9	8	7	6	8	8	Hughes 2987 3011A
9	9	9	7	9	9	7	7	7	8	NR	7	7	8	8	7	7	9	8	Hughes 3953 3000GT
7	8	9	7	8	8	6	6	5	7	NR	8	7	7	7	7	8	8	5	Power Plus 2V56AMX™*
10	9	9	8	9	8	6	6	8	7	6	9	8	8	7	7	6	10	9	Hughes 5456 3000GT
10	8	8	6	7	7	6	5	6	8	8	7	8	6	7	8	9	5	5	Power Plus 4Y27AMX™*
9	8	8	8	8	7	5	5	6	8	6	7	7	6	8	8	9	9	6	Power Plus 4G46AMX™*
9	9	9	NR	9	NR	8	NR	5	8	5	8	8	8	9	8	7	5	NR	Power Plus 4J95AMX™*
10	9	8	6	10	9	7	7	4	7	NR	8	9	7	8	7	6	5	5	Catalyst 4685 3111
10	7	7	7	9	6	7	7	6	8	7	8	7	6	8	9	9	10	8	Power Plus 5C17AMXT™*
9	9	9	8	9	8	7	NR	7	6	NR	8	8	8	9	8	7	9	9	Burrus 5Z44 3122
8	9	9	6	7	9	8	8	7	8	7	9	8	8	9	8*	8	9	9	Power Plus 6F74AMX™*
10	8	8	6	9	7	7	8	6	7	7	9	7	7	8	7	7	9	9	Burrus 6T54 3000GT
10	7	7	8	10	6	8	7	7	8	7	8	7	7	7	7	7	10	8	Power Plus 6P75AMX™*
10	9	9	8	10	9	5	5	6	NR	8	7	6	7	9	9*	8	10	10	Power Plus 7A18AM1™*
8	9	9	8	9	9	7	7	6	8	NR	9	6	7	9	7	8	10	10	Catalyst 7893 3111*
Above ground insect control																			
8	9	9	7	8	8	7	6	6	8	5	8	6	9	8	6	6	6	7	Power Plus 6N83A™*M
7	9	9	8	6	9	6	5	7	9	7	9	8	8	9	7	7	5	NR	Power Plus 2N82AM™*
10	9	9	8	9	8	7	7	7	8	7	8	7	8	9	8	8	7	7	Power Plus 4V45AM™*
9	9	9	NR	9	NR	8	NR	5	8	5	8	8	8	9	8	7	5	NR	Power Plus 4J93AM™*
9	9	8	8	9	8	6	NR	8	8	NR	8	6	8	8	10*	10	8	7	Power Plus 6C41 S™*
10	9	9	8	9	8	5	6	7	8	7	8	6	7	9	7	7	8	8	Power Plus 7H23 S™*
10	9	9	8	10	9	5	5	6	NR	8	7	6	7	9	9*	8	10	10	Power Plus 7U15AM-R™*
High organic soils	Timber soils	Clay and varied soils	Wet soils	Sand irrigated	Sand dryland	Northern leaf blight	Anthracnose	Gray leaf spot	Goss's wilt	Diplodia ear rot	Stalks	Roots	Drydown	Ear retention	Grain quality	Test weight	High tonnage silage	Harvest residue	
Glyphosate tolerance																			
9	9	9	8	9	8	6	7	7	8	6	9	8	9	8	7	6	8	8	Hughes 2428 GTA
8	7	7	7	8	8	4	NR	5	7	7	7	9	7	8	5	5	6	6	Power Plus 1B44 RR™*
10	9	9	8	9	8	6	6	8	7	6	9	8	8	7	7	6	10	9	Hughes 5124 GT
10	8	9	8	9	8	5	4	5	8	6	7	9	8	8	7	8	6	5	Power Plus 4P11 RR
9	9	9	8	9	8	7	NR	7	6	NR	8	8	8	9	8	7	9	9	Burrus 5Z41 GT
8	9	9	7	7	9	8	8	7	8	7	9	8	8	9	8	8	9	9	Power Plus 6F71 RR™*
10	8	8	6	9	7	7	8	6	7	7	9	7	7	8	7	7	9	9	Burrus 6T51 GT
9	9	8	9	9	7	7	8	7	7	NR	8	9	8	9	7*	7	7	7	Hughes 3442
Non-GM conventional																			
8	9	9	8	9	9	6	NR	7	8	NR	8	7	7	7	8	8	8	7	Power Plus 2T35™*
9	8	8	8	9	8	5	NR	NR	NR	NR	8	6	7	8	9*	9	7	8	Burrus 5D30
10	8	8	9	8	7	7	5	5	NR	7	8	6	9	8	9*	8	8	9	Power Plus 5N48™*
9	9	8	8	9	8	6	NR	8	8	NR	8	6	8	8	10*	10	8	7	Power Plus 6C40™*
10	9	9	9	8	8	6	NR	7	7	NR	8	8	7	9	8*	8	8	7	Burrus 6G64
10	9	9	8	9	8	5	6	7	8	7	8	6	7	9	7	7	8	8	Power Plus 7H20™*
10	9	9	7	10	8	6	8	8	8	8	7	8	7	9	10*	10	10	10	Burrus 750
Other																			
8	7	7	7	8	8	4	NR	5	7	7	8	9	7	8	5	5	6	6	Power Plus 1M45AMRW-R™*

The information and recommendations contained in this chart are produced for comparison purposes only and are not guarantees as to the results, since those results may vary. They are provided to assist in the selection of the hybrid which will best suit your needs. No warranties either expressed or implied are intended by this chart.

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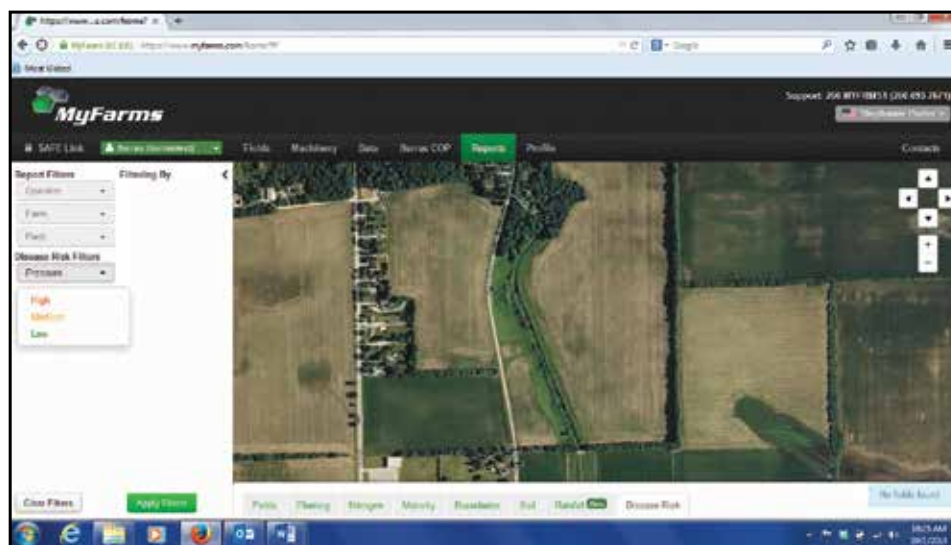
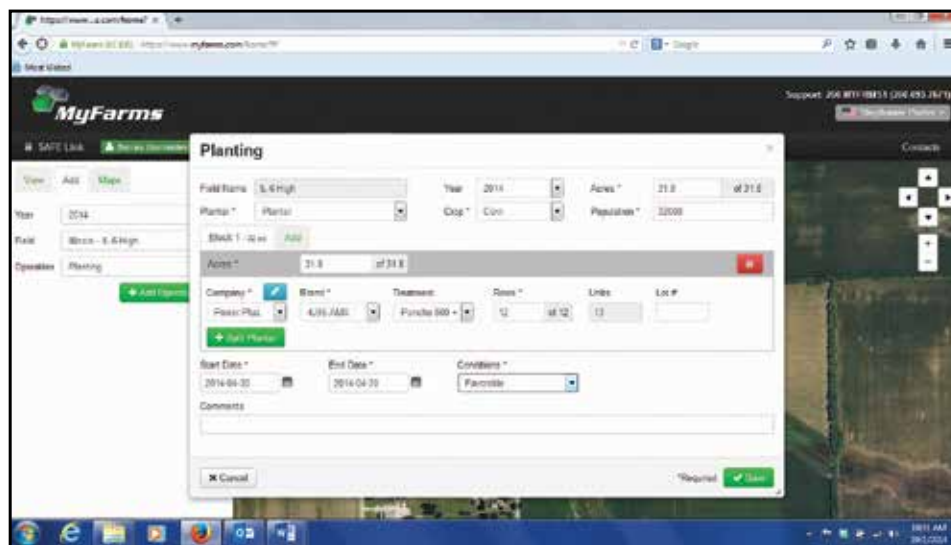
NEW MyFarmsSM – Gray leaf spot alert system

By Stephanie Porter

Burrus is using the Data-Driven Farming System[®] by MyFarmsSM to combine proprietary product knowledge with the data farmers own and manage to improve crop production. MyFarms was created to make it safe and easy for family farms and their advisors to increase yield by embracing Data-Driven Farming practices such as site-specific hybrid placement and planting rates. In addition, a Burrus product recommendation leverages proprietary test plot data and product ratings to help customers quickly discover the best corn hybrid or bean variety and planting rate for each field. The solution combines on-farm data such as soil types, field, and equipment details, and farm-specific management practices with regional product performance ratings managed by Burrus to quickly find the best product combination for each field. The Burrus and MyFarms partnership is enabling growers to make decisions that increase profitability while maximizing the world's food, fuel, and fiber supply.

We continue to brainstorm new ways to offer additional features within MyFarms such as pest and disease alerts. Burrus is pleased to offer the addition of the "Gray leaf spot alert system" within the MyFarms system to their customers. **This new feature will only be available to those who have transferred their uploaded fields to planting records within MyFarms.** This can be done by clicking on the "Data tab," which is located on the top of the MyFarms screen. Once you click on the "Data tab," the year, field, and operation tabs will appear on the left hand side of the screen within MyFarms. Be sure to select the correct year and field that you wish to monitor for gray leaf spot. Lastly, choose "planting" within the operation tab, click on "add an operation", and then choose "record". Within the "record," you will input your planting data for this particular field, and click save.

This year was the pilot program for the MyFarms "Gray leaf spot alert system," which was developed to predict and address gray leaf spot disease concerns in corn. The goal of this system is not only to alert Burrus growers about the potential for disease but to also be an aid for timely disease scouting. If gray leaf spot is identified at damaging thresholds or within favorable environmental conditions, during corn pollination (2 weeks before and



2 weeks after the tasseling of corn), corn yields can be decreased.

The "Gray leaf spot alert system" within MyFarms will revolve around the basic disease triangle and will focus on three key elements: corn susceptibility, favorable environmental conditions, and the presence of disease inoculum. Based on these factors, fields within MyFarms will either remain green, if there is a low level of concern for the development of gray leaf spot; turn to orange, if there is a moderate level; or become red, if there is a high level of concern. A grower will receive an email notice when a field crosses into the red zone. Keep in mind that factors such as corn hybrid selection, corn growth stage, crop rotation, or environmental conditions could cause the field to move back and forth between an orange or red color, which could trigger multiple email notices for the same field. Based on scouting, disease pressure, and forecasted wet weather, the grower can make the decision if a fungicide application is needed. If your MyFarms field turns red and you receive an email notice, you should scout that field at least 2 times a week. If a field is

orange, it may need to be scouted at least once a week.

Scout corn to accurately identify gray leaf spot. Gray leaf spot appears as rectangular tan to gray lesions, first on the lower leaves and then gradually progresses up the plant, if weather remains favorable for development. The fungal pathogen that causes gray leaf spot prefers wet weather and temperatures of around 75-85 degrees. Gray leaf spot overwinters in corn debris, and it can take 1 – 2 weeks for symptoms to become evident on leaves after fungal spores infect the underside of leaves.

If the disease is present, access disease pressure and continue to monitor disease spread, especially if wet weather persists. If 50% of the corn plants in the field are showing signs of this disease, on the third leaf below the ear or higher, for a period of time before and after corn tassel, you might want to consider a fungicide application. Contact a Burrus agronomist if you are unsure of disease identification or if disease pressure/environmental conditions warrant a fungicide treatment.

When trying to decide if foliar fungi-



cides are warranted, here are some questions to answer:

1. **What growth stage is the corn plant?** Corn should be scouted for disease at pollination (2 weeks before and after tassel). Is your corn experiencing high disease pressure within this growth stage range? If so, yield loss could result.
2. **Have you had issues with corn leaf disease in the past or is there a high amount of residue in the field (corn on corn/no-till) that could be harboring the gray leaf spot pathogen?** If so, you may be more at risk.
3. **Are disease symptoms beginning to appear near the ear of the plant (1 – 3 leaves below the ear) during pollination?** This is a signal that disease could be a threat to corn yields.
4. **How susceptible is your hybrid?** Every corn hybrid has a disease rating. Check the disease rating for your hybrid and if it is a low number, you may be more likely to use a fungicide if disease pressure is high. You can go to the Burrus website, go to the "Products" tab at the top of the screen, click on "corn," and then view all products. Gray leaf spot disease ratings (and other product information) can be found by clicking on each of the Burrus corn product names on the left hand side of the screen.

In 2014, we scouted and observed the spread of gray leaf spot from the lower leaves to the next leaf up on the corn plant during pollination (within a 3 day period) on a susceptible hybrid, moderate hybrid, and resistant hybrid within a plot that was experiencing significant disease pressure. The results were as follows:

- **Susceptible hybrid** (disease was present on 5 leaves from the bottom of the plant and near



Crop Optimization Planner gains 8 bu/a!
At the Burrus Show Plot near Arenzville, IL, the COP recommended products were 8 bu/a above the average.

the ear) – may need a fungicide application.

- **Moderate hybrid** (disease was present on 4 leaves from the bottom of the plant and near the ear) – may need a fungicide application.
- **Resistant hybrid** (disease was present on 3 leaves from the bottom of the plant and not near the ear) – may not need a fungicide application.

5. **What is the future weather outlook?** If wet weather is in the forecast, this may be another indicator that fungicides might be needed if your hybrid is susceptible and has high disease pressure appearing within at least half of the field.

For more information on fungicide efficiency of for control of corn diseases, check out this chart from Purdue: <https://www.extension.purdue.edu/extmedia/BP/BP-160-W.pdf>

GRUNDY

Power Plus® 6C41S™* is best as check



Green Hills Feeders
Trenton, MO

Planted: April 10 in 30" rows. **Planting Population:** 28,100. **Harvested:** September 29. **Previous Crop:** Soybeans. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–dry, August–wet. **✓Check Hybrid:** Power Plus 6C41 S™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	235.6		21.5	100	23

Pioneer P0993AM1	215.5	6	18.6	100	25
POWER PLUS 4J93AM™*	204.0	10	19.5	100	24
Genetics 5F-709AM	224.3	4	17.8	100	26
Producers 7014VT3	185.4	14	18.4	100	28
✓Check	237.9		21.5	96	27
Genetics 5F-811AM	215.3	5	19.5	100	25
POWER PLUS 6N83AM™*	210.3	7	19.7	100	28
Pioneer P1248AM	202.6	9	19.5	100	26
Pioneer P1151AM	197.4	8	18.4	100	26
POWER PLUS 6F74AMX™*	187.0	12	19.0	100	24
✓Check	215.2		20.8	100	27
Producers 7414VT3	178.6	13	19.4	100	27
Genetics 3F-515AM	203.2	2	18.5	100	23
POWER PLUS 7H23 S™*	200.8	3	17.1	92	23
Pioneer P1498AM	178.5	11	19.8	100	28
Producers 7268STXRIB	203.5	1	19.9	100	28
✓Check	211.3		20.2	100	26
Average	205.9		19.4	99	26
Check Average	225.0		21.0	99	26

Catalyst 7893 3111 wins at 225 bu/a



Aaron Bunnell
Trenton, MO

Planted: April 23 in 30" rows. **Planting Population:** 28,500. **Harvested:** September 30. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: VRT, K: VRT. **Herbicide:** Degree Xtra. **Corn Borer Rating:** Light. **Soil Type:** Light clay. **Weather:** May–wet, June–wet, July–dry, August–normal. **Check Hybrid:** ✓Power Plus 6C41 S™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	220.9		24.5	100	27
POWER PLUS 2N82AM™*	180.9	7	17.5	100	24
POWER PLUS 4J93AM™*	178.8	9	24.5	100	29
CATALYST 4685 3111	207.3	6	21.7	100	25
✓Check	237.5		24.2	100	27
POWER PLUS 6N83AM™*	212.1	5	21.4	92	29
POWER PLUS 6F74AMX™*	192.3	8	22.5	100	29
BURRUS 6T54 3000GT	219.1	3	24.6	100	25
✓Check	237.8		24.6	100	23
POWER PLUS 7A18AM1™*	219.4	2	23.4	100	25
CATALYST 7893 3111	225.9	1	23.6	100	26
POWER PLUS 7H23 S™*	205.4	4	21.5	100	26
✓Check	227.9		24.0	100	28
Average	212.7		22.9	99	26
Check Average	231.0		24.3	100	26

JEFFERSON

Catalyst 7893 3111 makes 250 bu/a

Jim Hoene
Eureka, MO

Planted: May 4 in 30" rows. **Planting Population:** 30,000. **Harvested:** October 22. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: 60, K: 90. **Herbicide:** Dual & Atrazine, Impact & Atrazine. **Corn Borer Rating:** Light. **Weather:** May–wet, June–wet, July–normal, August–normal.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
Golden Harvest G07F23-3111	251.6	16.1	59.6
CATALYST 7893 3111	250.9	18.0	59.2
Golden Harvest G14R38-3000GT	248.8	18.5	59.0
BURRUS 6T54 3000GT	245.9	17.4	59.3
POWER PLUS 6N83AM™*	245.0	18.1	59.6
Golden Harvest G08X83-3110	243.1	15.8	59.8
Pioneer P1151AM	242.9	17.9	59.4
Golden Harvest G10S30	241.5	15.9	57.2
DeKalb DKC62-97RIB	240.8	16.6	61.7
POWER PLUS 4J93AM™*	239.0	16.2	56.8
Golden Harvest G14H66	237.5	17.0	60.3
POWER PLUS 7U15AM-R™*	234.8	16.0	62.0
Golden Harvest G12L09-GTA	234.7	17.5	56.1
Golden Harvest G12J11-3011A	234.5	16.7	60.6
POWER PLUS 7H23 S™*	232.8	16.0	60.7
POWER PLUS 6F74AMX™*	229.9	16.7	62.2
POWER PLUS 4V45AM™*	229.4	16.6	60.9
CATALYST 4685 3111	229.4	16.9	58.8
Golden Harvest G16K01-3111	228.4	17.0	59.7
Golden Harvest G11U58-3122	227.2	16.7	57.4
Golden Harvest G14Y81-GT	224.2	16.9	58.4
POWER PLUS 6C40™*	219.7	16.8	59.2

Judy Hall

New to the Burrus office is Judy Hall, joining us as a Customer Service Representative working in the Jacksonville office. Ironically, Judy worked in the same building for 16 years that was recently renovated to the new Burrus office when she worked for AGI. She worked as a CSR then so she brings a wealth of knowledge about delivering superior service to customers.

Judy is originally from the Concord area and graduated from Triopia High School. She then went on to earn a Certified Administrative Assistant designation from Sawyer Business College.

Judy is married to Kelly Hall and they reside in Jacksonville. Kelly is employed as the Community Development Director for the City of Jacksonville. They are the parents of three daughters. Kalli is married to Brent Penner and they have a son, Eliot Warren, who is almost 4 months old. Kelsi is married to Ryan Dobson and they have a 2 1/2 year old daughter, Kinsli Sue. Kalli and Kelsi have their MSW degrees and are Hospice employees through Memorial Health Care Systems. Their youngest daughter, Jessa, is an LPN and is engaged to Tom Watkins. They have a 1 1/2 year

Golden Harvest G13S06-3220	217.6	16.8	58.3
Golden Harvest G12J11-3011A	213.7	16.5	62.7
BURRUS 5Z41 GT	213.5	16.2	56.4
POWER PLUS 2N82AM™*	199.3	16.3	59.1
Average	232.9	16.8	59.4

LAFAYETTE

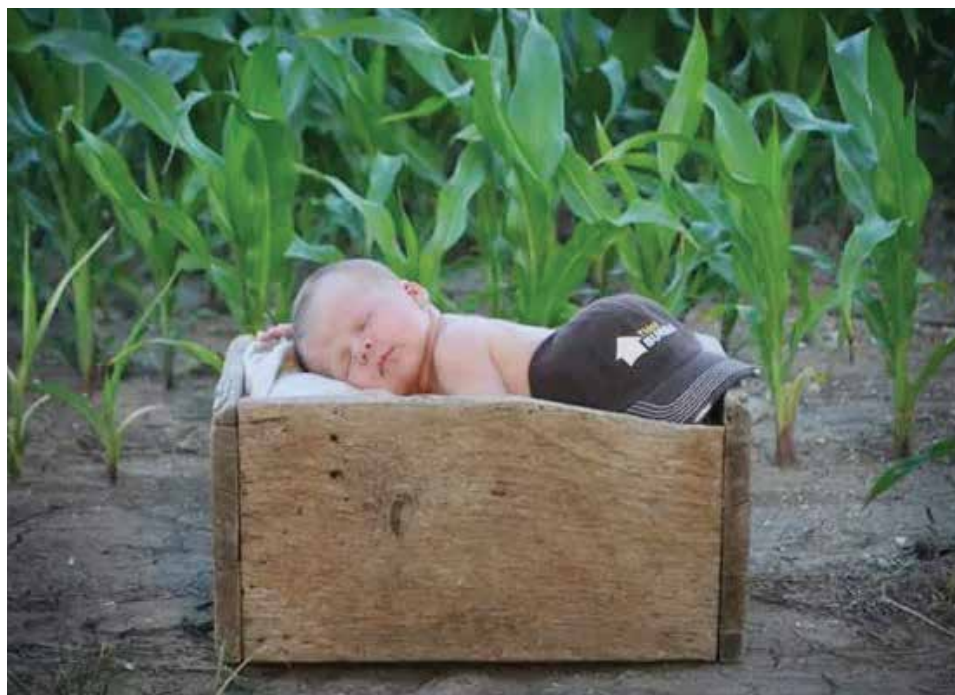
289 bu/a for Power Plus® 7U15AM-R™* brand



Dobson Brothers
Lexington, MO

Planted: April 18 in 30" rows. **Planting Population:** 32,500. **Harvested:** September 23. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: VRT, K: VRT. **Herbicide:** Base Blend Rem Q artizine and Roundup. **Insecticide:** None. **Corn Borer Rating:** Moderate. **Soil Type:** Medium loam. **Weather:** May–normal, June–normal, July–dry, August–wet. **✓Check Hybrid:** Power Plus 6C41™*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	253.7		23.4	90	27
POWER PLUS 2N82AM™*	228.9	9	18.0	100	29
POWER PLUS 6N83AM™*	252.2	5	23.0	100	31
POWER PLUS 4J93AM™*	231.2	8	19.5	100	30
BURRUS 5Z41 GT	249.1	6	20.1	100	32
✓Check	256.5		23.8	85	28
CATALYST 7893 3111	273.8	2	25.2	100	30
POWER PLUS 7H23 S™*	267.9	4	22.2	100	30
POWER PLUS 6F74AMX™*	233.5	7	21.4	100	29
BURRUS 6T54 3000GT	271.6	3	23.6	100	32
POWER PLUS 7U15AM-R™*	289.5	1	23.9	100	28
✓Check	258.2		23.2	90	32
Average	255.5		22.3	97	30
Check Average	256.1		23.5	88.3	29



Mac Penn, son of Burrus dealer Mark & ChaRae Penn, looks adorable in this birth announcement photo. He's already a Burrus guy!



old named Tucker Thomas Watkins.

Judy enjoys camping and boating. She especially likes to visit the many beautiful state parks in Illinois. Family time is very important to her.

Call Judy at 217-997-5577 extension 262, or better yet, stop in the new Jacksonville office and introduce yourself to Judy. Her warm smile and friendly manner will make you feel very welcome.



Looking for a better way

By Todd Burrus

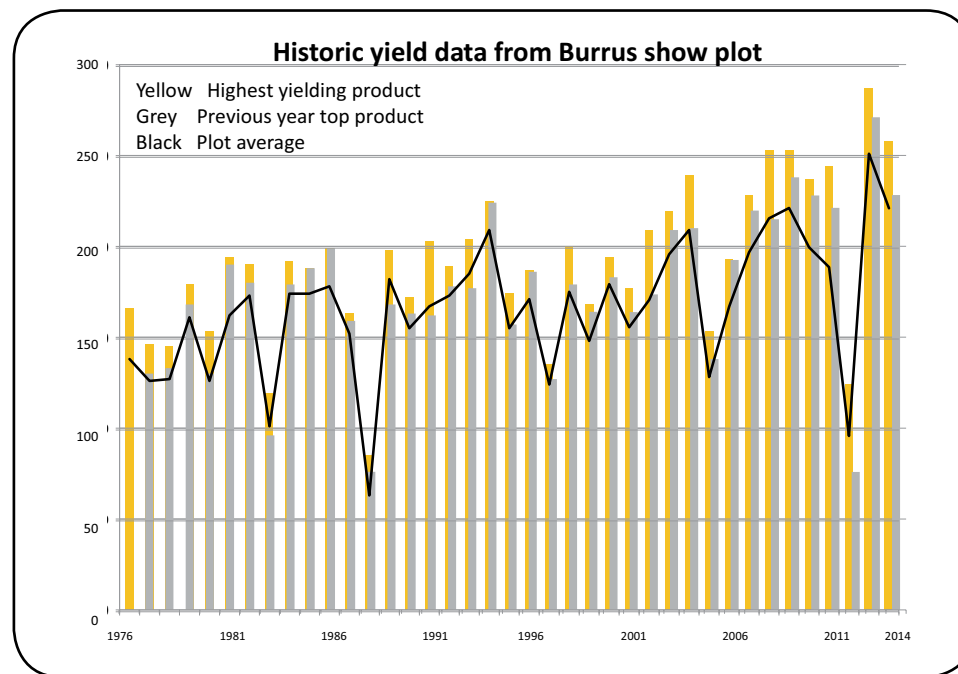
For many years growers have used the current year's performance to select next year's products. A strip-type test using the Burrus lineup of products in continuous corn since 1976 has been planted on highly productive soil in front of the Martin Burrus home site.

