

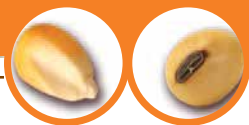


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*Tom Burrus David Hughes*

Tom Burrus and David Hughes



Photo by Chad Mitchell Photography



## Agronomic “Corn Talk” Meeting Schedule for 2013-2014\*

Town	Day/Date/Starting Time	Restaurant	Phone # to call for reservations	
Chillicothe, MO	Mon., Nov. 25 at 6:30 p.m.	Chillicothe Country Club	800-284-8490 - Seth Link	RSVP by: Nov. 19
St. Joseph, MO	Tues., Nov. 26 at 6:30 p.m.	Stoney Creek Inn	800-529-7475 - Brad Veale	RSVP by: Nov. 19
Macon, MO	Wed., Nov. 27 at 11:30 a.m.	Comfort Inn	800-284-8490 - Seth Link	RSVP by: Nov. 19
Effingham, IL	Tues., Dec. 3 at 11:30 a.m.	K of C Hall	618-869-2329 - Doug Johnstone	RSVP by: Nov. 28
Peoria, IL	Tues., Dec. 3 at 7 a.m.	Peoria Civic Center Room 202	800-529-7480 - Dick Burns	RSVP by: Nov. 28
White Hall, IL	Wed., Dec. 4 at 11 a.m.	Seton Hall	618-556-8400 - Tim Carmody	RSVP by: Nov. 29
Memphis, MO	Thurs., Dec. 5 at 11:30 a.m.	Keith's Café	309-299-3850 - Jeff Hyde	RSVP by: Nov. 29
Fairbury, IL	Fri., Dec. 6 at 11:30 a.m.	McDonald's Family Restaurant	800-491-1747 - Dennis Mueller	RSVP by: Dec. 2
Sherman, IL	Mon., Dec. 9 at 11:30 a.m.	Poe's Catering	309-241-7564 - John Williams	RSVP by: Dec. 4
Hannibal, MO	Mon., Dec. 16 at 11:30 a.m.	Fiddlesticks	217-577-3644 - Keith Martin	RSVP by: Dec. 10
Burlington, IA	Mon., Dec. 16 at 11:30 a.m.	Catfish Bend	309-333-8883 - Clayton Cook	RSVP by: Dec. 9
Rockford, IL	Tues., Dec. 17 at 10 a.m.	Radisson Hotel & Conference Center	815-338-1141 - Hughes Office	RSVP by: Dec. 10
Macomb, IL	Thurs., Dec. 19 at 11:30 a.m.	The Red Ox	877-927-9674 - Jeff Hyde	RSVP by: Dec. 16
Germantown, IL	Mon., Jan. 6 at 11:30 a.m.	American Legion	618-806-5163 - John Howell	RSVP by: Dec. 30
Higginsville, MO	Tues., Jan. 7 at 11:30 a.m.	Lions Club Building	660-247-1388 - Donny Marnin	RSVP by: Jan. 2
Marshall, MO	Wed., Jan. 8 at 11:30 a.m.	Farm Credit Building	660-247-1388 - Donny Marnin	RSVP by: Jan. 2
Jacksonville, IL	Thurs., Jan. 9 at 11:30 a.m.	Hamilton's 110 N. East	217-491-1525 - Brian Six	RSVP by: Jan. 3
Kankakee, IL	Fri., Jan. 10 at 11:30 a.m.	The Homestead	800-491-1747 - Dennis Mueller	RSVP by: Jan. 6

\*Contact your RSM/DSM or call our office at 877-4 BURRUS to attend a meeting in your area or check when additional meetings have been scheduled near you.

# The “do’s” and “don’ts” of applying nitrogen

By Matt Montgomery

The spring of 2013 gave us a crash course in the importance of nitrogen. By the time combines began running through corn, the season had provided potent lessons related to suitable nitrogen sources, appropriate application methods, and ideal application timing. The season had also taught growers a very hard lesson related to rescue nitrogen. Let's not belabor the hits we took in 2013, but let's take the time to learn the lessons. Readers would be well served by reviewing a few nitrogen “do’s” and “don’ts.”

Nitrogen is the abundant nutrient in corn (excluding oxygen, hydrogen, and carbon which are provided via water intake and gas exchange). Every grower knows this, but the numbers and facts associated with nitrogen speak for themselves. By weight, nitrogen makes up nearly 5 percent of the typical corn plant with the majority of that nitrogen tied up in amino acids or the product of different amino acid combinations, referred to as “proteins.” Nitrogen makes up a large portion of the plant's structure, it can be found in enzymes, it makes up the “spokes” of the chemical wheel we call chlorophyll, it is found in proteins that (along with chlorophyll) make up the photosynthetic process, it can be found in a host of plant growth regulators (plant hormones), and it is a central component in DNA. It is no wonder that the typical corn plant has a ravenous hunger for nitrogen, drawing in sixty percent of its annual need before the plant even hits tasseling. By the time reproduction has begun, the corn plant is

drawing in about 0.75 percent of its annual nitrogen need per day and it continues to do so until late August/early September. It is thus not surprising when nitrogen deficiencies (even small ones) translate into exceptional yield penalties. The easily lost nature of nitrogen and environmental issues/potential regulatory issues surrounding nitrogen, makes getting nitrogen right from the beginning essential.

Many of our nitrogen “do’s” relate to the particulars of fall nitrogen application. As will be noted later in this article, a fall application of nitrogen is not always advisable throughout the Burrus footprint. However, where it is advisable – anhydrous ammonia is almost universally preferred. The University of Illinois, notes that ammonium sulfate can also be a potential fall nitrogen source as well, but that recommendation comes with university stipulations. The U of I notes that fall applications are preferred to winter, stresses that winter applications should not occur on sloping fields, stresses that ammonium sulfate is more acidifying, notes that the product may more rapidly convert to lost forms, etc.

Missouri steers away from the product. Fall-anhydrous, where advisable, should be applied only when the four-inch soil temperature has reached fifty degrees according to the University of Illinois. The University of Missouri recommends a similar application threshold, while stressing that forty-degrees will further minimize the probability of nitrogen loss. Being conscious of soil temperature rather than calendar date is thus an important nitrogen “do.” Where fall applications are an option, nitrification inhibitors are another “must

do.” Burrus wants to clearly state that fall nitrogen should never be applied minus a nitrification inhibitor.

Spring applications of nitrogen should probably be a “do” for many growers. Spring applications should make up at least a portion of one's acreage, even where fall anhydrous is a possibility, and the University of Missouri even recommends that fall-applications not account for more than one half a grower's total nitrogen program. Side-dress anhydrous applications can be part of that spring-application plan and introduce a degree of flexibility for the grower. While a little tricky from a plant injury standpoint, side-dressing provides the grower with some wiggle-room should an acreage shift from corn to beans be forced on the grower (as was the case in 2013).

Incorporation of alternative spring nitrogen and correct placement of anhydrous are both recommended “do’s.” Incorporation really needs to happen within three days of application. Surface applications of urea, 28%, etc. increase the chances of volatility which can equate to some pretty intense yield losses. Sandy soils need to have anhydrous applied at least 8 to 10 inches deep, loams need that application to be at least 6 to 8 inches, and liquid N should be at least a couple to few inches deep.

Rescue nitrogen is sometimes also a “must do.” If we see a repeat of 2013 spring rainfall someday, and if that happens after nitrogen has been applied in the fall or spring – thirty to fifty pounds of rescue nitrogen is probably not a bad investment. Remember though, the critical

issue in 2013 was the several days to a couple weeks-worth of saturated conditions. Those conditions resulted in an ideal environment for denitrifying bacteria, nitrogen loss and payoffs associated with rescue N.

We'll wrap up this article by quickly running through a few nitrogen “don’ts.” First, winter application of nitrogen in corn, regardless of nitrogen sources, is a big “don’t, don’t, don’t” (and if we haven't gotten the point across we'll add one more “don’t” to drive it home). Incorporation is not a reliable possibility during the winter and applied product will likely sit on the soil surface where it will be lost to the air, washed away, or tied up with little chance of mineralization. Second, growers should never fall-apply nitrogen if they are in proximity to or south of Route 16 in Illinois or Route 36 in Missouri. Nitrogen just converts to nitrate (the easily lost form of nitrogen) too quickly in such southern locations. Nor should growers apply fall-nitrogen where soils are exceptionally sandy. Anhydrous will convert to ammonium soon after it is applied and it needs organic matter and clay to hold that molecule in the soil – sandy soils don't provide that need. Third, growers must make sure they don't apply the wrong product. They must make sure that their circumstances fit the potential product. As noted earlier, most N-sources are out of the question where fall-applications are possible. Anhydrous, manure (incorporated), and ammonium sulfate (sometimes) are the only products recommended north of Route 16/Route 36 (with Missouri excluding ammonium sulfate).



**Burrus Agronomic Services Plant & Office** 826 Arenzville Road, Arenzville, IL 62611  
Toll Free (877) 4 BURRUS (217) 997-5511  
Fax (217) 997-5522 [www.burrusseed.com](http://www.burrusseed.com)

**Hoblit Office Contact** P.O. Box 487 Atlanta, IL 61723  
Jack McKown (217) 648-2392 (O) (309) 261-3837 (C)



**Tom Burrus**  
(217) 997-5876 (H)  
(217) 248-5511 (C)  
tom@burrusseed.com



**Tim Greene**  
(217) 457-2326 (H)  
(217) 370-1987 (C)  
greene@burrusseed.com



**Martha Krohe**  
(217) 248-1788 (C)  
martha@burrusseed.com



**Dr. Earl Allen** Agronomist  
Research Agronomist  
(877) 4 BURRUS  
earl@burrusseed.com



**Todd Burrus**  
(217) 997-5920 (H)  
(217) 248-0214 (C)  
todd@burrusseed.com



**Kevin Burrus**  
(217) 491-3355 (C)  
kevin@burrusseed.com



**John R. Brutty** General Sales Manager  
(402) 564-9767 (H)  
(402) 564-9500 (C)  
jbrutty@burrusseed.com



**Matt Montgomery, C.C.A.**  
Sales Agronomist, Certified Crop Advisor  
(217) 997-5511 (877) 4 BURRUS  
montgomerym@burrusseed.com

## Regional Sales Managers & Territories

### Burrus



**Brad Veale [1]**  
(800) 529-7475  
(309) 335-4175 (C)  
12325 NW Stewart Rd.  
Union Star, MO 64494  
brad.veale@burrusseed.com



**Jeff Hyde, C.C.A. [8]**  
Certified Crop Advisor  
(877) 927-9674 (H)  
(309) 299-3850 (C)  
340 West Breckenridge  
Blandinsville, IL 61420  
jhyde@burrusseed.com



**Luke Turner [15]**  
(866) 649-4920 (H)  
(217) 825-9594 (C)  
2709 Essex Ave.  
Mattoon, IL 61938  
lturner@burrusseed.com



**Seth Link [2]**  
(660) 895-5292 (H)  
(800) 284-8490 (C)  
23895 Dayton Dr.  
Meadville, MO 64659  
seth.link@burrusseed.com



**Rick Urish, C.C.A. [9]**  
Certified Crop Advisor  
302 Sunset Dr.  
Manito, IL 61546  
(309) 613-2244 (C)  
r.urish@burrusseed.com



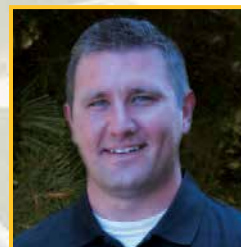
**Tim Carmody [16]**  
(618) 556-8400 (C)  
RR #2 Box 88A  
Hardin, IL 62047  
tcarmody@burrusseed.com



**Riley Young [3]**  
(660) 413-1212 (C)  
18641 Vernon Kennedy Ave.  
Mendon, MO 64660  
riley.young@burrusseed.com



**John Williams, [10]**  
**C.P.Ag./C.C.A.**  
Certified Professional Agronomist  
Certified Crop Advisor  
(888) 747-2783 (H)  
(309) 241-7564 (C)  
17356 Red Shale Hill Rd.  
Pekin, IL 61554  
johnw@burrusseed.com



**John Howell, C.C.A. [17]**  
Certified Crop Advisor  
(800) 838-7930 (H)  
(618) 806-5163 (C)  
7530 Griggs Rd.  
Red Bud, IL 62278  
jhowell@burrusseed.com



**Donny Marnin, [4]**  
**C.C.A.**  
Certified Crop Advisor  
(866) 621-1352 (H)  
(660) 247-1388 (C)  
18456 Elkspring Rd.  
Mendon, MO 64660  
dmarnin@burrusseed.com



**Keith Martin, C.C.A. [11]**  
Certified Crop Advisor  
(877) 324-1565 (H)  
(217) 577-3644 (C)  
45519 County Hwy. 8  
Pittsfield, IL 62363  
kmartin@burrusseed.com



**Doug Johnstone, C.C.A. [18]**  
Certified Crop Advisor  
(618) 869-2329 (H)  
(618) 843-4859 (C)  
3066 N. Crest Haven Rd.  
Claremont, IL 62421  
djohnstone@burrusseed.com



**Clayton Cook [5]**  
(309) 456-3710 (H)  
(309) 333-8883 (C)  
9460 N. 2100th Rd.  
Sciota, IL 61475  
ccook@burrusseed.com



**Ross Brockhouse, [12]**  
**C.C.A.**  
Certified Crop Advisor  
(217) 491-6575 (C)  
21 West Deerpath Dr.  
Beardstown, IL 62618  
rbrockhouse@burrusseed.com



**Rob Kiefer, C.C.A. [19]**  
Certified Crop Advisor  
(618) 731-0815 (C)  
22755 E. IL Hwy 142  
Belle Rive, IL 62810  
rob.kiefer@burrusseed.com



**Richard Burns [6]**  
(800) 529-7480  
(309) 208-9049 (C)  
9318 N. Old Towerline Rd.  
Kickapoo, IL 61528  
dick@burrusseed.com



**Brian Six [14]**  
(217) 491-1525 (C)  
2139 St. Paul's Church Rd.  
Chapin, IL 62628  
bsix@burrusseed.com



**Matt Ivy [A]**  
District Sales Associate  
(660) 888-0176 (C)  
20375 Hwy 41  
Blackwater, MO 65322  
mattivy@burrusseed.com



**Dennis Mueller, C.C.A [7]**  
Certified Crop Advisor  
(800) 491-1747 (H)  
(815) 791-4141 (C)  
14940 W. Kennedy Rd.  
Manhattan, IL 60442  
dmueller@burrusseed.com

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**Dave Hughes**  
(815) 482-1255 (C)  
dave@hugheshybrids.com



**Jim Hughes**  
(815) 482-1257 (C)  
jim@hugheshybrids.com



**Jerad Ropp**  
Precision Farming Consultant  
(319) 461-2929 (C)  
jropp@burrusseed.com



**Don Hughes**  
(815) 482-1256 (H)  
don@hugheshybrids.com




**Tom Sandahl, C.C.A.**  
Certified Crop Advisor  
Sales Manager  
(815) 541-3783 (C)  
sandahl.t@hugheshybrids.com

District Sales Managers & Territories  
*Hughes*



**Gary Ott, C.C.A. [20]**  
Certified Crop Advisor  
(608) 370-3848 (C)  
1628 Hemlock St.  
Sauk City, WI 53583  
ott@hugheshybrids.com



**Robert Wagner [23]**  
(608) 444-1708 (C)  
7686 Westman Way Road  
Middleton, WI 53562  
wagner@hugheshybrids.com



**Hughes Hybrids**  
(808) THE CORN



**Bryce Sandahl [21]**  
(608) 301-7169 (C)  
10217 N. Adeline Rd.  
German Valley, IL 61039  
bryce.sandahl@hugheshybrids.com



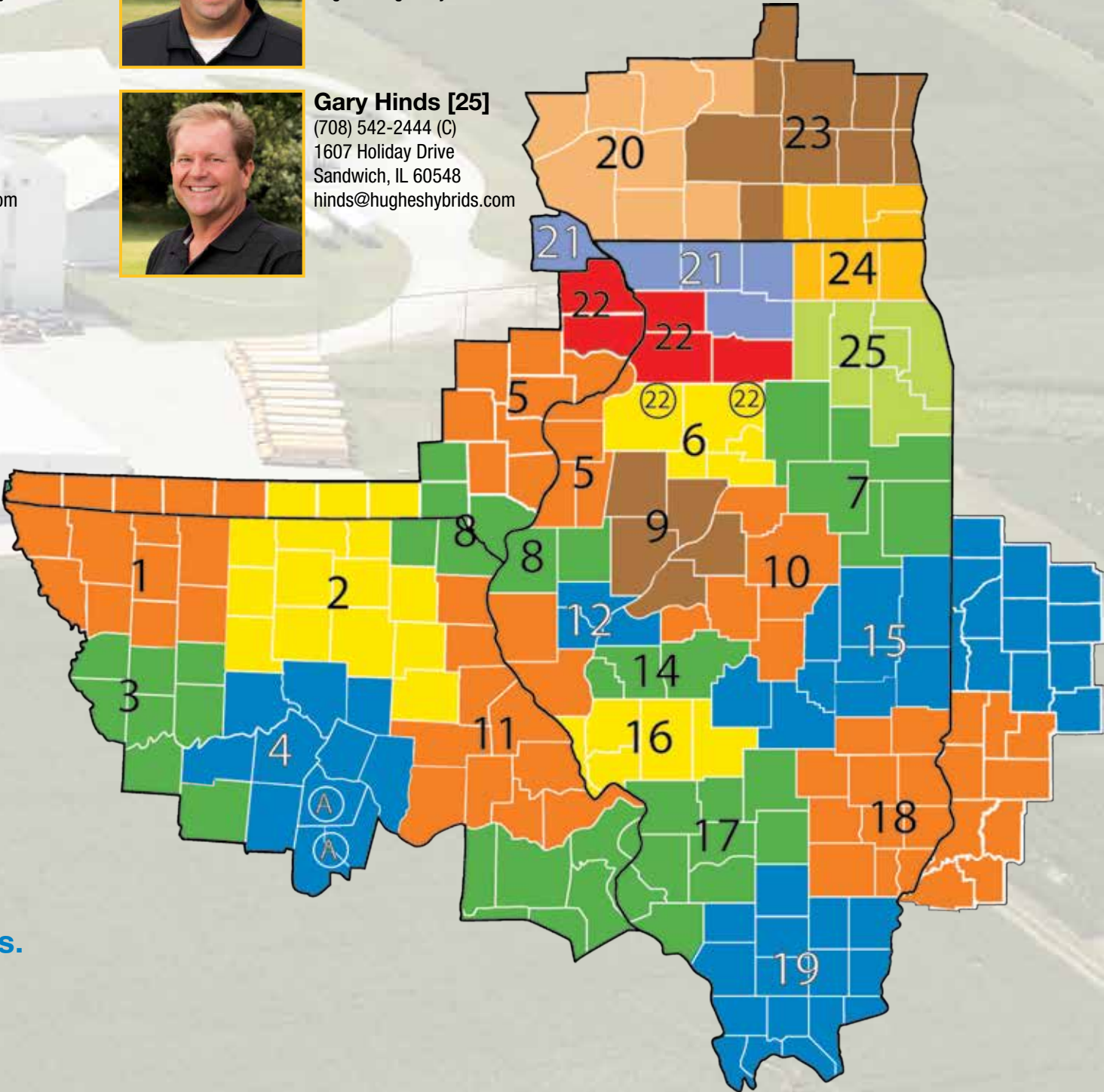
**Jason Hogan [24]**  
(815) 790-2278 (C)  
7307 Hawthorn Lane  
Spring Grove, IL 60081  
hogan@hugheshybrids.com



**Aaron Rice [22]**  
(815) 994-1662  
1311 Howard St.  
Sterling, IL 61081  
a.rice@hugheshybrids.com



**Gary Hinds [25]**  
(708) 542-2444 (C)  
1607 Holiday Drive  
Sandwich, IL 60548  
hinds@hugheshybrids.com



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## Gill Farms chosen as Illinois Farm Family of the Year



Kelly, Carrie, Suzy, Pete, Michael, Joanne and Gene Gill accept the 2013 Illinois Farm Family award.

Illinois AgriNews and Burrus Hybrids recently named Gill Farms from Wyoming, IL as their recipient of the 2013 Farm Family of the Year. Their selection was based on the Gill Farms progress and achievements in agriculture, along with their involvement and contributions to the local community.

Gene Gill and his wife, Joanne's children are Pete (Suzy), Brian (Karen), John (Mary Catherine), Maura, and Dan, deceased. Gene and Joanne are active in St. Patrick's Church in Camp Grove. Both have served as Eucharistic ministers and readers. St. Patrick's is now in the process of closing, so they will be moving to St. Dominic's in Wyoming.