The theory of planting last year's best yielding hybrid to drive the next season's planting choice and record the performance was applied. We should not be surprised that this selection process was satisfactory but it did not predict "winning yields." However only twice during the 38 year period was the same product the highest yielding winner. This is not a winning percentage. In fact, this strategy provided above average yields 85% of the time and winning 5% of the years.

Burrus has invested heavily into MyFarmsSM Crop Optimization Planner (COP) as a better way to select products. This makes perfect sense as this tool adjusts product selection based upon soil

type, multiple years of performance data, growers' preferences, and product ratings. This tool helps growers to think through

the season. It narrows the choices to 4 products and allows the grower to make the final decision in product selection.



LINN

Burrus 6T54 3000GT & Power Plus[®] 7H23 STM*

COMPARE! Rex Wood
Meadville, MO

Planted: May 7 in 30" rows. **Planting Population:** 29,500. **Harvested:** October 21. **Previous Crop:** Soybeans. **Fertilizer:** N: 120, P: 80, K: 80. **Herbicide:** Degree Extra. **Insecticide:** Mustang. **Corn Borer Rating:** Light. **Soil Type:** Light loam. **Weather:** May-normal, June-wet, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
BURRUS 6T54 3000GT	227.0	20.4	56.0
POWER PLUS 7H23 S TM *	220.9	15.9	57.0
POWER PLUS 7U15AM-R TM *	216.8	17.3	60.3
POWER PLUS 6N83AM TM *	213.7	16.4	58.0
CATALYST 7893 3111	211.9	18.5	56.6
POWER PLUS 6F74AMX TM *	211.2	18.3	60.5
POWER PLUS 4V45AM TM *	207.9	17.4	59.3
Average	215.6	17.7	58.2



Jeff Albertson took Grand Champion honors at the Wheeling, MO homecoming with Power Plus[®] 6C41STM*

MISSOURI

PETTIS

CORN ON CORN Kevin Harms
Mora, MO

Planted: May 14 in 30" rows. **Planting Population:** 28,000. **Harvested:** October 24. **Previous Crop:** Corn. **Herbicide:** Dual and Sencor, Laudis and Atrazine. **Corn Borer Rating:** Moderate. **Soil Type:** Light loam. **Weather:** May-wet, June-normal, July-dry, August-wet. **✓ Check Hybrid:** Power Plus 6C40TM*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect
POWER PLUS 2N82AM TM *	176.8	8	16.9	100
✓ Check	190.1		18.4	100
POWER PLUS 4J93AM TM *	185.6	4	17.0	100
BURRUS 5Z41 GT	166.1	6	16.0	100
✓ Check	164.0		17.9	40
POWER PLUS 6F74AMX TM *	165.0	5	17.0	100
BURRUS 6T54 3000GT	169.6	2	18.5	100
✓ Check	165.5		17.4	100
POWER PLUS 6N83 TM *	159.0	7	17.4	100
POWER PLUS 7H23 S TM *	167.0	3	16.0	100
✓ Check	164.6		17.6	100
POWER PLUS 7U15AM-R TM *	171.3	1	17.9	100
Average	170.4		17.3	95
Check Average	171.1		17.8	85



Yield monitor shows Power Plus[®] 7H23TM* hitting 315 bu/a.

SALINE

COMPARE! Greg Tieman
Blackburn, MO

Planted: April 11 in 30" rows. **Planting Population:** 32,000. **Harvested:** September 24. **Previous Crop:** Soybeans. **Corn Borer Rating:** Moderate. **Soil Type:** Medium loam. **Weather:** May-normal, June-wet, July-dry, August-wet. **✓ Check Hybrid:** Power Plus 6C41 STM*

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
✓ Check	272.2		21.0	30
POWER PLUS 2N82AM TM *	228.1	9	17.6	32
POWER PLUS 6N83AM TM *	253.9	7	21.6	31
POWER PLUS 4J93AM TM *	247.1	6	19.0	32
BURRUS 5Z41 GT	261.7	3	22.3	32
✓ Check	257.3		19.4	31
POWER PLUS 7H23 S TM *	262.3	2	19.9	32
POWER PLUS 6F74AMX TM *	242.0	8	20.5	32
BURRUS 6T54 3000GT	261.1	4	22.5	31
POWER PLUS 7U15AM-R TM *	282.0	1	22.5	32
POWER PLUS 8V08 S TM *	262.9	5	21.7	32
✓ Check	272.2		22.5	30
Average	258.6		20.9	31
Check Average	267.2		21.0	30



A new delivery trailer may be bringing your seed next spring.

SHELBY

Catalyst 7893 3111 wins at low population

COMPARE! Rutter Farms Inc
Shelbina, MO

Planted: May 5 in 30" rows. **Planting Population:** 29,000. **Harvested:** October 21. **Previous Crop:** Soybeans. **Fertilizer:** N: 130, P: 80, K: 80. **Herbicide:** Realm Q. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Test Wt.	Plants /Acre
CATALYST 7893 3111	221.0	20.3	88	59.2	23
POWER PLUS 4J93AM TM *	220.5	18.1	92	59.7	25
CATALYST 4685 3111	217.5	17.7	92	57.4	24
POWER PLUS 7H23 S TM *	215.7	19.4	80	59.7	25
POWER PLUS 7U15AM-R TM *	214.9	18.7	92	61.4	26
POWER PLUS 4V45AM TM *	214.8	17.2	92	59.3	29
POWER PLUS 6N83AM TM *	214.1	19.0	76	59.1	27
POWER PLUS 2N82AM TM *	213.3	15.7	100	57.5	27
POWER PLUS 6F74AMX TM *	207.8	18.9	92	62.2	29
BURRUS 6T54 3000GT	206.3	20.0	96	58.0	25
BURRUS 5Z41 GT	200.2	18.8	84	58.8	29
Average	213.3	18.5	89	59.3	26

WARREN

CORN ON CORN Albert Jacob
Marthasville, MO

Planted: May 12 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 1. **Previous Crop:** Corn. **Fertilizer:** N: 200, P: VRT, K: VRT. **Herbicide:** Guardsman Max + Atrazine. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-normal, August-normal.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.
BURRUS 6T54 3000GT	233.8	17.8	100	59.0
POWER PLUS 6F74AMX TM *	222.9	17.0	100	62.3
POWER PLUS 6C41 S TM *	215.2	18.9	40	58.2
POWER PLUS 4J93AM TM *	210.7	16.6	100	59.2
POWER PLUS 7H23 S TM *	208.5	16.4	80	57.0
Pioneer P1690AM	206.0	17.4	100	60.3
POWER PLUS 6N83AM TM *	204.6	16.9	98	58.2
BURRUS 5Z41 GT	202.9	16.0	98	55.4
POWER PLUS 2N82AM TM *	202.0	15.8	35	58.0
POWER PLUS 2V56AMX TM *	194.0	15.8	95	59.0
POWER PLUS 4V45AM TM *	190.4	15.6	90	58.0
POWER PLUS 6F71 R TM *	189.0	16.8	50	58.7
CATALYST 4685 3111	184.6	16.4	95	54.0
CATALYST 7893 3111	164.4	17.2	30	55.3
Average	202.1	16.8	79	58.0



Success. Success is not doing one thing right.
It is doing everything right.

Jordan Watson

Jordan Watson is taking care of Burrus dealers and customers in north-east Missouri. But he is no newcomer to the team. Jordan worked for three years as an intern in that area as well as west central Illinois. He was also a Burrus dealer during his college years.

Following graduation from John Wood Community College, Jordan went on to graduate from Northwest Missouri State University with a Bachelor of Technology in Agriculture degree. His awards include the American FFA degree and the Northwest Missouri University President Scholar Award.

Jordan and Maggie Rutter were married in August. They make their home west of Shelbina in one of Maggie's family farm houses. Maggie works at Community State Bank in Shelbina and loves to scrapbook. Jordan enjoys watching football and is an avid hunter.

Call Jordan at 573-470-4352. As a Burrus Account Manager, Jordan brings enthusiasm and energy. Put



his strengths to work on your farm. His "can-do" attitude is contagious.

Opportunities for 2015 financing and savings

Purpose: To offer our growers the opportunity to pay for their seed early or finance seed purchases for 2015.

Opportunities: Growers will have the option of paying for seed on a set date and receive an incentive or finance their seed for a later payment date.

Qualifications: Growers must meet certain financial criteria when using John Deere Financial or Rabo Agri Finance. These criteria are determined by John Deere Financial and Rabo Agri Finance - not by Burrus or Hughes Hybrids. Then, once qualified growers can choose which plan best supports their needs. All Early Pay options must

be postmarked by the deadline date to qualify.

Early Pay Savings

11/10/2014	10.5%
12/10/2014	10.0%
1/10/2015	9.0%
2/10/2015	5.5%
3/10/2015	4.5%
4/10/2015	3.5%
5/10/2015	2.0%
6/10/2015	1.0%

**Due date for all accounts
– June 30, 2015 –**

John Deere Financial

0% free financing until 3/2015 + 6% cash discount (expires 11/10/2014)

0% free financing until 3/2015 + 5% cash discount (expires 12/10/2014)

0% free financing until 3/2015 + 4.5% cash discount (expires 1/10/2015)

Prime -1% + 3% cash discount until 12/2015 (expires 1/10/2015)

Fixed rate 3% APR until 12/2015 (expires 2/10/2015)

Fixed rate 5% APR until 12/2015 (expires 3/10/2015)

Prime +3.75 APR due in full 12/2015

Rabo Agri Finance

Prime % + 2% cash discount balance due
12/1/2015 (expires 2/10/2015)

Fixed rate 0% APR balance due 12/1/2015 (expires 1/10/2015)

Prime + 3% APR + applicable cash discount %
(see below) balance due 12/1/2015

11/10/2015	9.5%
12/10/2014	9.0%
1/10/2015	8.0%
2/10/2015	4.5%
3/10/2015	3.5%
4/10/2015	2.5%
5/10/2015	1.0%

Please contact your Account Manager or our office
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*** John Deere Financial participants will be asked to complete a remittance
form for allocation of payment from their John Deere Financial account.



The Burrus hooded sprayer raises trait purity to another level applying Liberty® or Roundup® products with marker gene technology.

**WE PLOT
WITH YOU,
NOT
AGAINST YOU.**

The beauty of being independent and farm-family owned is that we answer to you, the grower ... not a boardroom of stockholders who don't know the difference between leaf spots and sun spots.

What you can count on is Burrus being spot-on for what makes your farm profitable. We focus on seed performance for your specific growing conditions. Burrus works with major trait suppliers so our customers aren't limited to one trait platform. You have wide access to the best germplasm and industry-leading traits.

Visit our headquarters and you'll see we're farmers just like you. Maybe it's the boot scraper outside the door that gives it away.



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Corn Plant Population 101

By Stephanie Porter and Chip Turner

In most cases, final stand or the population per acre at harvest is not the same as the number of seeds that were planted, germinated, or emerged. In addition, there could be a small percentage of mortality throughout the season. Because of this, actual planting rates usually exceed final planting stands by 5 – 15%. With today’s planter technology and Burrus seed quality, one should always strive to have around a 95% plant stand. It might also be important to know a historical percent stand for each field. Therefore, by taking plant populations at harvest, one can increase that population by 5% to know the future target seeding rate for each field.

Corn populations have been steadily increasing across the Midwest. Some speculate this has been a result of selection done by breeders to produce corn hybrids that can handle stress at higher populations and overcome excessive lodging, with improved late season stalk health. If, year after year, you have a lower percent stand in a field, you either need to see what could be hindering stand establishment or need a higher seeding rate to achieve a desired optimum final stand.

Numerous university studies have been done in order to evaluate optimum corn plant populations across many states. The optimum plant population for corn grown under typical yields and growing conditions is around 31,000 - 34,000 plants per acre. Illinois research has shown that the optimum planting population is often greater under higher-yielding environments; however, Minnesota research was not able to support the theory of higher plant populations in environments with greater yield potential, but it was thought, within their data set, the range of optimum yields was too narrow. Under stress conditions, corn is said to be grown at optimum planting populations of 21,000 (severe stress) -26,000 plants per acre. Dr. Emerson Nafziger, at the University of Illinois, stated that when corn is grown in lower yielding conditions, yield is always less consistent due to hybrid stress tolerance and water-holding capacity within fields.

Minnesota research indicates that plant population does not change due to row width, but there might be some different considerations for plant populations when comparing early and late planting dates. Although easily debated, the results of Minnesota trials showed no yield advantage for planting corn in

Seed cost		Populations	Soil Type	\$/Acre
\$300 unit	Hybrid A (flex)	24,000 C rate	Sand (dryland)	\$90
	Hybrid B	29,000 A rate	Sand (dryland)	\$107
	Hybrid A (flex)	31,000 C rate	High organic	\$115
	Hybrid B	36,000 A rate	High organic	\$136

narrow rows at any plant population and indicated that the optimum plant population is similar for both 20 – 30 inch rows. Many have found that planting date can have a considerable impact on corn yield and later planting dates will yield less at the optimum seeding rate. The planting rate may need to be increased for earlier planted corn, due to the possibility of reduced plant emergence due to cooler or wetter conditions.

When Minnesota analyzed different corn maturities, they found that early maturing corn hybrids might require a higher plant population when compared to fuller season hybrids. Because earlier maturing hybrids are often shorter and have less leaf area than fuller season hybrids, it is hypothesized that shorter season hybrids may require a higher plant population for greater lighter interception. Actually, if any yield advantage is by way of increased plant populations, it usually is due to increased light interception by the crop canopy during grain-fill. Minnesota research indicates that the optimum plant population is likely near the minimum plant population needed to intercept the majority of the light during grain-fill. To summarize their results, one might take

the view that plant population should be managed with the goal of optimizing light interception. Light interception of a particular corn hybrid can be evaluated by looking under the crop canopy during mid-day, on a calm, sunny day. If the corn field has very little sunlight hitting the soil surface, it is intercepting more light. A field with very few plants with barren ears is also an indication that the plant population has not exceeded its limit.

Burrus/Hughes puts much effort in matching plant populations to specific corn hybrids in order to maximize benefits for our customers. We know that there are corn hybrids that do well at higher populations, as well as those hybrids that perform best at lower planting populations. Those corn hybrids that do well under lower populations are typically a “flex ear” that can increase its ear size at lower populations with good growing conditions. However, at higher plant populations or growing conditions that consist of higher amounts of stress, “flex ear” hybrids may have a reduced ear size. On the other hand, “fixed ear” hybrids are thought to not perform as well at lower populations because they are not as easily able to increase their ear size. The “fixed ear” hybrids tend to

respond well at higher planting populations. The Burrus corn lineup consists of flex, intermediate, and fixed ear types.

Many universities tend to approach planting rate studies with the idea that corn is corn and therefore, focus on determining the most economical planting rate. At Burrus, we know differently. The subtle genetic variations that give rise to different hybrids affect how those hybrids respond to the soil type, maturity zone, and the stress load. Our goal is to give you recommendations that will maximize your yield and allow you to take maximum advantage of your local grain market. We base our corn planting rate recommendations on data we generate in our research plots. We conduct planting rate testing in different yield environments and maturity zones to determine what planting rate for a given hybrid results in the highest yield without sacrificing plant standability. Because weather has a huge impact on yield and standability, and because weather conditions can vary drastically from year to year, we base our recommendations off of multiple years of data. Using this approach, we believe that our planting rate recommendations provide you with the best chance of maximizing yield, and therefore profit, in any given year. The recommended planting rates for the Burrus hybrid seed corn can be found in the following chart:

Growers always have the risk of planting corn at populations that might be too high, depending on environmental and field conditions, especially when these conditions are not favorable for

Recommended Planting Rates for Hybrid Seed Corn						
Soil Type	A	B				C
High organic soils	34-40,000	31-37,000				28-34,000
Timber soils	31-37,000	27-33,000				26-32,000
Clay & varied soils	31-37,000	27-33,000				26-32,000
Sand (dryland)	26-32,000	23-29,000				21-27,000
Sand (irrigated)	34-40,000	31-37,000				28-34,000
Brand Products	2987 3011A	2T35™*	5C17AMXT™*	7H23 S™*	7H20™*	1B44 R™*
	2428 GTA	1286 3000GT	6T54 3000GT	7U15AM-R™*	3442	1M45AMRW-R™*
	2N82AM™*	3953 3000GT	6F74AMX™*	1C21 R™*	5364	4685 3111
	2V56AMX™*	5456 3000GT	6P75AMX™*	5124 GT	5D30	7893 3111
		4Y27AMX™*	7A18AM1™*	4P11 R™*	5N48™*	6C41 S™*
		4G46AMX™*	4V45AM™*	6T51 GT	6G64	5Z41 GT
		4J95AMX™*	6N83AM™*	6F71 R™*	750	5Z44 3122
						6C40™*
		+ Plant 5C17AMXT™* and 6P75AMX™* at the mid-range for your soil type, e.g. drop 34,000 on high organic soils rather than 31-37,000.				

Best standability is normally achieved at the lowest recommended rates

Allows for a 10% stand loss.

Soybean Planting Rates (1,000 seeds per acre)			
Row Width	7.5 inch	15 inch	30 inch
Untreated	190-200	165-175	150-160
PowerShield™ (fully treated)	160-170	135-145	125-135

Use higher end of range in less than ideal conditions.



No need to drive from farm to farm to check rain gauges. Rainfall can be checked on your computer using the Burrus MyFarmssm technology.

high yields. A grower can have an idea of field productivity or a historical picture of seeding rate, but we cannot predict the weather. Corn hybrids compete with neighboring plants at higher populations and this problem only intensifies with weather-related stress. If populations are too high, there is always the possibility of barren ears. Higher plant populations can also push corn hybrids to be taller and cause a reduction in stalk diameter. If corn stalk diameter is reduced, one runs a higher risk of reduced stalk quality and lodging.

We highly recommend that you follow Burrus plant population recommendations for each corn hybrid in the Burrus line-up. By following the recommended plant population for each of the Burrus corn hybrids, there could be a potential yield increase as well as potential economic gain by lowering seed cost and increasing profit. The chart shows the potential seed savings per acre that a grower could gain by planting the Burrus flex hybrid (Hybrid A) at the recommended average plant population located on the Burrus corn population chart.

When thinking of it in terms potential profit, let's take the example of planting several different Burrus hybrids that all require different recommended planting populations. You normally do not like to change your planter settings, but this year, you have decided to take the time, at each of your 80 acre fields, to change the plant population, in your farming operation that consists of 5000 acres.

By taking time to change the planting population at each of your 80 acre fields, you potentially could gain 3 – 5 bushels. Currently, the price of corn is worth \$3 a bushel – 80 acres x 4 bushel/acre increase x \$3/bushel = \$960. That means you could gain the potential profit of \$960 for each 80 acre field. If you change the plant population for each 80 acre field, within your 5000 acre operation, you could increase your profit by \$60,000 by spending just 2 minutes to change the planter setting in each field.

IOWA

CLINTON



Harmsen Farms Inc.
Clinton, IA

Planted: May 6 in 30" rows. **Planting Population:** 36,000. **Harvested:** September 30. **Previous Crop:** Corn. **Insecticide:** Force. **Soil Type:** Heavy loam. **Weather:** May–normal, June–wet, July–dry, August–normal. **✓Check Hybrid:** Power Plus 4J95AMXTM*

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
✓ Check	284.2		25.2	34
POWER PLUS 2V56AMX TM *	253.3	11	23.7	34
HUGHES 5456 3000GT	223.7	14	20.5	34
POWER PLUS 4G46AMX TM *	265.7	3	22.7	34

POWER PLUS 5C17AMX TM *	270.6	1	22.7	34
✓ Check	268.3		25.9	34
Pioneer P0969AMXT	240.0	12	23.7	34
Pioneer P1142AMX	247.4	9	25.5	34
CATALYST 4685 3111	233.6	13	23.7	34
Kruger K4R-9512	268.7	2	23.6	34
Kruger K4R-9313	263.0	5	24.3	34
✓ Check	274.8		25.4	34
POWER PLUS 6F74AMX TM *	263.0	4	27.0	34
Pioneer P1365AMX	257.5	6	27.7	34
BURRUS 6T54 3000GT	253.9	7	28.9	34
POWER PLUS 7A18AM1 TM *	240.9	10	28.8	34
POWER PLUS 4Y27AMX TM *	244.9	8	23.4	34
✓ Check	264.1		26.0	34
Average	256.5		24.9	34
Check Average	272.8		25.6	34

WISCONSIN IOWA

Tom Novak
Highland, WI

Planted: May 10 in 30" rows. **Planting Population:** 28,100. **Harvested:** October 22. **Previous Crop:** Soybeans. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
Latham LH-5219SS	208.8	22.7	56.6
Pfister 2524RR	207.7	25.7	58.5
Pfister 2225SS	205.4	22.6	55.4
Latham LH-5466VT3P	204.8	21.9	56.1
HUGHES 5124 GT	203.7	23.7	54.9
HUGHES 4373	202.8	22.2	56.1
Jung 7S457RIB	202.2	21.0	56.8
Jung 7S642RIB	201.7	26.2	57.1
Masters Choice MC-535	199.7	26.5	55.5
Agri Gold A6323	196.8	21.7	55.7
Agri Gold A6433VT3	191.8	23.2	54.1
Latham 4940	179.1	19.7	56.6
Average	200.4	23.1	56.1

LAFAYETTE



Ron Woodworth
Shullsburg, WI

Planted: May 7 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 6. **Previous Crop:** Corn. **Fertilizer:** N: 180, P: 44, K: 50. **Insecticide:** Force. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–dry, August–dry. **✓Check Hybrid:** Power Plus 1B44RTM*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
POWER PLUS X1M45 TM *	132.5	12	19.8	80	33
POWER PLUS 1B44 R TM *	154.3	11	19.8	100	36
✓Check	165.9		19.8	100	36
HUGHES 2987 3011A	181.7	10	20.3	80	35
HUGHES 3953 3000GT	191.4	7	21.8	50	38
POWER PLUS 2V56AMX TM *	183.0	9	22.3	90	38
✓Check	163.0		19.8	100	37
POWER PLUS 4P11 R TM *	188.2	6	21.7	90	37
POWER PLUS 4Y27AMX TM *	203.3	2	24.3	100	36
POWER PLUS 4G46AMX TM *	191.4	4	23.7	80	36
POWER PLUS 4J94AMX-R TM *	187.2	5	24.2	90	34
✓Check	148.2		19.6	90	34
POWER PLUS 4A30AM1 TM *	189.9	3	22.1	90	36
HUGHES 5456 3000GT	173.7	8	21.4	100	35
POWER PLUS 5C16 TM *	243.1	1	24.8	100	34
Average	179.8		21.7	89	36
Check Average	159.0		19.7	97	36



Bryce Sandahl & Chad Becker enjoyed visiting with Matt & Todd Schlachter at a field day in northern IL.



Greg & Marj Tieman saw Power Plus[®] 7U15AM-RTM* crank out 282 bu/a in Saline Co., MO.



Catalyst 7893 3111 took second in Jefferson Co., MO for Jim & Shelley Hoene.



Daryl Walkup saw Power Plus[®] 7U15AM-RTM* make 250.2 bu/a in Clinton Co., MO.



At 294.5 bu/a Burrus 6T54 3000GT smoked in Boone Co., MO for John Lorentzen III.

Michelle Sandman

Michelle Sandman joined the Burrus team this spring and has been working in the Research Building as an Administrative Assistant. She comes with a wealth of knowledge as she previously worked at MacMurray College in Jacksonville in that same role. Michelle is a graduate of Heartland Business School in Jacksonville, IL.

Her duties at Burrus include assisting the agronomists with entering plot data and the Burrus Buzz, assisting Tom, processing orders, payments, and test plot results. Michelle also provides assistance to our Account Managers.

Michelle lives in Bluffs, IL with her husband, Mark and their three children, Max, age 8, Emma, age 5, and Avery, age 2. Max likes playing baseball while Emma and Avery enjoy playing dress up together. Michelle enjoys spending time with family and friends. She likes to sew and shop but finds little time for either with her busy household.



Michelle's voice might be the one you hear the next time you call the Burrus office. Stop by and introduce yourself to her as she enjoys assisting customers over the phone and in person.



SOYBEAN UPDATE



Proud to be American farm-family owned. God bless America.



Burrus Sales Manager Seth Link casts a watchful eye over another outstanding harvest result.



Part of the joy of farming is being able to teach the younger generation. Mike McDowell loads corn on the go as 13-year-old daughter Gracie runs the grain cart in Hancock Co.