The Gill family has been active in the Stark County Fair. The family donated a building at the fairgrounds and Gene served as president of the fair board for

eight years. Gene has also served as a member of the Valley Grade School Board and the Wyoming County High School Board.

When the family was young, they were involved in the local community through the Valley Go-Getters 4-H Club and showed hogs and cattle with Gene and Joanne serving as 4-H leaders. Now Pete and Suzy's daughters are carrying on the tradition by being active in the Laura Winners 4-H Club.

The loss of Dan in 2006 at the age of 35 was difficult for the family. In his memory, the family has promoted and helped raise funds for leukemia research and Joanne served on the Illinois Cancer Care Foundation advisory board. The family endowed a Jonathan Baldwin Turner scholarship in Dan's name and memory at the University of Illinois.

Gene returned to the family farm in 1969 after serving in the U.S. Army. He represents the fourth generation on the family farm. The farm produces corn and soybeans, wheat, peas, sweet corn, seed beans, and seed wheat – even beets have been grown. Along with a variety of crops, the Gill family made sure to keep the farm environmentally sustainable and viable for following generations.

"The Gill family embodies all of the positive attributes of an American farm family. Their commitment, dedication and stewardship to their farm and community are a big reason why we chose this family to receive the 2013 Farm Family of the Year award," said Tim Greene of Burrus Hybrids at the Salute to Agriculture Day at the U. of I.

Photo courtesy of Agri-News photographer Tom C. Doran

## BOONE

**Power Plus® 4J95AMX™\***  
first at 237 bu/a

**COMPARE!** Marshall Newhouse  
Capron, IL

**Planted:** May 8 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 22. **Previous Crop:** Soybeans. **Soil Type:** Medium loam. **Weather:** May–wet, June–normal, July–dry, August–dry. **✓Check Hybrid:** GL 6043

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	204.6	21.2	98	30	
Great Lakes Hybrids 5368VT3P	208.1	16	16.9	100	26
Great Lakes Hybrids 5785VT3P	189.3	22	16.4	92	37
Great Lakes Hybrids 5643VT3Pro	206.9	19	20.3	100	32
Dairyland Seed DS-9501RA	207.2	17	16.1	100	31
Dairyland Seed DS-9303RA	223.8	6	17.8	100	31
Dairyland Seed DS-9604SSX	216.7	8	17.8	95	34
Dairyland Seed 10508	207.1	18	21.2	97	33
Dairyland Seed C-1313	231.6	3	23.2	100	33
Dairyland Seed 1318	231.8	2	18.4	100	32
Dairyland Seed DS-9604SSX	212.8	11	20.0	96	34
Dairyland Seed 9903	212.6	12	23.1	100	27
✓Check	219.5	23.6	100	32	
Dairyland Seed 9402	211.3	15	19.1	100	31
Dairyland Seed DS-9707RA	211.7	14	23.8	100	31
Dairyland Seed 9610	215.8	9	30.1	98	34
Dairyland Seed 9210	227.0	4	26.3	100	31
Dairyland Seed DS-9809RA	215.0	10	25.8	100	32
Dairyland Seed 9111	224.4	5	24.0	100	31
Dairyland Seed DS-9311RA	198.5	21	25.8	100	32
POWER PLUS 2V56AMX™*	221.0	7	20.7	100	30
POWER PLUS 4Y27AMX™*	206.6	20	20.9	100	29
POWER PLUS 4J95AMX™*	237.4	1	25.2	100	33
POWER PLUS 4G46AMX™*	212.2	13	23.4	86	29
✓Check	203.9	24.9	100	30	
Average	214.3	21.8	98	31	
Check Average	209.3	23.2	99	31	

**We win 3 of the top 4 above 280 bu/a!**

**COMPARE!** Brahmstedt Farms  
Garden Prairie, IL



**Planted:** May 1 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 16. **Previous Crop:** Corn. **Corn Borer Rating:** Light. **Soil Type:** Light loam. **Weather:** May–wet, June–normal, July–normal, August–normal.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 4J95AMX™*	287.3	20.9	100	56.2	36
Wyffels W6917	281.5	22.1	95	57.1	35
CATALYST 4685 3111	281.2	23.1	100	53.9	36
CATALYST 6227 4011	280.8	21.8	100	54.8	34
Wyffels W5787	278.7	21.0	60	58.5	34
Pioneer P1360CHR	276.0	23.3	80	57.8	32
AXIS 61Z69	274.5	21.9	60	55.4	36
AXIS 61Z69	274.5	21.9	90	56.1	36
AXIS 52R59GENSSRIB	273.1	19.8	95	55.8	36
Pioneer P0987AMX	272.7	21.0	85	58.5	35
Pioneer P1221AMXT	271.6	22.3	90	57.1	35
Wyffels w7718rib	270.3	22.1	75	58.8	35
AXIS 56N68	269.2	22.0	95	57.3	36
Pioneer P0832ER	268.9	20.5	75	57.1	36
Wyffels W5078RIB	265.7	21.1	85	57.3	35
POWER PLUS 2V56AMX™*	263.1	21.7	100	59.1	34
HUGHES 6132 3000GT	261.9	21.0	100	58.6	33
Average	273.6	21.6	87	57.0	35

## ADAMS

**Multi-brand strategy works**

Kent Shriver  
Quincy, IL

**Planted:** May 1 in 30" rows. **Harvested:** September 19. **Previous Crop:** Soybeans. **Herbicide:** Guardsman Max. **Insecticide:** Warrior II. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–normal, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 7U15AM-R™*	241.6	29.7	61.4

CATALYST 7893 3111	235.2	30.2	56.5
CATALYST 4685 3111	233.1	26.4	54.5
POWER PLUS 6C41S™*	230.7	29.5	58.4
POWER PLUS 4J93AM™*	227.5	25.7	60.4
BURRUS X5Z41GT	219.0	24.0	55.0
POWER PLUS 6F74AMX™*	219.0	26.5	59.7
POWER PLUS 4V43S™*	218.0	25.9	57.4
POWER PLUS 4P12Q™*	216.4	23.3	59.7
Average	226.7	26.8	58.1

**Power Plus® 6C41 S™\***  
first by 14 bu/a

Dennis Dempsey  
Quincy, IL

**Planted:** May 14 in 30" rows. **Harvested:**

**October 2. Previous Crop:** Soybeans. **Soil Type:** Medium loam. **Remarks:** Fungicide @ R1.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 6C41 S™*	252.3	26.3
Golden Harvest H-9499-3000GT	238.6	27.9
Golden Harvest G09H57	237.0	21.2
Golden Harvest G10D98-3122	236.9	23.0
Golden Harvest H-9011-3011A	236.8	26.6
Golden Harvest H-9341-3000GT	235.1	24.2
Pioneer P1395R	235.1	22.8
DeKalb DKC62-97	234.0	25.9
Golden Harvest G14H66	231.9	29.9
Garst G13U53	224.5	25.6
Golden Harvest G07F23-3111	220.5	20.1
Average	234.8	24.9



Why are we better?

# We offer a multi-brand strategy, meticulous production, and targeted distribution

By Tom Burrus

Some might wonder why Burrus has a multi-brand strategy? Since 1935 we have operated with the Burrus brand. As genetics became patented and traits were developed, we have used a licensing strategy to acquire and utilize them. In order to gain access to products and traits that might or might not be available through licensing, we have used distribution agreements to widen our access, thus the Power Plus® and Catalyst™ brands emerged.

In 2008 we bought the Hoblit seed company. This decision put us in the soybean business. We went through a transition of 50 lbs. sacks, 130,000 seeds per package to 140,000, seed packaging and into PowerShield® treated beans with 88% of our sales fully treated with fungicide, insecticide, as well as biologicals. Today 70% of our soybeans are delivered in E-Z Load boxes for grower convenience. Not only has our packaging changed, our volume has sky-rocketed, too.

In 2010 we introduced Liberty Link® soybeans to our lineup. We have utilized the Hoblit brand to distribute our Liberty Link® soybeans. It has a different color of packaging and is distinctively different from our Roundup Ready® packaging in Hughes and Power Plus® brands. This helps the grower avoid potential confusion and spraying Liberty herbicide on Roundup Ready beans of vice versa.

In 2010 Hughes joined Burrus through a strategic alliance. To utilize the brand value in the north we have continued to introduce hybrids and

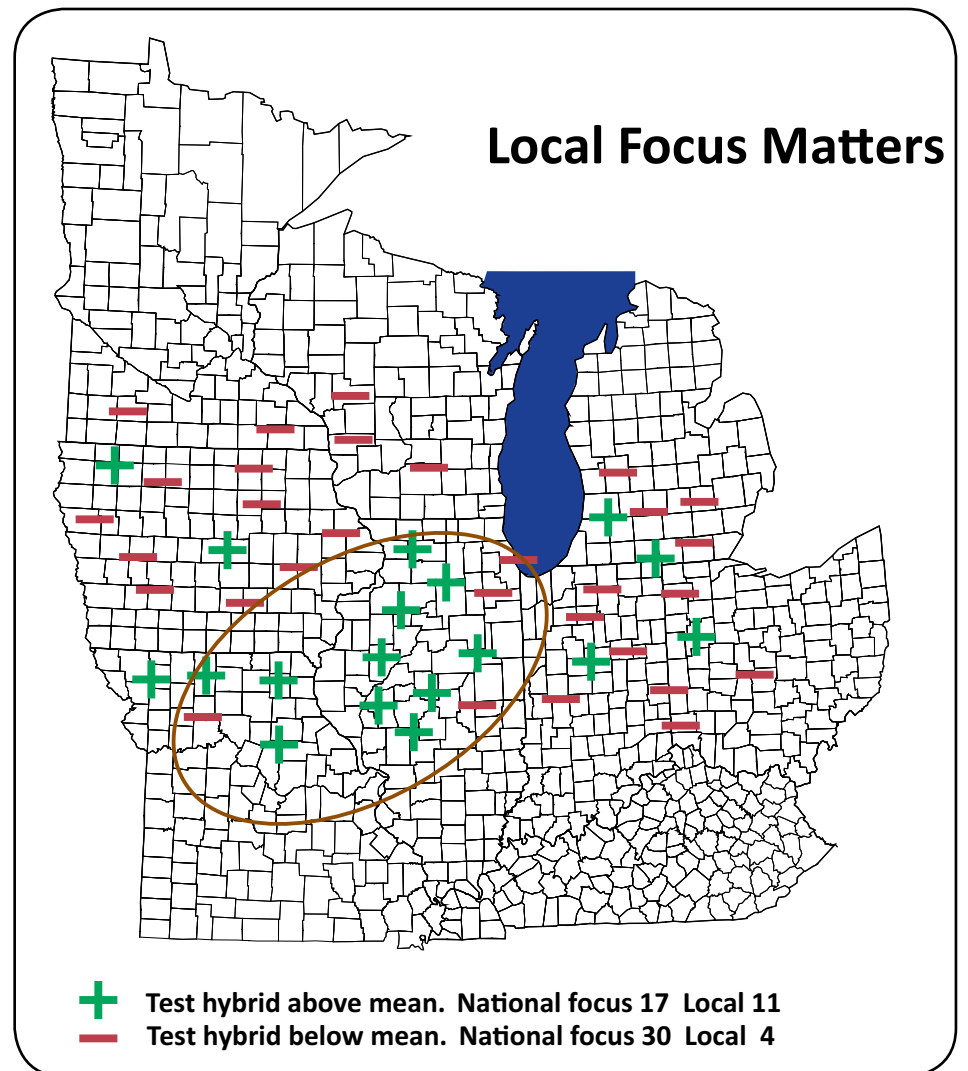
varieties for that region in the Hughes brand. Consequently, today we have five brands, each having a distinct reason for existing, and in the end, providing our customers with the widest access to the best germplasm and industry leading traits.

We do have an extensive testing program that is used to identify the best products for our footprint. We routinely utilize the best techniques to analyze data and are expanding our plant density studies to fine tune our Crop Optimization Planner.

The map illustrates 30 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. Therefore, it is the one we commercialize. The national companies are looking for products that can be used over wide geography rather than a best product for a smaller area. They tend to focus on company profit and the efficiency of scale. We are interested in bringing you the best whole farm performance by maximizing the yield on every acre you farm.

You can tell by the trait packages that various sources of germplasm are available. For example, it if has an Agrisure trait, it would likely be from Syngenta or an independent genetic supplier, but not a DuPont background or vice versa.

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.

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.



The Burrus multi-brand strategy prevailed in Adams Co for Kent Shriver.



Jackson Six has both the Burrus seed sack cow and the world by the tail! He is the son of Burrus RSM Brian & Katelin Six.



Marshall Newhouse & Hughes DSM Bryce Sandahl saw Power Plus® 4J95AMX™ handle the competition in Boone Co.



Todd Burrus loves to share why and how Burrus/Hughes excels at producing the highest quality seed in the market today. We focus on the fundamentals.





## Is your farm under heavy corn rootworm pressure?

If you or your neighbors are dealing with root lodged corn due to corn rootworm damage, it is time to use a second mode of action. Adding Force® insecticide to your corn rootworm traited products can create a second mode of action. This strategy will help fend off resistant insects longer.

In addition, because Syngenta owns both the Agrisure® trait and Force® insecticide they offer a rebate of \$15 per unit of seed corn if the Force 3G® insecticide is used in qualifying geography on the Agrisure® Viptera™ 3111 or Agrisure® 3000GT trait stack. The products that qualify for this opportunity are Hughes 2796 3111, 2987 3011A, 4607 3000GT, 5456 3000GT, Catalyst 4685 3111, 6227 4011, 7893 3111, and Burrus 6J36 3000GT and 6T54 3000GT.

### Force on Agrisure new rootworm program

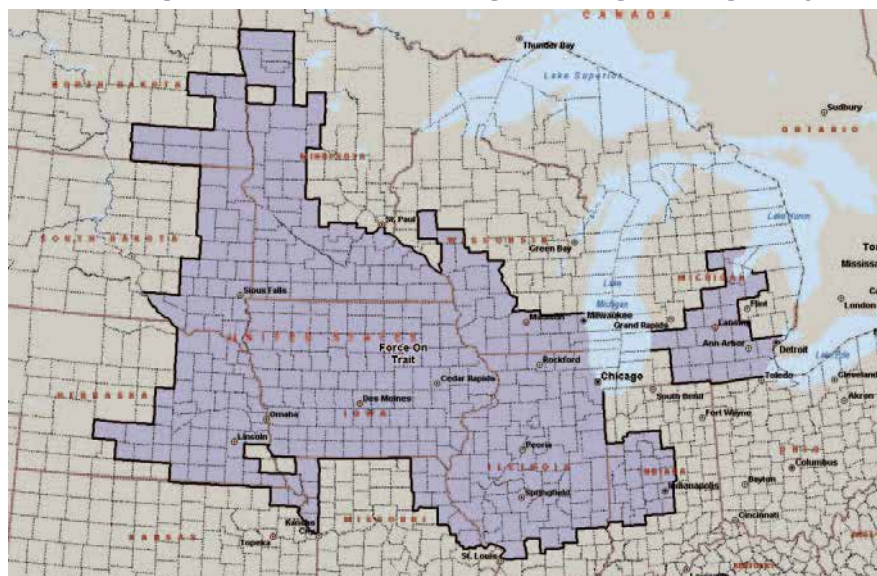
**Purpose:** To maximize yield potential for growers planting Agrisure® rootworm hybrids in historically heavy pressure counties with the addition of Force 3G® insecticide to optimize corn rootworm management.

**Program offer:** Purchase a minimum of 50 units of Agrisure® rootworm corn and matching acres of Force® 3G or Force® CS insecticide to receive an incentive of \$15 per Agrisure® rootworm corn unit.

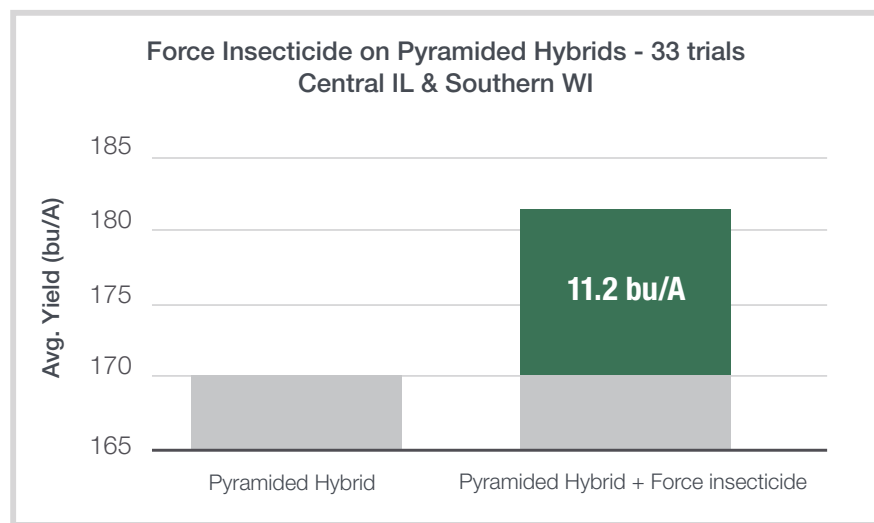
### Program Requirements:

- Grower must have executed a valid Syngenta Stewardship Agreement.
- Grower must be located within program geography defined below.
- Grower must purchase Force 3G or Force CS from an Authorized Syngenta Retailer. List is available at [www.farmassist.com/farmassist.com](http://www.farmassist.com/farmassist.com).
- Grower must plant 50 units total of Agrisure CB/LL/RW, Agrisure 3000GT, Agrisure Viptera® 3111, Agrisure 3011A, Agrisure 3122. Combined total for grower of listed traits must be greater than or equal to 50 units.
- Grower must submit the qualifying Force receipts to Burrus/Hughes on or before July 1, 2014. No exceptions.
- Force 3G applied from Smart box system is not eligible for this program.
- Promotion of this program is the responsibility of Burrus/Hughes.
- Program is subject to product availability.

### Force on Agrisure rootworm □ Program Target Geography



### 2012 trials demonstrated an 11.2 bu/A average yield increase when Force was applied to pyramided hybrids.



### Program Redemption:

- Matching acres will be calculated at the following rates:

Product	Rate
Agrisure Rootworm Seed	2.4 acres per 80K unit
Force 3G	4.4 lbs. per acre
Force CS	8.0 fl oz. per acre

- Burrus/Hughes will collect grower receipts (Agrisure® rootworm seed and Force insecticide) and calculate grower rebate.
- GreenLeaf/Syngenta reserves the right to reject claims that do not meet all program requirements.
- GreenLeaf/Syngenta reserves the right to audit any grower or licensee to confirm eligibility and payment level.

for incentive payment of \$1704.55 if all other program requirements are met. (113.64 eligible units of seed that had Force® 3G applied.)

- Example C: Grower purchases 50 units of Agrisure® 3000GT, 100 units of Agrisure Viptera® 3111. Grower also purchases 12 boxes (2.5 gallons/box) of Force® CS. Grower is eligible for payment incentive of \$2250.00 if all other program requirements are met. (150 eligible units of seed that all had Force CS applied)
- Example D: Grower purchases 50 units of Agrisure® 3000GT. Grower also purchases 500 lbs. of Force® 3G (10-50 lbs. bags). Grower does not qualify for program payment as he did not purchase minimum requirements for Force®.



**Program geography:** All counties in **Iowa**, plus the following counties: **Illinois** — ADAMS, BOONE, BROWN, BUREAU, CALHOUN, CARROLL, CASS, CHAMPAIGN, CHRISTIAN, CLARK, COLES, COOK, CUMBERLAND, DEKALB, DEWITT, DOUGLAS, DUPAGE, EDGAR, EFFINGHAM, FAYETTE, FORD, FULTON, GREENE, GRUNDY, HANCOCK, HENDERSON, HENRY, IROQUOIS, JERSEY, JO DAVIESS, KANE, KANKAKEE, KENDALL, KNOX, LA SALLE, LAKE, LEE, LIVINGSTON, LOGAN, MACON, MACOUPIN, MADISON, MARSHALL, MASON, MCDONOUGH, MCHENRY, MCLEAN, MENARD, MERCER, MONTGOMERY, MORGAN, MOULTRIE, OGLE, PEORIA, PIATT, PIKE, PUTNAM, ROCK ISLAND, SANGAMON, SCHUYLER, SCOTT, SHELBY, STARK, STEPHENSON, TAZEVELL, VERMILION, WARREN, WHITESIDE, WILL, WINNEBAGO, WOODFORD; **Missouri** — ANDREW, BUCHANAN, CLARK, HOLT, KNOX, LEWIS, LINCOLN, MARION, NODAWAY, PIKE, PLATTE, RALLS, SCOTLAND, SHELBY; **Wisconsin** — CRAWFORD, DANE, DUNN, EAU CLAIRE, GRANT, GREEN, IOWA, JACKSON, JEFFERSON, JUNEAU, KENOSHA, LA CROSSE, LAFAYETTE, MILWAUKEE, MONROE, RACINE, RICHLAND, ROCK, SAUK, TREMPLEAU, VERNON, WALWORTH, WAUKESHA

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Burrus Sales Agronomist, Matt Montgomery shares a laugh with Burrus dealer Steve Chandler of Iroquois Co. during the 2013 Farm Progress Show.



Dan Wagner & Karen Jensen saw Power Plus® 7A18AM1™\* make 239 bu/a in Brown Co.



Levi Garrison smiles as Power Plus® 7U15 AM-R™\* tops the Clay Co. plot. His family has been a Burrus dealer since 1961.



Ed & Marsha Wagner of Brown Co. saw their plot average 219.9 bu/a.



At 250 bu/a in Fayette Co. Power Plus® 6C41S™\* was great for Brock, Brian & Kyra Willenborg.

## BROWN

**Power Plus® 7A18AM1™\***  
yield of 239 bu/a



**Wagner Farms  
Mt. Sterling, IL**



**Planted:** May 15 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 16. **Previous Crop:** Corn. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–dry, August–normal. **✓Check Hybrid:** Catalyst 4685 3111

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	198.9		19.5	32	30
POWER PLUS 4V43 S™*	224.7	5	18.8	32	32
POWER PLUS 4P12 Q™*	221.1	11	19.0	60	30
POWER PLUS 4G46AMX™*	218.0	21	18.9	96	31
POWER PLUS 4J95AMX™*	222.4	8	19.0	100	34
POWER PLUS 4B32AMX-R™*	223.5	6	18.0	100	31
✓Check	208.1	8	19.7	92	34
BURRUS 6J36 3000GT	225.5	4	20.2	68	34
CATALYST 6227 4011	221.5	10	19.6	84	33
BURRUS 5Z41 GT	222.1	9	20.7	56	31
POWER PLUS 6C41 S™*	226.8	3	21.7	100	31
POWER PLUS 6F74AMX™*	223.1	7	19.6	52	30
BURRUS 6T54 3000GT	217.1	13	21.9	24	34
POWER PLUS 7A18AM1™*	239.2	1	21.7	36	32
CATALYST 7893 3111	210.8	14	21.7	52	32
✓Check	197.3		19.2	100	32
POWER PLUS 7A18AM1™*	237.5	2	19.6	24	36
Average	219.9		19.9	65	32
Check Average	201.4		19.5	75	32

## BUREAU

**Green Prairie Products, Inc.  
Princeton, IL**

**Previous Crop:** Corn. **Remarks:** Weighed by Agrigold.

Brand/Product	Bu. Per Acre	% Moisture
Agrigold A6499STX	285.3	24.7
DeKalb DKC62-08RIB	277.1	24.8
XL Brand 5475AMX	276.4	21.1
Dyna-Gro D52SS91RIB	276.1	25.7
DeKalb DKC63-33RIB	272.3	22.7
POWER PLUS 7A18AM1™*	263.1	26.4
DeKalb DKC60-67RIB	262.4	20.8
POWER PLUS 4G46AMX™*	260.3	20.2
Pioneer P1339AM1	258.5	24.9
DeKalb DKC57-75RIB	257.8	20.9
Wyffels W6917	256.7	22.0
DeKalb DKC58-87RIB	256.7	20.6
FS FS 63SX1-RIB	256.0	25.3
Pioneer P1241AMXT	255.6	23.6
Dairyland Seed DS-9311RA	253.7	23.9
Wyffels W5787	252.9	19.3
XL Brand 6175AMX	252.5	23.7
Agrigold A6473SSTX-RIB	248.5	20.5
FS 57QX1	247.8	19.7
Agrigold A6496SSRIB	247.8	26.0
POWER PLUS 6F74AMX™*	245.4	24.2
Dairyland Seed DS-9809RA	244.5	21.4
Wyffels W6487	244.4	22.2
CATALYST 6227 4011	243.0	25.9
DeKalb DKC61-16RIB	239.9	22.4
Agrigold A6408VT3PRIB	237.8	19.8
Pioneer P 1498 AM1	236.6	24.7
Pioneer P1360CHR	235.6	25.2
Golden Harvest H-8969-3122	229.6	26.8
Agrigold A6517VT3PRIB	227.7	24.6
DeKalb DKC67-57	226.1	27.1

Dyna-Gro DG51VP32RIB	222.6	22.1
Golden Harvest G09H57	217.3	22.1
CATALYST 4685 3111	212.3	22.5
FS FS 60TV4	209.8	20.8
DeKalb DKC62-97RIB	209.6	23.1
Golden Harvest G10D98-3122	197.7	25.0
Wyffels W7477	196.2	23.1
Agrigold A6533VT3PRIB	196.2	23.4
Phoenix 5552A4	185.6	22.1
Average	241.9	23.1

## CHAMPAIGN

**Gifford State Bank-Armstrong  
Gifford, IL**

**Planted:** May 8 in 30" rows. **Planting Population:** 35,700. **Harvested:** May 8. **Previous Crop:** Soybeans. **✓Check Hybrid:** XL Brand 6175AMX-R.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	147.6		19.1
Pioneer P1498CHR	129.1	20	19.1
Pioneer P0945AMX	136.1	16	18.2
DeKalb DKC63-33RIB	140.9	11	15.8
DeKalb DKC67-57	146.2	4	19.3
Great Lakes Hybrids 6354VT3PRIB	124.1	23	16.1
Great Lakes Hybrids 6232VT3PRIB	107.5	26	17.2
✓Check	147.0		18.2
FS FS 62MV4	143.5	12	17.1
FS FS 63SX1-RIB	152.6	2	17.3
Stone 6438RIB	143.0	14	17.9
Stone 5828 RIB	148.0	7	15.3
Agrigold A6517VT3PRIB	149.2	5	14.3
Agrigold A6517VT3PRIB	138.6	18	14.9
✓Check	156.7		16.3
Golden Harvest G10D98-3122	130.9	21	15.9
Golden Harvest H-9011-4011	142.0	13	14.3
Beck's 5509A3	144.3	9	14.1
XL Brand 6175AMX-R	174.1	1	16.4
BURRUS 6T54 3000GT	144.4	8	18.3
POWER PLUS 7A18AM1™*	120.7	24	16.3
✓Check	144.4		16.1
Wyffels W7888RIB	122.9	25	15.8
Wyffels W6487RIB	144.7	17	14.0
LG Seeds LG5618STX-RIB	135.1	22	16.4
LG Seeds LG2620VT3PRIB	149.8	10	15.0
Channel 210-95STXRIB	156.0	3	15.1
Channel 212-86STXRIB	153.2	6	16.3
Pfister Hybrids 2574RA	146.5	15	16.3
Pfister Hybrids 2674RA	142.8	19	15.0
✓Check	167.8		17.4
Average	142.9		16.4
Check Average	152.7		17.4

**Gifford State Bank-St. Joseph  
Gifford, IL**

**Planted:** May 15 in 30" rows. **Harvested:** October 4. **Previous Crop:** Soybeans. **✓Check Hybrid:** Agrigold A6533VT3PRIB.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	243.0		21.3
Pioneer P1498R	212.3	24	21.0
Pioneer P0945AMX	207.8	25	18.6
DeKalb DKC63-33RIB	222.7	12	18.6
DeKalb DKC67-57	214.4	21	21.9
Great Lakes Hybrids 6354VT3PRIB	217.0	17	20.9
Great Lakes Hybrids 6232VT3P	214.2	22	20.8
✓Check	212.0		21.0
FS FS 62MV4	218.1	4	19.3
FS FS 63SX1-RIB	209.1	11	21.6
Stone 6438RIB	216.9	5	22.1
Stone 5828 RIB	199.6	20	18.0
✓Check	211.6		20.2
Agrigold A6517VT3PRIB	210.5	10	19.5
✓Check	213.0		20.2

Golden Harvest G10D98-3122	194.9	26	20.8
Golden Harvest H-9011-3011A	201.7	23	18.8
Beck's 5509A3	204.2	18	20.5
XL Brand 6175AMX-R	206.1	16	18.2
BURRUS 6T54 3000GT	226.1	2	21.1
POWER PLUS 7A18AM1™*	214.8	7	19.9
✓Check	217.3		20.4
Wyffels W7888RIB	229.0	3	20.0
Wyffels W6487	222.3	6	17.5
LG Seeds LG5618STX-RIB	234.3	1	19.4
LG Seeds LG2620VT3PRIB	215.3	14	19.3
Channel 210-95STXRIB	220.1	9	17.3
Channel 212-86STXRIB	210.7	19	19.6
Pfister Hybrids 2574RA	213.9	15	18.5
Pfister Hybrids 2674RA	216.5	13	18.6
✓Check	226.2		19.5
Average	215.3		19.8
Check Average	220.5		20.4

## CLAY

**Bruce and Brian Garrison  
Louisville, IL**

**Planted:** May 19 in 30" rows. **Planting Population:** 27,700. **Harvested:** September 30. **Previous Crop:** Soybeans. **Herbicide:** Lexar, Aatrex. **Insecticide:** Warrior II. **Corn Borer Rating:** Light. **Soil Type:** Medium. **Weather:** May–wet, June–wet, July–wet, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 7U15AM-R™*	180.8	23.2	100	58.7	26
POWER PLUS 4P12Q™*	176.6	19.9	100	58.9	26
POWER PLUS 4V43S™*	174.6	20.1	100	58.0	26
POWER PLUS 4J93AM™*	165.1	21.1	100	57.8	28
CATALYST 7893 3111	162.8	27.5	100	54.4	27
BURRUS 6T54 3000GT	150.6	25.9	100	54.9	28
POWER PLUS 6F71R™*	149.2	22.1	100	57.0	27
BURRUS 6J36GT3	149.1	24.2	100	53.0	27
POWER PLUS 8V08 S™*	146.6	23.8	100	57.9	26
POWER PLUS 6C41S™*	132.9	23.3	100	59.2	28
POWER PLUS 6F74AMX™*	128.9	21.4	100	58.8	26
CATALYST 4685 3111	125.2	22.6	100	53.1	28
Average	153.5	22.9	100	56.8	27

## EDWARDS

**Mike Simms  
Albion, IL**

**Planted:** May 14 in 30" rows. **Planting Population:** 31,000. **Harvested:** October 26. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: 150, K: 200. **Weather:** May–wet, June–wet, July–normal, August–dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 7U17S™*	267.0	17.5
Dekalb 62-58	214.0	16.0
Average	240.5	16.8



Hughes Hybrids produce to the max!





## Belt and suspenders rootworm management

Tom Burrus uses the phrase “belt and suspenders” meaning to be 99.9% sure. The rootworm insect can create multiple issues that can cause growers to want that “belt and suspenders” level of success in their rootworm management plan.

We all are learning the need for diversity and the need to insure a long-term management strategy. Many consultants recommend both a dual mode of action and refuge compliance for successful long term management.

Syngenta recommends using Agrisure® 3000 or Agrisure 3111 traits and applying Force® soil insecticide as an excellent dual mode strategy. Applying Poncho® 1250 on top of Herculex rootworm trait gives two different types of control measures. Combining these strategies give the “belt and suspenders” assurance for management and two totally diverse control methods.

Consider a long term cropping strategy of beans-corn-corn rotation. If we use Agrisure®/Force one year of corn and Herculex/Poncho® the next, potential rootworm resistance will be slowed significantly. The previous is suitable for low to moderate rootworm pressure. Where rootworm pressure is more intense, rotate Force with another granular soil insecticide.

If the plan is for corn-corn-corn crop rotation, consider using a year of soil insecticide with no rootworm traits during year one (again in areas with historically low to moderate rootworm pressure).



Corn borer Roundup products can open the opportunity for greater genetic diversity and open the door for rootworm control diversity. Where rootworm pressure is heavy, the grower might need to revert to traits. Keeping rootworms guessing about the next management method is key to long-term insect management.

## EFFINGHAM

Emil Lagerhausen  
Shumway, IL

**Planted:** May 17 in 30" rows. **Planting Population:** 28,000. **Harvested:** October 19. **Previous Crop:** Soybeans. **Fertilizer:** N: 160, P: 92, K: 120. **Herbicide:** Roundup, Callisto. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–normal, August–dry. **✓Check Hybrid:** Power Plus 6F74AMX™\*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
BURRUS 6J36 3000GT	195.2	7	15.1	100	26
✓Check	175.5		16.3	100	29
POWER PLUS 7A18AM1™*	196.5	6	16.8	100	29
CATALYST 7893 3111	197.6	5	18.5	95	29
✓Check	188.7		17.4	100	28
BURRUS 6T54 3000GT	210.6	2	18.9	100	31
CATALYST 6227 4011	208.2	3	16.8	100	24
✓Check	198.4		17.1	100	27

POWER PLUS 6F74AMX™*	191.6	8	16.7	100	26
POWER PLUS 2N82AM™*	179.2	9	16.4	100	29
✓Check	194.2		16.1	100	28
POWER PLUS 6C41 S™*	214.0	1	18.1	100	29
CATALYST 4685 3111	204.9	4	17.1	100	28
✓Check	192.4		16.9	95	29
POWER PLUS 4B32AMX-R™*	172.7	10	17.0	100	25
POWER PLUS 4V43 S™*	169.3	12	16.1	100	22
✓Check	160.1		16.1	100	24
POWER PLUS 4J95AMX™*	171.2	11	15.8	100	22
Average	190.0		16.8	99	27
Check Average	184.9		16.7	99	28

## FAYETTE



Brian Willenborg  
Vandalia, IL

**Planted:** May 18 in 30" rows. **Planting Population:** 33,000. **Harvested:** October 14. **Previous Crop:** Soybeans. **Fertilizer:** N: 230, P: VRT, K: VRT. **Herbicide:** Bicep II Magnum, Halex GT, Aatrex. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–normal, August–dry. **✓Check Hybrid:** Power Plus 6F71R™\*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	232.3		21.3	33	
POWER PLUS 4V43 S™*	230.9	5	20.5	33	
POWER PLUS 4J93AM™*	227.1	7	21.0	33	
CATALYST 6227 4011	241.0	2	21.8	33	
✓Check	242.1		22.5	33	
BURRUS 6J36 3000GT	227.2	6	21.8	33	
POWER PLUS 6C41 S™*	250.5	1	22.3	33	
BURRUS 6T54 3000GT	227.0	8	23.4	33	
✓Check	241.3		22.6	33	
POWER PLUS 7U15AM-R™*	238.7	3	21.2	33	
CATALYST 7893 3111	216.5	9	24.4	33	
POWER PLUS 8V08 S™*	237.7	4	23.3	33	
✓Check	240.7		22.8	33	
Average	234.8		22.2	33	
Check Average	239.1		22.3	33	

## FULTON

Spangler Grain Co.  
Marietta, IL

**Planted:** May 15 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 2. **Previous Crop:** Soybeans. **Soil Type:** Heavy loam. **Weather:** May–wet, June–wet, July–dry, August–normal. **✓Check Hybrid:** Power Plus 7A18AM1™\*

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	254.7		25.6
DeKalb DKC62-08	260.1	3	23.2
CATALYST 4685 3111	233.7	14	25.9
BURRUS 6J36 3000GT	247.2	8	25.4
POWER PLUS 4P12 Q™*	224.4	15	22.8
BURRUS X5241	252.7	5	21.4
POWER PLUS 6F74AMX™*	239.6	12	23.1
CATALYST 6227 4011	241.1	11	26.0
✓Check	255.5		26.2
CATALYST 7893 3111	261.9	2	27.6
Wyffels w7718RIB	234.9	13	26.1
Wyffels W7888RIB	259.5	4	26.1
Pioneer P1339AM1	269.6	1	25.6
FS FS 63SX1-RIB	243.2	9	27.7
Stone 6258RIB	250.3	6	24.9
Stone 6328RIB	241.9	10	27.0
✓Check	250.0		26.3
DeKalb DKC62-08	247.8	7	25.1
Average	248.2		25.3
Check Average	253.4		26.0

## GREENE

David and Brad Schutz  
Hillview, IL

**Planted:** May 18 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 21. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: 200, K: 200. **Herbicide:** Roundup, Lexar. **Soil Type:** Loam. **Weather:** May–wet, June–dry, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	1000 Plants /Acre
POWER PLUS 6F70™*	209.7	16.4	100	33
BURRUS 750	198.8	17.1	100	31
BURRUS 6G64	192.5	17.9	100	32
POWER PLUS 6C40™*	189.2	16.8	100	32
POWER PLUS 5N48™*	187.0	15.3	100	32
Average	195.4	16.7	100	32

## HANCOCK

Super high yield



Michael McDowell  
Dallas City, IL



**Planted:** May 19 in 30" rows. **Harvested:** October 13. **Previous Crop:** Corn. **Fertilizer:** N: 200, P: 70, K: 120. **Herbicide:** Corvis, atrazine. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–dry, August–dry. **Remarks:** 6th year of corn on corn.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 4V43 S™*	248.3	17.8	61.2	34
POWER PLUS 4G46AMX™*	232.8	19.1	61.7	34
POWER PLUS 7A18AM1™*	232.2	19.8	61.5	32
CATALYST 7893 3111	230.1	18.0	56.8	33
BURRUS 6T54 3000GT	220.6	21.9	55.5	33
CATALYST 4685 3111	219.2	19.0	56.4	34
POWER PLUS 6F74AMX™*	218.1	19.2	62.0	32
POWER PLUS 6C41 S™*	215.3	18.6	61.0	34
Average	227.1	19.2	59.5	33



Sam, Gracie, Julie, Jenna, Molly & Michael McDowell saw Power Plus® 4V43™\* start the Hancock Co. plot at 248 bu/a.



# Rootworm resistance – lots of “yes” and “no”

By Matt Montgomery

“I’ve heard that resistance has developed to all of the rootworm traits currently on the market – is that true?” “If so or even if not, does it really matter if we are seeing resistance development?” Both questions are more complicated than what they might appear at face value. In some ways, believe it or not, the correct answer to both questions is “yes and no?”

Have all rootworm traits displayed resistance development? If the question went no deeper than that, we would be forced to answer “yes and no.” Experiments in the laboratory, experiments in which rootworms are continuously exposed to rootworm technology, have selected for resistance. Such “resistance development” experiments have been conducted for each of the three rootworm traits currently on the market and each study has resulted in resistant rootworm populations. In other words, resistance has developed on every currently available trait...in the laboratory. So you could accurately say **“Yes, laboratory studies have displayed resistance development.”**

Field-based resistance is a different case though. Field resistance, as of September 2013, has only been confirmed in the Monsanto-derived trait. So you could be ornery and also say **“No, resistance to everything has not been confirmed...in the field.”** The “no” part of that question sounds comforting at first. However, the fact that resistance has been detected (on all three traits) in the laboratory should trouble and scare growers because it means resistance to all three is a very real possibility. **Mark our words, minus a vigorous resistance management plan – populations of rootworms in the field will develop resistance to every rootworm trait. No trait will be immune to resistance development if the technology is abused.** Resistance to the Monsanto-trait developed first simply because that trait has been around longer than its companion-traits. Give the other traits a little more time and their story will be the same as VT3.

Does it really matter that we are seeing resistance development to rootworm traits in the field? That is a thorny question to answer because you could easily take part of the answer, misapply it, and come up with some very unsettling recommendations. Once again, it might be safe to start by saying “yes and no.” On one level, it is important to know if we are seeing resistance development in the field. However, in some other ways it also...doesn’t matter. Let’s explain that answer.

A simple definition of resistance would be that a once effective product no longer proves effective. The product worked for

years and years and years, but the targeted pest is no longer controlled when that product is applied. **A better definition of resistance would be that pests are able to withstand the application of a “once-effective” pest management practice, those hardy pests become the majority of the population, and those characteristics are passed on to the next generation.** The last definition is a little different than the first. The first simply says “things aren’t working anymore.” The second says “things aren’t working anymore, and it’s because the pest population has changed in ways that can be passed from offspring to offspring.” It’s easy to show that “things aren’t working.” It’s not so easy to prove the latter. The latter requires that some lab work be conducted. Lab work must then demonstrate that the population is less susceptible and that this change is an inheritable trait. This makes “confirmation” of resistance and “meeting the definition” of resistance a little tricky. **We do want to know if resistance is developing.** The answer to that question is very, very important. **We do, eventually, want to know the nature of the problem we are dealing with – that is the only way you solve problems in the long term.** So...yes, it is important to know if we are encountering resistance.