Burrus wins big again this year

Corn

Place	Hybrid/Brand	Yield	Entries	Sponsor	Cooperator	County
1st	6P75AMXT™*	308.5	56	Soy-Capital S.C. Early	Soy-Capital Ag. Services	McDonough
1st	6C41 S™*	282.8	19	Independent	Larry Meyer	Greene
1st	7H23 S™*	277.1	32	Independent	JR Briney & Sons	Schuyler
1st	7A18AM1™*	265.5	19	Midwest-Central FFA	Midwest-Central FFA	Mason
1st	4J95AMX™*	248.8	22	Independent	Dan Lamoreux	Carroll
1st	7A18AM1™*	247.6	36	Independent	Kent Bickett	Bureau
1st	6P75AMX™*	247.1	20	Independent	Anthony Borgmann	Ogle
2nd	7A18AM1™*	279.9	24	Independent	Eric Diekhoff	Tazewell
2nd	7H23 S™*	270.7	19	Independent	Larry Meyer	Greene
2nd	5C16™*	270.5	18	Independent	Hassebrock Farms, Inc.	Logan
2nd	6T54 3000GT	269.5	18	Independent	Spangler Grain Co.	Fulton
2nd	7893 3111	250.9	26	Independent	Jim Hoene	Jefferson, MO
2nd	7H23 S™*	249.2	16	Independent	Ron Staake	Morgan
2nd	4J95AMX™*	248.1	20	Independent	Anthony Borgmann	Ogle
2nd	4J95AMX™*	234.4	14	Independent	Cory Gordon	McLean
2nd	4J95AMX™*	231.4	16	Independent	Lyle Schilpp	Lee
2nd	4J94AMX-R™*	228.7	28	Independent	WW AgSeeds, Inc.	Winnebago
2nd	6F71 R™*	218.8	9	Independent	Rick & Rex Paris	Carroll, MO
3rd	5C17AMXT™*	268.6	36	Independent	Green Prairie Products	Bureau
3rd	7H23 S™*	200.8	14	Independent	Green Hills Feeders	Grundy, MO
3rd	4685 3111	198.2	11	Independent	Kent Ackerman	Whiteside
4th	6T54 3000GT	266.4	16	Independent	Jim & Jeff Smith	Peoria
4th	6T54 3000GT	245.9	26	Independent	Jim Hoene	Jefferson, MO
4th	7H23 S™*	210.6	9	Independent	Rick & Rex Paris	Carroll, MO
5th	6F71 R™*	264.7	19	Independent	Larry Meyer	Greene
5th	6C41 S™*	254.3	40	Independent	McCormick Farms	Chariton, MO
5th	7H23 S™*	254.3	19	Independent	Midwest-Central	Mason
5th	6N83AM™*	245.0	26	Independent	Jim Hoene	Jefferson, MO
5th	7A18AM1™*	241.3	22	Independent	Dan Lamoreux	Carroll
5th	6T54 3000GT	241.2	16	Independent	Ron Staake	Whiteside
5th	6F74AMX	229.7	14	Independent	Cory Gordon	McLean
5th	5124 GT	202.8	12	Independent	Tom Novak	Iowa, WI

Soybeans

Place	Variety/Brand	Yield	Entries	Sponsor	Cooperator	County
1st	39R5™*	80.7	62	University of Missouri	MU	Lincoln, MO
1st	423LL	70.4	14	MorSoy	John Lorentzen III	Boone, MO
1st	24P4™*	65.0	12	Independent	Gifford Bros.	Walworth, WI
3rd	26X5™*	78.3	20	Independent	Rochelle FFA	Ogle
3rd	34T3™*	73.0	23	Montgomery Young Leaders	Carl Marten	Montgomery
3rd	24P4™*	67.3	11	Independent	Rowntree Farms	Racine, WI
3rd	405LL	67.0	14	MorSoy	John Lorentzen III	Boone, MO
4th	39R5™*	67.0	21	Independent	McCormick Farms	Chariton, MO
4th	201RR	66.6	13	Independent	Gary Aavang	McHenry
5th	384LL	66.0	14	MorSoy	John Lorentzen III	Boone, MO

CASS



Ronald Smith
Ashland, IL

Planted: May 6 in 30" rows. Planting

ILLINOIS

Population: 135,000. Harvested: September 27.
Previous Crop: Corn.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS BPP32A16™*	72.3	13.3
POWER PLUS 32D5™*	68.8	12.5
POWER PLUS BPP38A16™*	68.2	14.0
POWER PLUS 39R5™*	68.1	12.9
POWER PLUS 37F4™*	67.7	13.4
POWER PLUS 37N5™*	65.3	13.4
POWER PLUS 36J3™*	65.1	13.7
POWER PLUS 37F4™*	61.4	13.8
Average	67.1	13.4

FULTON

Power Plus® 32D5™*
wins plot

Andrew Stuckey
Canton, IL

Planted: May 5 in 30" rows. Planting

Population: 160,000. Harvested: October 26.
Previous Crop: Corn. Herbicide: Roundup. Soil Type: Heavy loam. Weather: May-normal, June-wet, July-wet, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 32D5™*	66.0	12.9
POWER PLUS BPP32B16™*	61.9	13.3
POWER PLUS 30B5™*	60.3	12.9
POWER PLUS 34T3™*	58.8	13.6
POWER PLUS 36J3™*	55.0	13.6
POWER PLUS 37N5™*	52.1	13.7
POWER PLUS 39B3™*	50.3	13.6
POWER PLUS BPP38A16™*	49.3	13.7
Average	56.7	13.4

JEFFERSON



Kyle Kiefer
Belle Rive, IL

Planted: June 23 in 15" rows. Planting
Population: 150,000. Harvested: October 27.
Previous Crop: Pasture. Fertilizer: N: 45, P: 115, K: 180. Herbicide: Roundup/Sonic followed by Roundup. Soil Type: Medium loam. Weather: May-wet, June-wet, July-wet, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 39R5™*	78.1	12.3
POWER PLUS 36J3™*	75.8	12.7
POWER PLUS 46A5™*	75.5	12.7
POWER PLUS 39B3™*	74.7	12.4
POWER PLUS 47A3™*	70.5	12.2
POWER PLUS 37F4™*	68.2	12.7
POWER PLUS 41M4™*	67.7	12.2
Average	72.9	12.5

On different soils

Kyle Kiefer
Belle Rive, IL

Planted: June 24 in 15" rows. Planting
Population: 150,000. Harvested: October 27.
Previous Crop: Corn. Herbicide: Roundup/Sonic followed by Liberty. Soil Type: Clay loam. Weather: May-wet, June-wet, July-wet, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
HOBLIT 423LL	59.3	11.5
HOBLIT 423LL	58.5	11.6
HOBLIT 343LL	55.7	11.7
HOBLIT 384LL	54.0	13.9
Average	56.9	12.2



Where to place your trust. Know your seed supplier; place your trust with Burrus and Hughes.



Power Plus® varieties averaged 72.9 bu/a in Jefferson Co. for Dwight & Kyle Kiefer.



Power Plus® 6C40™* topped all non-GM hybrids for Richard Douglas in Hancock Co.



Mark & Kristen Jenkins saw big yields with their corn & bean plots in Chariton Co., MO.



Power Plus® 4J94AMX-R™*, as a single bag refuge choice topped the Marshall Co. plot of Mark Monier of Monier Seed & Service.

Soybean selection made easy

A web-based product selection tool is available on the Burrus Seed website to help make soybean selection easier.

The first steps include going to the Burrus website, www.burrusseed.com, clicking on Products and then clicking on soybeans.

A few basic choices help the computer narrow the products and clarify potential differences in key characteristics. Expect to make choices on the following questions:

lowing questions:

- Which herbicide tolerance?
- What maturity range do you prefer?
- What key product characteristics are most important to you?

Then the products are listed according to your preferences.

This tool will help simplify the soybean selection to best suit your needs.

We are making it easier and more efficient to do business with Burrus.

JO DAVIESS

Kyle Embry
Hanover, IL

Planted: May 9 in 30" rows. Planting Population: 134,300. Harvested: October 27. Previous Crop: Corn. Weather: May-wet, June-wet, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 25X5™*	56.4	11.9
HUGHES 555RR	56.2	11.7
POWER PLUS 26X5™*	55.2	11.8
POWER PLUS 25H4™*	54.7	12.2
POWER PLUS 25G3™*	54.3	12.1
POWER PLUS 24P4™*	53.2	12.3
HUGHES 201RR	53.2	12.1
HUGHES 555RR	48.9	12.4
Average	54.0	12.1

KANKAKEE

Power Plus®
experimentals excel



Jason Zimmer
Reddick, IL

Planted: May 30 in 30" rows. Planting Population: 140,000. Harvested: October 11. Previous Crop: Corn. Herbicide: Authority followed by Roundup. Soil Type: Silt loam. Weather: May-wet, June-wet, July-normal, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 26X3™*	74.7	9.3
POWER PLUS 25X5™*	73.7	8.8
POWER PLUS 24P4™*	72.6	9.1
POWER PLUS 28H5™*	71.2	10.3
POWER PLUS 30B5™*	69.7	10.5
POWER PLUS 32D5™*	66.8	13.0
POWER PLUS 28J0™*	65.8	10.3
POWER PLUS 34T3™*	65.7	11.0
Average	70	10.3

MCHENRY

Power Plus® 25G3™*
wins at 69 bu/a



Hughes Seed Farm
Woodstock, IL

Planted: May 23 in 30" rows. Planting Population: 130,000. Harvested: October 20. Previous Crop: Corn. Herbicide: Boundary PPI GLY post. Soil Type: Medium loam. Weather: May-wet, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 25G3™*	69.0	12.0
POWER PLUS 26X5™*	66.0	12.1
POWER PLUS 28V2™*	65.0	12.6
POWER PLUS 28H5™*	64.0	12.2
POWER PLUS 24P4™*	64.0	12.1
POWER PLUS 25X5™*	64.0	12.0
HUGHES 555RR	63.0	12.1
HUGHES 777RR	60.0	12.2
HUGHES 201RR	60.0	12.1
POWER PLUS 25H4™*	58.0	12.2
Average	63.3	12.2

The Burrus mission is to provide quality seed, consistent performance, and exceptional value ensuring the ongoing success of our customers.

Gary Aavang
Woodstock, IL

Planted: May 24 in 30" rows. Harvested: October 25. Previous Crop: Corn. Herbicide: Envive (Pre), Abundit Xtra (Post). ✓Check Hybrid: Pioneer 92Y51

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	64.9		16.4
NK Brand S19-Z9	68.5	1	16.4
Croplan R2C2263	64.4	8	16.4
HUGHES 201RR	66.6	4	16.8
Pioneer P22T69R	63.6	10	16.0

Mycogen 5N223R2	62.6	11	16.0
Dyna-Gro 22RY64	61.4	12	16.4
POWER PLUS 24P4™*	64.7	6	16.5
✓Check	64.6		16.4
Pioneer P25T51R	67.3	2	16.6
Dyna-Gro 25RY44	60.8	13	16.1
NK Brand S26P3	63.9	7	16.2
Mycogen 5N284R2	62.7	9	15.7
Pioneer P28T33R	65.8	3	15.6
Croplan R2C2863	64.5	5	16.0
✓Check	63.2		16.2
Average	64.3		16.2
Check Average	64.2		16.3

Dalton Shepherd

Hard work is rewarded at Burrus. Dalton Shepherd began his career with Burrus as a Sales Intern in the summer of 2011. His responsibilities included delivering and picking up seed, erecting field signs, scouting fields, and working alongside three Regional Sales Managers. He did such a great job that Burrus offered him the same internship for the next two summers until he earned his Bachelor of Science degree from Western Illinois University and then accepted a full-time job as a Burrus Account Manager.

Dalton brings an ag business and agronomy education along with a wealth of practical "on the farm" experience. He serves the following counties in Illinois: Bureau, Henry, Knox, Peoria, and Stark. Enjoy his ear-to-ear smile when you ask him a question.

His passion is hunting deer, duck and geese, fishing, and guiding pheasant hunts at Riverview Hunting in his spare time.



Dalton lives outside of Rushville and can be reached at 309-221-2167. Put his passion for Burrus and his strong work ethic to work on your farm. He will help you improve your bottom line.



Per acre income

Get ready to be hit by reality

Given next year's likely income scenario and given past history, which one fits better – a move to corn or a move to beans? It does not surprise us that such questions are being asked and asked a lot in the marketplace. However, we really do not think there is a single, easy answer to that question. Instead, we can list some positives and negatives associated with either decision.

Our Annual Disclaimer

Talking economics is a dangerous business because it is all about trying to predict the future. The decisions stemming from such predictions affect operations and families, and one would be a fool not to approach the subject carefully. Last year, Burrus reminded readers that our "claim to fame is not...providing marketing advice or business planning." Instead, we stressed that the Burrus central mission is to provide "clienteles with high quality seed and research-based, production information."

Before venturing into the topic of economics, we want to again remind readers of those very points. Economics and market analysis is not our central mission, and it really is not our secondary mission either. Others have the expertise and background to provide real marketing direction and economic analysis. In this article, we provide our own musings (for what they are worth) in the hope that our approach to thinking about income might help growers better contemplate their own cropping decisions. Ours does not represent the final word on the matter though. As was the case last year, we are indebted to the University of Illinois and the University of Missouri for the public data used to draft this article.

2015 – A shift toward more traditional commodity prices

Welcome to the past (or at least as close to the past as we have been for a while). If there is a phrase that sums up what "may" be coming, this would appear to be it. Not that many years ago, some spoke of a "new era" where commodity prices would stabilize well above the historic trend. They often proclaimed that \$5 corn would become the new norm, and braver souls would boldly state that the days of \$2 to \$3 corn were over. Yet, those proclamations currently seem more like wishful thinking.

Figure 1 shows how dramatically we deviated from the historic trend in corn

over the last several years. From 1984 to 2006, corn price averaged about \$2.25 per bushel in October. Then, for five years, corn averaged about a 50-cent increase. The drought of 2012 hit, stock to use ratios were low, and October prices reached a historic high of almost \$7 per bushel.

The story for beans, depicted in Figure 2, shows a similar swing away from the norm. From 1984 to 2006, beans sold (at the elevator in October) averaged about \$5.74 per bushel. For five years, the price of beans in October went up almost a dollar per year. Once again, the drought of 2012 hit, supply fell short of demand, and in October of 2012 beans averaged better than \$14 per bushel.

The 2013 growing season marked a turn away from those highs. The October drop was pretty rough in corn but less extreme in beans. Corn fell back to an October, 2010 price point of about \$4.50 per bushel – a precipitous decline of nearly \$2.50 in one year. Beans had fallen back about a dollar by October of 2013, however that \$13 per bushel price was still the second highest for beans on record. By last fall, many growers were saying they felt pretty good about the future for beans, but they were not too certain about 2015 corn.

Enter October of 2014, a downward

Figure 1.
October corn prices (1984 to 2014)

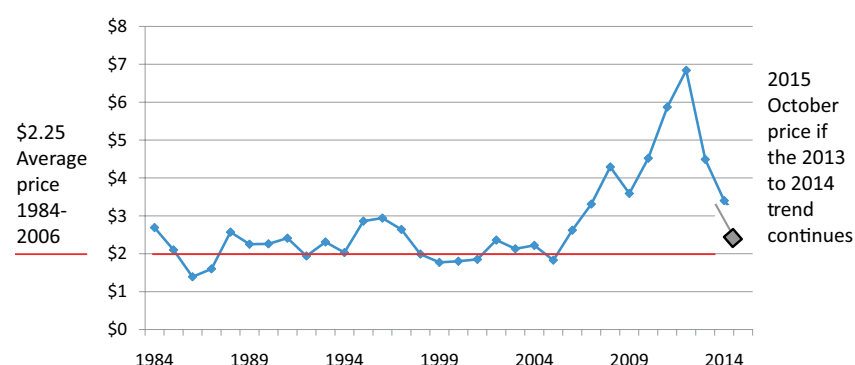


Figure 2.
October soybean prices (1984 to 2014)

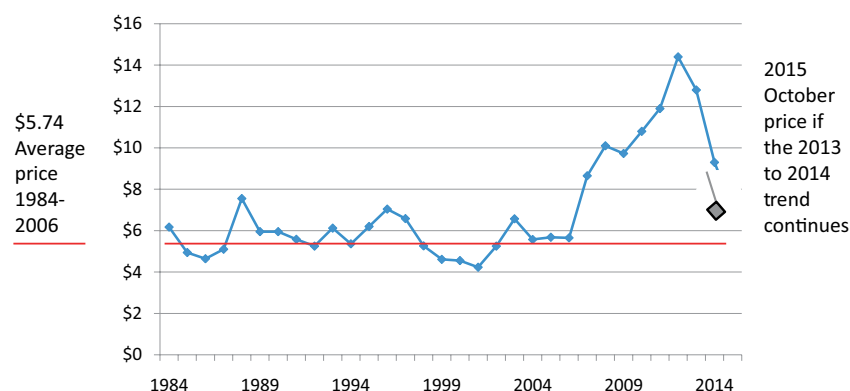


Figure 3. Zone 5 & 6 Pre-rent/pre-land returns
(Estimated 3 Year per acre average annual income)

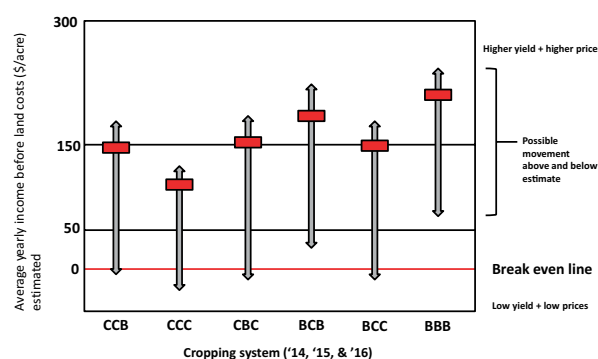


Figure 4. Zone 7 Eastern IL & Western IN
Pre-rent/pre-land returns
(Estimated 3 year average per acre annual income)

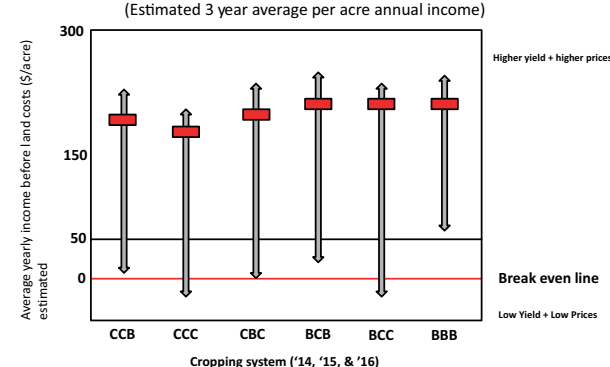


Figure 5. Zone 7 Western Illinois
Pre-rent/pre-land returns
(Estimated 3 Year average per acre annual income)

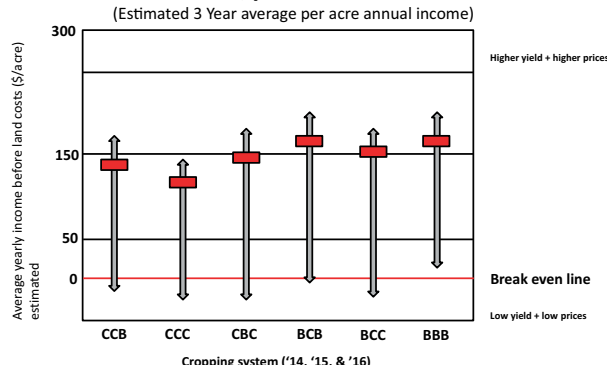
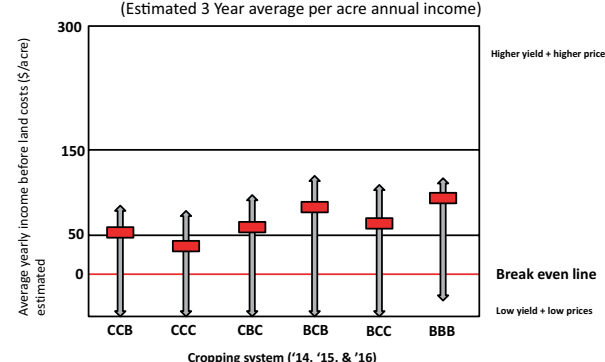


Figure 6. Zone 8 Southern IL & Southern IN
Pre-rent/pre-land returns
(Estimated 3 Year average per acre annual income)

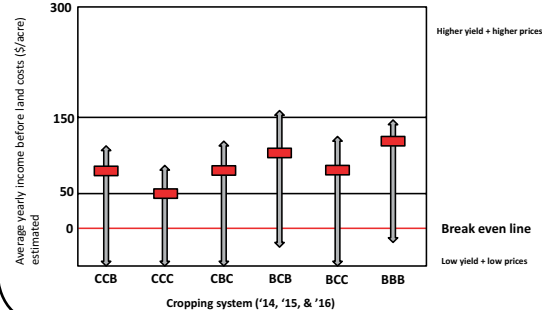




We continue to invest! Burrus/Hughes continues to invest in our people, our computer infrastructure, land, and irrigation technology.

**Figure 7. Zone 7 & 8 Missouri
Pre-rent/pre-land returns**

(Estimated 3 Year per acre average annual income)



trend in prices, and a sudden glut of corn and beans. As of press time, October sold/delivered corn had closed in on \$3.50 per bushel. That decline of nearly a dollar in corn was dwarfed by the 2013 to 2014 decline in beans. Beans fell by more than \$4.75 by October and had settled around \$9.50 when the *Harvest Report* went to the printer. While the actual price received by a grower may vary, the graph showing October cash bids in Figures 1 & 2 provides a useful snapshot of price trends over the last 30 years.

The commodity price projections for 2015 are not very positive. Dr. Gary Schnitkey, U of I Department of Agricultural and Consumer Economics, projected \$4.00 to \$4.20 corn (hinting that it could go lower) and \$10.50 beans when drafting cropping budgets for 2015. If the current decline in prices would continue, \$3 corn and \$8 beans would be in our future. Those commodity prices would hint at a shift toward more historic price trends.

So what exactly does the future hold? We already said that we cannot predict the future, and we will not try to do so here. At the very least, many in the industry seem to agree that a return to historic highs seems unlikely, that any gains in the market will be modest (if possible at all), and that margins will tighten significantly. Bluntly stated, we seem pulled back toward the price trend line. While we may not hit that line, it seems to be pulling and tugging on the market. The road ahead will likely be pretty rough.

Corn vs. beans – a dramatic change in risk

We took the same approach in the 2014 *Harvest Report* that we did in the 2013 edition. We reviewed crop budgeting information from the University of Illinois, 2014 budget data from the University of Missouri, and internal data to generate income projections. We then looked at the decision to go corn or beans, treated that decision as part of a long-term production/marketing strategy, and generated data. The data we generated projected annual average income over a three year period (2014 to 2016) for different cropping scenarios.

Burrus divided its' territory into five zones. We have included a zone map (Figure 8) and projected pre-rent/pre-land

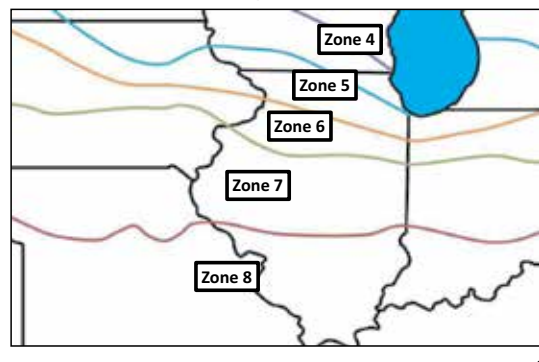
cost returns for various cropping systems in Figures 3 to 7. Estimated 2016 returns were set equal to estimated 2015 returns. As we did last season, we projected high income scenarios over those three seasons and low income scenarios over those three seasons. We generated likely income numbers when yield was low, prices were low, and input costs were high – a low net return situation. We generated likely income numbers when yield was high, prices were rationally high and input costs were low – a high net return situation. Estimated yearly average return is depicted by the red block in each chart. The arrows above and below the red block estimate the potential highs and lows for each cropping practice. One might think of the arrows as representing how far we might be off/how much income could swing around the red block. Let's talk about a few observations as we examine those graphs.

First, there has been a dramatic change in financial risk for growers. When we generated these same graphs in the 2013 *Harvest Report*, we only projected two scenarios that might create average annual incomes in the \$100 per acre range. Not surprisingly, those two locations were southern Illinois and the state of Missouri which have been known to seasonally swing from respectable yields to devastating losses. We knew that 2013 would be a decent year and that it would carry the long-term financial load on the farm.

While 2014 will likely provide plenty of county yield records, low commodity prices and high input costs have stifled any dramatic financial gains. 2014 will not hold average annual income up like 2013 did. Minus a few bean intense cropping rotations in central and northern Illinois, every other potential low income situation results in red ink. The risk scenario has shifted from one where worst case scenarios still generate triple digits "in the black" (i.e. the 2013-2015 scenario) to one where worst case scenarios may generate losses (i.e. 2014-2016). The risk scenario has dramatically changed – and that change has taken a more negative tone in both corn and beans.

Second, crop rotations still seem fairly equal from an income standpoint. This was true in all regions except the northern

Figure 8.



region and the state of Missouri. In those areas, more beans generated the highest maximum income potential. Remember though, from an agronomic standpoint continuous beans represent a very bad choice. Three years of continuous corn never generated a maximum potential income scenario and never bested the estimated yearly average income scenario for any of the other cropping systems in any zone. As we noted last year, rotation typically resulted in respectable returns that always beat those of continuous corn.

Third, these graphs indicate that return on investment will be critically important in 2015, 2016, etc. The margins have tightened considerably for growers. Figures 3-7 represent average annual income between 2014 and 2016 BEFORE land costs are subtracted out. The Burrus footprint probably is looking at an overall average net return in the \$130 per acre per year range. Yet the National Agricultural Statistical Service currently states that

Illinois cash rents average \$234 per acre. They also note that non-irrigated ground in Missouri cash rents for about \$127 per acre. One of those rent scenarios is too close for comfort while the other surpasses likely income by \$100. Growers simply do not have disposable income to spend on inputs that are not proven. They must always pencil out return, and if they cannot be reasonably assured that an input will yield a substantial return most of the time – they probably should spend those dollars elsewhere or save those dollars.

Growers should examine the charts provided here. They should consult with their marketing specialist. They should ask themselves how comfortable they are with risk and balance chosen risk with potential income. Growers must ask themselves where they currently stand financially: can they withstand a poor cropping choice or do they not have that luxury? What do their land costs demand of them? Can they afford to lose ground? Can their operation really sustain if rents/land costs surpass income on one farm or a few farms? Are all inputs providing a good return or are there places where a grower can cut back minus a yield penalty?