However, is it advisable to sit back – observe reduced efficacy – and refuse to do anything until resistance has been “confirmed” or until the technical definition of resistance has been met? By the time one confirms resistance or meets the technical definition of resistance, responding to the problem is too little too late. Resistance should be managed before resistance develops or, at the least, it should be managed at the first sign that efficacy is struggling.

Let’s take a moment to think back a few years. We began to encounter weed management issues associated with the use of Roundup® about 10 years ago. Weeds were not dying. Growers had a problem, but instead of managing resistance, the agricultural industry (as a whole) argued that resistance had not been confirmed and that the technical definition of resistance had not been met.

Technically speaking, folks were right. Resistance had not been confirmed and the definition had not yet been met...but did it really matter? Growers had a problem – weeds were not dying. Did it really matter if the ability to withstand Roundup® was passed from generation to generation? **Wasn’t the fact that weeds were not dying unsettling enough?** Will anyone really argue that the best course of action was to wait? Will anyone really argue that it was better to not institute resistance management/ to do nothing when control became an issue? Does anyone really think that waiting for resistance to be confirmed was

## Bugged by corn rootworm? Two ways for you to scout.

### Rootworm resistance dilemma.

#### Fields – 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-traited seed.
- Follow refuge guidelines.

#### High rootworm beetle population.

#### Consider these options:

- Rotate rootworm traits.
- Use soil insecticide with rotated rootworm trait.
- Monitor rootworm beetle population.
- Low rootworm beetle population this year – no soil insecticide next year.
- Monitor rootworm beetle population dynamics annually.

#### Two ways for growers to scout.

Determine if soil insecticide is needed with rootworm traits to block resistance development in continuous corn.

#### I. Root dig method.

1. Record your gut feeling about the rootworm beetle population when walking the field in traired acres during July and August.
2. Dig roots in July and August to evaluate rootworm control in traired and refuge acres.
3. If the rootworm beetle population is high and root ratings of rootworm-traited hybrids are 0.25 or higher, use a granular soil insecticide the next year.
4. Keep annual records of your observations.

#### II. Rootworm beetle count method.

1. Scout rootworm-traited acres at pollination.
2. Examine four consecutive plants in five areas of the field:
  - a. Start at the bottom of the plant.
  - b. Count beetles on the leaf surface, leaf axils, stalk, ear tip, and tassel.
3. Divide the total number of beetles by the number of plants examined to determine the average number of beetles per plant.
4. If the average rootworm beetle population is 0.75 beetles or greater per plant, consider using a soil insecticide with rootworm traits the next year.
5. Should the rootworm beetle population be less than 0.75 beetles per plant, wait two weeks and scout again.
6. When the beetle population remains low for six weeks after the first scouting trip, no soil insecticide is necessary with rootworm traits the next year.

the best course of action? In some ways, it really doesn’t matter if resistance has been confirmed or not. **If a product isn’t working something needs to be done then and resistance management should at least start by then (preferably before).**

We have seen inconsistencies in all three rootworm traits during the 2013 growing season. Some of those inconsistencies could be the result of out-and-out resistance development. Some of those inconsistencies could be due to delayed rootworm hatch or extended rootworm hatch. Do we need to know if we are encountering

resistance development? Yes, we need to know the nature of the enemy.

Do we need to know if we are encountering resistance development...before we do something? No, we need to take the fact that we encountered inconsistencies in rootworm trait performance as our signal that we must manage resistance. If we wait to confirm resistance or to meet the technical definition of resistance before we do anything, history will repeat itself. **If we do nothing now, we will repeat our disastrous Roundup® weed resistance story on the rootworm front.**



Removing the engine

## Diversifying traits to break the vicious resistance cycle

By Matt Montgomery

Synthetic pesticides revolutionized crop production following World War II, and since that time a five-part story has consistently repeated itself. Burrus wants to see that story come to a close in the right way, and we want to remind the industry how that's done.

The story begins with the release of new pesticide technology – new herbicides, insecticides, fungicides, etc. (See Figure 1). The agricultural industry notices that this pest management tool effectively controls troublesome, yield-reducing pests at a significant cost savings. As a result, they enter the second, logical part of the story. Because the product works, the industry adopts it. Growers have a solution to an irritating problem and all is well. Because the product works, growers and industry professionals also decide to enter the third, logical part of the story. They decide they will stick with that technology. It is in this third stage (a stage that makes sense) where the positive story for growers begins to unravel. The product is used one season after the next, targeted pests are exposed to the pest management tool year after year, and an “engine” kicks into gear.

**The engine that kicks into gear is not diesel – it is not gas. It is the “engine of selection pressure.”** Each application of the pest control product kills those pests that can be killed. At the same time, it does not kill those pests that cannot be killed. Readers should remember that the characteristics of a pest population are kind of similar to the characteristics of a bunch of people. Humans are not all alike. Some have allergic reactions to things while others do not, etc. A pest population is much the same. Some pests are going to be “taken down” by a pest control product, but other pests are going to be pretty tough. Those tough ones will survive and they will have offspring. As the product is applied season after season after season, the tough ones eventually become more and more of the population. Like an engine, the real work of selection pressure happens when the same cycle repeats. The story slowly begins to shift to the next stage.

Everything hits the fan in the fourth part of this story. When the pest man-

agement tool has been applied year in and year out, when all of the tough pests have been “selected,” the population becomes resistant to the once effective pest management product. Stated bluntly, the product fails. Now the panic begins to set in for growers. A pest that was forgotten, now suddenly reemerges with a vengeance. Growers begin to search, to scour the countryside, for possible solutions. They try one thing and it doesn't work. They try another and it is somewhat effective. If they are lucky, the search only takes a season or two. If they aren't, income begins to drop as the pest builds and siphons away yield annually.

A new pest management option is eventually discovered, evaluated, and readily adopted by growers. Yet, in an ironic twist, the vicious cycle of resistance repeats itself. Like the movie “Groundhog Day,” the same story plays out again with this different, new pest management product. It works, the industry knows it works, the industry understandably rushes to that product, the industry adopts that product (often to the exclusion of just about anything else), the product is used year after year, and eventually the “engine of selection pressure” results in another product failure.

That's a pretty long story, but it's an important story to understand. The irritating story of resistance (and our habit of repeating it) has been the tale of pest management and has lasted for the better part of seven decades. So what is the solution? Well, the best pathway to stopping the vicious resistance cycle is to “remove the engine.” Stopping resistance requires that the engine of selection pressure be surgically removed by diversifying modes of action by diversifying traits.

Consider Figure 2 as we think about how we curb resistance development. Do we want growers to adopt effective pest management technology? Sure we do. We have to feed a hungry world and pesticides help us increase yields which makes that possible. So there really isn't a problem with step 1 (the introduction of new pest management technology) and step 2 (the adoption of new pest management technology). Do we, as an industry, want growers to review and experiment with new pest management technology? Sure we do. Trying out new pest management technology has never really been part of the resistance problem. Where we get into trouble is the central part of the

Figure 1.

### The Vicious Resistance Cycle

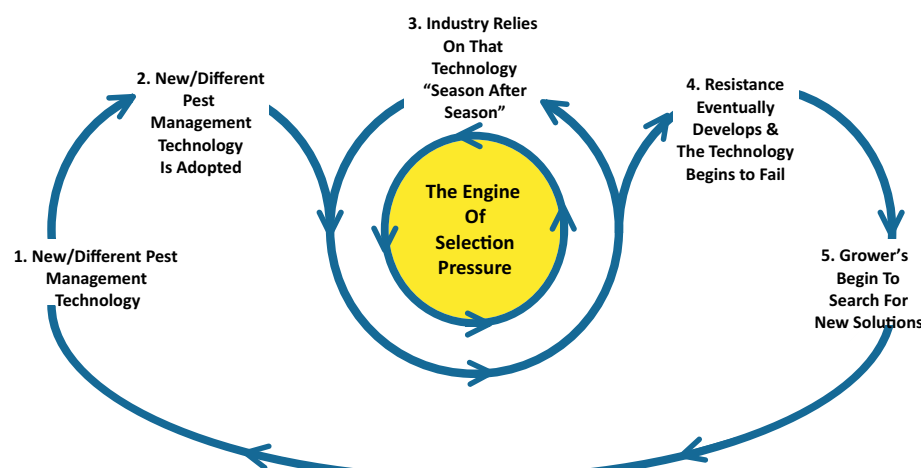
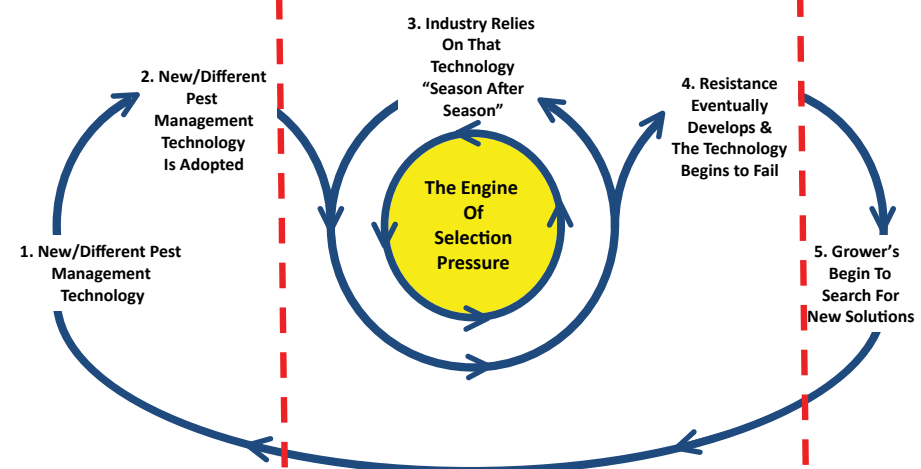


Figure 2.

The goal of resistance management is to remove continual reliance on one mode of action – “the engine of selection pressure”



vicious cycle. The wheels begin to fall off when we use a pest management product continuously/very frequently. When that happens, the engine of selection pressure is engaged. If we can remove this central part of the cycle (step 3), the likelihood of resistance fades away. If we remove the central part of the vicious resistance cycle, we get what we see in Figure 3.

Figure 3, the resistance management cycle, is the ideal story for growers to be in. It is the one that Burrus is encourag-

ing growers to use, but it is very different from what agriculture has been used to in the past. Figure 3 encourages growers to use a really good pest management tool, and then it encourages growers to use... something different next year. We are used to driving pest management tools until the wheels fall off. The resistance management cycle encourages growers to take care of our tools so the wheels don't fall off by not continuously exposing pests to the same pesticide. So, for



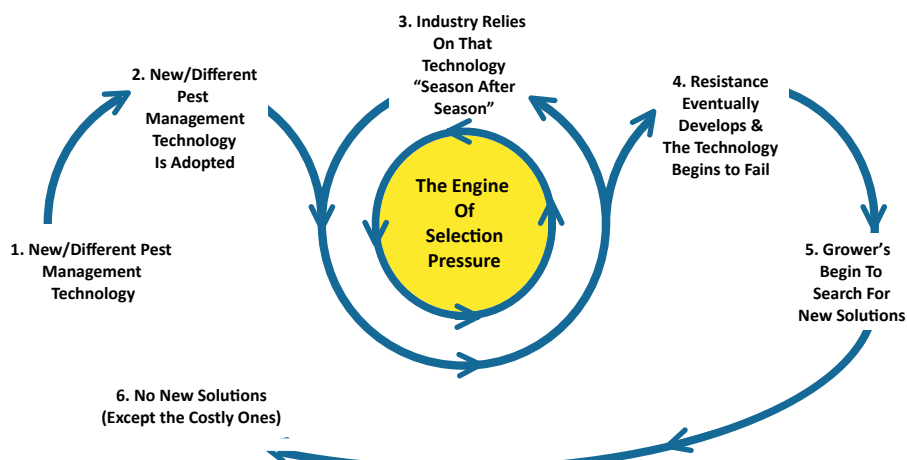
Figure 3.

## The Resistance Management Cycle



Figure 4.

## The Eventual Conclusion of the Vicious Resistance Cycle



instance, Burrus has encouraged growers not to use only one rootworm trait from year to year. We have encouraged growers to rotate between traits. Sometimes, we have even encouraged more than one mode of action (MOA) per season because using some different MOAs stops selection pressure (it rips out the engine). There is another reason why Burrus has encouraged growers to remove the engine of selection pressure/to adopt the resistance management cycle. Frankly, we are

running out of "new/different" options for pest management. Eventually, when no new options are developed (or when those new options are still seasons removed from commercial release), we hit the "conclusion of the vicious resistance cycle" (Figure 4). No new options are available except the costly ones – and that is a place we want to avoid. When agriculture finds itself in Figure 4, growers don't make much money. We kind of prefer Figure 3, and we're guessing you do, too.



David, Owen, Sydney & Debbie Schutz (front) with Keith & Alyssa Shafer, Violet, Julie & Brad Schutz saw the non-GM corn plot average 195 bu/a in Greene Co.

## HANCOCK

Tim Bolton  
Nauvoo, IL

Planted: May 13 in 36" rows. Harvested: October 18. Previous Crop: Soybeans. Fertilizer: N: 160, P: 80, K: 120. Herbicide: Corvus/atrazine. Insecticide: None. Corn Borer Rating: Light. Soil Type: Heavy loam. Weather: May–wet, June–wet, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 4J93AM™*	218.5	16.9	100	61.2	27
BURRUS 6G64	209.1	18.6	100	60.2	26
POWER PLUS 7U15AM-R™*	207.6	17.0	100	62.3	26
POWER PLUS 6F70™*	207.4	17.3	100	61.3	26
CATALYST 4685 3111	202.7	17.5	100	58.4	26
POWER PLUS 6C40™*	193.5	18.3	90	62.5	27
POWER PLUS 5N48™*	190.4	15.8	100	60.0	26
POWER PLUS 750™*	183.7	17.9	90	62.5	26
POWER PLUS 6F74AM™*	178.9	16.5	90	61.2	26
Average	199.1	17.3	97	61.1	26

David and Keith Neill  
Carthage, IL

Planted: May 1 in 30" rows. Planting Population: 29,000. Harvested: October 21. Previous Crop: Soybeans. Fertilizer: N: 160, P: 70, K: 140. Corn Borer Rating: Light. Soil Type: Heavy loam. Weather: May–wet, June–wet, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6F70™*	212.8	15.6	90	62.0	29
POWER PLUS 6F70™*	207.9	15.6	90	62.0	29
Average	210.4	15.6	90	62.0	29



Richard Douglas  
Dallas City, IL

Planted: May 19 in 30" rows. Planting Population: 34,400. Harvested: October 4. Previous Crop: Corn. Fertilizer: N: 235, P: 92, K: 150. Herbicide: Verdict. Soil Type: Medium loam. Weather: May–wet, June–normal, July–dry, August–dry. ✓Check Hybrid: Power Plus 6F70™\*. Remarks: Non GMO corn on corn plot 2nd year corn.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	224.8		26.1
POWER PLUS 6C40™*	205.2	4	26.2
POWER PLUS 5N48™*	224.8	1	25.4
BURRUS 6G64	207.8	3	25.9
✓Check	231.8		26.0
POWER PLUS 750™*	216.4	2	25.9
✓Check	224.8		26.1
Average	219.4		25.9
Check Average	227.1		26.1

## HENDERSON

New Power Plus®  
4J95AMX™\* wins



Leary Farms  
Little York, IL



Planted: May 13 in 30" rows. Planting Population: 34,000. Harvested: September 30. Previous Crop: Corn. Herbicide: Sure Start, Roundup, Impact. Corn Borer Rating: Light. Soil Type: Heavy loam. Weather: May–wet, June–normal, July–dry, August–dry. ✓Check Hybrid: Power Plus 4B32AMX-R™\*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect
✓Check	197.5		21.1	100
POWER PLUS 2V56AMX™*	213.0	4	23.0	100
POWER PLUS X2N82™*	189.2	9	21.4	100
POWER PLUS 4J95AMX™*	222.0	1	23.5	100
POWER PLUS 4G46AMX™*	218.1	2	23.0	100
POWER PLUS 4P12 Q™*	209.3	5	22.6	100
CATALYST 4685 3111	190.7	7	22.1	100
BURRUS 6J36 3000GT	203.8	6	21.9	100
✓Check	189.8		20.9	100
✓Check	182.2		20.7	100
POWER PLUS 6C41 S™*	161.3	12	25.6	100
POWER PLUS 6F74AMX™*	189.4	8	24.3	100
POWER PLUS 7A18AM1™*	216.1	3	24.2	92
CATALYST 7893 3111	185.1	10	22.4	100
✓Check	170.7		21.4	100
Average	195.9		22.5	99
Check Average	185		21.0	100

## JO DAVIESS

Marcel Bourquin  
Apple River, IL

Planted: May 1 in 30" rows. Planting Population: 35,000. Harvested: October 18. Previous Crop: Soybeans. Herbicide: Lumax, Atrazine. Insecticide: Force. Soil Type: Heavy loam. ✓Check Hybrid: Agrigold A6356RR.

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	242.1		17.1	100	37
HUGHES 3953 3000GT	239.4	5	15.5	99	36
POWER PLUS 2V56AMX™*	253.2	1	17.7	99	35
POWER PLUS 4P12 Q™*	223.8	8	20.7	95	31
HUGHES 5456 3000GT	241.9	3	20.1	100	37
Agrigold A6376	241.2	4	17.2	97	34
✓Check	213.4		19.4	94	35
Agrigold A6408VT3P	208.3	9	19.2	98	41
POWER PLUS 4B32AMX-R™*	226.0	7	18.9	100	32
Agrigold A6422	251.2	2	15.5	100	34
CATALYST 4685 3111	227.3	6	19.1	100	34
✓Check	224.6		15.3	100	37
Average	232.7		18.0	98	35
Check Average	226.7		17.3	98	36



Power Plus® 4J95AMX™\* & 4G46AMX™\* go one-two in Henderson Co. for Anthony, Chuck, Collin, Derrick, Dillon & Terry Leary.



## Crop Optimization Planner gains 12 1/2 bu/a

To compare how well the Crop Optimization Planner powered by MyFarms<sup>SM</sup> is doing, we used the Burrus Show plot, located at Arenzville, IL. The COP selected four products for each of four 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.

They were compared to the average of all products offered by Burrus within each category. The results were phenomenal. The COP recommended products were 12.6 bu/a, 12.9 bu/a, 16.2 bu/a, and 8.2 bu/a above the average, respectively. That means overall the COP recommended products produced an extra \$50 per acre. That is an additional \$125 per unit value!

In addition, the structured refuge products averaged 12 bushels more than the integrated refuge products. This data bears out what we have been encouraging growers to consider when placing their orders for 2014. We all like convenience, but our job is to help you maximize your yield and profit. Our recommendation is to consider some of both the structured and integrated refuge products to maximize convenience and performance.



### Would you use the Crop Optimization Planner to gain 12.5 bu/a?

That is over \$50 per acre gain! It makes our seed worth \$125 per unit more!

Here are the top 4 products recommended by the COP on the Show Plot at Arenzville

#### Wanting Rootworm control with an integrated refuge?

	Brand	Population	% Moisture	Adj. Test Wt.	Bu. Per Acre
Power Plus	7A18AM1™*	32,000	24.2	56.0	266.8 bu/a
Power Plus	4G46AMX™*	31,000	21.2	57.1	262.0 bu/a
Power Plus	4J95AMX™*	30,500	21.5	53.9	261.8 bu/a
Power Plus	6F74AMX™*	31,500	21.4	58.3	238.2 bu/a

#### Recommended COP products average

Power Plus	4Y27AMX™*	29,500	21.4	58.3	222.6 bu/a
Power Plus	4B32AMX-R™*	29,000	20.4	57.4	216.5 bu/a

Average of all products with integrated refuge and Rootworm control

**Crop Optimization Planner advantage 12.6 bu/a**

#### If you ask the COP for Rootworm control with a structured refuge product?

Burrus	6T54 3000GT	33,000	23.1	53.3	284.0 bu/a
Power Plus	7A18AM1™*	32,000	24.2	56.0	266.8 bu/a
Burrus	6J36 3000GT	33,000	20.8	55.6	268.7 bu/a
Power Plus	7D51Q™*	34,500	23.0	56.9	258.1 bu/a

#### Recommended COP products average

Catalyst	7893 3111	34,500	24.4	52.4	257.4 bu/a
Power Plus	4P12Q™*	31,000	20.9	55.9	246.9 bu/a
Catalyst	6227 4011A	31,500	21.6	55.3	243.0 bu/a
Catalyst	4685 3111	32,500	21.0	52.9	227.5 bu/a

Average of all products with integrated refuge and Rootworm control

**Crop Optimization Planner advantage 12.9 bu/a**

#### What if you ask the COP for Corn Borer protected products?

Burrus	6T54 3000GT	33,000	23.1	53.3	284.0 bu/a
Power Plus	6C41S™*	28,500	24.8	55.3	257.6 bu/a
Power Plus	7U15AM-R™*	33,500	22.6	56.9	268.2 bu/a
Burrus	6J36 3000GT	33,000	20.8	55.6	268.7 bu/a

#### Recommended COP products average

Power Plus	8V08S™*	33,500	22.6	56.6	278.8 bu/a
Power Plus	6A12AM1™*	32,500	22.0	56.2	270.6 bu/a
Power Plus	7A18AM1™*	32,000	24.2	56.0	266.8 bu/a
Power Plus	4G46AMX™*	31,000	21.2	57.1	262.0 bu/a
Power Plus	4J95AMX™*	30,500	21.5	53.9	261.8 bu/a
Power Plus	7D51Q™*	34,500	23.0	56.9	258.1 bu/a
Catalyst	7893 3111	34,500	24.4	52.4	257.4 bu/a
Power Plus	4P12Q™*	31,000	20.9	55.9	246.9 bu/a
Power Plus	4V43S™*	30,000	20.9	56.3	246.4 bu/a
Power Plus	4Y27AMX™*	29,500	21.4	58.3	222.6 bu/a
Power Plus	4B32AMX-R™*	29,000	20.4	57.4	216.5 bu/a

Average of all products with Corn Borer protection

**Crop Optimization Planner advantage 16.2 bu/a**

#### What if you ask the COP for the non-GM conventional products?

Power Plus	6C40™*	29,000	21.6	56.5	269.9 bu/a
Burrus	750	30,000	23.8	55.4	268.2 bu/a
Power Plus	6F70™*	31,500	20.9	57.4	250.7 bu/a
Burrus	6G64	32,500	21.8	55.1	243.8 bu/a

#### Recommended COP products average

Power Plus	5N48™*	31,500	18.9	58.4	217.2 bu/a
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Average of all non-GM products

**Crop Optimization Planner advantage 8.2 bu/a**

**Average Advantage for using the Crop Optimization Planner 12.5 bu/a**

## KANE



Bob Klotz  
Maple Park, IL

Planted: May 14 in 30" rows. Planting Population: 33,400. Harvested: October 20. Previous Crop: Corn. Herbicide: None. Soil

Type: Medium loam. Weather: May-wet, June-normal, July-normal, August-normal. ✓Check Hybrid: Power Plus 4A30AM1™\*.

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect
✓Check	197.5		26.5	85
HUGHES 3953 3000GT	191.9	16	24.1	20
Yield Direct 5M83	217.7	5	26.2	30
POWER PLUS 4P12 Q™*	190.4	17	25.2	60
POWER PLUS 2V56AMX™*	213.1	7	26.0	100
Yield Direct 4X52	213.7	6	24.1	100



Jeff Busch saw the Burrus family of products handle Pioneer.



Catalyst™ 7893 left the competition wishing they could reweigh the plot in Logan Co. for Larry Hill.



New numbers win in McHenry Co for Dan & Carol Ziller.



Building a package of top performing products from the Burrus multi-brand approach is easy in Knox Co. for Isaiah, Tim & Dale Carlson.

HUGHES 4607 3000GT	151.2	20	22.6	30
✓Check	207.6		26.8	100
Yield Direct 4L48RIB	223.8	2	25.7	100
HUGHES 5456 3000GT	210.1	9	25.2	100
Yield Direct 5E58-RIB	221.2	3	27.3	50
POWER PLUS 4B32AMX-R™*	197.2	13	25.6	100
HUGHES 6132 3000GT	182.9	19	26.9	80
POWER PLUS 4G46AMX™*	196.8	14	27.1	100
✓Check	195.9		26.2	95
POWER PLUS 4Y27AMX™*	196.7	15	25.3	100
Yield Direct 5L33	234.4	1	27.6	100
POWER PLUS 4J95AMX™*	219.5	4	29.8	100
CATALYST 6227 4011	210.0	10	32.0	10
Yield Direct 5L17RIB	212.3	8	29.0	100
BURRUS 6J36 3000GT	205.2	11	32.0	100
✓Check	214.9		26.4	80
CATALYST 4685 3111	185.0	18	29.8	100
POWER PLUS 6F74AMX™*	202.9	12	27.7	100
Average	203.8		26.9	81
Check Average	204.0		26.5	90





Hughes DSM Gary Hinds & Bob Klotz saw Power Plus® 4J95AMX™\* make 219.5 bu/a in Kane Co.



Steve Brummel saw the check vary but Power Plus® 6C41™\* came in second in Marion Co.



Two checks of Power Plus® 6F70™\* averaged 210 bu/a in Hancock Co. for Keith & David Neill.



Richard Douglas of Hancock Co. saw Power Plus® 5N48™\* excel at 224.8 bu/a in his non-GM plot.

# Refuge for technology today

Today's technologies are not bulletproof but they still provide excellent opportunities for corn growers. Increased yields, more efficiency, and reduced exposure personally and environmentally from herbicides and insecticides are key attributes. Ease and efficiency also dictate increased responsibility from the grower's standpoint. The seed industry, universities, and the National Corn Growers Association (NCGA) agree that there must be a unified commitment to responsible stewardship of technologies.

**Proper stewardship will help preserve the technologies as important management tools for corn growers of the future. The principal objective to appropriate stewardship of technology is to help minimize the potential for insect resistance development.** The Environmental Protection Agency has set forth mandatory guidelines through an Insect Resistance Management (IRM) program. An IRM program has been specifically designed to help corn growers meet the key refuge requirement for each technology.

**We encourage growers to follow all refuge guidelines.** Growers across the Corn Belt who fail to follow the IRM requirements for planting refuge acres are at risk of losing access to Bt corn technology entirely. **The entomologists have always stressed that if we neglect the refuge, resistance can happen relatively quickly. Many scientists told us there was a high likelihood that insects could become resistant and now they have in certain areas.** Some growers ignored proper refuge structure guidelines and academics have documented that several areas throughout the Corn Belt now have resistance to the Cry3Bb1 protein for corn rootworm and the acres are growing.

There are several refuge style options that corn growers can utilize in their management plan. Corn growers can use

separate field, perimeter, and block or split planter styles. We offer single bag refuge options through the Power Plus® brand of products and we also offer a rebate opportunity for Force 3G granular insecticide in select counties when used with qualifying Agrisure® rootworm technologies. The beauty of the new Optimum® AcreMax® and Optimum® AcreMax® Xtra insect protection systems are available in the Power Plus® brand. You can choose above and below ground insect protection across all of your acres by utilizing these systems.

Optimum® AcreMax® insect protection is the one bag solution for above ground insects, especially corn borer. AcreMax® Xtra products provide protection from above and below ground insects. These single bag choices are blended in the bag; just dump the seed in the planter and go!

The Optimum® AcreMax® 1 insect protection system is also available in the Power Plus® brand. While the corn rootworm refuge is blended in the bag, you need the traditional 20% refuge but because it is for corn borer only, it can also be up to 1/2 mile away. You can fill that separate refuge need with a conventional hybrid or utilize a hybrid with the Roundup Ready® gene or a GT Glyphosate Tolerant hybrid plus granular insecticide for your refuge.

Optimum® TRIsect® offers a new twist for corn rootworm protection by combining Herculex® I corn borer protection with Agrisure® Rootworm protection. This system uses the Poncho® 1250 with VOTIVO™ as the seed applied insecticide. A 20% refuge is still required for this option and that refuge must be in the field or directly adjacent to the technology field. Optimum® TRIsect® products provide herbicide resistance to both Liberty® and glyphosate herbicides.

The Optimum® AcreMax® insect protection (above ground only) single bag system uses a 5% refuge blend, while the Optimum® AcreMax® Xtra insect protec-

tion (above and below ground) system uses a 10% refuge blend. Both systems also use Poncho® 1250 with VOTIVO™ on the blended refuge seed, which provides a nice yield enhancement. Refer to the technology supplier's information or log on to the National Corn Growers Association website at [www.ncga.com](http://www.ncga.com) for more details on an IRM plan. As always, if you have questions, contact your local Burrus or Hughes dealer or our office toll free at 1-877-4BURRUS.



\*YieldGard, the YieldGard Corn Borer Design and Roundup Ready are registered trademarks used under licence from Monsanto Company. Ignite®, LibertyLink and the Water Droplet Design are trademarks of Bayer. Herculex® Insect Protection technology by Dow AgroSciences and Pioneer Hi-Bred. ®Herculex and the HX logo are registered trademarks of Dow AgroSciences LLC. Force® is a registered use pesticide. Agrisure® and Force® are trademarks of a Syngenta Group company. Power Plus®, Optimum® and AcreMax® are registered trademarks of Pioneer Hi-Bred. Optimum® AcreMax® insect protection products available through the Power Plus® brand. Power Plus® brand seed is distributed by Burrus. AM1 – Optimum® AcreMax® 1 Optimum® AcreMax® Insect Protection system contains a single-bag integrated refuge solution for above-ground insects. Do not spray with Ignite®/Liberty®. Not all seeds in the bag are tolerant to Ignite®/Liberty®. AM-R – Optimum® AcreMax® Insect Protection system contains a single-bag integrated refuge solution for above-ground insects. Do not spray with Ignite®/Liberty®. Not all seeds in the bag are tolerant to Ignite®/Liberty®. Optimum® TRIsect is a registered trademark of Pioneer Hi-Bred. AMX-R – Optimum® AcreMax® Xtra Insect Protection system contains a single-bag integrated refuge solution for above-ground insects. Do not spray with Liberty®. Not all seeds in the bag are tolerant to Ignite®/Liberty®. Poncho™ and VOTIVO™, are trademarks of Bayer.

## KANKAKEE

### Three new products excel!

Jason Zimmer  
Reddick, IL

**Planted:** May 7 in 30" rows. **Planting Population:** 35,000. **Harvested:** October 23. **Previous Crop:** Soybeans. **Fertilizer:** N: 190, P: 69, K: 120. **Herbicide:** VolleyATZ fb Roundup Status. **Insecticide:** Aztec. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-dry. **Remarks:** Extreme rootworm pressure.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 4J95AMX™*	234.4	19.2	97	58.9	35
POWER PLUS 4G46AMX™*	226.7	17.3	97	62.5	38
POWER PLUS 4P12 Q™*	221.9	17.3	96	61.0	34
POWER PLUS 6F74AMX™*	221.4	17.2	97	62.2	33
POWER PLUS 4Y27AMX™*	221.0	17.8	97	61.6	34
POWER PLUS 7A18AM1™*	218.0	18.9	64	62.0	33
BURRUS 6J36 3000GT	217.1	17.3	97	61.0	36
CATALYST 4685 3111	213.0	18.4	64	57.1	33
BURRUS 6T54 3000GT	203.2	21.6	73	57.0	33
Average	219.6	18.3	87	60.4	34

Dick Moran  
Manteno, IL

**Planted:** May 14 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 24. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P:

69, K: 90. **Herbicide:** Lexar, Atrazine, Roundup. **Insecticide:** Force. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-dry, August-dry. **✓Check Hybrid:** Burrus 6J36 3000GT.

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
BURRUS 926673	194.1	14	16.2	97	29
POWER PLUS 4Y27AMX™*	190.6	16	16.5	97	31
POWER PLUS 2V56AMX™*	205.5	1	16.9	97	32
✓Check	193.6		17.2	97	31
POWER PLUS 4P12 Q™*	188.5	18	17.4	97	28
POWER PLUS 4G46AMX™*	198.4	6	17.5	97	30
BURRUS 724508	187.4	19	17.9	97	30
HUGHES 5456 3000GT	197.2	9	18.0	97	29
BURRUS 808583	198.2	7	17.2	97	30
BURRUS 123206	179.8	24	16.3	97	31
BURRUS 669860	186.6	20	16.2	97	31
✓Check	186.1		16.4	97	28
BURRUS 780946	186.2	21	16.8	97	32

BURRUS 359902	186.2	22	17.6	97	29
POWER PLUS 4J95AMX™*	203.9	2	16.0	97	30
CATALYST 4685 3111	195.5	11	16.0	97	31
✓Check	185.1		16.0	97	31
BURRUS 5Z41 GT	185.3	23	18.4	97	33
✓Check	186.7		18.2	97	31
POWER PLUS 6B51™*	193.4	15	17.7	97	30
CATALYST 6227 4011	194.5	12	18.0	97	28
POWER PLUS 6F74AMX™*	201.8	4	18.0	97	30
BURRUS 589605	202.1	3	17.9	97	29
BURRUS 6T54 3000GT	194.5	13	19.9	97	32
BURRUS 181496	179.3	25	17.8	88	29
BURRUS 532642	189.7	17	18.1	97	28
✓Check	193.8		17.9	97	31
BURRUS 999741	197.0	10	18.1	97	31
BURRUS 486252	199.7	5	16.6	97	30
BURRUS 749321	198.0	8	16.9	88	32
Average	192.6		17.3	96	30
Check Average	189.1		17.1	9730.4	



## KNOX

Burrus 5Z41 wins  
at 243 bu/aTim Carlson  
Galesburg, IL

**Planted:** May 8 in 30" rows. **Harvested:** October 2. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: 46, K: 60. **Herbicide:** Canopy, 2-4D, Roundup, Outlook. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.
BURRUS X5Z41	243.9	23.9	100	34
POWER PLUS 4G46AMX™*	242.6	22.1	100	35
BURRUS 749321	235.8	25.6	100	35
BURRUS 123206	233.7	21.5	100	33
BURRUS 6T54 3000GT	233.3	30.2	100	35
POWER PLUS 4J95AMX™*	233.1	23.8	100	35
BURRUS 6J36 3000GT	233.0	27.3	100	34
POWER PLUS 4P12Q™*	231.2	22.6	100	32
CATALYST 4685 3111	227.3	24.8	100	34
BURRUS 558879	226.9	30.0	100	32
BURRUS 180291	226.6	24.6	100	32
BURRUS 181496	225.8	27.7	100	35
BURRUS 560043	223.8	23.2	100	31
BURRUS 999741	222.4	31.2	100	35
BURRUS 724506	220.6	22.6	96	30
BURRUS 669860	220.3	24.3	100	34
CATALYST 7893 3111	219.6	31.5	100	34
POWER PLUS 6C41S™*	218.7	30.8	100	35
CATALYST 6227 4011	217.0	32.1	100	32
POWER PLUS 2V56AMX™*	216.1	20.9	100	34
BURRUS 359902	215.5	31.2	100	36
BURRUS 589605	215.1	32.5	100	36
POWER PLUS 4V43S™*	214.8	21.9	96	31
BURRUS 780946	214.2	25.1	100	35
BURRUS 532642	212.9	30.4	100	36
POWER PLUS 6F74AMX™*	211.6	27.6	100	32
BURRUS 908487	201.5	21.8	100	33
POWER PLUS 4Y27AMX™*	196.7	24.2	100	32
POWER PLUS 4B32AMX-R™*	185.0	25.3	100	35
Average	221.3	26.2	100	34

Tim Carlson  
Galesburg, IL

**Planted:** April 30 in 30" rows. **Planting Population:** 36,000. **Harvested:** October 2. **Previous Crop:** Soybeans. **Fertilizer:** N: 207, P: 46, K: 60. **Herbicide:** Harness Xtra, Roundup Weather Max, Aatrex. **Soil Type:** Heavy loam. **Weather:** May-wet, June-wet, July-normal, August-dry. **✓Check Hybrid:** Catalyst 4685 3111

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	Plants /Acre
✓Check	197.4		21.5	100	33
POWER PLUS 4Y27AMX™*	205.5	9	20.5	100	37
POWER PLUS 4G46AMX™*	216.2	6	20.2	98	35
BURRUS 6J36 3000GT	199.1	11	22.0	100	36
✓Check	197.1		21.8	100	32
POWER PLUS 6F74AMX™*	216.8	4	21.1	100	38
POWER PLUS 7A18AM1™*	233.2	1	24.5	100	35
CATALYST 7893 3111	229.2	2	27.8	100	36
✓Check	193.7		23.0	100	34
POWER PLUS 4Y27AMX™*	187.4	12	19.8	100	38
POWER PLUS 4G46AMX™*	223.2	3	19.7	100	38
BURRUS 6J36 3000GT	207.5	8	22.5	98	37
✓Check	218.3		21.0	100	32
POWER PLUS 6F74AMX™*	215.4	7	20.2	100	36
POWER PLUS 7A18AM1™*	216.7	5	22.5	98	32
CATALYST 7893 3111	202.9	10	27.0	100	33
✓Check	183.9		21.1	98	33
Average	208.4		22.1	100	35
Check Average	198.1		21.7	100	33

## John Brutty joins Burrus/Hughes Hybrids as General Sales Manager

John Brutty has joined Burrus/Hughes Hybrids as General Sales Manager with overall responsibilities for sales force innovation, dealer relations, and customer services. The announcement was made by Tom Burrus, president of Burrus Hybrids.

John is a native of southeastern South Dakota and was raised on a farm. He graduated from South Dakota State University with a Bachelor's Degree in Agriculture.

Previously with Cargill AgHorizons as a sales manager for 10 years, John was responsible for coordinating marketing services, and crop insurance. During his leadership, Cargill AgHorizons more than doubled the bushels purchased. John also has seed experience as national sales manager for Hoegemeyer Hybrids as well as excelling in sales positions with Mycogen, Cargill, and AgriPro.



John's wife, Sandra is an accountant for Becton Dickinson. She enjoys all sports and especially tennis. Their

daughter, Natalie, is 13 and loves fast pitch softball. She also enjoys spending time with her friends. Daughter Alyssa is a college graduate and works as a loan officer at a bank. She also enjoys working in a bridal boutique on the weekends. She is planning a wedding for next summer.

John enjoys sports with baseball as his favorite and likes working on the landscaping for their home. In his spare time, John looks forward to pheasant, quail, and duck hunting. And to assist in his position of General Sales Manager for Burrus/Hughes, he reads and studies about successful businesses and their sales forces.

John brings an outstanding level of professionalism to the Burrus/Hughes team. He is a great addition for our sales staff as well as our customers.

PowerShield® just got better!

New for 2014 - We have added  
Poncho® 500 VOTiVO™

The 2014 planting season will bring a new addition to our PowerShield® seed treatment. We have added the VOTiVO™ nematicide to our standard Burrus/Hughes seed treatment. So going forward, all of the new Burrus, Hughes and Power Plus products will carry our standard PowerShield® treatment with Poncho® 500 VOTiVO™. Order BX 3, 4, 5, 6, or R.

The competition charges an extra \$17-18 per unit for Poncho 500 VOTiVO™ and it comes standard on the Burrus family of products for 2014! These products carry an extra 4 bu/a yield advantage. Growers wanting nematode control on current products can also order HP 5 or 6 as they are treated with Poncho® 1250 VOTiVO™.

VOTiVO™ is designed to specifically protect corn roots from moderate nematode pressure by a unique biologically-based root protection system. Poncho® also provides effective control of black cutworm, wireworms, and white grub.

Since the Catalyst™ brand is owned by Syngenta, new Catalyst 7893 will have Cruiser® 500 Avicta®. It provides similar control for insects and nematodes, too.

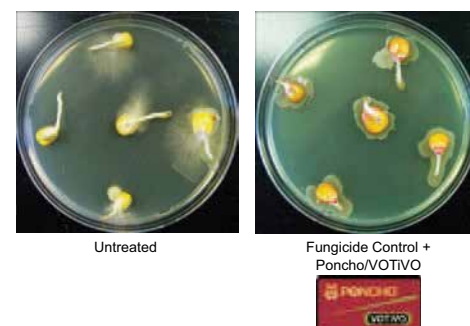
Visit with your Burrus or Hughes seed consultant today to check on specific seed availability and to learn

## Here is how VOTiVO works

- Poncho/VOTiVO contains bacterial spores that germinate when the corn seed germinates.
- The bacteria create a living barrier that grows with young corn roots during the critical stage of plant establishment.
- The bacteria compete with nematodes for space and food resources.
- As a result, fewer nematodes reach the root surface, and some die from lack of nutrients.



## Growth Initiated as Seed Germinates



more about this exciting transition in PowerShield® seed treatment. Our goal is to help growers capture the most yield possible with all of the tools avail-

able. The PowerShield® seed treatment is a proprietary, industry leading, seed applied treatment that can definitely be one of those valuable tools!



# Ross Brockhouse

Ross Brockhouse has recently been hired as a new Burrus Regional Sales Manager. Ross' territory includes Cass, Brown, and Schuyler counties in west central Illinois.