We have provided some tools that can be used to compare one cropping practice to another – some tools that should be used as growers do their own research. We hope they prove useful.

Josh Gunther

After an extensive search, Burrus is pleased to announce the addition of Josh Gunther to the team as Product Lead. Josh is from Camp Point, IL where his family still resides and manages their family farm.

He graduated from Southern Illinois University, Carbondale and will complete his Masters of Science in Plant, Soil, and Agricultural Sciences with a specialty in Plant Breeding. His plan is to complete his Master's program in the spring of 2015. He is a member of Alpha Gamma Rho fraternity as well as the collegiate National Wild Turkey Federation Chapter.

Josh met his fiancée, Brittany Cleeton, at SIU. She is originally from the Mattoon, IL area. She works with Farm Business Farm Management. Josh and Brittany enjoy their Yorkie poo dog, Stella. They plant to marry in the summer of 2015.

Josh enjoys outdoor activities including hunting and fishing as well as reading.

Josh brings an impressive skill set gained through experience with intern-



ships in crop scouting and has worked as a research and teaching assistant at SIU. He will use his background to deliver solid research for Burrus/Hughes. Josh will be joining the team full time following his graduation, but he can be reached at josh.gunther@burrusseed.com.



Amaranth prevailed in soybeans fields in 2014

“LibertyLink®” soybeans to the rescue

By Stephanie Porter

Towards the end of the growing season, waterhemp growth appeared to have exploded in many soybean fields within the Burrus footprint. Some assumed that the waterhemp was most likely herbicide resistant, others wondered if those plants were escapes that were too tall to be controlled by a post-herbicide application, while some just assumed that the waterhemp must have emerged after the post-herbicide application. If a residual was included in the post-herbicide application, had it leached away due to rain and not controlled the later emerging waterhemp? In reality, all of the above most likely occurred and this allowed waterhemp to dominate above soybean canopies. Experts claim that later soybean planting, cool weather, rain, and open soybean canopies created the “perfect storm” for seed germination and weed growth during the growing season of 2014.

In 2014, some Burrus growers had to face weed reality. After rubbing their eyes and realizing it was not a bad dream, they identified another amaranth and it was not waterhemp in their soybean fields. It was the dreaded Palmer amaranth! Experts have been warning us about Palmer amaranth for a while now, but we had always thought it was a problem for those in the southern United States, right? Palmer amaranth is now a reality for growers in the Burrus footprint and they have come to realize that this weed will only intensify in the future.

The fact of the matter is that amaranths (waterhemp and Palmer amaranth) release a large amount of seeds per plant and have long germination periods. Both can grow extremely fast. Palmer amaranth can grow up to 2 – 3 inches a day! **Because of the massive seed production and aggressive growth, there basically is a “0” threshold or tolerance for Palmer amaranth.** If a few seeds of Palmer amaranth emerge in a field, you can automatically assume that it will be overtaken with amaranth weeds in less than 5 years. **Just 2 1/2 plants of Palmer amaranth per foot of row within a soybean field can reduce plant growth up to 79%!** Another major problem is that in Illinois, we know that waterhemp can be resistant to up to 4 different modes of action of herbicides (ALS, PPO, EPSP (glyphosate), and HPPD). We also know that waterhemp and Palmer amaranth can hybridize, which can make for



Palmer amaranth identified in a field of soybeans near a Burrus Dealer in Will County, IL.

difficult identification and can only intensify the herbicide resistance problem.

If Palmer amaranth was found this season, we hope that plants were removed and not allowed to go to seed, which is easier said than done. If fields had Palmer amaranth, they should have been harvested last and all harvest equipment should have been cleaned to prevent further spread. Be careful when it comes to tillage as deep tillage might be a “last resort,” but keep in mind, you are incorporating the seed bank within the soil for years to come. The reality now is that if Palmer amaranth is present in your fields, you should automatically assume that your herbicide costs for next season will double. **No single (pre) or foliar (post) herbicide will control Palmer amaranth throughout the season. Expect to use up to 3 – 5 effective herbicide modes of action at full use rates to combat this weed.**

How can Burrus help? We would like to introduce you to our line up of LibertyLink® soybeans (Hughes 255LL, Hughes 285LL, Hoblit 355LL, Hoblit 384LL, Hoblit 405LL, Hoblit 423LL). The use of Liberty® or glufosinate, a contact herbicide, along with the Burrus LibertyLink soybeans lineup, can be an effective tool to control annual weeds. Glufosinate will combat weeds like waterhemp that can be resistant to other herbicides and Burrus LibertyLink soybeans can offer yield. However, we must learn from the mistakes that were made with glyphosate and other herbicides in the past. We can't just rely on one herbicide with just one single mode of action

anymore. **The use of Burrus LibertyLink soybeans within a corn and soybean rotation introduces another herbicide mode of action to the table.** By adding residual herbicides (pre and post) to your Liberty (glufosinate) soybean herbicide program, you can combat those amaranth weeds! By rotating modes of action and adding residual to your herbicide program in a crop rotation, you can reduce your risk of herbicide resistant weeds in the future.

Here are 10 tips that Burrus can offer to help with the success of the LibertyLink soybeans as you incorporate this product into your farm operation:

1. Before purchasing LibertyLink soybeans, check with your ag chemical supplier to make sure there will be an adequate supply of Liberty herbicide available. Or better yet, **order Liberty herbicide** for those acres.
2. **Start weed free** – fall/spring burn-down or tillage may be needed to rid fields of weeds before planting. “Never plant into a stand of weeds, hoping for the best.”
3. **The use of a full-rate of a pre-plant residual herbicide product will help to reduce weed populations,** slow weed growth, and offer more flexibility on when the post application of Liberty can be applied.
4. **Thorough weed coverage is key,** when it comes to the application of Liberty because it is a contact herbicide. Better coverage with Liberty can be accomplished by particular nozzles (flat fan or others) that provide medium spray

droplets (250 to 350 microns), with higher pressures (40 to 60 psi), at slower application speeds (12 mph or less), with the addition a lot of water – 20 GPA, along with adjuvants such as 2.5 to 3 lbs. AMS per acre.

5. Liberty is rainfast within 4 hours and be sure not to spray Liberty at night or under adverse conditions (fog, heavy dew, rain, or stress such as drought, cool temperatures, and extended periods of cloudiness). Spray Liberty after dawn and 2 hours before sunset to avoid the possibility of reduced weed control.
6. **Apply the first post-Liberty application** (rate of 22-29 fl. oz./a) 22 days after crop emergence or **up to V3 soybean growth stage,** before weeds reach a height above 3 – 4 inches. The higher rate (up to 36 fl. oz./acre) of Liberty might be needed if environmental conditions prevent timely application and weeds are 6 – 10 inches tall. However, an application of more than 22 oz. of Liberty is not recommended past V4 soybean growth stage.
7. **A second post-Liberty application (rate of 22 to 29 fl. oz./a) can be applied if needed,** but keep in mind that your total use rate of Liberty cannot exceed 65 fl. oz./a.
8. The first and second applications of Liberty should be at least 5 days apart.
9. **Use a full rate of a post-residual herbicide with your post-Liberty application if needed for harder to control weeds such as amaranths.**
10. **Don't forget about the Burrus Linkup rebate offer!**

Improved Bayer Linkup Program and what it offers —

- Increased from \$5 to \$6 an acre (140K unit)
- At 29 oz. of Liberty herbicide, you can receive a discount of approximately \$24 per gallon
- Grower must purchase both LibertyLink soybeans and Liberty herbicide to qualify
- There is a minimum of 50 units of Liberty Link soybeans and minimum of 10 gallons of Liberty herbicide purchase required
- If you used an authority product as a pre, you can earn up to \$5/unit rebate and if you use Autumn herbicide as a fall application, you can qualify for an additional \$3/unit rebate. Check with your Burrus Account Manager for a complete list of residual suppliers as well as qualifying residual herbicide products.



Numbers are important.
If you go by the numbers, you'll go buy our numbers.



Ava & Jack Brockhouse, children of Burrus Account Manager Ross & Sara Brockhouse, enjoy spending time on the family farm.

MERCER

Bean population test

Scott Olson
Joy, IL

Planted: May 5 in 30" rows. **Harvested:** October 20. **Previous Crop:** Corn. **Soil Type:** Heavy loam. **Weather:** May-wet, June-normal, July-normal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	1000 Plants /Acre
Power Plus 34T3™*	65.8	12.1	139
Power Plus 34T3™*	61.9	12.4	101
Power Plus 34T3™*	61.3	12.1	121
Power Plus 34T3™*	58.3	12.1	83
Average	61.8	12.2	111

Scott Olson
Joy, IL

Planted: May 5 in 30" rows. **Harvested:** October 20. **Previous Crop:** Corn. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-normal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 34T3™*	65.8	12.1
POWER PLUS 28V2™*	62.4	12.5
POWER PLUS 39B3™*	61.4	12.3
POWER PLUS 36J3™*	59.9	12.4
POWER PLUS 25G3™*	47.8	12.7
Average	59.5	12.4

MONROE



Chris Howell
Columbia, IL

Planted: June 2 in 30" rows. **Planting Population:** 140,000. **Harvested:** October 25. **Previous Crop:** Corn. **Herbicide:** Roundup, Authority XL, Cobra, Select. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-normal, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 36J3™*	66.0	12.9
POWER PLUS 41M4™*	65.7	12.2
POWER PLUS 37N5™*	65.0	13.1
POWER PLUS 39R5™*	64.4	12.8
POWER PLUS 34T3™*	63.7	12.7
POWER PLUS BPP38B16™*	63.1	12.3
POWER PLUS BPP38A16™*	62.9	12.6
POWER PLUS 39B3™*	58.2	12.3
POWER PLUS BPP42A16™*	57.7	11.8
Average	63.0	12.5

The battle against glyphosate resistant weeds in soybeans...

Some potential new options are on their way

Glyphosate resistant weeds are becoming a painful reality for many growers. Several species of weeds have evolved to form resistance to the common glyphosate herbicide. Many growers use the term "Roundup resistant" when referring to this not so uncommon phenomenon.

Glyphosate was once heralded to be immune from resistance issues. The thought was it was so effective in killing so many different types of weed species that no one would need to worry. Over time some growers abused the simplicity and efficiency the product offered and now the effectiveness has started to wane. Growers are now more interested than ever in other alternatives to help keep their bean fields weed free.

Herbicide resistant beans like LibertyLink® beans have started to gain considerable marketshare in many areas. There are two other new herbicide resistant technologies that will soon be emerging into the marketplace. 2,4-D resistant beans and dicamba resistant beans will be entering the market. These two "old faithful" traits (both have been in use for

40 years) will be stacked with glyphosate tolerance in new premix formulations. The 2,4-D platform of herbicide resistance will be part of Dow AgroScience's Enlist™ Weed Control System. Roundup Ready® 2 Xtend™ will be the name of the dicamba resistant beans that are coming from Monsanto. The technology is a collaborative effort between Monsanto and BASF.

Another herbicide trait in the pipeline that will increase the options for multiple modes of action is Balance GT. A collaboration between MS Technologies and Bayer CropScience, Balance GT exhibits tolerance with glyphosate and isoxaflutole, the active ingredient in the new Balance® Bean. Balance GT will be the first step in a foundational system that will grow to include a triple-stacked trait with added tolerance to glufosinate.

Syngenta and Bayer CropScience are collaborating on herbicide resistance and crops tolerant of even more herbicides are getting closer to market, too. Enlist E3™ is another new option coming in the pipeline. The Enlist E3™ is a collaboration between MS Technologies and Dow AgroScience that will confer tolerance to

the new 2,4-D choline, glyphosate and glufosinate according to the MS Technologies website.

Growers are searching for ways to change how they handle their weed control management. Experts agree that growers should examine all options for weed control including the use of non-chemical methods. Considerations should include options such as crop rotation or tillage. It is believed that growers should not just depend on a two herbicide blend. Both new blends are designed to decrease volatility and increase the flexibility growers have for application.

New products will help with control options but they won't necessarily provide the "silver bullet" for eternity. The new products will be a management tool in the fight against weed resistance. Growers will continue to be advised to rotate chemicals and include non-chemical methods whenever possible. If you are battling some weed resistance issues on your farm, talk to your Burrus or Hughes Account Manager to discuss all of the management options that are available to you.

MONTGOMERY

Power Plus® 34T3™* third at 73 bu/a

Carl Marten
Raymond, IL

Planted: May 22 in 30" rows. **Planting Population:** 150,000. **Harvested:** October 21. **Previous Crop:** Corn. **✓Check Hybrid:** Hisoy HS 39A22

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	71.1		13.4
Stone 2R3801	69.9	12	13.3
Beck's 368NR	72.3	7	13.9
Pfister 39R29	75.4	1	13.5
LG Seeds C3989R2	63.8	22	13.6
VPMaxx 37K7RR	71.3	5	13.6
✓Check	65.2		13.6
POWER PLUS 34T3™*	73.0	3	13.4
Pro Harvest 3971CR2Y	72.6	4	13.6
NK Brand S38-W4	74.8	2	13.4
Dyna-Gro 35RY83	72.0	9	13.1
Pioneer P39T67R	74.3	6	13.6
✓Check	71.4		13.2
Hisoy HS 37A42	72.0	10	13.5
Croplan R2C3783	69.4	16	13.6
Dairyland DSR-3595	68.7	17	13.5
VPMaxx 36B1RR	69.8	14	13.4
Pfister 38R25	70.0	13	13.4

✓Check	69.4		13.1
LG Seeds C4010R2	72.9	8	13.3
Stone 2R3904	68.8	18	13.3
Hisoy HS 39A42	71.8	11	13.2
Beck's 384NR	70.1	19	13.2
Dyna-Gro 38RY84	71.4	15	13.3
✓Check	73.7		13.1
Pioneer P34T07R2	68.1	23	13.5
Pro Harvest 3835CR2Y	68.3	21	13.3
NK Brand S39-U2	67.2	20	13.1
✓Check	68.6		13.2
Average	70.6		13.4
Check Average	69.9		13.3

OGLE

Power Plus® 3rd, 5th & 7th

Rochelle FFA
Rochelle, IL

Planted: May 25 in 30" rows. **Planting Population:** 140,000. **Harvested:** October 21. **Previous Crop:** Corn. **Soil Type:** Medium loam. **Weather:** May-normal, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
Stone 2R2502	81.6	14.2
Asgrow AG2632	79.6	13.9
POWER PLUS 26X5™*	78.3	14.5
Stone 2R2915	77.4	14.6

POWER PLUS 28H5™*	76.8	14.5
Asgrow AG2535	76.5	13.9
POWER PLUS 25X5™*	76.3	14.2
Asgrow AG2834	75.8	14.7
Stone 2R2604	75.8	13.9
Pioneer P22T41R2	74.9	14.1
FS HS 26A32	74.9	14.1
Pioneer P29T98R	74.8	14.2
POWER PLUS 24P4™*	74.3	14.7
POWER PLUS 25H4™*	73.8	14.5
Pioneer 92Y51	73.8	14.4
FS HS 30A42	73.8	14.5
Pioneer P28T33R	72.9	13.7
Pioneer P24T05R	71.9	14.0
FS HS 24A44	71.7	14.3
Average	75.5	14.3

SCHUYLER

Wenger Ag Solutions
Rushville, IL

Planted: May 12 in 15" rows. **Harvested:** October 25. **Previous Crop:** Corn. **Soil Type:** Light loam. **Weather:** May-wet, June-wet, July-wet, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
Pro Harvest 3684CR2Y	59.1	14.1
POWER PLUS 39R5™*	56.1	14.6
POWER PLUS 34T3™*	55.1	14.8
Pro Harvest 3971CR2Y	54.9	13.9
POWER PLUS 36J3™*	51.8	14.6
POWER PLUS 39B3™*	45.2	14.0
Average	53.7	14.3



2014: The year of soybean disease (Sudden Death Syndrome and white mold)

Sudden Death Syndrome (SDS) is caused by the fungal pathogen, *Fusarium virguliforme* and is considered one of the most devastating diseases to soybeans. It survives in soybean residue as thick walled, fungal survival structures. It actually can infect soybean seedlings early in the season, if environmental conditions are conducive for pathogen infection. During the soybean vegetative growth stages, this fungal pathogen that causes SDS can colonize the root cortex (outer root) if soil conditions are cool and wet. In some cases, infection can still occur in warmer soils, but infection might not be as severe. During the soybean reproductive stages, when soybeans are flowering or putting on pods, this fungal pathogen can grow further into the center of the root or into the vascular tissue, and into the lower stem. This is where the pathogen that causes SDS can disrupt the water and nutrient uptake by the soybean plant. This fungal pathogen then produces toxins that move as water to the top of the plant and cause leaf symptoms to appear. These leaf symptoms often appear after a significant rainfall. After leaf symptoms appear, it is possible that leaves may defoliate from the plant.

SDS symptoms may first appear as a yellow patch out in the soybean field, but a closer look will reveal yellowing or browning between the leaf veins. Many different diseases such as root rots or canker diseases can cause similar leaf symptoms. Brown stem rot is the most commonly confused disease and can be easily distinguished from SDS if the soybean stem is cut down the center. The pith or the inner part of the stem will be brown if the soybean is infected with the pathogen that causes brown stem rot. The inner part of the stem will be white if the soybean is infected with the pathogen that causes SDS. In general, SDS will cause defoliation. Brown stem rot can also cause the plant to defoliate, but not in all cases. If soybeans are infected with another disease such as phytophthora or stem canker, their leaves will still remain attached to the stem. The roots of a plant with SDS will be rotted and might contain a bluish mold on the outer roots, but this may be hard to find, so it is not a reliable diagnostic characteristic.

Soybean varieties consist of ratings for disease such as SDS. Product selection is one way growers can help to combat this disease. The higher



Foliar symptoms of SDS



Soybean roots infected with the SDS pathogen are rotted and sometimes have a bluish mold covering the outer roots



If a soybean plant is showing foliar symptoms, split the stem down the middle. If the inner stem is white, it is SDS (top) and if the inner stem is brown, it is brown stem rot.

the disease rating, the more resistant the soybean variety will be to SDS. Even though some soybean varieties are rated as having good resistance against this disease, there is no soybean that is totally resistant to SDS. Often times, but not always, SDS infects soybeans that have been infested with soybean cyst nematode (SCN). Soybean fields that are most at risk are low lying areas or compacted areas that are poorly drained, which can collect water. However, the key to the impact of this disease is the environmental conditions early in the season, when this fungal pathogen infects soybean roots. SDS pathogen infection can be more severe if soybeans are planted within cool, moist conditions.

Angie Peltier, U of I Commercial Agriculture Extension Educator, illustrated this point best at the Northwestern Illinois Agricultural Research and Demonstration Center. In 2014, she planted a soybean variety that consisted of a good disease



A patch of soybeans that are showing symptoms of white mold



White mycelium and black sclerotia on a soybean stem infected with white mold



White mold apothecia or mushrooms that can germinate from sclerotia

rating of 7 for SDS (1 being the worst and 10 being the best) and was listed as "highly suited for soils with soybean cyst nematode (SCN)" at several different planting dates. The chart was taken from Angie Peltier's blog, which can be found at: http://web.extension.illinois.edu/nwiardc/eb270/entry_8891/

In Peltier's chart you can see that the earlier that this soybean variety was planted, the greater the severity of SDS symptoms observed on August 14th, 2014. Most of the fields that first started to show SDS symptoms within the Burrus footprint were planted during the cooler/earlier part of May. The "magic temperature" for the SDS pathogen to infect soybean seedling roots is around 60°. Soil moisture may also be conducive for infection to occur.

Another observation was that tillage could have been a factor when it came to the onset of SDS. Remember earlier in this article it was stated the SDS pathogen may favor soils that are cooler,

compacted, or not as easily drained. Early in the season, no-till fields may have had cooler soil temperatures, when compared to those that were tilled. Depending on soil types, compaction can be reduced by practicing no-till, because there are less passes over the field with equipment. On the other hand, significant tillage can also help to break up field compaction and allow vertical drainage to occur.

Ultimately, soybean yield loss will depend on SDS onset and severity. SDS is usually more severe when symptoms appear before soybean podfill. When symptoms occur this early, yield loss occurs by way of reduced seed number, because flowers and pods can be aborted. Most disease observations within the Burrus footprint indicate that the onset of SDS symptoms became apparent during the R4 or R5 soybean growth stages. This means that symptoms began to appear after soybean podfill. Unfortunately, SDS symptoms can become more severe over time, and soybeans stressed by SDS can be more vulnerable to other root, stem, and seed diseases. Therefore, soybeans that show symptoms after podfill can suffer yield loss due to reduced seed size, reduced pods, and seed weight, because seed quality could be at risk. As soybeans reach the later growth stages, such as R7, the final yield loss can be observed.

For now, we can focus on future disease management. There is no fungicide "in season" treatment for SDS. Currently, soybean seed treatments will have no effect on the pathogen that causes SDS. However, there is a Bayer seed treatment currently pending approval that may provide some protection against this soil borne fungal pathogen. The most important thing to consider is planting soybeans in warm, dry soils. Often times, this means that you might need to plant soybeans fields that have been previously affected by SDS at a later date. Planting soybeans with higher level of resistance to SDS and SCN will also prove to be helpful. For more information, you can refer to Burrus soybean disease ratings at the following link: http://www.burrusseed.com/P_products_soybean.php#/lineup/all. Improving soil drainage and eliminating compaction will also help to reduce risk of the onset of SDS. A rotation from soybeans to corn can help to slow or reduce the disease inoculum of SDS, but unfortunately, the fungal pathogen that causes SDS has also been found to survive on corn roots. We have to remember that the SDS pathogen survives in the soil for several years, and was observed in a field with severe SDS symptoms that had been planted previously to corn for 5 years.

White Mold

White mold or Sclerotinia stem rot is caused by *Sclerotinia sclerotiorum* and actually has a fairly wide host range. It



Planting date	Average temperature (in degrees F) during the 14 days after planting			Growth stage: Aug 14	Relative SDS symptom severity
	Air	4" soil (bare)	4" soil (under sod)		
April 17	53	55	52	R4 (full pod)	Severe
May 7	61	63	60	R5 (beginning seed)	Moderate
May 22	71	74	69	R5 (beginning seed)	Mild
June 9	71	72	72	R5 (beginning seed)	None

Chart taken from Peltier U of I Extension Blog

also is one of the top ranking or most important diseases of soybean because of the significant yield loss that can result if soybeans become infected with white mold. If your soybeans appeared to be affected this year, you are now aware that this fungus has somehow made its way to your field and has survived in the soil as fungal survival structures called, sclerotia. If environmental conditions are 40 to 60 degrees and rainy, during the reproductive stages of soybean, these sclerotia will send up mushrooms called apothecia. These apothecia will release millions of spores when soybeans have partially to completely reached canopy. Canopy leaves white mold shading the field surface. Most often, infection takes place at bloom and soybean blossoms are colonized and serve as the starting point for infection of the lower stem. Leaves, petioles, and internodes can also be infected via wounds.

Many in the most northern part of the Burrus footprint are all too familiar with the devastation that white mold can cause to soybeans. However, some found white mold in their fields further south for the first time in 2014, due to the cooler temperatures. Actually, a soybean plant showing white mold symptoms was found as far south as Arenzville, IL. According to the Illinois State Climatic Data Center, this summer was the 29th coolest on record: "Daytime highs were much cooler than average while the nighttime lows were near-average." White mold is also a disease that prevails in fields that have a high yield potential or within soybeans that have been grown with

management practices that promote cool, moist soil conditions within the crop canopy. Therefore, the development of white mold is dependent on timing of canopy closure, crop flowering, development of fungal mushrooms (apothecia) within soil, and weather conditions that will favor infection and colonization of the stems.

Symptoms of white mold can appear within a soybean field, usually at the R2 or R3 growth stage. Infection of blossoms or lower nodes of the plant occurs around a foot above the soil line. A lesion will eventually form and completely encompass the stem, which disrupts the transport of water and nutrients to developing pods. Plants will become wilted or consist of dead upper leaves within patches or as scattered plants in a soybean field. Leaves of infected plants will become grayish green, then turn brown, and die. The leaves of plants affected by white mold will remain attached to the plant.

Unfortunately, this disease can be confused with other soybean diseases such as brown stem rot, fusarium wilt, phytophthora, and stem canker. But, with only white mold will the development of a white, cottony mycelium form on all diseased plant parts. Infected soybean plants will eventually take on a white or bleached appearance and black survival structures, called sclerotia will form within the white mycelium or within stems. These sclerotia can also be a way to diagnose this disease later in the season if white mycelium is not present. These sclerotia or survival fungal structures can contaminate seed and spread to other fields or serve as dis-

ease inoculum for future infections.

We start to become concerned about the development of white mold within soybeans if temperatures are below 85° at bloom (R1 growth stage). If you have NOT ever had white mold and you feel that you could be at risk, you might want to scout for the apothecia (mushrooms of white mold) before soybean bloom on the soil surface. If a field has been infected with white mold in the past and canopy conditions are cool, you might want to apply a fungicide within soybean growth stages R1-R3 to suppress or reduce white mold incidence before infection takes place. Fungicides will only be effective if they are applied at the correct time, with good coverage within the canopy! Fungicides will not offer total protection (0 – 60% disease reduction). For additional information on fungicides for soybean foliar diseases (white mold is included), you can refer to the following website: <https://www.extension.purdue.edu/extmedia/BP/BP-161-W.pdf>. Some herbicides (Cobra or Phoenix) will not directly affect the fungal pathogen that causes white mold, but may help to reduce the incidence of white mold by reducing crop canopy or delaying or reducing soybean flowering time. If you find white mold in a soybean field, it is too late to apply a fungicide or a herbicide for disease control. Keep records of fields that consisted of white mold infection. In the future, practice white mold management in these fields.

The white mold disease pathogen has to be present in order for soybeans to become infected. It is very important to harvest fields that are infected with white mold last - so that the combine does not spread the fungal survival structures to other fields. Combines can also harbor disease, so they need to be cleaned.

Most early maturing soybeans have a white mold rating, because this disease is most often seen in the north. The higher the disease rating, the better the tolerance against white mold, but no soybean variety will be completely resistant to white mold. In some cases, early maturing soybean varieties can escape white mold infection because of their early flowering. The problem, especially this year, was

that white mold developed further south and later maturing soybeans may not have white mold ratings because this disease is usually not a problem.

Factors that increase soybean canopy closure, will cause fields to be more at risk for white mold infection because this will allow for cooler, humid conditions for disease development. The factors that increase canopy closure are early planting, soil tillage, narrow row spacing, higher plant populations, and higher soil fertility. There are arguments as to whether row spacing causes a higher risk for disease development. Some weeds and cover crops can also make field conditions more favorable for white mold infection. There are also mixed feelings about the effect on tillage, when it comes to the prevention of white mold. Deep tillage (8 – 10 inches) can help to bury fungal survival structures in the field; however another tillage pass could also bring fungal survival structures to the soil surface and increase disease incidence. Some say that fungal survival structures will degrade faster within no-till soybeans.

A minimum rotation of 2 – 3 years to a non-host crop (corn or small grains) is required to help reduce the fungal survival structures of white mold within the soil. However, one field this year had a high incidence of white mold that had previously been in corn for 5 years! There has been limited research done on biological controls that help to reduce or biodegrade the survival structures (sclerotia) of white mold within the soil. The most popular biological control is Coniothyrium minitans (Contans or KONI). Most of these biologicals should be incorporated (within 2 inches) of the soil at least 3 months before white mold infection. Studies have shown up to 95% reduction of sclerotia (fungal survival structures) or reduction of disease incidence up to 10 – 70%. But, keep in mind, if you have a heavy amount of disease inoculum in your field, you will never be able to completely free the soil of the fungal pathogen that causes white mold. Control of white mold within soybeans requires an integrated approach or the implementation of many different management strategies.



Power Plus® 32D5™ won for Amelia & Andrew Stuckey in Fulton Co.



Dennis, Hayden, & Nolan Mueller beam after purchasing Dennis' father's 975 combine.



Burrus takes social media by storm

By Stephanie Porter

During the 2014 and 2015 growing season, Burrus has placed focus on a social media campaign. Why has Burrus chosen social media as a tool for our company, dealers, and customers? Because only about 2% of Americans are farmers and social media allows farmers, or others involved in agriculture to have constructive dialogue, share information, learn from each other, create meaningful relationships, demonstrate leadership, and build a sense of community. Farmers that are currently participating in social media are able to “advocate” or share agricultural information that has the potential to reach a very, large and diverse audience around the world.

The goal of the Burrus social media endeavor is to provide a platform for our company, dealers, and customers by using avenues such as Facebook, Twitter, and YouTube. We are also excited to host the “Think Burrus” blog on the Burrus website, www.burrusseed.com. By utilizing all of the various social media outlets, Burrus hopes to provide a network within the Burrus social media community as well as have immediate access to information that could benefit your farming operation.

By joining the “Burrus Seed” or #Burrusseed Facebook page, you and your personal network of friends, will have access to Burrus updates, pictures, and links to relevant information. Thanks to the current Burrus Seed Facebook followers and an advertising campaign, the Burrus Seed Facebook page audience has grown 752%, gaining 1,843 net likes since January, 1, 2014.

Burrus can be found on Twitter by going to “@BurrusSeed” or #Burrusseed, and there you will find “140” character updates, links, pictures, as well as favorited or retweeted posts from the Burrus family, agronomists, Sales and Account Managers, as well as customers. Remember that you can get Twitter updates on your smartphone. Since its

launch in May 21, 2014, the @BurrusSeed Twitter account has gained 436 followers, which include agricultural media reporters and agricultural organizations, in addition to individual Twitter users.

In July/August Burrus launched a campaign on Facebook and Twitter called “#RootedinTradition” and Burrus Seed Facebook and Twitter followers were able to share pictures with the official hashtag, “RootedinTradition”, which allowed Burrus growers to demonstrate traditions of treating people fairly and honestly and how it has propelled them to where they are today. In September/October, Burrus growers, dealers, and fans submitted farm photos with the official hashtags “#WeGoWhereYouGrow” and #PhotosFromTheField” and then Burrus Facebook and Twitter followers were able to share in Burrus harvest triumphs as well as family traditions.

The Burrus YouTube channel, Burrus Agronomy U is a bit more “user friendly” and a visual, social media tool that provides Burrus product updates as well as educational presentations on the third most popular search engine on the web.

The “Think Burrus” blog, is brought to you via Blogger, which is a publishing tool that allows Burrus to share text, pictures, and video relating to relevant updates that pertain to education, research, or Burrus products from either Burrus agronomists or Tom Burrus. You can check out the latest blog posts on the Burrus website, www.burrusseed.com. Other Burrus blogs can be found at blog.thinkburrus.com. To date, we have 65 blogs that have been published on the Think Burrus Blog since April 24, 2014. We have had almost 9,000 total views.

The top viewed blogs:

- 1) Got Sudden Death Syndrome (SDS)?
- 2) Predicted harvest/moisture estimates, based on accumulated GDD's
- 3) Update from Tom Burrus: Kinze multi-hybrid planter research
- 4) Illinois corn disease scouting report
- 5) Can the woollybear caterpillars predict winter?



Justin Parks

Justin Parks joined the Burrus sales staff this year. He grew up on a grain and beef farm near Milledgeville, IL and graduated from the University of Wisconsin Platteville in December 2013 with a Bachelor's of Science in Ag Business.

Justin worked as an intern for Burrus/Hughes and helped get many growers started on MyFarmsSM and use the COP (Crop Optimization Planner). Now he serves as an Account Manager in northeastern Illinois including the southern two-thirds of Kane, Kendall, Dekalb, LaSalle, and Grundy counties.

In his spare time, he loves to hunt, fish, and snowmobile. Justin lives in Earlville and can be reached at 815-677-5233.

He is excited for the 2015 growing season and looks forward to helping growers place the right hybrids on their farms for greater profitability. Take advantage of the Burrus multi-brand strategy – our way



to access better corn and soybean genetics to fit the way you farm. Put Justin to work for you.

WHITESIDE

Elmer Habben
Sterling, IL

Planted: May 10 in 30" rows. Planting Population: 140,000. Harvested: October 11. Previous Crop: Corn. Soil Type: Medium loam. Weather: May-normal, June-wet, July-dry, August-normal.

ILLINOIS

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 25X5™*	79.0	11.2
POWER PLUS 26X5™*	78.2	10.9
POWER PLUS 28H5™*	76.6	11.1
HUGHES 555RR	75.7	11.0
POWER PLUS 28V2™*	74.7	11.1
Asgrow AG2433	73.9	11.4
POWER PLUS 25H4™*	72.7	11.6
POWER PLUS 24P4™*	69.8	11.1
Asgrow AG2433	69.1	10.9
POWER PLUS 25G3™*	68.7	11.1
Average	73.8	11.1



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Our complete lineup of PowerShield® treated beans is backed by our 100% Free replant guarantee assuring all growers a growing start!



Ron Woodworth of Lafayette Co., WI brings in another top yield.

Power Plus® 28H5™ wins at 74.8 bu/a



Ron & Jeff Merema
Fulton, IL

Planted: May 10 in 15" rows. **Harvested:** October 8. **Previous Crop:** Corn. **Soil Type:** Medium loam. **Weather:** May–normal, June–wet, July–dry, August–normal.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 28H5™*	74.8	11.9
POWER PLUS 25X5™*	74.5	11.7
HUGHES 555RR	74.3	11.5
POWER PLUS 24P4™*	71.6	12.2
POWER PLUS 26X5™*	70.6	11.5
POWER PLUS 28V2™*	70.3	12.6
HUGHES 777RR	70.2	11.7
POWER PLUS 25G3™*	68.3	11.5
POWER PLUS 25H4™*	67.0	11.9
Average	71.3	11.8

WINNEBAGO

Power Plus® experimentals win



TNT Seeds
Winnebago, IL

Planted: May 23 in 30" rows. **Planting Population:** 150,000. **Harvested:** October 11. **Previous Crop:** Corn. **Weather:** May–wet, June–wet, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture
Pioneer P25T51R	71.9	10.4
POWER PLUS 25X5™*	70.6	10.3
POWER PLUS 26X5™*	68.5	10.2
POWER PLUS 25H4™*	68.3	10.8
POWER PLUS 24P4™*	67.3	10.9
POWER PLUS 25G3™*	66.6	10.5
POWER PLUS 28V2™*	66.6	11.0
Pioneer P28T33R	65.9	11.1
Pioneer 93M11	65.3	11.4
Pioneer P28T33R	64.6	10.7
HUGHES 555RR	63.6	10.3
Pioneer P29T98R	63.3	11.1
POWER PLUS 28V2™*	61.4	11.1
HUGHES 201RR	60.4	11.2
Pioneer 92Y75	60.0	10.3
Average	65.6	10.8

LibertyLink® beans

Glyphosate resistance is essentially old news in most ag communities. Most growers know they or some of their close neighbors have Roundup® or glyphosate resistant weeds. Growers are looking for alternative ways to control their resistant weeds and Liberty® herbicide is providing a helping hand.

Whether you are battling resistant waterhemp or the dreaded Palmer amaranth, Liberty herbicide provides growers with an attractive alternative. Growers have several choices within the corn herbicide "toolbox" to battle resistant weeds but right now the best alternative for tackling resistant weeds in soybeans is to apply Liberty herbicide to LibertyLink® soybeans. It's part of a system that links the seed and herbicide together to form a formidable pair.

Some growers think the LibertyLink system can be managed like the old Roundup system because they are considered contact herbicides but that's not quite true. There are some key differences growers should know that will help bring desired success to the LibertyLink system. Here are 10 tips that Burrus can offer to help with the success of the LibertyLink soybeans as you incorporate this product into your farm operation:

1. Before purchasing LibertyLink soybeans, check with your ag chemical supplier to make sure there will be an adequate supply of Liberty herbicide available. Or better yet, order Liberty herbicide for those acres.
2. Does your retailer have the desire to spray Liberty? If not, are you set up to spray properly?
3. Start weed free – fall/spring burn-down or tillage may be needed to rid fields of weeds before planting. "Never plant into a stand of weeds, hoping for the best."
4. The use of a full-rate of a pre-plant residual herbicide product will help

to reduce weed populations, slow weed growth, and offer more flexibility on when the post application of Liberty can be applied.

5. Thorough weed coverage is key when it comes to the application of Liberty because it is a contact herbicide. Better coverage with Liberty can be accomplished by particular nozzles (flat fan or others) that provide medium spray droplets (250 – 350 microns), with higher pressures (40 – 60 psi), at slower application speeds (12 mph or less), with the addition a lot of water – 20 GPA, along with adjuvants such as 2.5 to 3 lbs. AMS per acre.
6. Liberty is rainfast within 4 hours and be sure to not spray Liberty at night or under adverse conditions (fog, heavy dew, rain, or stress such as drought, cool temperatures, and extended periods of cloudiness). Spray Liberty before dawn and 2 hours before sunset to avoid the possibility of reduced weed control.
7. Apply the first post-Liberty application (rate of 22-29 fl. oz./a) 22 days after crop emergence or up to V3 soybean growth stage, before weeds reach a height above 3 – 4 inches. The higher rate (up to 36 fl. oz./acre) of Liberty might be needed if environmental conditions prevent timely application and weeds are 6 – 10 inches tall. However, an application of more than 22 oz. of Liberty is not recommended past V4 soybean growth stage.
8. A second post-Liberty application (rate of 22 to 29 fl. oz./a) can be applied if needed, but keep in mind that your total use rate of Liberty cannot exceed 65 fl. oz./a.
9. The first and second applications of Liberty should be at least 5 days apart.

10. Use a full rate of a post-residual herbicide with your post-Liberty application if needed for harder to control weeds such as amaranths.
11. Don't forget about the Bayer LinkUp™ rebate offer!

Improved Bayer LinkUp™ Program and what it offers—

- Increased from \$5 to \$6 an acre (140K unit) if sprayed with a minimum of 29 oz. of Liberty herbicide.
- At 29 oz. of Liberty herbicide, you can receive a discount of approximately \$24 per gallon.
- Grower must purchase both LibertyLink soybeans and Liberty herbicide to qualify.
- There is a minimum purchase of 50 units of Liberty Link soybeans and minimum of 11.3 gallons of Liberty herbicide purchase required.
- If you used Authority as a pre, you can earn up to \$3/unit rebate and add Anthem you qualify for an additional \$2 per unit. If you use Autumn herbicide as a fall application, you can qualify for an additional \$3/unit rebate. The rebate can total \$14 /unit. Check with your Burrus Account Manager for a complete list of residual suppliers as well as qualifying residual herbicide products.

Remember, you have a tool to help combat those Roundup resistant weeds. We have several LibertyLink soybeans to choose from ranging from 2.5 – 4.2 in relative maturity. Select one or more of the following soybean varieties: Hughes 255LL, Hughes 285LL, Hoblit 355LL, Hoblit 384LL, Hoblit 405LL or Hoblit 423LL. Order the Liberty herbicide from your ag retailer and follow the suggestions listed in this article to begin your quest to crush resistant weeds!



WHAT'S NEW



High performance alfalfa forage solutions



388HY HYBRID ALFALFA represents a recent improvement in Hybrid Alfalfa using the patented Sunstra Hybrid Alfalfa Technology! This new product has familiar hybrid characteristics like dense stands with fine-stemmed herbage and fast recovery, but it comes with an exceptional boost in yield. This fine stem characteristic makes a dense, attractive alfalfa bale. For the highest forage yields of high quality forage, 388HY is the variety of choice.

214FY BRAND ALFALFA is a high forage yielding, persistent alfalfa with excellent forage quality potential. It expresses quick re-growth after cutting to maximize the growing season. 214FY performs best in high producing, well-drained soils. It has a solid disease, insect and nematode resistance package that helps defend it self in adverse environments. 214FY is an alfalfa variety for the dairy or beef producer that demands high tonnages of dairy quality forage.

Features

- Consistent high forage yield
- Rapid recovery after harvest
- Excellent disease resistance
- Very dense, persistent stands
- Fine stems
- Uniform growth habit

Benefits

- Dependability of forage supply
- Better use of growing season
- Broad adaptability
- Better weed control
- Attractive forage bales
- Easier to manage consentient forage quality

Agronomic Summary	214FY
Bacterial Wilt	HR
Fusarium Wilt	HR
Phytophthora Root Rot	HR
Verticillium Wilt	HR
Anthracnose (Race 1)	HR
Aphanomyces Root Rot (Race 1)	HR
Aphanomyces Root Rot (Race 2)	R
DRI	34/35
Stem Nematode	R
Northern Root-knot Nematode	HR
Pea Aphid	R
Blue Alfalfa Aphid	MR
Winter Survival	1.9
Root Type	Tap
Fall Dormancy	4.1
Cutting Recovery	8.0*
Forage Yield Level	8.4*
Forage Quality	8.0*
Wheel Traffic	7.5*
*: 10 is best, 1 is poorest	

Agronomic Summary	388HY
Bacterial Wilt	HR
Fusarium Wilt	HR
Phytophthora Root Rot	HR
Verticillium Wilt	HR
Anthracnose (Race 1)	HR
Aphanomyces Root Rot (Race 1)	HR
Aphanomyces Root Rot (Race 2)	MR
DRI	33/35
Stem Nematode	HR
Northern Root-knot Nematode	HR
Winter Survival	1.8*
Fall Dormancy	4.0*
Root Type	TAP
Crown Depth	Average
Fitness of Stem	Fine

HR = High resistance
MR = Medium resistance
R = Resistant



289.5 bu/a for Power Plus® 7U15AM-R™* in Lafayette Co., MO for David Dobson.



Larry Martin, Burrus dealer from Logan Co., loves to spread the good news about the Burrus family of products.



Dean Perino of Whiteside Co. checks out his Power Plus® 4J95™*.



Hayden Mueller, son of Burrus Account Manager Dennis & Kristen Mueller, loves helping Dad bring in the harvest.

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MISSOURI

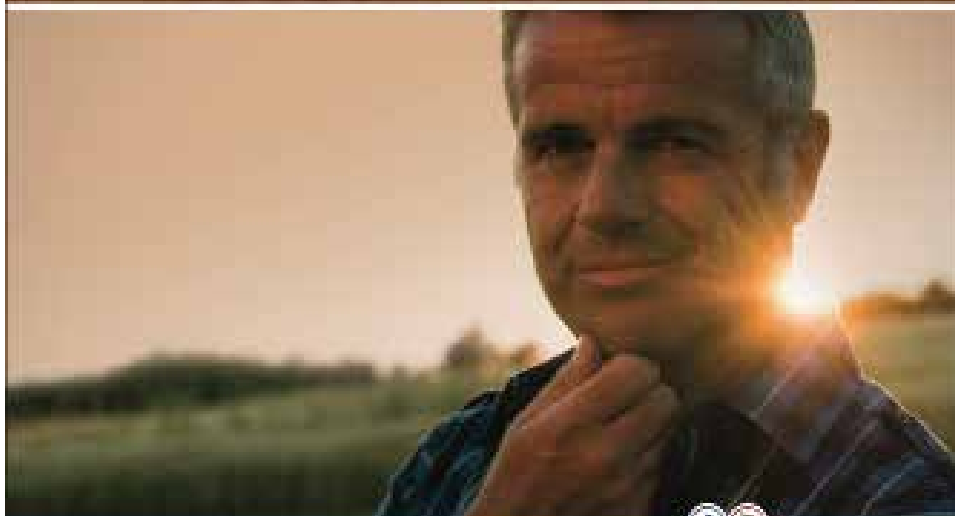
provide Burrus product updates as well as educational presentations. Go to www.burrusseed.com and click on the Agronomy U icon. It is updated regularly. Register so when the updates are posted, you won't miss an issue that could make your farming operation more profitable.





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100% FREE REPLANT FOR 75 CONSECUTIVE YEARS

- 100% free resistant on PowerShield® treated soybeans, too.
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- More choice, higher yield — that's the Bt corn family of hybrids.



Hoblit LibertyLink® beats MorSoy

John Lorentzen III
Sturgeon, MO

Planted: May 6 in 30" rows. **Planting Population:** 165,000. **Harvested:** October 22. **Previous Crop:** Corn. **Herbicide:** Liberty. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
HOBILIT 423LL	70.4	11.8
MorSoy LL 3944	68.6	11.7
HOBILIT 405LL	67.0	11.7
MorSoy EXP L37214	66.4	11.7
HOBILIT 384LL	66.0	11.6
MorSoy LL 4222	65.4	11.5
HOBILIT 423LL	64.9	11.4
MorSoy EXP L41214	64.7	11.6
MorSoy LL 3704	63.9	11.8
MorSoy LL 3759N	63.0	12.0
MorSoy LL 3973	62.7	11.7
MorSoy LL 4524	59.4	11.5
MorSoy EXP L43314	57.3	11.5
MorSoy LL 4250N	56.3	11.7
Average	64.0	11.7

Powerful Soybeans

Growers from Kansas City, MO to Madison, WI are increasing their acres of Power Plus®, Hughes and Hoblit soybeans. The reasons are simple — quality seed, excellent service and top yields. If you have not tried our soybeans yet, find out what you have been missing.

Rob Church

Rob Church has recently been hired as a new Burrus Account Manager in the northwestern region of Missouri. He has a background in sales and seed production. His desire is to match the customers' needs with the right product. He enjoys building good rapport with customers with consistent, high quality service.

Rob and wife Sylvia have made Maryville, MO their home. Together they are the parents of a son, Kevin, who is stationed in Germany serving as a Green Beret with the Army Special Forces. He and his wife, Kristie, are the parents of Rob and Sylvia's only grandchild, Olivia. They also have two daughters, Sileen who along with her husband Andrew live in Kansas City, MO and Gabby, a freshman at University of Central Missouri at Warrensburg, MO.

In his spare time Rob enjoys wood-working, hunting, and fishing. His passion has always been in agriculture. Rob can be reached at 816-244-9526. He is inter-



ested in making your farm more profitable by providing assistance in placing the right hybrids on the right soils. Put his knowledge to work on your farm.

CARROLL

Casner Farms
Carrollton, MO

Planted: May 20 in 30" rows. **Planting Population:** 140,000. **Harvested:** October 24. **Previous Crop:** Corn. **Herbicide:** Authority pre post Perc+Gly-40oz+Cadet+Outlook. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-wet. **✓Check Hybrid:** Power Plus 36J3™*

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	57.7		11.9
POWER PLUS 32D5™ *	68.3	1	11.6
POWER PLUS 34T3™ *	67.8	2	11.9
✓Check	64.0		12.0
POWER PLUS 37N5™ *	63.7	6	12.1
POWER PLUS 39B3™ *	62.0	8	11.7
POWER PLUS 39R5™ *	65.7	3	12.0
POWER PLUS 41M4™ *	63.5	5	11.6
POWER PLUS 46A5™ *	60.7	7	12.3
POWER PLUS BPP38A16™ *	63.4	4	11.8
POWER PLUS BPP32A16™ *	58.5	9	11.6
✓Check	61.0		11.7
Average	63.0	—	11.8
Check Average	60.9	—	11.9

Soybean Planting Rates (1,000 seeds per acre)

Row Width	7.6 inch	16 inch	30 inch
Untreated	190-200	165-175	150-160
50-100% 2,4-D treated	170-175	145-155	125-135

Use higher end of range in less than ideal conditions.

Use higher end of range in less than ideal conditions.

Guide to Accurate Soybean Planting

	Small to Normal Seed Size 2500 seeds per pound or greater, 88 lbs. or less per 140 k unit	Large Seed Size 2500 seeds per pound or less (1800 to 2600) 68lbs. Per 140K unit or more
John Deere Non-Vac (Finger Pickup Type Corn Planters)*1 *4 *15	Using Knife Brush Mixers - 2500 seeds/lb or more Black Brush Type 60 Cell Seed Metering Plate Using Radial Metering Bean Plate - 8700 - 4500 seeds/lb setting "A", 2600 - 2700 seeds/lb setting "B"	Using Knife Brush Mixers - 2500 seeds/lb or more Black Brush Type 48 Cell Seed Metering Plate Using Radial Metering Bean Plate - 2600 - 2800 seeds/lb setting "C"
Knife Non-Vac (Finger Pickup Type Corn Planters)*2 *1 *15	2500 seeds/lb or more Black Brush Type 60 Cell Seed Metering Plate	2500 seeds/lb or more Black Brush Type 48 Cell Seed Metering Plate
John Deere Vac Planters *3 *1 *15	Only use disk option - Vacuum setting at 8	Only one disk option - Vacuum setting at 9 (test and adjust according to) 1) feeding problems persist - move the elbow from the hose feeding the hopper
Knife Vac Planters *2 *1 *15	Use 60 cell plate - Singular setting at 5 - Vacuum setting at 10	Use 60 cell plate - Singular setting of 5 - Start vacuum setting at 10 (test and adjust seed depth)
Disk IH Vac Planters *6 *1 *15	2600 - 3500 seeds/lb 163011A1 disc - Singular setting at 8 - Vacuum at 15-17" 3500 - 4500 seeds/lb 6742630 disc or comparable - Singular setting at 8 - Vacuum at 15-17" 4500 - 5500 seeds/lb 67668875 disc or comparable - Singular setting at 8 - Vacuum at 15-17"	2600 - 3500 seeds/lb 67668875 disc or comparable - Singular setting at 8 - Vacuum at 15-17"
Wheeled Vac Planters *7 *1 *15	3000 - 4500 seeds/lb Use 7000722513 (120 cell) disc - Air pressure at 1 - 3" 3000 - 3500 seeds/lb Use 652432 (120 cell) disc for 30" rows - Air pressure at 2 - 2.5" 3000 - 3500 seeds/lb Use 652433 (60 cell) disc for 15" rows - Air pressure at 2 - 2.5"	3000 - 3500 seeds/lb Use 652432 (120 cell) disc for 30" rows - Air pressure at 2 - 2.5" 3000-3600 seeds/lb Use 652433 (60 cell) disc for 15" rows - Air pressure at 2 - 2.5" (test and adjust seed depth)

*1 Consult operator's manual for additional auger and recommendations

*2 Use 2500 seeds/lb or greater for a standard 204 hopper, and 54 lbs or greater per row combination

*3 For corn 15 to 20 lbs. per 140 k unit of seed for all planted seeds and a full vacuum bag of the seed tested seeds

*4 Set on 2500 seeds/lb or lower

*5 Adjust seed depth to 1 to 2 inches ideal

*6 Clean the gascon hoses to avoid air flow restrictions

*7 Do not exceed 25 MPH or seed rate

Seeds must be tested for purity



MISCELLANEOUS



Tami & Tom Moore saw our multi-brand strategy beat Pioneer in Winnebago Co. Also pictured are Tom Burrus & David Hughes presenting them with a "dealer of the year" award.



Burrus Account Manager, Donny Marnin & Kevin, Gayle, Rachel & Adam Casner saw their DATA plot average 241 bu/a in Carroll Co., MO.