He graduated from Western Illinois University and obtained his Certified Crop Advisor status. Before joining Burrus, Ross worked for Brandt Consolidated with a focus on seed.

Ross and his wife, Sarah live outside of Beardstown, IL and are parents to 2 year old son, Jack and are expecting their second child in January. Ross enjoys helping his dad on their family farm near Virginia, IL, spending time with his family, and the outdoors.

Ross can be reached at (217) 491-6575 or at rbrockhouse@burrusseed.com. His knowledge can help your farm be more profitable. Let Ross put together a com-



plete program of matching hybrids, technologies, and seed treatments for your farm.

## LASALLE

**Power Plus® 7A18AM1™\***  
above 225 bu/a

**Jeff and Tina Busch**  
Tonica, IL

**Planted:** May 15 in 30" rows. **Planting Population:** 33,400. **Harvested:** October 24. **Previous Crop:** Soybeans. **Herbicide:** Harness fb Roundup. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
<b>POWER PLUS 7A18AM1™*</b>	<b>228.1</b>	<b>19.3</b>	<b>97</b>	<b>60.7</b>	<b>33</b>
<b>POWER PLUS 4J95AMX™*</b>	<b>225.1</b>	<b>19.0</b>	<b>96</b>	<b>60.7</b>	<b>33</b>
Pioneer P0987AM1	211.3	20.2	97	61.0	32
<b>POWER PLUS 4G46AMX™*</b>	<b>210.9</b>	<b>19.5</b>	<b>97</b>	<b>62.9</b>	<b>32</b>
<b>BURRUS 6J36 3000GT</b>	<b>210.7</b>	<b>20.3</b>	<b>97</b>	<b>57.0</b>	<b>32</b>
Pioneer P1221AMXT	208.9	19.9	97	61.4	33
Pioneer P1339AM1	208.5	23.1	97	60.7	32
<b>HUGHES 6132 3000GT</b>	<b>208.1</b>	<b>20.1</b>	<b>97</b>	<b>59.0</b>	<b>33</b>
<b>POWER PLUS 6F74AMX™*</b>	<b>205.7</b>	<b>20.4</b>	<b>97</b>	<b>62.0</b>	<b>33</b>
<b>POWER PLUS 4Y27AMX™*</b>	<b>201.4</b>	<b>18.7</b>	<b>96</b>	<b>61.6</b>	<b>31</b>
<b>POWER PLUS 4P12 Q™*</b>	<b>201.3</b>	<b>18.9</b>	<b>95</b>	<b>60.2</b>	<b>30</b>
<b>CATALYST 4685 3111</b>	<b>199.0</b>	<b>22.4</b>	<b>97</b>	<b>55.5</b>	<b>33</b>
<b>POWER PLUS 4B32AMX-R™*</b>	<b>190.9</b>	<b>18.8</b>	<b>97</b>	<b>62.7</b>	<b>33</b>
Average	208.5	20.0	97	60.4	32

**LaSalle County Corn Growers**  
Ottawa, IL

**Planted:** May 15 in 30" rows. **Planting Population:** 34,000. **Harvested:** September 25. **Previous Crop:** Soybeans. **Fertilizer:** N: 171, P: 52, K: 120. **Herbicide:** Touchdown Total, Volley ATZ. **Insecticide:** Force. **✓Check Hybrid:** DKC 61-88

Brand-Variety	Bu. Per Acre	Rank	% Moisture
<b>✓Check</b>	<b>215.1</b>		<b>31.5</b>
Stone 6604GVT3P	236.8	8	27.9
Dekalb DKC63-33RIB	202.4	30	34.8
Garst G13U53	265.9	1	25.6
XL Brand 6175AMX	228.1	15	31.7
Moews 3662VT3P	232.4	12	32.6
NK Brand N70J-4011	210.7	27	35.5
<b>✓Check</b>	<b>238.8</b>		<b>26.9</b>

Pioneer P1221AMXT	206.5	28	31.9
LG Seeds LG5618STX-RIB	241.3	6	28.5
Wyffels W7477	214.1	25	34.1
Agrigold A6496SSRIB	220.8	19	32.8
<b>CATALYST 4685 3111</b>	<b>216.2</b>	<b>23</b>	<b>37.3</b>
Dairyland Seed DS-9111RA	228.7	14	33.3
Great Lakes Hybrids 6085VT3PRIB	222.1	16	32.4
<b>✓Check</b>	<b>245.7</b>		<b>32.6</b>
Mycogen 2V709	242.4	4	32.5
Steyer Seeds 11004 GENSS	219.5	20	30.1
Golden Harvest G09E98	204.3	29	31.8
XL Brand 5475AMX	215.8	24	30.1
Moews 3130-3000GT	234.7	10	31.2
Steyer Seeds 10803	237.2	7	26.6
<b>✓Check</b>	<b>255.4</b>		<b>29.6</b>
Wyffels W5787	223.3	16	33.5
Agrigold A6408VT3PRIB	241.6	5	28.8
Croplan Genetics 5415SSRIB	231.3	13	31.1
Great Lakes Hybrids 5785VT3PRIB	243.7	3	27.4
DeKalb DKC57-92RIB	233.2	11	32.0
<b>HUGHES 5456 3000GT</b>	<b>218.3</b>	<b>21</b>	<b>30.9</b>
Mycogen 2P659	210.9	26	29.4
<b>✓Check</b>	<b>247.8</b>		<b>31.0</b>
LG Seeds LG5533VT3P	246.1	2	25.3
Pioneer P0636AM1	235.8	9	31.6
Dairyland Seed DS9206 RA	216.4	22	29.7
NK Brand N50K-3000GT	223.0	17	29.0
<b>✓Check</b>	<b>255.2</b>		<b>29.3</b>
Average	229.5		30.8
Check Average	243.0		30.2

## LEE

**Hughes 6132 3000GT**  
wins at 265 bu/a



**Bob Cheeseman**  
Ashton, IL

**Planted:** May 14 in 30" rows. **Harvested:** October 21. **Previous Crop:** Corn.

Brand/Product	Bu. Per Acre	% Moisture
<b>HUGHES 6132 3000GT</b>	<b>265.5</b>	<b>24.3</b>
Channel 209-53	262.3	23.4
Channel 212-86STXRIB	258.8	23.6
LG Seeds LG2602GENVT3P	257.4	22.1
<b>POWER PLUS 4J95AMX™*</b>	<b>252.7</b>	<b>25.2</b>
<b>BURRUS 6J36 3000GT</b>	<b>252.5</b>	<b>21.4</b>
Golden Harvest H-8577-3000GT	252.1	22.2

Channel 210-57STXRIB	251.9	22.7
Golden Harvest H-8969-3122	250.3	23.2
Channel 210-95STXRIB	249.6	22.3
LG Seeds LG2549VT3P	248.9	22.2
LG Seeds LG2549VT3P	248.6	20.7
<b>POWER PLUS 4P12 Q™*</b>	<b>247.5</b>	<b>24.7</b>
<b>POWER PLUS 6F74AMX™*</b>	<b>244.6</b>	<b>26.2</b>
<b>CATALYST 4685 3111</b>	<b>243.0</b>	<b>21.2</b>
<b>POWER PLUS 4B32AMX-R™*</b>	<b>240.4</b>	<b>24.3</b>
Channel 202-32STXRIB	240.4	18.9
Agventure GL8214ABW	237.0	24.5
Golden Harvest G10D98-3122	234.9	22.9
Channel 206-78	231.4	22.4
Golden Harvest G09H57	230.3	19.8
LG Seeds LG5533VT3PRIB	225.4	18.1
Average	246.6	22.6

**Kent Reed**  
Steward, IL

**Planted:** May 6 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 25. **Previous Crop:** Soybeans. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
<b>POWER PLUS 4G46AMX™*</b>	<b>252.9</b>	<b>21.0</b>
<b>HUGHES 6132 3000GT</b>	<b>248.4</b>	<b>19.8</b>
Yield Direct 4L48RIB	244.6	20.4



Melanie, Dan, Ryan, Brandon & Richard Athen saw the Atchison Co., MO plot average 222 bu/a.

<b>BURRUS 6J36 3000GT</b>	<b>243.1</b>	<b>20.9</b>
<b>HUGHES 4607 3000GT</b>	<b>239.7</b>	<b>20.7</b>
Yield Direct 5E58-GENSS	231.9	19.9
<b>POWER PLUS 4P12 Q™*</b>	<b>228.6</b>	<b>20.3</b>
<b>POWER PLUS 2V56AMX™*</b>	<b>227.9</b>	<b>21.3</b>
<b>POWER PLUS 4Y27AMX™*</b>	<b>223.0</b>	<b>20.1</b>
<b>HUGHES 5456 3000GT</b>	<b>223.0</b>	<b>19.7</b>
Yield Direct 5L17RIB	221.6	21.1
<b>POWER PLUS 4B32AMX-R™*</b>	<b>217.6</b>	<b>19.3</b>
<b>POWER PLUS 4B32AMX-R™*</b>	<b>212.0</b>	<b>20.4</b>
Average	231.9	20.4

# Drought – what strategies hold water?

At Burrus/Hughes we are one of very few to offer two ways to take advantage of water optimization products, Optimum® AQUAmax® and Agrisure Artesian® technology. Developing some type of drought tolerance or increasing water optimization is a goal in the forefront for many corn breeding programs. Many different influences such as drought, industry, municipalities, and agriculture are putting pressure on surface and groundwater resources throughout the Corn Belt. Researchers are working diligently on finding ways to produce more grain with less water.

Understanding drought and the tolerance to it is more complex than most people consider. The challenge for corn breeders is very different than developing traits for either herbicide or insect resistance. There are several factors that are crucial components in the lack of moisture and overall yield relationship. Variables such as soil, fertility program, heat, disease, nutrient uptake, insect pressure, and timing of water stress can vary greatly under different circumstances.

Agrisure Artesian® technology is touted as the industry's first water-optimized corn technology. 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. Hybrids with the Agrisure Artesian® technology are developed using Gene Blueprinting™ process,

a Syngenta technology that allows them to identify and select multiple genes within the corn genome that have distinctive modes of action and are responsible for drought protection mechanisms in corn.

Plant performance is enhanced regardless of the stage of plant development when water stress occurs. Syngenta believes its offering 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.

**We are blessed to offer two options for water optimization. We have added hybrids with the Agrisure Artesian® designation to our lineup along with hybrids that carry the Optimum® AQUAmax™ designation also.** The hybrids that carry the Agrisure Artesian® designation in our lineup are Hughes 2987 3011A (the "A" depicts the Agrisure Artesian® characteristics), Hughes 2428GTA and Catalyst 6227 4011. The Optimum® AQUAmax® hybrids in our lineup are Power Plus® brands 2V56AMX™\*, 2N82AM™\*, 4J93AM™\*, 4J95AMX™\* and 4Y27AMX™\*. Talk to your Burrus or Hughes representative about which of those hybrid choices are right for your farm.

Product performance in water limited environments is variable and depends on many factors such as the severity and the timing of moisture deficiency, heat stress, soil type, management protection and environmental stress as well as disease and pest pressures. 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 products are available in the Power Plus® brand. Power Plus® brand seed is distributed by Burrus.





Burrus RSM Brad Veale, Trent, Jerald & Karen Grimes saw Power Plus® 4J93AM™\* take first in Clinton Co., MO.



Even with this much hauling capacity, Jack & Todd Bartlett said "it's difficult to keep the corn hauled away." They have been more than satisfied with the yields they have seen over the last two years from the Burrus family of products.



Brian & Tim Bolton of Hancock Co. saw the new Power Plus® 4J93AM™\* excel.

## Power Plus® 7A18AM1™\* at 250 bu/a

Louis Zabel  
Dwight, IL

Planted: May 7 in 30" rows. Planting Population: 32,000. Harvested: October 22. Previous Crop: Soybeans. Fertilizer: N: 180, P: 69, K: 90. Herbicide: Roundup. Insecticide: Aztec. Soil Type: Medium loam. Weather: May-wet, June-dry, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	1000 Plants /Acre
POWER PLUS X7A18™*	250.5	16.6	100	32
CATALYST 6227 4011	244.6	17.3	100	29
BURRUS 532642	237.5	17.6	100	35
BURRUS 180291	236.1	17.7	100	29
BURRUS 999741	231.6	18.7	100	29
BURRUS 749321	228.5	16.5	100	31
BURRUS 181496	224.8	17.3	100	30
POWER PLUS 4G46AMX™*	221.3	17.0	100	32
POWER PLUS 4P12 Q™*	220.0	15.2	100	30
POWER PLUS 6F73AM™*	218.6	17.8	100	30
BURRUS 780946	218.2	16.7	100	34
POWER PLUS 2V56AMX™*	217.9	15.8	100	30
BURRUS 359902	216.6	16.2	100	30
BURRUS 6T54 3000GT	216.0	18.1	100	32
BURRUS 123206	214.2	15.2	100	32
CATALYST 4685 3111	212.6	17.2	100	33
BURRUS X5241	211.2	15.5	100	30
BURRUS 589605	210.4	17.5	100	32
BURRUS 669860	210.0	15.6	100	30
BURRUS 560043	209.5	16.0	100	33
BURRUS 181496	209.0	16.9	100	32
BURRUS 724508	207.7	15.1	100	33
POWER PLUS 6C41S™*	206.2	17.2	100	31
BURRUS 6J36 3000GT	199.6	14.6	100	36
Average	219.7	16.6	100	31

# ILLINOIS

## Who owns your yield data?

When Roundup Ready soybeans were launched into the market, Monsanto clearly established the concept that all intellectual property was theirs. Growers from that day forward were required to execute a Technology Use agreement if they were using the Roundup Ready Soybeans. Other technologies have followed suit as new insect control and herbicide options have come to market.

Today growers are generating valuable data with their yield monitors. This data can be matched with soil maps and compared by hybrid, too. We feel this is your intellectual property! You should own it.

Our Crop Optimization Planner (COP) driven by MyFarms<sup>sm</sup> treats your data with respect. Because you own it, we don't have access to it unless you decide to share it with us. You can store other sensitive documents in your MyFarms<sup>sm</sup> portal. Growers who are growing their business with Burrus/Hughes or those planting 100% do not pay for the service because they receive a credit that offsets the charges.

Be wary of seed companies wanting or requiring access to your fertility or yield data. Remember this is your intellectual property. While their intention might sound harmless, do you think they might use it against you someday? They might gather

the exact information from your farm then decide you need to pay them exorbitant prices to use it in the future. Some companies are driven by profit goals and how they can extract it from agriculture. The value sharing history is a concern to most growers.

If you have interest in maximizing your yield based on a field by field, soil type by soil type, call us. If you are considering a variable rate planting option for your planters also make us aware. We will be happy to build prescriptions for each field and we don't require you to give us your yield data.

## Redesigned Burrus website

Use the redesigned Burrus [www.burruseed.com](http://www.burruseed.com) as a handy tool to find the answers to your corn and soybean questions. You will find agronomic and economic information is just a click away.

The home page features the Burrus Buzz, an informational article written by our staff on timely subjects such as weeds and insects. The 2014 Product Selection Guide is available for viewing as well as details on the Burrus Advantage program and approved corn hybrid list for Frito Lay and others paying premiums for non-GM corn. Visitors to the site can also find quick information on both our corn and soybean lineups by answering a few easy questions.

There are six major categories for your use. Each contains topics relative to its heading. The six categories are:

- Products** – This section contains information on corn, soybeans, alfalfa, and product availability. You can view Catalyst<sup>™</sup> information, product offers, technology, and research.
- Careers** – Here you will find information about dealership availability, how to become a Platinum Dealer, training, and employment opportunities.
- Dealers** – The SeedWare software is available to allow dealers to place orders, check customer payments, shipping, and order status. The information is shown in real time and is always current.
- Company** – The Burrus mission statement is here along with information about the owners, Sales Managers, Agronomists, Precision
- Farming consultant, history of the company, and directions to the Arenzville facility.
- Resources** – This section provides a Product Selection Guide, reference materials, frequently asked questions, the Burrus archives and links to helpful sites. In the archives, be sure to watch the video featuring the robotics which is part of the bagging system installed in 2009.
- Contact** – This section has contact information for owners and agronomists. You will also find the home or cell phone number for each of the family owners. Few companies print the home phone numbers of the owners, but if the need arises to

speaking with one of the owners, you know all you need to do is pick up the phone.

In addition, you will find the 2013 plot results for corn and soybeans. These are posted as soon as possible following harvest of a plot. Growers are anxious to see results from corn and soybean plots, so [www.burruseed.com](http://www.burruseed.com) is the place to look.

Growers using our MyFarms<sup>sm</sup> tools can see how much rain was received on each farm any day they want to check.

Bookmark [www.burruseed.com](http://www.burruseed.com) as one of your favorites. Visit often for the news and events from Burrus.





Soybeans and variable rate planting have been added!

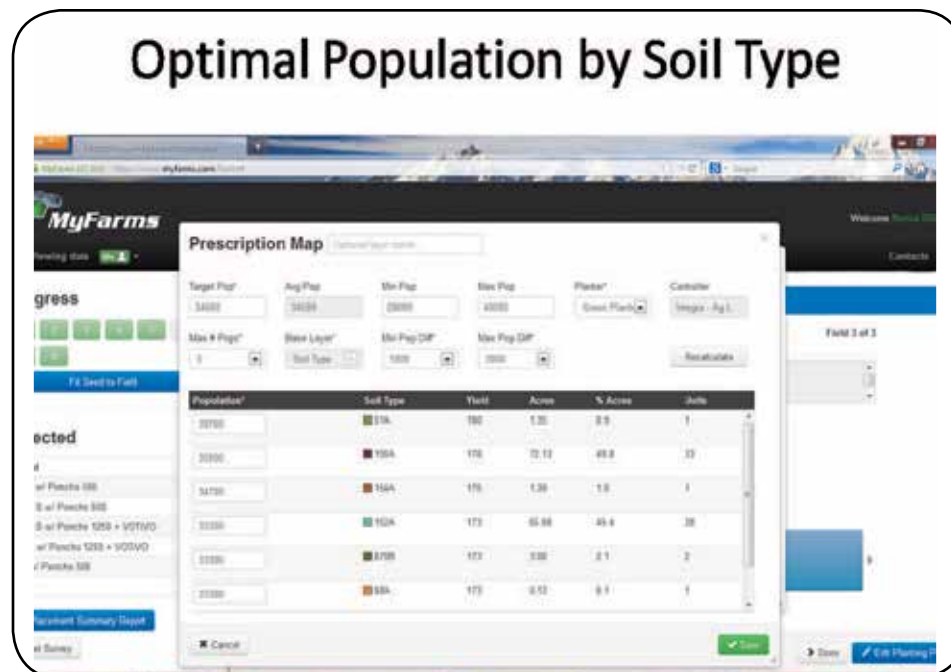
# Capture the value of your Crop Optimization Planner with MyFarms<sup>sm</sup>

Successful growers know the value of using the Crop Optimization Planner (COP). They 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 MyFarms<sup>sm</sup> 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 MyFarms<sup>sm</sup> team to develop the protocol for the Crop Optimization Planner (COP). This program includes a series of managerial questions to help growers design the package to fit their specific needs. And yes, you can place both corn and soybean orders with our convenient system.

For 2014, Burrus and Hughes are taking the cropping plan service to a whole new level by adding the variable rate planting feature as an added bonus. We completed testing of this feature in the 2013 crop year and will now make it 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. Some competitors are locked in to one monitor (it is conveniently the one they own).

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. This year's testing resulted in a 12.5 bu/a increase for the test locations utilizing the COP program.

Burrus and Hughes recognize that modern corn producers expect and deserve more from their seed supplier than ever before. 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 the

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. He can use his MyFarms<sup>sm</sup> data with his fertilizer company, his chemical supplier, etc.

This exciting and valuable Crop Optimization Planner tool is available for all Burrus growers. It is convenient and efficient. Many growers have already signed up their acres. If you are interested in learning more about or utilizing this new value-added technology for your farming operation, contact your Burrus or Hughes sales representative today.