CHARITON

**69.1 bu/a for
Power Plus® 34T3™***

COMPARE! Mark Jenkins
Keytesville, MO

Planted: May 14 in 30" rows. **Planting Population:** 150,000. **Harvested:** October 24. **Previous Crop:** Corn. **Herbicide:** Roundup, Resource. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 34T3™*	69.1	12.4
POWER PLUS 36J3™*	65.0	12.4
POWER PLUS 37N5™*	63.7	12.7
POWER PLUS 39B3™*	61.7	12.6
POWER PLUS 41M4™*	61.4	12.6
POWER PLUS 39R5™*	51.9	13.0
Average	62.1	12.6

**McCormick Farms
Sumner, MO**

Planted: May 16 in 30" rows. **Planting Population:** 150,000. **Harvested:** October 20. **Previous Crop:** Corn. **Herbicide:** Roundup, Resource. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
Asgrow AG3832	73.2	13.2
Asgrow AG4135	69.3	13.0
Asgrow AG3934	67.1	12.9
POWER PLUS 39R5™*	67.0	13.0
Asgrow AG4034	66.2	13.1
Morsoy 38X52	64.8	13.3
Asgrow AG3735	64.6	12.7
Morsoy 39X14	64.1	13.1
Morsoy 43X53	63.3	13.2
Asgrow AG3634	62.8	13.1
POWER PLUS 39B3™*	61.3	13.3
Morsoy R2 37X41N	61.2	13.2
POWER PLUS 36J3™*	59.3	13.3
Morsoy 37X24	59.0	13.2
Pioneer 94Y23	58.4	13.0
Pioneer P39T67R	57.8	13.0
Pioneer P39T67R	57.8	13.0
Morsoy 41X04	56.3	13.2
Asgrow AG4232	56.3	13.3
POWER PLUS 37N5™*	50.9	13.7
POWER PLUS 41M4™*	49.0	13.7
Average	61.4	13.2

MISSOURI

Use of drones in agriculture

By John Williams C.C.A. /C.P.Ag.

Unmanned aerial vehicles (UAVs) are evolving into a robust tool for precision agriculture. Farmers throughout the mid-west could benefit from this technology by becoming better managers of their production practices.

There has been a surge in interest in the development and use of UAVs for agricultural applications. Media reports indicate that the agriculture industry could potentially be the largest user of this technology. Experts point to agriculture as the most promising commercial market for drones, because the technology is a perfect fit for large scale farms and vast rural areas where privacy and safety issues are less of a concern.

Most of the practical applications of UAVs so far have occurred in Europe, Canada, Australia, and Japan where there are fewer airspace regulations compared to United States. Use of UAVs for commercial purposes is prohibited in the United States; only hobbyists are allowed to fly small, radio-controlled airplanes for recreational purposes.

Currently, there are two broad platforms for UAVs, namely the "Fixed Wing" and "Rotary Wing" (copter) types. Fixed wing UAVs have the advantage of being able to fly at high speeds for long durations with simpler aerodynamic features. Some of them do not even require a runway or launcher for takeoff and landing. The rotary wing UAVs have the advantage of being able to take off and land vertically and hover over a target. However, because of mechanical complexity and shortened battery power, they have a short flight range.

These UAVs fly up to an altitude of 400 feet and are able to follow the same path or GPS-guided routes daily, weekly or as desired. Cameras gather images with normal light, infrared, or thermal. Additionally, cameras are capable of still



photos or video formats. These images are digitized, geo-referenced and mapped.

Already farmers, crop consultants, researchers, and companies can use this information to scout crops, detect nutrient deficiencies, assess flood or drought damage, forecast weather patterns, monitor wildlife and even locate cattle in distant pastures. Research also reveals that UAVs can be used for detecting atmospheric microbes and air pollution. Spot-spraying chemicals and micronutrients is another use.

Because of the growing interest and potential demand for this technology, the U.S. Congress has directed the Federal Aviation Agency (FAA) to write regulations about UAV technology use for commercial purposes and to specify restrictions for their use. However, the progress has been slow because of public safety and privacy concerns and objections from consumer rights groups. The FAA currently allows special certifications for non-profit organizations such as universities and the military to test whether these devices can safely be integrated into the national air space. The expectation is that the FAA will formulate these regulations sometime next year.

Oregon State University researchers flew drones this summer over potato fields to monitor for disease. Oregon nurseries have also partnered with researchers to test unmanned technology to count potted trees.

In Florida, farmers and researchers have used small unmanned helicopters

equipped with infrared cameras to monitor orange trees for the deadly citrus greening, a bacterial disease that kills the trees. Greening begins at the top of the tree.

At the University of California, Davis, professors have teamed up with Yamaha Motor Corp. USA to fly unmanned remote-controlled helicopters to spray vineyards and orchards.

Some benefits of using drones in farming are finding potential yield problems in a timely fashion. All growers know the value of scouting their field, but few actually have time to cover all of the acres on foot. This is where a UAV could save time.

At an average of \$2 per acre for a walking, visual inspection, or an aerial survey to take an image of crop fields, the return on investment on the purchase of an aerial helicopter drone can be met quickly. In most operations, the return on investment for drones can be achieved in a crop season or less, leaving you with the ownership of a drone that reduces your operating costs and improves your crop yield by giving you the timely information for quick management intervention.

UAV products can be very complex to set-up and operate, but new preset standards allow new operators to have confidence in operating the device from the beginning.

Most UAVs have GIS mapping and operators can draw borders for flight patterns. The use of infrared cameras allows the grower to tell the true health of his field in a color contrast that allows him to see how much sunlight is being absorbed by the crop canopy.

Drones are very safe to operate. As an added safety feature most drones will return to their original takeoff location if they lose their signal.

In the future we will be talking about surgical agriculture, that allows us to be more environmentally friendly, because we can be even more precise in how we apply fertilizer, water, or pesticides.



Check out burrusseed.com. It is the place to see the latest news on what is happening on the farm and around Burrus.

GRUNDY

New LibertyLink® beans excel



G & B Farms
Spickard, MO

Planted: May 23 in 30" rows. **Planting Population:** 140,000. **Harvested:** October 11. **Previous Crop:** Corn. **Herbicide:** Liberty. **Soil Type:** Light clay. **Weather:** May-wet, June-wet, July-dry, August-normal.

Brand/Product	Bu. Per Acre	% Moisture
HOBLIT 405LL	64.4	13.0
HOBLIT 355LL	64.2	13.3
HOBLIT 384LL	61.9	12.7
HOBLIT 405LL	61.7	13.0
HOBLIT 423LL	60.6	12.7
HOBLIT 343LL	49.5	13.2
Average	60.4	13.0

LAFAYETTE

LibertyLink® -vs- Roundup Ready®

David Dobson
Lexington, MO

Planted: May 15 in 15" rows. **Planting Population:** 160,000. **Harvested:** November 1. **Previous Crop:** Corn. **Herbicide:** RR + 2,4-D; Envive & Corbra. **Soil Type:** Medium loam. **Weather:** May-normal, June-wet, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
HOBLIT 384LL	64.4	11.4
HOBLIT 405LL	63.1	11.3
POWER PLUS 38D2™*	61.7	11.5
POWER PLUS 46A5™*	59.3	11.1
POWER PLUS 38D2™*	56.3	11.6
POWER PLUS 41M4™*	55.0	11.5
POWER PLUS 37N5™*	54.4	11.4
POWER PLUS 34T3™*	53.8	11.4
POWER PLUS 36J3™*	51.1	11.5
POWER PLUS 39R5™*	49.5	11.9
POWER PLUS 39B3™*	48.5	11.3
HOBLIT 343LL	43.8	11.5
Average	55.1	11.5

MACON

Hartung Bros Inc.
Macon, MO

Planted: May 16 in 30" rows. **Planting Population:** 165,000. **Harvested:** October 20. **Previous Crop:** Corn. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 41M4™*	76.2	13.5
Pioneer 94Y22	76.0	14.1
Average	76.1	13.8

SHELBY

Power Plus® 36J3™* steals the show

Rutter Farms Inc.
Shelbina, MO

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AM1 – Optimum®AcreMax®1 Insect Protection System with an integrated corn rootworm refuge solution includes HXX, LL, RR2. Optimum AcreMax 1 products contain the LibertyLink® gene and can be sprayed with Liberty® herbicide. The required corn borer refuge can be planted up to half a mile away. **AMRW** – Optimum AcreMax RW Rootworm Protection system with a single-bag integrated corn rootworm refuge solution includes HXRW, LL, RR2. **AM** – Optimum AcreMax Insect Protection system with YGCB, HX1, LL, RR2. Contains a single-bag integrated refuge solution for above-ground insects. In EPA designed cotton growing counties, a 20% separated corn borer refuge must be planted with Optimum AcreMax products. **AMX** – Optimum AcreMax Xtra Insect Protection system with YGCB, HXX, LL, RR2. Contains a single-bag integrated refuge solution for above- and below-ground insects. In EPA-designed cotton growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMax Xtra products. **AMXT (Optimum AcreMaxXTreme)** – Contains a single-bag integrated refuge solution for above- and below-ground insects. The major component contains the Agrisure®RW trait, the YieldGard® Corn Borer gene, and the Herculex® XTRA genes. In EPA-designated cotton growing counties, a 20% separate corn borer refuge must be planted with Optimum AcreMaxXTreme.

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Planted: May 6 in 30" rows. **Planting Population:** 165,000. **Harvested:** October 22. **Previous Crop:** Soybeans. **Herbicide:** Prefix, Roundup, Warrant. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-dry, August-wet.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 36J3™*	72.1	12.7

POWER PLUS BPP42A16™*	68.1	12.3
POWER PLUS BPP38A16™*	66.8	12.6
POWER PLUS 41M4™*	66.4	12.6
POWER PLUS 37N5™*	65.8	12.8
POWER PLUS 39R5™*	62.7	12.9
Average	67.0	12.6

information call toll free 1-866-99-BAYER (1-866-992-2937) or visit BayerCropScience.us. Seed products with the LibertyLink (LL) trait are resistant to the herbicide glufosinate ammonium, an alternative to glyphosate, and combine high yielding genetics with the powerful, non-selective, post emergent weed control of Liberty herbicide for optimum yield and excellent weed control.

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CruiserMaxx Corn 250 is an application of Cruiser 5FX insecticide delivered at the 0.25 mg a.i./seed rate and Maxim Quattro fungicide.

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Important: Always read and follow label instructions. Some crop protection products may not be registered for sale or use in all states or counties. Please check with your local extension service to ensure registration status.

Caution: Do not spray E-Z Refuge® products with Liberty® or Ignite® Brand Herbicides. Agrisure® Technology incorporated into these seeds is commercialized under license from Syngenta Seeds, Inc. Herculex® Technology incorporated into these seeds is commercialized under license from Dow AgroSciences LLC. HERCULEX® and the HERCULEX Shield are trademarks of Dow AgroSciences LLC.

Before opening a bag of seed, be sure to read and understand the stewardship requirements, including applicable refuge requirements for insect resistance management, for the biotechnology traits expressed in the seed set forth in the technology agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation to comply with those stewardship requirements.



Before opening a bag of seed, be sure to read, understand and accept the stewardship requirements, including applicable refuge requirements for insect resistance management, for the biotechnology traits expressed in the seed as set forth in the technology agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation to comply with the most recent stewardship requirements.





Think twice before you plant beans following beans

There are a significant number of growers in Missouri who routinely grow 2/3 – 3/4 of their acres to soybeans meaning soybean after soybean rotation. Some growers who have not had good luck growing corn, have an expectation of lower input costs, want lower machinery requirements at harvest, or are looking at the grain market outlook when deciding to grow soybeans after soybeans. Almost all sources say that if a grower chooses to go with a continuous soybean after soybean rotation, he most likely should expect potential yield loss. Often this yield loss gradually increases, the longer that a field is planted with only soybeans. Most sources say that there can be up to 5% – 15% yield loss potential in soybeans planted after soybeans, when compared to a corn after soybean rotation. One source said that in stress years, there could be up to 20% yield loss in soybeans planted after soybeans.

However, Dr. Emerson Nafziger, from the University of Illinois says that yield loss was not as high as some expected after analyzing 15 years of data from continuous soybean plots planted at University of Illinois Research stations in western Illinois. He found that in some locations, a field planted continuously to soybeans only yielded a few bushels less, when compared to a similar field planted to soybeans following corn. In a nutshell, if you choose to grow soybeans after soybeans, the days of “planting soybeans and forgetting them” are over. A soybean after soybean crop will need to be highly managed. Field placement, fertility, production selection, disease scouting, and weed management will all be factors for determining potential yield loss.

The biggest disadvantage of a continuous soybean crop is the potential for an increase in disease as well as soybean cyst nematode populations. Many are unaware of just how many disease management benefits are gained with crop rotation.

Soil borne diseases such as pythium and phytophthora don't necessarily increase when soybeans are planted after soybeans, but they are something you will need to contend with if fields are stressed, low-lying, or consist of poor drainage. Diseases that overwinter in soybean residue, such as bacterial blight, stem canker, pod and stem blight, Septoria brown spot, or frogeye leaf spot will increase.

Frogeye leaf spot is one example of

a disease that can cause significant yield losses in soybeans if found at high levels during flowering (R1-R3) on susceptible varieties. If survival structures of Sudden Death Syndrome or white mold are found in the soil, a continuous soybean crop will be truly challenging. The greatest threat to soybeans is soybean cyst nematodes (SCN). It is strongly recommended to conduct SCN test before planting soybeans after soybeans.

Not just any field will do if planting soybeans after soybeans. This is because the yield penalty will only become greater in environments less suited for soybean growth. Avoid fields that are low lying or have poor drainage as these are the fields that will be more vulnerable to root rot diseases. The addition of seed treatments such as PowerShield® for early season disease and insect control is strongly recommended to encourage early season vigor. In addition, fields that have a history of heavy SDS, SCN, or white mold infection or infestation are not suited for a continuous soybean operation.

Product selection of soybean varieties with disease resistance is critical, especially if there is a field history of soybean disease. Most soybean varieties have disease ratings for diseases such as SCN, Phytophthora, brown stem rot, SDS, frog-eye leaf spot, and white mold. It is also recommended that you rotate between soybean varieties so that you are not depending on the same source of resistance every year, which can encourage the onset of disease resistance.

Often planting shorter season or shorter relative maturities of soybeans will help avoid diseases that tend to make their debut later in the season. Some sources encourage a slight increase in planting populations within continuous soybeans; however, lower planting populations will be needed to reduce the onset of white mold. In addition, increasing row width to 30 inches will help reduce disease. The planting date of soybeans may also need to be later for some diseases such as SDS that are more likely to infect soybeans in cooler or wetter soil conditions.

The next yield threat in a continuous soybean operation will be weeds. This is because weeds are more apt to be kept in balance within a crop rotation. Growing soybeans after soybeans can cause a shift in weed species or increase one particular weed species due to the likelihood of herbicide tolerance. If weeds are a problem, later planting into warmer soils can aid crop emergence, so that the soybeans

can better compete with weed infestation. If the disease white mold is not an issue, then narrow rows may be a way to encourage a faster canopy to face weed competition.

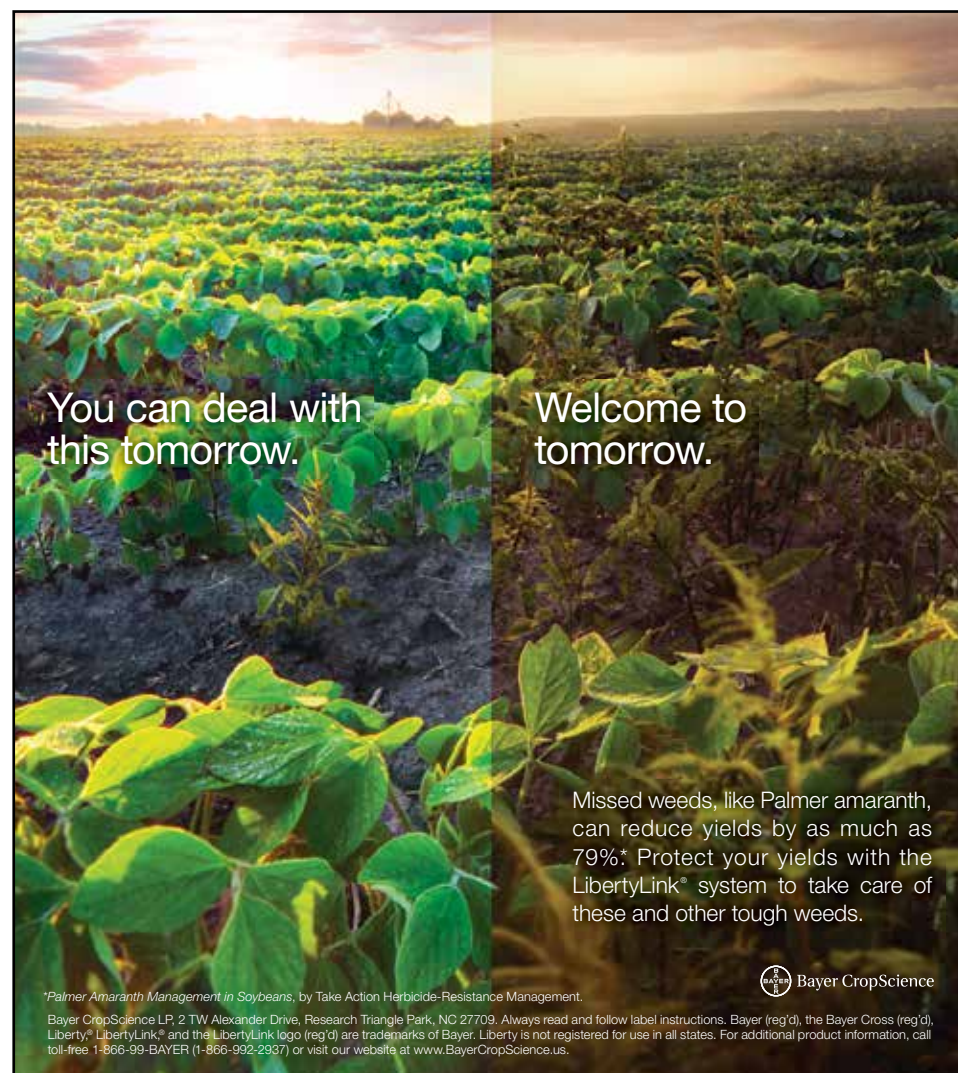
Weeds will always try to fill bare soil. On the other hand, wider rows leave the option for tillage of weeds or incorporation of residue, which could harbor disease; however, tillage of any kind might aid erosion. When it comes to herbicides, a weed resistance problem is much more likely in soybeans following soybeans because it is much more difficult to rotate herbicides with different modes of action. It is highly advised to always start with a clean field before planting soybeans. A different herbicide program which consists of pre-emergence and post-emergence herbicides is required each year to keep weeds in check as well as curb the development of herbicide resistance within weed populations. Consequently, a LibertyLink® system program followed by a Roundup Ready® program is recommended.

Soil testing and keeping Phosphorus (P) and Potassium (K) levels in check within continuous soybeans becomes extremely

important. Soybeans can remove up to .90lb of P and 1.50lbs. of K per bu/grain. Most of the K is taken up by the soybean plant 2 – 3 months after emergence and, if soybeans are deficient in K, the size and fill of grain will be reduced. The soybean grain will remove significant levels of K at harvest. In addition, when compared to corn, soybeans will remove equal or greater amount of P from the soil due to the greater amounts of P take up by the soybean grain. Soil testing will reveal nutrient removal levels and offer a basis for P and K replacement for the following soybean crop. If deficient sulfur and zinc micronutrient levels might need to be supplemented in higher yielding environments.

It has been shown that biologicals, like those in the PowerShield soybean treatment, can establish favorable relations between the soybean plant and soil microorganisms, to enhance the uptake of critical nutrients such as nitrogen and phosphorus. While taking soil tests, also be sure to check the soil pH and make sure it is around 6.5 to 7.0 for adequate soybean growth.

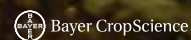
Finally, when comparing a soybean/soybean rotation to a corn/soybean rotation, there could be less soil residue left on the soil surface; therefore, there could be a greater likelihood of a lower amount of organic matter or biomass returned to the soil, reduced soil structure or less stable soil aggregates, as well as a greater likelihood for soil erosion to take place.



You can deal with this tomorrow.

Welcome to tomorrow.

Missed weeds, like Palmer amaranth, can reduce yields by as much as 79%*. Protect your yields with the LibertyLink® system to take care of these and other tough weeds.



*Palmer Amaranth Management in Soybeans, by Take Action Herbicide-Resistance Management. Bayer CropScience LP, 2 TW Alexander Drive, Research Triangle Park, NC 27709. Always read and follow label instructions. Bayer (reg'd), the Bayer Cross (reg'd), Liberty, LibertyLink® and the LibertyLink logo (reg'd) are trademarks of Bayer. Liberty is not registered for use in all states. For additional product information, call toll-free 1-866-99-BAYER (1-866-992-2337) or visit our website at www.BayerCropScience.us.



You can rely on Burrus/Hughes. We can deliver a choice of products and traits that most single suppliers can't match.



Power Plus® 5C17AMXT™* made 270 bu/a in Clinton Co., IA for Wayne & Stan Harmsen.



Power Plus® 5C16™* rolled out 243.1 bu/a for Sherry & Ron Woodworth of Lafayette Co., WI.



Mason & Adam Krohe, sons of Kevin & Martha Krohe, are all giggles! They are the grandsons of Todd & Debbie Burrus.



Tom Novak saw Hughes 5124 GT roll out 203.7 bu/a in Iowa Co., WI.

IOWA

Tom Novak
Highland, WI

Planted: May 12 in 19" rows. **Planting Population:** 160,000. **Harvested:** October 10. **Previous Crop:** Corn. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
Latham L2384	68.3	12.0
Latham L2084R2	67.8	10.0
Latham L 2448	66.9	12.0
Pfister 2X241	66.3	11.0
HUGHES 201RR	66.2	10.0
Pfister 20R23	62.8	13.0
Latham L1985R2	61.5	11.0
Average	65.7	11.3

LAFAYETTE

Power Plus®
experimentals
above 70 bu/a

Ron Woodworth
Shullsburg, WI

Planted: May 12 in 30" rows. **Harvested:** October 10. **Previous Crop:** Corn.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 25X5™*	73.3	11.1
POWER PLUS 26X5™*	70.4	11.2
HUGHES 201RR	69.0	11.3
HUGHES 555RR	67.9	11.2
POWER PLUS 25H4™*	66.0	11.3
POWER PLUS 24P4™*	65.2	11.4
POWER PLUS 25G3™*	62.5	11.4
Average	67.8	11.3

RACINE

Power Plus® 24P4™*
at third with 67 bu/a



Rowntree Farms
Kansasville, WI

Planted: May 12 in 30" rows. **Harvested:** October 11. **Previous Crop:** Corn. **Herbicide:** Prowl H20 + FirstRate (PPI); Abundit Xtra (Post). **Soil Type:** Sandy loam. **Weather:** May-wet, June-wet, July-wet, August-wet. **✓Check Hybrid:** NK Brand 25-E5

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	62.9		11.5
NK Brand S19-Z9	69.1	2	11.4
HUGHES 201RR	64.4	8	11.6
Pioneer P22T69R	65.9	7	11.4
Mycogen 5N223R2	65.4	6	11.5
Dyna-Gro 22RY64	55.7	11	11.6
POWER PLUS 24P4™*	67.3	3	11.4
✓Check	61.4		11.3
Pioneer P25T51R	68.6	1	11.5
Dyna-Gro 25RY44	65.9	5	11.1
NK Brand S26P3	62.3	9	11.3
Mycogen 5N284R2	57.9	10	11.7
Pioneer P28T33R	68.2	4	11.8
✓Check	63.7		11.1
Average	64.2		11.4
Check Average	62.7		11.3

WALWORTH

Power Plus® 24P4™*
at 65 bu/a



Gifford Bros.
Genoa City, WI

Planted: May 31 in 30" rows. **Harvested:** October 25. **Previous Crop:** Corn. **✓Check Hybrid:** Pioneer 92Y51

Brand-Variety	Bu. Per Acre	Rank	% Moisture
NK Brand S19-Z9	60.0	7	12.7
HUGHES 201RR	56.0	11	12.9
Croplan R2C2263	53.0	13	12.9
✓Check	61.0		13.3
Pioneer P22T69R	55.0	12	12.9
Mycogen 5N223R2	61.0	6	12.8
Dyna-Gro 22RY64	60.0	8	13.4
POWER PLUS 24P4™*	65.0	1	13.3
✓Check	63.0		13.1
Dyna-Gro 25RY44	63.0	5	13.3
Pioneer P25T51R	64.0	2	13.4
NK Brand S26P3	60.0	10	13.1
Mycogen 5N284R2	63.0	4	13.1
Pioneer P28T33R	60.0	9	13.2
Croplan R2C2863	64.0	3	13.3
✓Check	63.0		13.0
Average	60.7		13.1
Check Average	62.3		13.1

Liberty® today.
Cleaner fields tomorrow.

With the LibertyLink® system, weeds are exposed to a different chemistry with a unique mode of action, letting you handle your toughest weeds while protecting your yield, your profit and the long-term success of your operation.

Learn more at BayerCropScience.us.

And now you can get up to \$14/acre back when you buy Liberty® and qualifying residuals with your LibertyLink soybean purchase. Talk to your retailer to find out more.

Bayer CropScience

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Brad Kufalk

Burrus/Hughes Hybrids are pleased to add Brad Kufalk to our sales team. Brad serves as an Account Manager for the Illinois counties of Boone, McHenry, Lake and northern third of DeKalb and Kane, and Wisconsin counties of Walworth, Racine, Kenosha, Dodge, Jefferson, Milwaukee, Ozaukee, Washington, and Waukesha. He has been selling seed in east central Wisconsin for 10 years.

Brad and his wife, Maureen have three children. Their son Tyler works as an electrical engineer tech, daughter Chelsea is a manager at a Family Video and son Kyle is a computer engineering student at University of Wisconsin at Madison.

In his spare time Brad enjoys hunting, fishing, beekeeping and many other outdoor activities.

Give Brad a call and put his knowl-



edge to work to help you hunt for the big yields in your operation. His passion for high yield will pay dividends. He can be reached at 920-296-3088 or brad.kufalk@hugheshybrids.com.





SOYBEAN UPDATE



ON FARM ASSESSMENTS

201RR Brand



Maturity 2.1

- Comes from a good family
- Early yield power
- Very good white mold score
- Brown Stem Rot (BSR) resistant
- Widely adapted
- Avoid fields with history of severe SCN

Emergence

Standability

SDS

1

2

3

4

5

6



7

8

9

10

24P4™* Brand



Maturity 2.4

- Outstanding Peking SCN resistance
- Excellent Phytophthora resistance & field tolerance
- Exceptional emergence and standability
- Above average plant height and canopy
- Excellent Frogeye package with reduced shattering potential
- Excellent broad disease package

Emergence

Standability

SDS

1

2

3

4

5

6



7

8

9

10

555RR Brand



Maturity 2.5

- Very showy appearance
- Tremendous performance
- Cyst resistance is very good
- Excellent agronomics
- Best choice for stress-prone areas
- Plant in narrow rows

Emergence

Standability

SDS

1

2

3

4

5

6



7

8

9

10

25G3™* Brand



Maturity 2.5

- High yielding product
- Attractive compact plants
- Outstanding SCN resistance with Peking gene
- Multi-race Phytophthora resistance (Rps1c)
- Best performance on the better soils

Emergence

Standability

SDS

1

2

3

4

5

6



7

8

9

10

25H4™* Brand



Maturity 2.5

- Tall line with good standability
- Excellent in stress/light soil environments
- Strong emergence
- Good on Sudden Death Syndrome
- Great PI88788 resistance (Race 3)
- Impressive Brown Stem Rot package
- PowerShield® seed treatment optional

Emergence

Standability

SDS

1

2

3

4

5

6



7

8

9

10

777RR Brand



Maturity 2.7

- Good disease package
- Excellent yielding variety
- Phytophthora resistance (Rps1c)
- Cyst resistance is excellent
- Can handle all row width systems
- This big line will stand well for harvest
- Avoid wet soils

Emergence

Standability

SDS

1

2

3

4

5

6



7

8

9

10

28V2™* Brand



Maturity 2.8

- “Good as gold!”
- Tremendous yield punch with above average plant height
- Very good SCN races 3 and 14 resistance
- Multi-race Phytophthora resistance (Rps1k)
- Average charcoal rot ratings
- Outstanding Brown Stem Rot ratings
- Above average tolerance to aphids
- Excellent harvest standability

Emergence

Standability

SDS

1

2

3

4

5

6



7

8

9

10

28H5™* Brand



Maturity 2.8

- Game changing yield potential in Group 2
- Think Power Plus® 25G3™* appearance with more yield
- Works well on better soils
- Compact plants with wide canopy
- Excellent shattering and Frogeye scores
- Great emergence and standability ratings
- Good Phytophthora mulit race scores

Emergence

Standability

SDS

1

2

3

4

5

6

7

8

9

10

62



The Burrus family of soybean varieties continues to grow in popularity. Experience their outstanding performance on your farm.

To assess compliance, Burrus will use a third-party to conduct IRM compliance assessments for a randomly selected set of customers who purchased Bt hybrids as well as Roundup Ready soybeans. Following each on-farm assessment, it will be determined if the grower is in compliance. If a grower is found to be out of compliance Burrus will contact the grower prior to the next growing season to provide compliance assistance. Anyone found to be out of compliance will be checked the following two years. Repeated non compliance can result in loss of access to these technologies.

30B5™* Brand

Maturity 3.0

- Impressive yield statistics
- Best on your most productive, less drought prone soils
- Average plant height and canopy width
- Shattering and standability ratings, simply amazing
- Sturdy hypocotyl and fantastic emergence
- Great Downy mildew scores
- Great SCN protection for race 3 and 14 (PI88788)

Emergence	Standability	SDS
9	8	7

32D5™* Brand

Maturity 3.2

- Durable bean, well suited for moderate to highly productive soils
- A little taller than Power Plus®32K0™*, with a wider canopy
- Excellent emergence, great standability
- Good Frogeye protection
- Great SCN race 3 resistance (PI88788)
- Excellent broad disease package

Emergence	Standability	SDS
9	8	6

34T3™* Brand

Maturity 3.4

- Exceptional field emergence scores
- Great harvest standability
- Great SCN resistance with 88788 (Race 3)
- Multi-race Phytophthora resistance (Rps1K)
- Good tolerance to SDS
- Impressive BSR package
- Performs best on good soils but will work everywhere

Emergence	Standability	SDS
9	9	7

36J3™* Brand

Maturity 3.6

- Land lady eye appeal
- Very good SCN resistance
- Ultra high yield potential on all soil types
- Good Phytophthora and SDS resistance
- Works on all environments
- A new leader for this maturity

Emergence	Standability	SDS
9	9	7

37N5™* Brand

Maturity 3.7

- Brings incredible yield potential
- Well suited for less productive, well drained soils
- Expands the yield envelope in minimum and conventional till fields
- Great emergence scores with a stout hypocotyl
- Consider scouting as it responds to fungicides
- Average plant height and canopy width
- Race 3 & 14 SCN resistance (PI88788)

Emergence	Standability	SDS
8	7	6

38D2™* Brand

Maturity 3.8

- Very stable performance across locations
- Excellent field emergence scores
- Slightly above average plant height and canopy width
- Outstanding SCN race 3 resistance
- Multi-race Phytophthora resistance (Rps1k)
- Very good shattering resistance
- Excellent harvest standability
- Works on all environments

Emergence	Standability	SDS
9	9	7

39B3™* Brand

Maturity 3.9

- At home in Missouri and west central Illinois
- Excellent Frogeye leaf spot tolerance
- Good SCN resistance
- Very bushy plant style for wider rows
- Excellent shattering scores
- Works on all environments
- Short plant stature for maturity
- Great fall appearance

Emergence	Standability	SDS
8	8	5

39R5™* Brand

Maturity 3.9

- Expect a yellow flash
- Exceptional yield across all yield environments
- Incredible Frogeye scores
- If you struggled with Stem Canker in the past, this bean is for you!
- Brown spot resistance
- Good Downey mildew tolerance
- Great emergence and good standability

Emergence	Standability	SDS
8	8	6

41M4™* Brand

Maturity 4.1

- Really strong field emergence scores
- Great harvest standability
- Great SCN resistance with PI88788
- Really good phytophthora tolerance
- Performs best on better soil types/higher yielding environments
- A possible "kink in the armor" with Frogeye leaf spot

Emergence	Standability	SDS
9	9	7

46A5™* Brand

Maturity 4.6

- Pummels the competition with remarkable yields
- Great on low yield environments
- Great in high yield situations too
- May yellow flash when sprayed with Roundup
- Average height but exceptionally wide canopy for early row closure
- Stands well and holds shattering back
- A great bean if you fought Stem Canker in the past

Emergence	Standability	SDS
8	9	7

47A3™* Brand

Maturity 4.7

- Large, bushy plant style
- High yielding across soil types and environments
- Good Sudden Death Syndrome field tolerance
- Good Phytophthora field tolerance
- Excellent shattering resistance
- Very good harvest standability

Emergence	Standability	SDS
8	9	7



SOYBEAN UPDATE



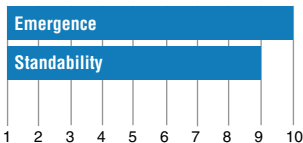
NEW

255LL Brand



Maturity

- Works well across all soil types
- Exceptional emergence, shattering and lodging scores
- Good against Charcoal Rot
- Great White mold and Brown Stem Rot scores
- Above average plant height and canopy width
- Great Phytophthora field tolerance (Rps 1k)



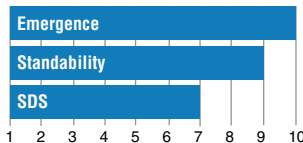
NEW

285LL Brand



Maturity 2.8

- Works across all soil types
- Great bean for your lighter soils
- Average plant height with wide canopy
- Emerges quickly and shatters little
- Exceptional disease resistance, Phytophthora, and Brown Stem Rot protection
- Good against SDS, White mold and SCN (PI88788)
- Great lodging score, too



LibertyLink® Soybeans

LibertyLink® soybeans with Liberty® herbicide is the most reliable management solution for weeds resistant to glyphosate and multiple herbicide classes. LibertyLink soybean varieties combine elite genetics and excellent crop safety with built-in tolerance to the powerful, postemergence weed control of Liberty. High-yielding LibertyLink soybean varieties are available in a range of maturities.

Liberty herbicide, applied over the top of LibertyLink soybean varieties, provides powerful control of broadleaf and grass weeds, including weeds resistant to glyphosate and multiple herbicide classes.

LibertyLink® Patent Statement

Soybean seeds containing LibertyLink® are protected under multiple U.S. patents and may be planted only to produce one (1) commercial crop, and only after signing a Bayer Grower Technology Agreement. It is illegal to save or catch soybean seeds containing the LibertyLink trait for use as planting seed or for transfer to others for use as planting seed.

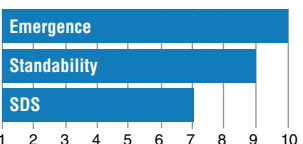
NEW

Hoblit 355LL Brand



Maturity 3.5

- Performs well across environments
- Excels on light soils
- Average plant height and wider than average canopy width
- Exceptional disease package, you can rest easy
- Good Phytophthora (Rsp 1k), BSR and SDS protection
- Outstanding scores on Charcoal and Frogeye
- Some of the best emergence, shattering and lodging scores

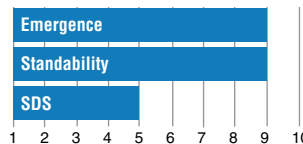


Hoblit 384LL Brand



Maturity 3.8

- Fantastic in past trials (#1 – 6 to 7 bushels above the mean)
- Exceptional emergence
- Short bean but good score on light soils
- Nice bean for those a little “shattering shy”
- Great standability
- Good Phytophthora scores



Liberty® Herbicide

Liberty® herbicide provides growers cost-effective, nonselective, postemergence weed management in days vs. weeks, across all LibertyLink® crops including corn, soybeans, cotton and canola. Liberty delivers powerful control of broadleaf and grass weeds, including weeds resistant to glyphosate and multiple herbicide classes.

Respect the Rotation™ Statement

Respect the Rotation™ is an initiative to elevate the importance and grower adoption of herbicide diversity to prevent or manage weed resistance. Glyphosate weed resistance is a dominating threat throughout the United States that affects land values, rental agreements, conservation tillage and can greatly reduce yields. The use of Integrated Weed Management practices, such as use of residuals, pre-emergence herbicides and rotation of crops, traits and herbicides, is critical as no one method is likely to be completely successful.

Bayer CropScience LP, 2 T.W. Alexander Drive, Research Triangle Park, NC 27709. Always read and follow label instructions. Bayer, the Bayer Cross, Invigor, Liberty, LibertyLink, Respect the Rotation™ and the Water Droplet Design are registered trademarks of Bayer. Liberty is not registered in all states. For additional product information call toll-free 1-866-99-BAYER (1-866-992-2937) or visit our website at www.BayerCropScience.us. Seed products with LibertyLink are tolerant to the herbicide glufosinate ammonium, an alternative to glyphosate, and combine high-yielding genetics with the powerful, nonselective, postemergence weed control of Liberty herbicide for higher yield potential and excellent weed control.

NEW

Hoblit 405LL Brand



Maturity 4.0

- Exceptional emergence with average height and width
- Works well across all soils
- Exceptional on lighter soils
- Great bean for the shatter shy
- Great Phytophthora tolerance (Rps 1c) don't worry about resistance
- Very good Frogeye as well as Root Knot tolerance
- SCN resistance (PI88788)



Hoblit 423LL Brand



Maturity 4.2

- Tremendously high yield potential
- Tall plant with good branching
- Great Phytophthora protection – Rps3a gene
- Will work in the glyphosate weed resistant areas of Illinois and Missouri





Remember walking beans? Respect the rotation of chemical families by planting LibertyLink® soybeans from Hoblit and or Hughes brands.

Soybean Ratings and Characteristics

Soybeans with Roundup Ready® gene																
	Maturity	Soybean Cyst Nematode	Herbicide Tolerance	Emergence	Standability	Shattering Score	Phytophthora (PRR)	Brown Stem Rot (BSR)	Sudden Death (SDS) Tolerance	Frogeye Leaf Spot Tolerance	White Mold	Iron Chlorosis	Canopy Width	Plant Height	Light Soils	Pubescence
Hughes Brand 201RR	2.1	None	RR	8	9	9	6	10	NR	NR	7	5	7	8	7	L. Tawny
Power Plus® Brand 24P4™*	2.4	Peking	RR	9	8	7	6	7	6	9	5	6	6	7	6	L. Tawny
Hughes Brand 555RR	2.5	PI88788	RR	9	9	9	6	7	7	NR	6	3	6	7	7	L. Tawny
Power Plus® Brand 25G3™*	2.5	Peking	RR	9	9	8	5	5	6	8	6	5	7	5	5	Gray
Power Plus® Brand 25H4™*	2.5	PI88788	RR	9	8	7	5	7	7	7	5	3	6	8	7	L. Tawny
Hughes Brand 777RR	2.7	PI88788	RR	8	9	9	6	8	8	NR	6	3	8	9	8	L. Tawny
Power Plus® Brand 28V2™*	2.8	PI88788	RR	9	9	7	5	8	7	9	6	4	6	8	8	L. Tawny
Power Plus® Brand 28H5™* NEW	2.8	PI88788	RR	8	8	8	7	5	6	9	5	5	8	6	7	Gray
Power Plus® Brand 30B5™* NEW	3.0	PI88788	RR	9	8	9	6	7	7	NR	5	3	8	6	5	L. Tawny
Power Plus® Brand 32D5™* NEW	3.2	PI88788	RR	9	8	NR	7	NR	6	7	5	5	8	6	5	L. Tawny
Power Plus® Brand 34T3™*	3.4	PI88788	RR	9	9	6	6	9	7	6	6	5	6	6	7	L. Tawny
Power Plus® Brand 36J3™*	3.6	PI88788	RR	9	9	NR	7	6	7	6	5	4	7	7	7	L. Tawny
Power Plus® Brand 37N5™* NEW	3.7	PI88788	RR	8	7	NR	4	9	6	5	5	4	8	7	8	Gray
Power Plus® Brand 38D2™*	3.8	PI88788	RR	9	9	7	6	6	7	5	NR	5	7	7	8	L. Tawny
Power Plus® Brand 39B3™*	3.9	PI88788	RR	8	8	9	6	8	5	7	4	4	8	7	9	Tawny
Power Plus® Brand 39R5™* NEW	3.9	PI88788	RR	8	8	NR	6	NR	6	9	5	5	8	7	8	Tawny
Power Plus® Brand 41M4™*	4.1	PI88788	RR	10	9	8	7	7	7	5	4	4	7	6	7	L. Tawny
Power Plus® Brand 46A5™* NEW	4.6	PI88788	RR	8	9	9	6	6	7	7	NR	4	8	9	9	Tawny
Power Plus® Brand 47A3™*	4.7	PI88788	RR	8	9	8	5	6	7	6	NR	2	8	9	9	Tawny

Soybeans with LibertyLink® gene																
	Maturity	Soybean Cyst Nematode	Herbicide Tolerance	Emergence	Standability	Shattering Score	Phytophthora (PRR)	Brown Stem Rot (BSR)	Sudden Death (SDS) Tolerance	Frogeye Leaf Spot Tolerance	White Mold	Iron Chlorosis	Canopy Width	Plant Height	Light Soils	Pubescence
Hughes Brand 255LL NEW	2.5	PI88788	LL	10	9	9	8	8	NR	NR	7	NR	7	7	8	L. Tawny
Hughes Brand 285LL NEW	2.8	PI88788	LL	10	9	9	8	8	7	NR	7	7	7	6	8	Gray
Hoblit Brand 355LL NEW	3.5	PI88788	LL	10	9	9	8	8	7	8	7	8	6	7	8	L. Tawny
Hoblit Brand 384LL	3.8	PI88788	LL	9	9	9	8	NR	5	7	NR	7	7	8	7	L. Tawny
Hoblit Brand 405LL NEW	4.0	PI88788	LL	10	9	9	8	8	7	8	7	7	6	6	8	L. Tawny
Hoblit Brand 423LL	4.2	PI88788	LL	10	9	9	8	NR	6	NR	NR	NR	7	8	8	L. Tawny

Ratings: 10 = Best, 1 = Poorest, NR = Not Rated

*Power Plus® brand seed is distributed by Burrus. ®Power Plus is a registered trademark of Pioneer Hi-Bred.

SEED PIRACY

Soybean Seed Piracy Statement: Roundup Ready® soybeans

Seeds containing the Roundup Ready® trait are protected under numerous U.S. patents. Seed containing patented traits, such as seed containing the Roundup Ready® trait, can only be used to plant a single commercial crop. It is unlawful to save and replant Roundup Ready® soybeans. Additional information and limitations on these products are provided in the Monsanto Technology Stewardship Agreement and the Monsanto Technology Use Guide. The licensed U.S. patents for Monsanto technologies can be found at the following webpage: monsanto.com/productpatents.

Monsanto Company is a member of Excellence Through Stewardship™ (ETS). This product has been commercialized in compliance with the ETS Product Launch Stewardship Guidance and the Monsanto Product Launch Stewardship policy, after meeting applicable regulatory requirements in key export markets with functioning regulatory systems. Any crop or material produced

from this product can only be exported to, or used, processed or sold in countries where all necessary regulatory approvals have been granted. It is a violation of national and international law to move material containing biotech traits across boundaries into nations where it is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship™ is a service mark of Biotechnology Industry Organization.

ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.

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CORN UPDATE



ABOVE / BELOW-GROUND INSECT CONTROL

1286 3000GT

Brand

94 Day Maturity

- Responds to high management practices
- Fixed ear requires population bump
- Husks open up for rapid dry down

Corn/Corn			
Early Vigor			
Population (group)	C	A	B

Drought Tolerance			
Stalk Strength			
Root Strength			

Not Advised Suitable Good Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

The problem solver.

2987 3011A

Brand

101 Day Maturity

- Excellent late-season stalk and fall appearance
- Consistent high yielding choice
- Good agronomics in early season product

Corn/Corn			
Early Vigor			
Population (group)	C	B	A

Drought Tolerance	Artesian™
Stalk Strength	
Root Strength	

Not Advised Suitable Good Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Gets it done when conditions are tough.

3953 3000 GT

Brand

103 Day Maturity

- Best adapted to IL/WI state line area
- Will work corn after corn
- Versatile product that performs across soil types

Corn/Corn			
Early Vigor			
Population (group)	A	C	B

Drought Tolerance			
Stalk Strength			
Root Strength			

Not Advised Suitable Good Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

A top performer for the state line.

2V56AMX™*

Brand

105 Day Maturity

- High test weight grain
- Good top-end yield potential leads to grower's smiles
- No refuge needed
- Will benefit from fungicide applications under GLS pressure

Corn/Corn			
Early Vigor			
Population (group)	A	C	B

Drought Tolerance	AQUAmax®
Stalk Strength	
Root Strength	

Not Advised Suitable Good Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Convenience, drought protection and yield.

5456 3000 GT

Brand

107 Day Maturity

- Excellent ear flex capability
- Very good fall appearance and intactness
- Husks open well for fast drydown

Corn/Corn			
Early Vigor			
Population (group)	A	C	B

Drought Tolerance			
Stalk Strength			
Root Strength			

Not Advised Suitable Good Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Fits all operations.

4Y27AMX™*

Brand

108S / 107N Day Maturity

- Excellent greensnap resistance along with excellent roots
- Good in no-till and early planting
- Optimum® AQUAmax® hybrid with great drought tolerance
- No refuge needed
- Count on this one for consistent performance

Corn/Corn			
Early Vigor			
Population (group)	C	A	B

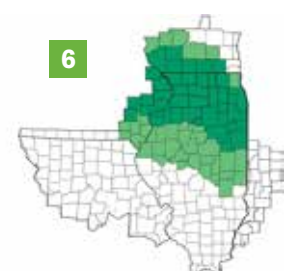
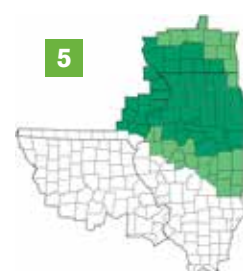
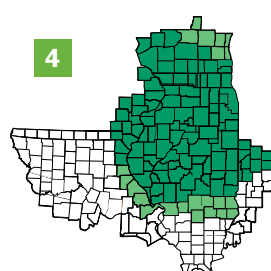
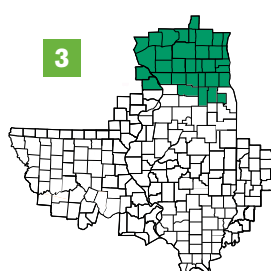
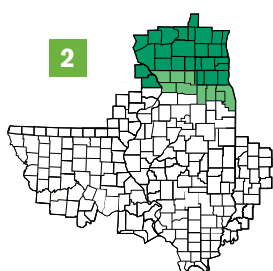
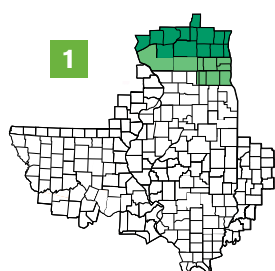
Drought Tolerance	AQUAmax®
Stalk Strength	
Root Strength	

Not Advised Suitable Good Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Plant it on your best farm.





Our word is good.
Customers trust our products and our word.

4G46AMX^{TM*}

Brand

108S / 107N Day Maturity

Corn/Corn

Early Vigor

Population (group)

A

C

B

Not Advised

Suitable

Good

Excellent

Drought Tolerance

Stalk Strength

Root Strength

1

2

3

4

5

6

7

8

9

10

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

• Heavy test weight grain

• Very good drought tolerance

• Responds to high management practices like fungicide applications

High yield with convenience.

7

4J95AMX^{TM*}

Brand

109 Day Maturity

Corn/Corn

Early Vigor

Population (group)

C

A

B

Not Advised

Suitable

Good

Excellent

Drought Tolerance

Stalk Strength

Root Strength

1

2

3

4

5

6

7

8

9

10

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

• Will adapt very well across geography and soil types

• Good agronomics and responds favorably to fungicide management

• Optimum[®] AQUAmax[®] hybrid with great drought tolerance

The new standard for yield with no refuge needed.

8

4685 3111

Brand

109S / 112N Day Maturity

Corn/Corn

Early Vigor

Population (group)

A

B

C

Not Advised

Suitable

Good

Excellent

Drought Tolerance

Stalk Strength

Root Strength

1

2

3

4

5

6

7

8

9

10

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

• Favorable drought tolerance scores

• Excellent plant integrity allows for harvest flexibility

• May respond to fungicide application management

Wide adaptation on all soils.

9



EASY TO USE PRODUCT SELECTION TOOLS

The hybrids are grouped with the same insect control or herbicide resistance together to simplify product selection.

Look at the callout color in the subhead of each spread and the number box at the bottom right of each product card for the hybrids featuring the insect control or herbicide resistance.

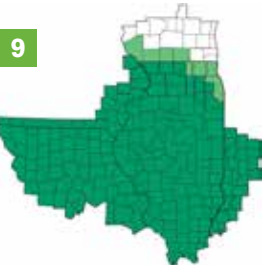
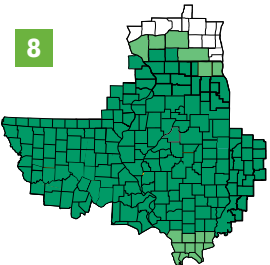
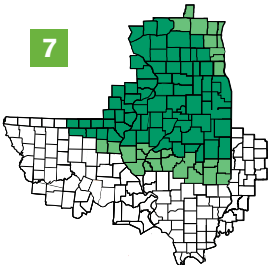
- The hybrids are grouped by:
- Above/Below-Ground Insect Control — GREEN

Above-Ground Insect Control — BLACK

Glyphosate-Resistant — RED

Non-GM — YELLOW

Other — ORANGE

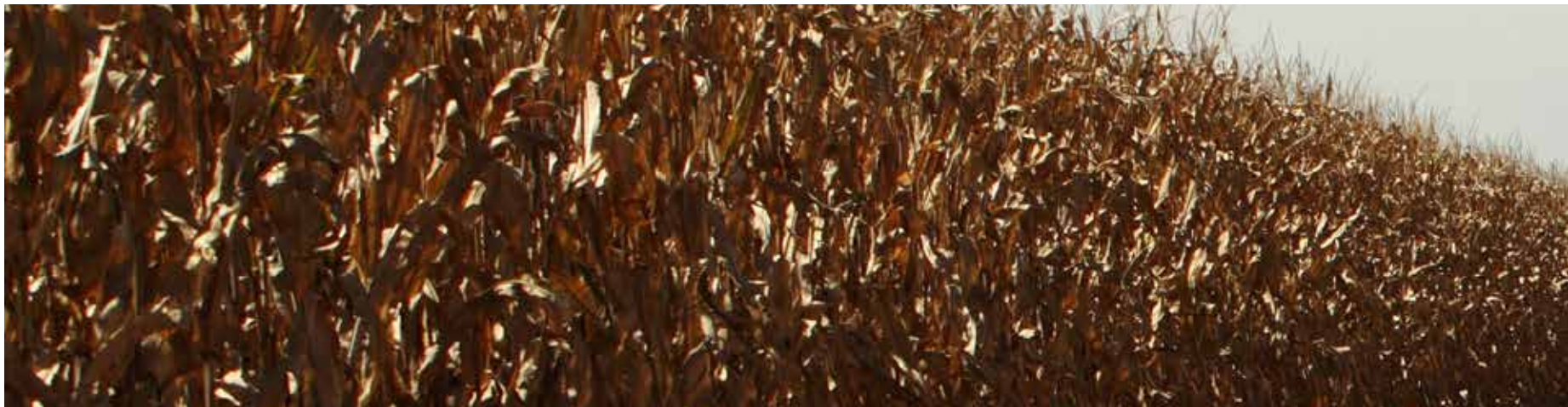




CORN UPDATE



ABOVE / BELOW-GROUND INSECT CONTROL



5C17AMXT™*
Brand

NEW

110 Day Maturity

- Plant it thick
- Enjoy its hard, heavy test weight grain
- 2 modes of action for both above and below ground insect control
- Responds to fungicides
- Husks that flair and thrives on prairie soils

Corn/Corn			
Early Vigor			
Population (group)	C	A	B
	Not Advised	Suitable	Good
			Excellent

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

Drought Tolerance

Stalk Strength

Root Strength

1 2 3 4 5 6 7 8 9 10

A new meaning for top end yield potential.