POWER PLUS 4G46AMX™*	211.9	18.1	100	58.5	33
HUGHES 5456 3000GT	210.4	17.6	100	58.4	32
POWER PLUS 7D51 Q™*	208.6	19.9	100	59.9	31
CATALYST 4685 3111	206.2	18.7	90	58.6	30
POWER PLUS 6A12AM1™*	204.8	21.9	100	59.4	32
BURRUS 6J36 3000GT	203.5	19.2	100	58.7	31
POWER PLUS 4P12 Q™*	201.4	17.8	100	58.5	33
HUGHES 2796 3111	185.7	16.0	100	57.0	31
HUGHES 5124 GT	176.3	17.7	100	58.4	30
POWER PLUS 6A12AM1™*	176.2	20.9	100	59.2	30
Average	204.4	19.6	99	59.0	32

## MARION

**Power Plus® 6C41 S™\***  
is second

Steve Brummel  
Salem, IL

**Planted:** May 27 in 30" rows. **Planting Population:** 28,000. **Harvested:** October 18. **Previous Crop:** Soybeans. **Fertilizer:** N: 177, P: 70, K: 90. **Herbicide:** Lexar, Atrazine. **Corn Borer Rating:** Light. **Soil Type:** Light loam. **Weather:** May-wet, June-wet, July-normal, August-dry. **✓Check Hybrid:** Power Plus 7U15AM-R™\*

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
✓Check	165.0		22.2	60.5
Mycogen 2G685	178.4	1	21.0	56.8
✓Check	152.7		21.3	59.8
Mycogen 2A787	142.2	14	21.2	58.8
✓Check	147.6		22.0	60.0
Mycogen 2K757	130.1	16	21.3	56.3
✓Check	135.3		21.3	59.8
DeKalb DKC62-97	102.3	24	20.3	59.0
✓Check	125.5		22.2	59.5
DeKalb DKC61-88RIB	128.9	17	19.3	59.7
✓Check	124.5		20.8	60.2
POWER PLUS 8V08 S™*	142.2	13	21.5	59.4
✓Check	139.0		20.3	60.0
Mycogen 2V779	121.6	20	21.0	55.8
✓Check	150.4		21.2	60.3
CATALYST 7893 3111	164.4	6	22.3	55.5
✓Check	156.3		20.8	61.7
Mycogen X1277753	120.6	22	20.3	57.0
✓Check	137.9		21.3	60.3
XL Brand 6272HR	121.5	21	19.3	60.7
✓Check	171.2		20.5	60.2
Mycogen X1277853	143.9	12	19.7	55.9
✓Check	173.2		20.5	61.2
Beck's 5716A3	154.0	7	20.7	56.2
✓Check	149.4		21.7	61.4
Mycogen 2A749	169.7	3	20.2	58.0
✓Check	172.8		21.4	60.8
POWER PLUS 6C41 S™*	172.3	2	23.0	58.7
✓Check	128.6		20.3	59.0
Mycogen 2H729	127.5	18	20.6	58.7
✓Check	139.7		20.8	60.7
POWER PLUS 6F74AMX™*	136.7	15	20.0	62.0
✓Check	140.8		21.9	60.4
Mycogen 2P719	146.3	10	21.6	58.9
✓Check	163.9		21.2	61.3
BURRUS 6J36 3000GT	166.6	5	20.2	58.0
✓Check	165.8		21.2	60.8
Mycogen 2V717	169.1	4	18.3	57.5
✓Check	171.9		21.4	61.3
BURRUS X5Z41	147.9	9	20.8	57.7
✓Check	125.0		22.1	61.5
Mycogen 2V709	118.2	23	21.2	58.3
✓Check	135.5		21.2	60.3
CATALYST 4685 3111	148.2	8	20.7	56.2
✓Check	143.9		23.8	60.4
Mycogen 2A695	125.7	19	24.7	55.2
✓Check	150.5		20.8	62.2
POWER PLUS 4J93AM™*	145.6	11	20.5	59.7
✓Check	165.3		20.2	60.5
Average	146		21.1	59.3
Check Average	149.3		21.3	60.6

## LOGAN



Dan Folkes  
Elkhart, IL

**Planted:** May 1 in 30" rows. **Harvested:** September 30. **Previous Crop:** Corn. **Fertilizer:** N: 180, P: 90, K: 140. **Herbicide:** Roundup. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
CATALYST 6227 4011	221.5	20.7	90	59.2	33
POWER PLUS 8V08 S™*	219.5	23.3	100	60.7	33
POWER PLUS 7A18AM1™*	218.1	22.4	100	59.5	33
POWER PLUS 6F74AMX™*	218.0	19.5	100	59.9	32

# Catalyst™ brand has updates, too

The Catalyst™ brand products carry slightly different nomenclature for seed sizes. All units will be 80,000 kernels. The F1 and R1 will weigh 32 - 42 lbs.

F2 and R2 will weigh 43 - 55 lbs. and appear in the BX4 column and will have 50 units per E-Z Load box.

F3 will weigh 56 lbs. or more and will appear in the BX6 column. Because R3 are medium/ large rounds they appear in

the BXR column and will have 40 units per E-Z Load box.

Because the Catalyst 7893 3111 is a new product it has the Cruiser 500 Avicta on it. So like all of our other new products it has twice the insecticide that others consider standard plus the Avicta for nematode control. Other Catalyst products will have Cruiser 500 as their seed treatment for 2014.



# Kelsey Lindsey joins the Burrus office staff

Kelsey Lindsey joined the Burrus office staff in December 2012. She was raised in rural Literberry, IL and graduated from Jacksonville High School. She then went on to graduate from Lincoln Land Community College.

Kelsey enjoyed 4-H for 10 years and showed both pigs and cattle. She was also active in Future Farmers of America while in high school.

In the office she enters data into the new SeedWare system. Kelsey maintains product orders and accounts and assists a group of RSMs. Part of her responsibilities includes updating technology licensing agreement forms.

Kelsey'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.



After representing Burrus Hybrids for 26 years, Larry & Cheryl Strohbeck enjoyed a trip to Panama with Burrus friends and are now enjoying their retirement.

## MASON

Larry Hill  
Mason City, IL

**Planted:** May 2 in 30" rows. **Harvested:** October 17. **Previous Crop:** Soybeans.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 7A18AM1™*	244.2	18.0
Dekalb DKC61-88	234.7	16.7
Average	239.4	17.4

Larry Hill  
Mason City, IL

**Planted:** May 1 in 30" rows. **Harvested:** October 17. **Previous Crop:** Soybeans.

Brand/Product	Bu. Per Acre	% Moisture
Dekalb DKC62-97	211.8	18.7
BURRUS 6J36GT3	209.0	18.8
Average	210.4	18.8

## ILLINOIS

Larry Hill  
Mason City, IL

**Planted:** May 1 in 30" rows. **Planting Population:** 32,000. **Harvested:** September 30. **Previous Crop:** Soybeans.

Brand/Product	Bu. Per Acre	% Moisture
CATALYST 7893 3111	225.2	20.2
Dekalb DKC61-88	222.5	16.6
POWER PLUS 8V08 S™*	220.2	17.8
Dekalb DKC62-97	219.5	16.2
Dekalb DKC67-57	217.7	18.2
BURRUS 6G64	217.1	16.8
BURRUS 6T54 3000GT	215.3	18.7
BURRUS 6J36 3000GT	214.9	16.3
POWER PLUS 7A18AM1™*	210.0	16.4
Average	218.0	17.5

 Roger Parr  
Mason City, IL

**Planted:** May 14 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 7. **Previous Crop:** Corn.

Brand/Product	Bu. Per Acre	% Moisture
BURRUS 6J36 3000GT	258.7	17.8
Dekalb DKC61-88	257.4	16.5
Dekalb DKC61-88	252.3	16.4
POWER PLUS 7A18AM1™*	243.9	16.8
Average	253.1	16.9

## MCDONOUGH

New Power Plus®  
4J95AMX™\* wins!

 John Cook  
Sciota, IL

**Planted:** May 15 in 30" rows. **Planting Population:** 34,400. **Harvested:** October 12. **Previous Crop:** Soybeans. **Fertilizer:** N: 170, P: 70, K: 120. **Herbicide:** Harness Xtra. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam. **Weather:** May-wet, June-wet, July-dry, August-dry. **Remarks:** Plot had a fungicide applicaton.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 4J95AMX™*	245.6	20.3	60.0	34
BURRUS 6J36 3000GT	243.4	22.8	58.6	32
POWER PLUS 6C41 S™*	241.4	22.0	60.5	32
BURRUS 6T54 3000GT	241.3	25.2	58.3	34
POWER PLUS 7A18AM1™*	238.9	22.3	61.5	33
CATALYST 4685 3111	238.4	21.4	58.3	34
CATALYST 7893 3111	237.7	24.5	58.2	34
CATALYST 6227 4011	235.8	22.1	59.5	32
POWER PLUS 4P12 Q™*	234.3	20.9	62.2	32
POWER PLUS 4V43 S™*	229.9	20.0	62.0	34
POWER PLUS 4G46AMX™*	229.3	20.0	63.0	34
POWER PLUS 4V43 S™*	227.9	19.8	61.9	32
POWER PLUS 6F74AMX™*	227.6	21.3	62.3	33
POWER PLUS 4Y27AMX™*	221.1	20.6	63.2	32
Average	235.2	21.7	60.7	33

289.5 bu/a!

John Cook  
Sciota, IL

**Planted:** May 15 in 30" rows. **Planting Population:** 34,400. **Harvested:** October 23. **Previous Crop:** Soybeans. **Fertilizer:** N: 170, P: 70, K: 120. **Herbicide:** Harness Xtra, Roundup. **Soil Type:** Heavy loam. **Weather:** May-dry, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	Erect.	1000 Plants /Acre
BURRUS 999741	289.5	20.5	100	38
POWER PLUS 4P12 Q™*	281.4	15.8	100	34
BURRUS 180291	278.1	17.6	100	33
BURRUS 780946	274.3	18.9	100	36
POWER PLUS 6F74AMX™*	274.2	17.8	100	34
BURRUS 6J36 3000GT	272.7	17.8	96	35
Dekalb DKC62-97	272.3	17.7	100	33
BURRUS 359902	271.7	18.7	100	33
POWER PLUS 6C41S™*	270.5	18.6	100	34
POWER PLUS X5241™*	268.1	18.7	100	32
POWER PLUS 4J95AMX™*	268.0	16.9	100	33
BURRUS 123206	267.9	16.9	100	37
BURRUS 749321	267.3	15.2	100	35
BURRUS 589605	265.3	19.5	100	35
CATALYST 6227 3111	262.3	17.5	100	35
CATALYST 7893 3111	259.8	17.9	100	33
BURRUS 181496	258.8	17.9	100	37
BURRUS 908487	258.6	17.5	100	37
BURRUS 532642	256.8	17.5	96	35
POWER PLUS 2V56AMX™*	256.7	16.1	100	37
POWER PLUS 4B32AMX-R™*	255.9	16.2	100	34
CATALYST 4685 3111	255.2	17.3	100	37
BURRUS 724508	255.0	16.5	100	35
POWER PLUS 4V43S™*	254.1	16.6	100	36
BURRUS 669860	251.7	17.4	100	34
BURRUS 181796	250.6	19.9	100	36
POWER PLUS 4G46AMX™*	249.9	16.0	100	33
BURRUS 6T54 3000GT	247.3	20.5	100	36
BURRUS 558879	246.0	19.8	100	34
POWER PLUS X7A18™*	242.7	16.4	100	34
POWER PLUS 4Y27AMX™*	239.2	16.5	100	37
Average	262.0	17.7	100	35



Ronnie & Joan Smith saw 5 hybrids exceed 240 bu/a in Morgan Co.



Kent & Chad Kleinschmidt saw eleven products above 240 bu/a in Tazewell Co.



Dave Baker saw his Ogle Co. plot average 236 bu/a.



Scott & Al Jacob saw the Burrus family of products smoke Pioneer in Warren Co., MO.



The full season hybrids prevailed in McHenry Co. for Kerry & Jim Hughes.





Power Plus<sup>®</sup> 4J95AMX<sup>TM</sup>\* came in second at 245 bu/a in Mercer Co. behind an experimental hybrid for Howard Duncan & Wade Johnson.



Chase & Scott Olson ran a population and planting depth study in McHenry Co.



With just one entry, Power Plus<sup>®</sup> 7U15 AM-R<sup>TM</sup>\* took third in a Pioneer plot for Roger & Nikki Leahr.



232 bu/a plot was the average for Chris & Missy Smith of Morgan Co.



Alan & Chris Ottens of Whiteside Co. saw the multi-brand strategy deliver big yields.

## MCHENRY

### New numbers take top 4 places



Dan Ziller  
Huntley, IL

**Planted:** May 18 in 30" rows. **Planting Population:** 33,600. **Harvested:** October 24. **Previous Crop:** Corn. **Herbicide:** Corvus Atrazine RUP. **Soil Type:** Heavy loam. **Weather:** May-wet, June-normal, July-dry, August-dry. **✓Check Hybrid:** Power Plus 4P12 Q<sup>TM</sup>\*

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	226.7		27.5
HUGHES 2428 GTA	216.9	9	22.1
POWER PLUS 1M45AMRW-R <sup>TM</sup> *	228.3	4	24.5
HUGHES 3953 3000GT	214.8	10	25.6
POWER PLUS 2V56AMX <sup>TM</sup> *	240.2	2	28.2
HUGHES 4607 3000GT	204.2	14	28.2
POWER PLUS 4Y27AMX <sup>TM</sup> *	223.4	7	28.8
✓Check	235.4		28.9
HUGHES 5456 3000GT	217.8	8	29.0
POWER PLUS 4G46AMX <sup>TM</sup> *	232.6	3	29.1
HUGHES 6132 3000GT	227.1	5	30.3
POWER PLUS 4B32AMX-R <sup>TM</sup> *	225.9	6	29.3
POWER PLUS 4J95AMX <sup>TM</sup> *	241.4	1	29.8
CATALYST 6227 4011	214.0	11	31.0
CATALYST 4685 3111	208.7	13	33.0
✓Check	218.3		29.6
LG Seeds LG2575VT3P	211.7	12	32.0
LG Seeds LG2549VT3P	203.7	15	31.5
LG Seeds LG5522VT3P	198.7	16	29.7
LG Seeds LG5533VT3P	187.8	17	29.9
Average	218.9		28.9
Check Average	226.8		28.7

Bob Dodson  
Harvard, IL

**Planted:** April 29 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 23. **Previous Crop:** Soybeans. **Soil Type:** Heavy loam. **Weather:** May-wet, June-normal, July-dry, August-dry. **✓Check Hybrid:** Yield Direct 4E21RIB.

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
Renk RK581SSTX	219.8	4	23.0	59.7
Yield Direct 4Y42GENSS	210.9	10	25.2	57.8
Renk RK598SSTX	227.9	1	27.3	58.8
✓Check	196.0		28.2	58.5
OMG 4M21-PM	219.4	6	23.2	61.2
Renk RK629VT3P	155.8	28	22.6	61.1
OMG 4643VT3	224.4	2	21.9	60.9
Yield Direct 5E58-RIB	206.1	13	19.2	60.2
Agrigold A6356VT3Pro	210.6	11	20.1	59.5
✓Check	202.9		21.2	59.3
Pioneer P0062AMX	197.9	18	19.1	58.2
Pioneer P0297AMX	216.6	8	21.9	60.4
HUGHES 2987 3011A	191.3	23	21.8	58.9
HUGHES 3953 3000GT	197.0	20	24.3	57.0
Pioneer P0407AMXT	206.1	14	22.8	60.6
Pioneer P0496AMX	209.8	12	22.7	61.1
POWER PLUS 2V56AMX <sup>TM</sup> *	179.3	26	26.0	60.0
HUGHES 4607 3000GT	203.6	16	28.2	56.0
Pioneer P0636AM1	219.7	5	28.0	60.0
Pioneer P0533AM1	216.1	9	23.9	61.9
HUGHES 5456 3000GT	196.7	21	25.8	56.9
POWER PLUS 4P12 Q <sup>TM</sup> *	191.2	24	27.4	58.8
Pioneer P0062AMX	197.2	19	20.6	58.7
Pioneer P0062AMX	175.9	27	19.0	58.2
POWER PLUS 4B32AMX-R <sup>TM</sup> *	193.7	22	25.2	61.8
POWER PLUS 4Y27AMX <sup>TM</sup> *	189.0	25	25.6	61.4
Pioneer P0533AM1	217.1	7	22.9	60.6
Pioneer P0533AM1	203.8	15	22.8	60.6

Pioneer P0533AM1	222.4	3	22.6	61.1
CATALYST 6227 4011	199.5	17	31.0	58.8
✓Check	190.1		26.5	59.2
Average	202.8		23.9	59.6
Check Average	196.3		25.3	59

### Multi-brand strategy on top 3 entries

Simons Farms  
Marengo, IL

**Planted:** May 8 in 30" rows. **Planting Population:** 32,500. **Harvested:** October 23. **Previous Crop:** Soybeans. **Soil Type:** Medium loam. **Weather:** May-normal, June-normal, July-dry, August-dry.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	199.2		21.2
POWER PLUS 1M45AMRW-R <sup>TM</sup> *	206.0	9	19.0
HUGHES 3953 3000GT	208.1	7	20.0
POWER PLUS 2V56AMX <sup>TM</sup> *	209.4	6	23.1
HUGHES 4607 3000GT	220.3	2	23.6
HUGHES 5456 3000GT	210.9	4	24.1
✓Check	207.4		22.8
POWER PLUS 4Y27AMX <sup>TM</sup> *	176.8	11	22.7
POWER PLUS 4G46AMX <sup>TM</sup> *	210.2	5	24.7
HUGHES 6132 3000GT	208.0	8	24.2
POWER PLUS 4B32AMX-R <sup>TM</sup> *	192.2	10	24.6
POWER PLUS 4J95AMX <sup>TM</sup> *	214.3	3	24.6
CATALYST 6227 4011	220.5	1	29.5
✓Check	215.7		23.1
Average	207.1		23.4
Check Average	207.4		22.4

### Hughes show plot



Hughes Hybrids Plot  
Woodstock, IL

**Planted:** May 4 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 11. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: 70, K: 400. **Herbicide:** Laudis. **Insecticide:** Force. **Soil Type:** Heavy loam. **Weather:** May-wet, June-normal, July-dry, August-dry. **Remarks:** Show plot on Route 14.

Brand/Product	Bu. Per Acre	% Moisture
CATALYST 4685 3111	240.0	31.4
CATALYST 7893 3111	237.0	32.7
BURRUS 6T54 3000GT	234.0	33.7
BURRUS 6J36 3000GT	226.0	33.1
POWER PLUS 6C41 S <sup>TM</sup> *	223.0	32.3
HUGHES 6132 3000GT	223.0	29.7
POWER PLUS 2V56AMX <sup>TM</sup> *	221.0	23.2
POWER PLUS 6F74AMX <sup>TM</sup> *	221.0	28.4
POWER PLUS 2N82AM <sup>TM</sup> *	219.0	24.8
POWER PLUS 4P11 R <sup>TM</sup> *	219.0	26.5
BURRUS 6G64	217.0	30.6
CATALYST 6227 4011	216.0	33.6
HUGHES 2987 3011A	214.0	22.9
POWER PLUS 4P12 Q <sup>TM</sup> *	213.0	25.6
POWER PLUS 4G46AMX <sup>TM</sup> *	213.0	27.0
POWER PLUS 4J93AM <sup>TM</sup> *	212.0	28.9
POWER PLUS 7A18AM1 <sup>TM</sup> *	212.0	30.0
HUGHES 5456 3000GT	210.0	27.4
BURRUS 5D30	209.0	26.9
POWER PLUS 4B32AMX-R <sup>TM</sup> *	209.0	26.2
POWER PLUS 1M45AMRW-R <sup>TM</sup> *	207.0	24.6
POWER PLUS 1C21 R <sup>TM</sup> *	205.0	22.3
POWER PLUS 4J95AMX <sup>TM</sup> *	205.0	28.3
POWER PLUS 4V43 S <sup>TM</sup> *	204.0	29.9
POWER PLUS 4Y27AMX <sup>TM</sup> *	203.0	26.1
POWER PLUS 5N48 <sup>TM</sup> *	201.0	26.1
HUGHES 1285 GCL	194.0	18.0
HUGHES 3953 3000GT	185.0	21.3
POWER PLUS 6F71 R <sup>TM</sup> *	183.0	28.9
Average	212.9	27.6

## MERCER

Wayne Duncan/Wade Johnson  
Alexis, IL

**Planted:** May 14 in 20" rows. **Planting Population:** 36,500. **Harvested:** October 10. **Previous Crop:** Soybeans. **Herbicide:** 2,4-D, Roundup. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam. **Weather:** May-wet, June-normal, July-dry, August-dry. **✓Check Hybrid:** Burrus 6J36 3000GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	1000 Plants /Acre
HUGHES 4607 3000GT	222.9	21	19.7	36
POWER PLUS 2V56AMX <sup>TM</sup> *	225.4	20	21.0	36
POWER PLUS 4Y27AMX <sup>TM</sup> *	220.3	24	21.0	36
✓Check	243.2		24.6	38
POWER PLUS 4P12 Q <sup>TM</sup> *	219.3	25	22.1	35
POWER PLUS 4G46AMX <sup>TM</sup> *	231.6	14	21.3	38
BURRUS 724508	221.0	22	21.5	38
HUGHES 5456 3000GT	231.2	16	20.4	36
BURRUS 808583	228.7	17	21.6	37
BURRUS 123206	239.0	6	21.2	38
BURRUS 669860	234.9	10	21.9	37
✓Check	246.7		25.9	38
POWER PLUS 4J95AMX <sup>TM</sup> *	245.1	2	22.8	34
BURRUS 780946	246.3	1	26.3	38
✓Check	245.1		25.5	37
BURRUS 359902	225.8	19	26.2	36
BURRUS 5Z41 GT	240.9	4	23.2	36
CATALYST 4685 3111	243.8	3	23.5	37
✓Check	241.6		25.4	38
CATALYST 6227 4011	235.6	9	26.1	57
POWER PLUS 6F74AMX <sup>TM</sup> *	228.6	18	22.0	35
BURRUS 999741	236.2	8	28.2	38
BURRUS 589605	220.9	23	28.1	36
BURRUS 6T54 3000GT	231.4	15	26.8	38
BURRUS 181496	238.1	7	24.4	34
BURRUS 532642	234.3	11	25.3	36
✓Check	245.5		23.9	37
CATALYST 7893 3111	233.5	12	24.0	37
POWER PLUS 7A18AM1 <sup>TM</sup> *	232.0	13	24.8	36
POWER PLUS 8V08 S <sup>TM</sup> *	240.0	5	25.0	38
Average	234.3		23.8	37
Check Average	244.4		25.1	38

Scott Olson  
Joy, IL

**Planted:** May 8 in 30" rows. **Planting Population:** 34,000. **Harvested:** August 17. **Previous Crop:** Corn. **Fertilizer:** N: 190, P: 0, K: 124. **Herbicide:** Harness Xtra, Roundup. **Corn Borer Rating:** Light. **Soil Type:** Heavy loam. **Weather:** May-wet, June-dry, July-dry, August-dry. **Remarks:** Population study = Entry 1-27K, Entry 2-32K, Entry 3-37K. Depth study= Entry 4-5 in., entry 5-2.5 in..