11

5Z44 3122
Brand

NEW

111 Day Maturity

- Excellent in corn-on-corn situations
- Big ears with deep kernels to make you proud
- Prefers low plant population densities
- Prefers the better soils
- Single bag refuge

Corn/Corn			
Early Vigor			
Population (group)	A	B	C
	Not Advised	Suitable	Good
			Excellent

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

Drought Tolerance

Stalk Strength

Root Strength

1 2 3 4 5 6 7 8 9 10

Long spiky kernels on a girthy ear spells yield.

12

6T54 3000GT
Brand

113 Day Maturity

- Great early planting choice because of excellent emergence ratings
- Use soil insecticide or add Poncho® 1250 VOTIVO® for second mode of rootworm control
- Responds to sidedressing
- Avoid wet feet

Corn/Corn			
Early Vigor			
Population (group)	C	A	B
	Not Advised	Suitable	Good
			Excellent

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

Drought Tolerance

Stalk Strength

Root Strength

1 2 3 4 5 6 7 8 9 10

It will fool you with more corn than it looks.

13

6F74AMX™*
Brand

113 Day Maturity

- No refuge needed
- Good drought tolerance as it prefers well drained soils
- Very good leaf disease and ear rot tolerances

Corn/Corn			
Early Vigor			
Population (group)	C	A	B
	Not Advised	Suitable	Good
			Excellent

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

Drought Tolerance

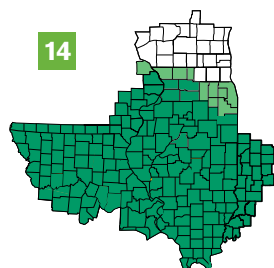
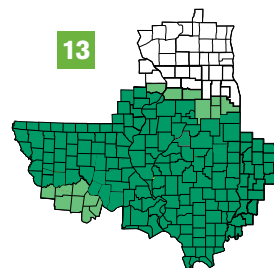
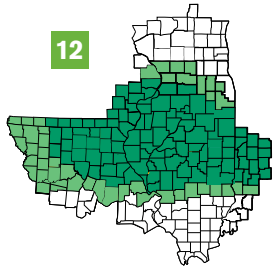
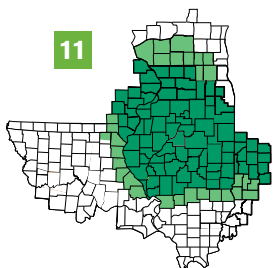
Stalk Strength

Root Strength

1 2 3 4 5 6 7 8 9 10

Plant it with confidence.

14





Every acre counts. Whole-farm yield comes from matching the Burrus family of products to your soils.

ABOVE / BELOW-GROUND INSECT CONTROL



WE UNDERSTAND

that we have to offer better products and provide more information and better service than the national brands.

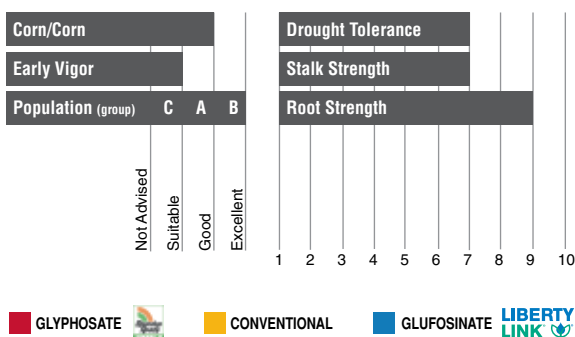
So we do.

6P75AMX™*
Brand

113 Day Maturity



- Performs on all soil types
- Responds to fungicides
- Tall plants with high ear placement
- Great in zones 6, 7, & 8



The Yield Dynamo

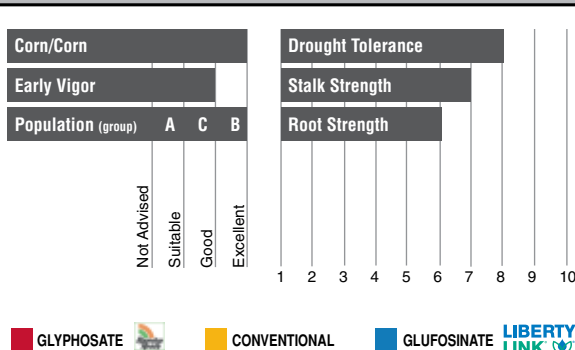
15

7A18AM1™*
Brand

114 Day Maturity



- Great choice for the corn rootworm areas
- Exceptional drought tolerance
- Nice stay green with good stalks and roots



Off the chart performance.

16

7893 3111
Brand

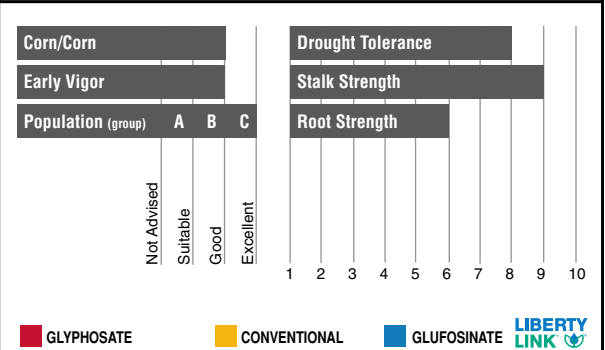
115 Day Maturity



Catalyst

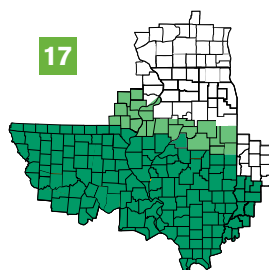
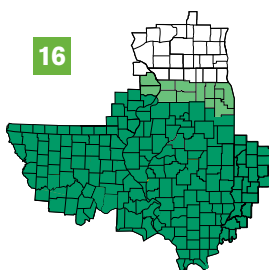
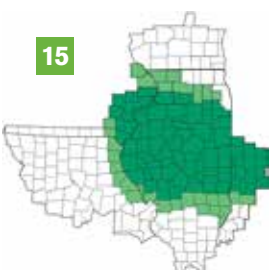


- Great choice for sand irrigated acres
- Harness the top end yield potential
- Best performance at lower plant density



The Banker's corn, plant it along the road.

17





CORN UPDATE



ABOVE-GROUND INSECT CONTROL

2N82AM™*
Brand

105 Day Maturity

POWER PLUS



- No additional (or separate) refuge required
- Optimum® AQUAmax® hybrid with great drought tolerance
- The ideal early season product for light soils
- Plant it early

Corn/Corn	
Early Vigor	
Population (group)	C B A

Not Advised
Suitable
Good
Excellent

Drought Tolerance	AQUAmax®
Stalk Strength	
Root Strength	

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

The ideal early product for light soils.

18

4V45AM™*
Brand

108 Day Maturity

POWER PLUS



- Well suited for clay, timber and varied soils
- Heavy test weight
- A strong disease package
- Slightly taller plant with higher ear placement.
- Same family as Power Plus® 4V43™*

Corn/Corn	
Early Vigor	
Population (group)	A C B

Not Advised
Suitable
Good
Excellent

Drought Tolerance	
Stalk Strength	
Root Strength	

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

The ideal product for Southern IL and MO.

19

4J93AM™*
Brand

109 Day Maturity

POWER PLUS



- Short, low ear with excellent ear retention
- Will work across geography and soil types
- Optimum® AQUAmax® hybrid with great drought tolerance
- No refuge needed

Corn/Corn	
Early Vigor	
Population (group)	C A B

Not Advised
Suitable
Good
Excellent

Drought Tolerance	AQUAmax®
Stalk Strength	
Root Strength	

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Setting a new performance standard.

20

6C41 S™*
Brand

112 Day Maturity

POWER PLUS



- Taller plant type with excellent stalks
- Designed for Southern Illinois and Missouri
- Heavy test weight grain
- Squeezes more grain out of a great year

Corn/Corn	
Early Vigor	
Population (group)	A B C

Not Advised
Suitable
Good
Excellent

Drought Tolerance	
Stalk Strength	
Root Strength	

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Hard endo premium candidate.

21

6N83AM™*
Brand

113 Day Maturity

POWER PLUS



- Girthy big ears
- Strong stalks with reduced risk of greensnap
- Short plant with a low ear
- Responds to fungicides

Corn/Corn	
Early Vigor	
Population (group)	A C B

Not Advised
Suitable
Good
Excellent

Drought Tolerance	AQUAmax®
Stalk Strength	
Root Strength	

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

For tough soils – Optimum® AQUAmax® rated.

22

7H23 S™*
Brand

114 Day Maturity

POWER PLUS



- Great drought tolerance allows for wide adaptability
- Excellent ear retention helps extend the harvest window
- Silks early for maturity
- Responds to sidedressing

Corn/Corn	
Early Vigor	
Population (group)	A C B

Not Advised
Suitable
Good
Excellent

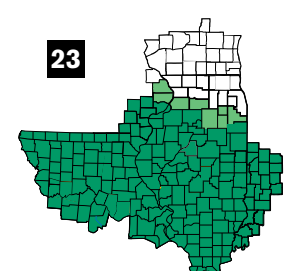
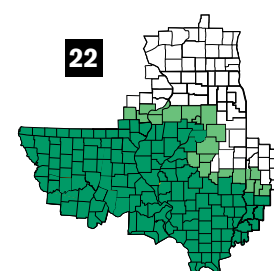
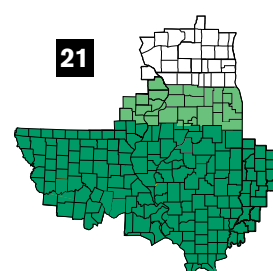
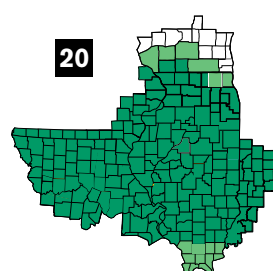
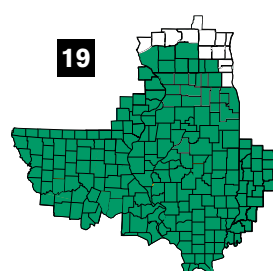
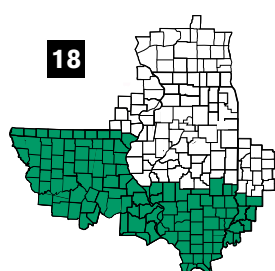
Drought Tolerance	
Stalk Strength	
Root Strength	

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Might have the most raw yield of any product.

23





We issue rain checks! With our 100% Free replant for 80 consecutive years, we guarantee growers a growing start.

7U15AM-R™*

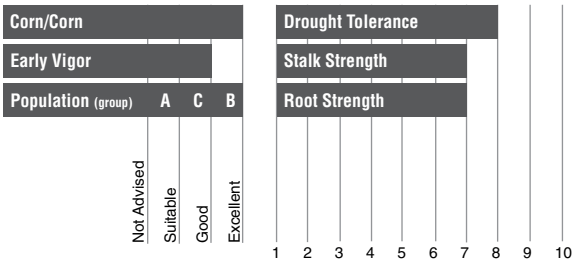
Brand



114 Day Maturity



- Excellent agronomic characteristics
- Good drought tolerance
- Growers will appreciate this high yield potential
- Do not spray with Liberty®



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Off the chart performance.

24

Are there chemicals to avoid?

Group		ALS Sulfonylureas	Plant Growth Regulators	HPPD Inhibitors	Glyphosate	Glufosinate
Above/ Below- Ground Insect Control	Power Plus® 2V56AMX™*	▼	●	●	●	●
	Hughes® 5456 3000GT	▼	▼	●	●	●
	Power Plus® 4Y27AMX™*	▼	▼	▼	●	●
	Power Plus® 4G46AMX™*	▼	▼	●	●	●
	Power Plus® 4J95AMX™*	●	▼	●	●	●
	Catalyst® 4685 3111	●	▼	●	●	●
	Power Plus® 5C17AMXT™*	▼	▼	●	●	●
	Burrus® 5Z44 3122	▼	▼	●	●	●
	Burrus® 6T54 3000GT	▼	●	▼	●	●
	Power Plus® 6F74AMX™*	▼	▼	●	●	●
Above- Ground Insect Control	Power Plus® 6P75AMX™*	●	●	▼	●	●
	Power Plus® 7A18AM1™*	▼	▼	●	●	●
	Catalyst® 7893 3111	▼	▼	▼	●	●
	Power Plus® 2N82AM™*	▼	▼	●	●	●
	Power Plus® 4V45AM™*	▼	▼	●	●	●
	Power Plus® 4J93AM™*	●	▼	●	●	●
	Power Plus® 6C41 S™*	▼	▼	●	●	●
	Power Plus® 6N83AM™*	▼	▼	●	●	●
Glyphosate- Resistant	Power Plus® 7H23 S™*	▼	●	●	●	●
	Power Plus® 7U15AM-R™*	▼	▼	●	●	●
	Hughes® 5124 GT	▼	▼	●	●	●
	Power Plus® 4P11 R™*	▼	▼	●	●	●
	Burrus® 5Z41 GT	▼	▼	●	●	●
Non-GM	Burrus® 6T51 GT	▼	●	▼	●	●
	Power Plus® 6F71 R™*	▼	▼	●	●	●
	Burrus® 5D30	▼	▼	●	●	●
	Power Plus® 5N48™*	▼	●	●	●	●
	Power Plus® 6C40™*	▼	▼	●	●	●
	Burrus® 6G64	▼	●	●	●	●
	Power Plus® 7H20™*	▼	●	●	●	●
	Burrus® 750	●	●	●	●	●

- Use
- ▼ Use with Caution
- Do No Use

Accent®
Resolve Q®
Steadfast®
Permit®
Basis®

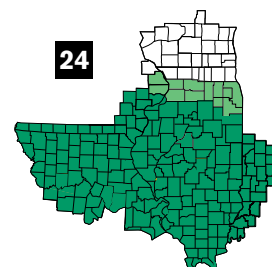
2,4-D
Banvel®
Status®
Clarity®
Distinct®
Marksman®
Stinger®

Balance Flexx®
Callisto®
Impact®
Laudis®

Roundup®
Touchdown®
Generic glyphosate

Liberty®
Ignite®

Data not available for Hughes® 1286 3000GT, 2987 3011A, 3953 3000GT, 2428 GTA, 3442 & Power Plus® 1B44 R™, 2T35™*, & 1M45AMRW-R™*



24



CORN UPDATE



GLYPHOSATE-RESISTANT



2428 GTA

Brand

100 Day Maturity

Corn/Corn

Early Vigor

Population (group)

C

B

A

Drought Tolerance

Stalk Strength

Root Strength

Artesian™

Not Advised

Suitable

Good

Excellent

1

2

3

4

5

6

7

8

9

10

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

Early and tough.

25

1B44 R™*

Brand

102 Day Maturity

Corn/Corn

Early Vigor

Population (group)

A

C

B

Drought Tolerance

Stalk Strength

Root Strength

Not Advised

Suitable

Good

Excellent

1

2

3

4

5

6

7

8

9

10

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

A very complete package.

26

NEW

5124 GT

Brand

107 Day Maturity

Corn/Corn

Early Vigor

Population (group)

A

C

B

Drought Tolerance

Stalk Strength

Root Strength

Not Advised

Suitable

Good

Excellent

1

2

3

4

5

6

7

8

9

10

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

Fits all operations.

27

4P11 R™*

Brand

108S / 105N Day Maturity

Corn/Corn

Early Vigor

Population (group)

C

A

B

Drought Tolerance

Stalk Strength

Root Strength

Not Advised

Suitable

Good

Excellent

1

2

3

4

5

6

7

8

9

10

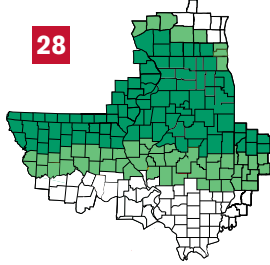
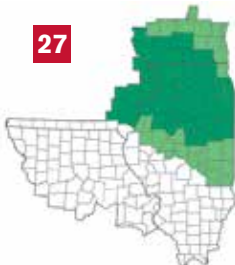
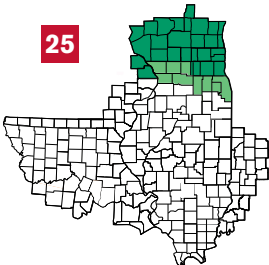
GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

Expand the meaning of yield.

28





What makes us different?
We have more passion to please.

GLYPHOSATE-RESISTANT



5Z41 GT

Brand

111 Day Maturity



- Excellent in corn-on-corn situations
- Big ears with deep kernels to make you proud
- Prefers medium plant population densities
- Keep it on your better soils



Think
BURRUS

Corn/Corn

Early Vigor

Population (group)

A B C

Not Advised

Suitable

Good

Excellent

Drought Tolerance

Stalk Strength

Root Strength

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

Long spiky kernels on a girthy ear spells yield.

29

6T51 GT

Brand

113 Day Maturity



- Very high top end yield potential
- Grithy ear with deep kernels
- Great on irrigated sand
- Fits well across soils and environments
- Same family as Burrus 6T54 3000GT



Think
BURRUS

Corn/Corn

Early Vigor

Population (group)

C A B

Not Advised

Suitable

Good

Excellent

Drought Tolerance

Stalk Strength

Root Strength

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

New, high performance, proven refuge product.

30

6F71 R^{TM*}

Brand

113 Day Maturity



- Excellent stalks and very good roots
- Good drought tolerance
- Superb refuge choice



POWER
PLUS

Corn/Corn

Early Vigor

Population (group)

C A B

Not Advised

Suitable

Good

Excellent

Drought Tolerance

Stalk Strength

Root Strength

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE

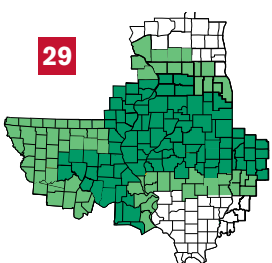
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GLUFOSINATE

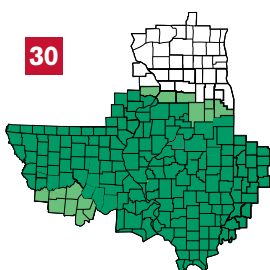
Plant it with confidence.

31

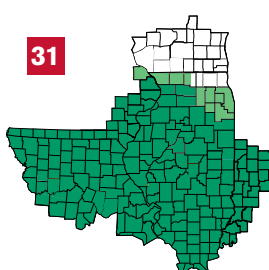
29



30



31





CORN UPDATE



NON-GMO

NEW

2T35^{TM*}
Brand

104 Day Maturity



2T35^{TM*}

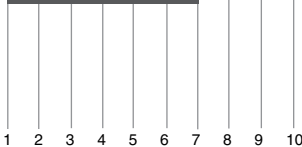


- A very well rounded package
- Features the Optimum® AQUAmax® water efficiency trait
- Very good stalks
- Heavy test weight grain

Corn/Corn
Early Vigor
Population (group) C A B

Not Advised
Suitable
Good
Excellent

Drought Tolerance AQUAmax®
Stalk Strength
Root Strength



Great in tough conditions.

32

3442
Brand

102 Day Maturity



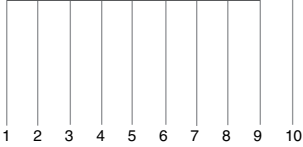
3442

- Good health package
- Not recommended for drought-prone soil
- Very good stalk and roots
- Medium plant size adds stability

Corn/Corn
Early Vigor
Population (group) A C B

Not Advised
Suitable
Good
Excellent

Drought Tolerance
Stalk Strength
Root Strength



High yield with non-GM freedom.

33

5D30
Brand

110 Day Maturity



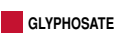
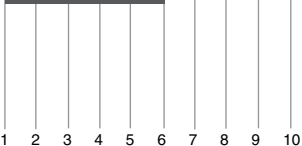
5D30

- Excels in corn-on-corn management
- Sets big, girthy ears
- Excellent roots

Corn/Corn
Early Vigor
Population (group) C A B

Not Advised
Suitable
Good
Excellent

Drought Tolerance
Stalk Strength
Root Strength



A great new conventional.

34

5N48^{TM*}
Brand

110S / 108N Day Maturity



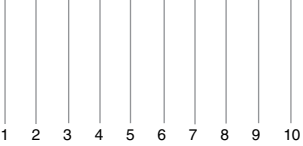
5N48^{TM*}

- Good stalks
- Excels under higher management practices like fungicide applications
- Avoid corn after corn and dryland sand

Corn/Corn
Early Vigor
Population (group) A C B

Not Advised
Suitable
Good
Excellent

Drought Tolerance
Stalk Strength
Root Strength



Excellent yield potential, fast drying.

35

6C40^{TM*}
Brand

112 Day Maturity



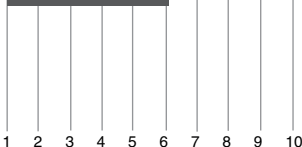
6C40^{TM*}

- Marked by its high end yield response and consistency
- Taller plant type with excellent stalks
- Heavy test weight grain is the foundation
- Does not respond to higher density

Corn/Corn
Early Vigor
Population (group) A B C

Not Advised
Suitable
Good
Excellent

Drought Tolerance
Stalk Strength
Root Strength



Hard endo premium candidate.

36

6G64
Brand

113 Day Maturity



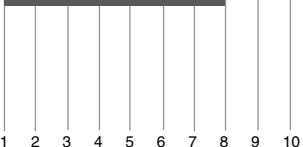
6G64^{TM*}

- Excellent stalks and roots
- Good drought tolerance
- Good greensnap tolerance

Corn/Corn
Early Vigor
Population (group) C A B

Not Advised
Suitable
Good
Excellent

Drought Tolerance
Stalk Strength
Root Strength



Super high yielding non-GM.

37

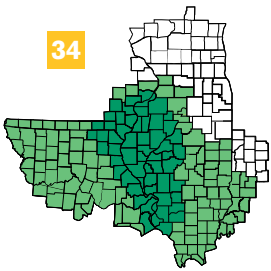
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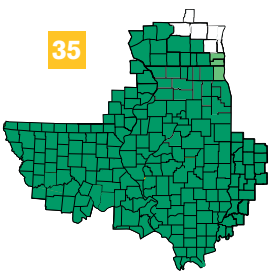
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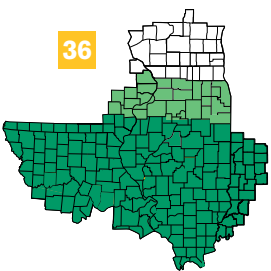
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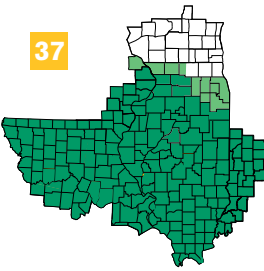
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36



37





What makes us different?

The seed business is not an investment or a job. It is who we are.

PLANT NAKED.

Many seed companies that develop traits push to sell high-dollar seed. We sell what works best for each grower.

We are a leader in non-GM.

OTHER

1M45AMRW-R™*
Brand



NEW

102 Day Maturity



Corn/Corn

Early Vigor

Population (group) A B C

Drought Tolerance

Stalk Strength

Root Strength

- Excellent stress tolerance with some ear flex
- Goes south well as an early corn
- Consider a late fungicide application for NCLB

Not Advised
Suitable
Good
Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE



CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

Everything you need in one bag.

40

7H20™*
Brand



114 Day Maturity

7H20™*

- Same genetics as Power Plus® 7H23 S™*
- Designed for central & southern IL and MO
- Works well across soils and various yield environments
- Great on irrigated sand

Corn/Corn

Early Vigor

Population (group) A C B

Drought Tolerance

Stalk Strength

Root Strength

Not Advised
Suitable
Good
Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE



CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

Exceptional yield potential.

38

750
Brand



115 Day Maturity

750

- Hard endo hybrid with awesome yields!
- Big plants with very good stalks and roots
- Great late season plant health
- Keep south of I-80

Corn/Corn

Early Vigor

Population (group) C A B

Drought Tolerance

Stalk Strength

Root Strength

Not Advised
Suitable
Good
Excellent

1 2 3 4 5 6 7 8 9 10

GLYPHOSATE



CONVENTIONAL

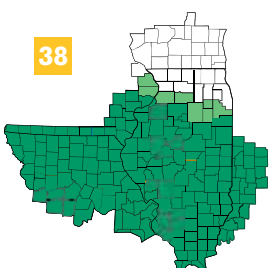
GLUFOSINATE

LIBERTY LINK

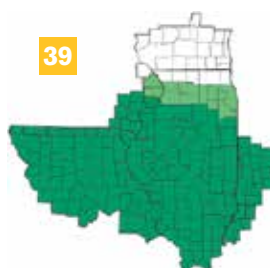
Capture a non-GM premium, hard endo too!

39

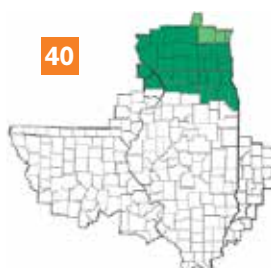
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39



40





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#BurrusSeed



**IF YOU DON'T
KNOW BEANS
ABOUT US,
CHECK THIS OUT.**

The Power Plus® soybeans are outstanding performers with Roundup Ready® technology. Burrus PowerShield® seed treatment means fully treated with fungicide, insecticide, and three biologicals. The majority of Burrus soybeans are delivered in E-Z Load boxes to make handling easier. Hoblit provides the LibertyLink® soybean brand in our lineup beginning with 3.0 maturity.

Hughes soybeans are family grown, conditioned, and treated with PowerShield seed treatment. The handcrafted, high-yielding beans carry maturities from 2.0 to 2.8 in Roundup Ready® and LibertyLink herbicide technology.

Look for even more bin-bustin' beans coming soon!

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