Brand/Product	Bu. Per Acre	% Moisture	% Erect	1000. Plants /Acre
POWER PLUS 4G46AMX <sup>TM</sup> *	203.4	17.2	96	38
POWER PLUS 4J95AMX <sup>TM</sup> *	200.9	16.6	98	36
POWER PLUS 4P12 Q <sup>TM</sup> *	195.4	16.9	100	30
POWER PLUS 4B32AMX-R <sup>TM</sup> *	194.0	16.7	100	37
POWER PLUS 4B32AMX-R <sup>TM</sup> *	190.3	16.7	100	36
POWER PLUS 4B32AMX-R <sup>TM</sup> *	181.7	16.4	100	32
POWER PLUS 4B32AMX-R <sup>TM</sup> *	181.3	16.6	100	27
CATALYST 4685 3111	180.9	15.4	100	35
BURRUS 6T54 3000GT	179.4	18.7	100	31
POWER PLUS 6C41 S <sup>TM</sup> *	179.2	18.3	100	33
BURRUS 6J36 3000GT	178.0	15.5	100	34
POWER PLUS 6F74AMX <sup>TM</sup> *	172.1	17.7	100	32
POWER PLUS 7A18AM1 <sup>TM</sup> *	170.5	18.1	98	32
POWER PLUS 4B32AMX-R <sup>TM</sup> *	140.6	16.6	70	26
Average	182.0	17.0	97	33



# WHAT'S NEW



## MERCER

Larry Carlson  
Alexis, IL

**Planted:** October 4 in 30" rows. **Planting Population:** 35,400. **Harvested:** October 4. **Previous Crop:** Soybeans. **Soil Type:** Heavy loam.

Brand/Product	Bu. Per Acre	% Moisture
DeKalb DKC64-87RIB	227.7	24.8
DeKalb DKC63-33RIB	214.6	24.4
Dyna-Gro CX50VP43	210.7	24.0
DeKalb DKC61-88RIB	207.9	24.2
Dyna-Gro D52SS91RIB	206.7	29.1
Channel 212-09STXRIB	206.6	20.5
Dyna-Gro D53VP61	205.8	25.0
Channel 212-86STXRIB	204.0	24.4
DeKalb DKC61-16RIB	201.4	25.4
<b>CATALYST 4685 3111</b>	<b>197.6</b>	<b>22.8</b>
<b>BURRUS 6J36 3000GT</b>	<b>184.6</b>	<b>26.6</b>
Channel 210-95STXRIB	181.5	21.3
<b>POWER PLUS 4Y27AMX™*</b>	<b>178.7</b>	<b>20.5</b>
DeKalb DKC61-88RIB	173.7	21.2
Average	200.1	23.9

## MONROE

Chris Howell  
Columbia, IL

**Planted:** May 5 in 30" rows. **Planting Population:** 33,000. **Harvested:** September 22. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: 100, K: 60. **Herbicide:** Lexar, Atrazine, Roundup. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–normal, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
<b>POWER PLUS 4J93AM™*</b>	<b>229.8</b>	<b>20.7</b>	<b>56.7</b>	<b>31</b>
<b>BURRUS 6T54 3000GT</b>	<b>221.4</b>	<b>22.5</b>	<b>56.6</b>	<b>31</b>
<b>POWER PLUS 6C41S™*</b>	<b>220.4</b>	<b>22.6</b>	<b>58.6</b>	<b>31</b>
<b>POWER PLUS 6F74AMX™*</b>	<b>218.1</b>	<b>22.3</b>	<b>59.5</b>	<b>31</b>
<b>BURRUS 6J36 3000GT</b>	<b>217.1</b>	<b>21.8</b>	<b>57.9</b>	<b>31</b>
<b>POWER PLUS 7A18AM1™*</b>	<b>216.8</b>	<b>22.2</b>	<b>59.5</b>	<b>31</b>
<b>CATALYST 4685 3111</b>	<b>212.6</b>	<b>21.7</b>	<b>54.9</b>	<b>31</b>
<b>POWER PLUS 7U15AM-R™*</b>	<b>212.0</b>	<b>20.1</b>	<b>61.5</b>	<b>31</b>
<b>CATALYST 6227 4011</b>	<b>209.6</b>	<b>21.9</b>	<b>57.4</b>	<b>31</b>
<b>POWER PLUS 4V43S™*</b>	<b>204.9</b>	<b>21.9</b>	<b>56.4</b>	<b>31</b>
<b>CATALYST 7893 3111</b>	<b>197.5</b>	<b>25.0</b>	<b>56.3</b>	<b>31</b>
<b>POWER PLUS 8V08S™*</b>	<b>192.9</b>	<b>21.6</b>	<b>59.4</b>	<b>31</b>
Average	212.8	22	57.9	31

## MONTGOMERY

Montgomery County  
Corn Growers  
Raymond, IL

**Planted:** May 18 in 30" rows. **Planting Population:** 35,500. **Harvested:** October 17. **Previous Crop:** Soybeans. **✓Check Hybrid:** Power Plus 6F74AMX™\*

Brand-Variety	Bu. Per Acre	Rank	% Moisture
<b>✓Check</b>	<b>191.0</b>		<b>18.3</b>
Stone 6058GSSRIB	195.6	30	16.8
<b>CATALYST 7893 3111</b>	<b>219.2</b>	<b>7</b>	<b>21.6</b>
ProHarvest 8063SSTX-RIB	184.8	36	17.8
Pfister Hybrids 2672RA	217.4	9	19.6

Agrigold A6573	204.6	19	19.3
<b>✓Check</b>	<b>202.8</b>		<b>18.4</b>
NK Brand N65D-3122	193.4	35	18.9
Great Lakes Hybrids 6232	208.7	21	19.3
Wyffels W7888RIB	227.1	4	19.5
FS 66JV4 RIB	222.7	11	20.7
VPMmax R8484AMX	201.5	31	18.1
<b>✓Check</b>	<b>204.0</b>		<b>18.2</b>
Lewis Hybrids R1312SS	207.4	23	18.2
Pioneer P0993AM1	200.7	33	18.0
Golden Harvest H-9138GT	214.1	17	20.3
Dyna-Gro D51VP32	217.2	15	18.5
LG Seeds LG5618STX-RIB	234.0	3	19.0
<b>✓Check</b>	<b>205.6</b>		<b>18.1</b>
XL Brand 6626AMX-R	228.2	10	18.8
Mycogen 2V709	206.3	32	18.8
Dairyland Seed 9111	210.2	25	18.5
Agrigold A6517VT3	209.9	27	18.6
Great Lakes Hybrids 6087VT3PRIB	208.8	29	19.2
<b>✓Check</b>	<b>211.1</b>		<b>18.6</b>
Lewis Hybrids 1315	216.1	20	18.5
LG Seeds LG2620VT3	211.5	24	19.2
VPMmax 8010	200.4	34	18.2
Pioneer P1215AM1	210.5	28	19.0
ProHarvest 8388SSTX-RIB	213.7	22	20.7
<b>✓Check</b>	<b>207.6</b>		<b>18.2</b>
FS 63SX1-RIB	221.8	13	20.1
<b>POWER PLUS 7A18AM1™*</b>	<b>222.2</b>	<b>12</b>	<b>19.5</b>
Dairyland Seed DS-9713RA	227.2	6	21.4
Dyna-Gro D53VP61	213.4	18	18.8
XL Brand 6175AMX-R	206.4	26	18.4
<b>✓Check</b>	<b>202.1</b>		<b>18.5</b>
Golden Harvest H-9574-3111	222.6	8	22.7
Mycogen 2A749	218.5	14	20.2
Wyffels W6487	212.0	16	17.5
Pfister Hybrids 2770	235.0	1	19.8
NK Brand N79Z-3000GT	233.8	2	21.7
Stone 6404GVT3RIB	223.9	5	20.2
<b>✓Check</b>	<b>201.0</b>		<b>17.4</b>
Average	211.9		19.1
Check Average	203.1		18.2

## MORGAN

Bruce Thompson  
Jacksonville, IL

**Planted:** May 14 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 17. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: 200, K: 200. **Herbicide:** Callisto. **Corn Borer Rating:** Light. **Soil Type:** Loam. **Weather:** May–wet, June–normal, July–dry, August–dry. **Remarks:** Hybrids were in the same field, but non s x s.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
<b>POWER PLUS 6C40™*</b>	<b>220.4</b>	<b>19.7</b>	<b>61.9</b>
Kruger K-0315	220.3	19.5	61.9
<b>POWER PLUS 6C40™*</b>	<b>219.7</b>	<b>19.6</b>	<b>61.9</b>
Kruger K-0315	218.1	19.2	61.7
Kruger K-0315	217.8	19.3	61.7
Kruger K-0315	215.5	19.3	61.7
Average	218.6	19.4	61.8

## Catalyst 4685 3111 wins at 246 bu/a



Ronald Smith  
Ashland, IL

**Planted:** May 17 in 30" rows. **Planting Population:** 33,000. **Harvested:** October 11. **Previous Crop:** Soybeans. **Soil Type:** Loam. **Weather:** May–wet, June–wet, July–normal, August–dry. **✓Check Hybrid:** Power Plus 6C41 S™\*

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
<b>✓Check</b>	<b>245.7</b>		<b>24.3</b>	<b>59.0</b>
<b>POWER PLUS 8V08 S™*</b>	<b>243.4</b>	<b>4</b>	<b>24.3</b>	<b>60.0</b>
<b>CATALYST 7893 3111</b>	<b>234.3</b>	<b>6</b>	<b>26.7</b>	<b>56.7</b>
<b>POWER PLUS 7A18AM1™*</b>	<b>245.4</b>	<b>2</b>	<b>24.1</b>	<b>61.0</b>
<b>POWER PLUS 6F74AMX™*</b>	<b>227.2</b>	<b>10</b>	<b>21.1</b>	<b>56.3</b>
<b>✓Check</b>	<b>243.7</b>		<b>22.9</b>	<b>54.6</b>
<b>✓Check</b>	<b>242.6</b>		<b>23.1</b>	<b>54.7</b>
<b>BURRUS 6J36 3000GT</b>	<b>241.0</b>	<b>5</b>	<b>23.6</b>	<b>56.9</b>
<b>BURRUS 5Z41 GT</b>	<b>244.1</b>	<b>3</b>	<b>22.0</b>	<b>56.5</b>
<b>CATALYST 4685 3111</b>	<b>246.2</b>	<b>1</b>	<b>25.0</b>	<b>57.3</b>
<b>✓Check</b>	<b>242.4</b>		<b>23.9</b>	<b>58.9</b>
<b>POWER PLUS 4G46AMX™*</b>	<b>231.1</b>	<b>7</b>	<b>20.1</b>	<b>62.0</b>
<b>POWER PLUS 4Y27AMX™*</b>	<b>226.1</b>	<b>11</b>	<b>19.8</b>	<b>60.9</b>
<b>POWER PLUS 4P12 Q™*</b>	<b>229.3</b>	<b>9</b>	<b>20.7</b>	<b>60.2</b>
<b>POWER PLUS 4B32AMX-R™*</b>	<b>230.7</b>	<b>8</b>	<b>22.2</b>	<b>60.5</b>
<b>✓Check</b>	<b>241.8</b>		<b>22.9</b>	<b>60.6</b>
Average	238.4		22.9	58.5
Check Average	243.2		23.4	57.6



Burrus Seed Farms, Inc.  
Arenzville, IL.

**Planted:** May 2 in 30" rows. **Harvested:** September 14. **Previous Crop:** Corn. **Fertilizer:** N: 250, P: 80, K: 60. **Herbicide:** Degree Xtra, Impact, Prowl. **Insecticide:** Aztec. **Soil Type:** Silt loam. **Weather:** May–wet, June–wet, July–normal, August–dry. **Remarks:** 200 lbs. Nitrogen applied in the fall, and 50 lbs. sidedress in June.

Brand/Product	Bu. Per Acre	% Moisture	Erect	Adj. Test Wt.	1000 Plants /Acre
<b>POWER PLUS 7D51Q™*</b>	<b>267.2</b>	<b>23.0</b>	<b>98</b>	<b>59.3</b>	<b>32</b>
<b>POWER PLUS 7A18AM1™*</b>	<b>258.6</b>	<b>24.4</b>	<b>98</b>	<b>60.2</b>	<b>31</b>
<b>BURRUS 6T54 3000GT</b>	<b>254.0</b>	<b>23.3</b>	<b>95</b>	<b>56.1</b>	<b>31</b>
<b>CATALYST 7893 3111</b>	<b>249.1</b>	<b>24.1</b>	<b>100</b>	<b>55.7</b>	<b>28</b>
<b>POWER PLUS 4G46AMX™*</b>	<b>248.7</b>	<b>20.7</b>	<b>98</b>	<b>59.8</b>	<b>29</b>
<b>POWER PLUS 4J95AMX™*</b>	<b>246.4</b>	<b>22.3</b>	<b>98</b>	<b>55.7</b>	<b>29</b>
<b>POWER PLUS 6A12AM1™*</b>	<b>243.0</b>	<b>22.6</b>	<b>95</b>	<b>58.8</b>	<b>32</b>
<b>BURRUS 6J36 3000GT</b>	<b>240.1</b>	<b>21.2</b>	<b>99</b>	<b>56.2</b>	<b>30</b>
<b>CATALYST 6227 4011A</b>	<b>238.9</b>	<b>21.9</b>	<b>98</b>	<b>57.5</b>	<b>31</b>
<b>POWER PLUS 4P12Q™*</b>	<b>236.0</b>	<b>20.5</b>	<b>96</b>	<b>58.2</b>	<b>29</b>
<b>POWER PLUS 4B32AMX-R™*</b>	<b>231.5</b>	<b>20.6</b>	<b>99</b>	<b>59.8</b>	<b>31</b>
<b>CATALYST 4685 3111</b>	<b>230.2</b>	<b>19.7</b>	<b>96</b>	<b>55.6</b>	<b>31</b>
<b>POWER PLUS 6F74AMX™*</b>	<b>227.2</b>	<b>22.4</b>	<b>100</b>	<b>61.3</b>	<b>30</b>
<b>POWER PLUS 4Y27AMX™*</b>	<b>218.0</b>	<b>21.3</b>	<b>94</b>	<b>59.5</b>	<b>31</b>
Average	242.1	22.0	97	58.1	30

## Burrus 6J35 3000GT & 6T54 3000GT go 1 & 2!



Burrus Seed Farms, Inc.  
Arenzville, IL



**Planted:** April 27 in 30" rows. **Harvested:** September 14. **Previous Crop:** Corn. **Fertilizer:** N: 250, P: 80, K: 60. **Herbicide:** Degree Xtra, Impact, Prowl. **Insecticide:** Aztec. **Soil Type:** Silt loam. **Weather:** May–wet, June–wet, July–normal, August–dry. **Remarks:** 200 lbs. Nitrogen applied in the fall, and 50 lbs. sidedress in June.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
<b>BURRUS 6J35GT</b>	<b>287.4</b>	<b>18.9</b>	<b>92</b>	<b>55.3</b>	<b>31</b>
<b>BURRUS 6T543000GT</b>	<b>284.0</b>	<b>23.1</b>	<b>96</b>	<b>56.1</b>	<b>33</b>
<b>POWER PLUS 6F71R™*</b>	<b>283.9</b>	<b>21.5</b>	<b>90</b>	<b>58.8</b>	<b>32</b>
<b>POWER PLUS 8V08S™*</b>	<b>278.8</b>	<b>22.6</b>	<b>95</b>	<b>59.3</b>	<b>34</b>
<b>POWER PLUS 6A12AM1™*</b>	<b>270.6</b>	<b>22.0</b>	<b>97</b>	<b>58.7</b>	<b>33</b>
<b>POWER PLUS 6C40™*</b>	<b>269.9</b>	<b>21.6</b>	<b>98</b>	<b>58.9</b>	<b>29</b>
<b>BURRUS 6J36 3000GT</b>	<b>268.7</b>	<b>20.8</b>	<b>100</b>	<b>57.8</b>	<b>33</b>
<b>POWER PLUS 7U15AM-R™*</b>	<b>268.2</b>	<b>22.6</b>	<b>92</b>	<b>59.6</b>	<b>34</b>
<b>BURRUS 750</b>	<b>268.2</b>	<b>23.8</b>	<b>94</b>	<b>58.3</b>	<b>30</b>
<b>POWER PLUS 7A18AM1™*</b>	<b>266.8</b>	<b>24.2</b>	<b>99</b>	<b>59.0</b>	<b>32</b>
<b>POWER PLUS 4G46AMX™*</b>	<b>262.0</b>	<b>21.2</b>	<b>99</b>	<b>59.4</b>	<b>31</b>
<b>POWER PLUS 4J95AMX™*</b>	<b>261.8</b>	<b>21.5</b>	<b>99</b>	<b>56.2</b>	<b>31</b>
<b>POWER PLUS 7D51Q™*</b>	<b>258.1</b>	<b>23.0</b>	<b>100</b>	<b>59.7</b>	<b>35</b>
<b>POWER PLUS 6C41S™*</b>	<b>257.6</b>	<b>24.8</b>	<b>98</b>	<b>58.5</b>	<b>29</b>
<b>CATALYST 7893 3111</b>	<b>257.4</b>	<b>24.4</b>	<b>96</b>	<b>55.5</b>	<b>32</b>
<b>BURRUS 5Z41GT</b>	<b>252.3</b>	<b>20.6</b>	<b>97</b>	<b>55.0</b>	<b>29</b>
<b>POWER PLUS 6F70™*</b>	<b>250.7</b>	<b>20.9</b>	<b>97</b>	<b>59.6</b>	<b>32</b>
<b>POWER PLUS 4P12Q™*</b>	<b>246.9</b>	<b>20.8</b>	<b>99</b>	<b>58.0</b>	<b>31</b>
<b>POWER PLUS 4V43S™*</b>	<b>246.4</b>	<b>20.9</b>	<b>98</b>	<b>58.5</b>	<b>30</b>
<b>POWER PLUS 4J93AM™*</b>	<b>244.9</b>	<b>20.2</b>	<b>99</b>	<b>57.2</b>	<b>31</b>
<b>BURRUS 6G64</b>	<b>243.8</b>	<b>21.8</b>	<b>99</b>	<b>57.5</b>	<b>31</b>
<b>CATALYST 6227 4011A</b>	<b>243.0</b>	<b>21.6</b>	<b>99</b>	<b>57.7</b>	<b>32</b>
<b>POWER PLUS 6F74AMX™*</b>	<b>238.2</b>	<b>21.4</b>	<b>99</b>	<b>60.6</b>	<b>32</b>
<b>CATALYST 4685 3111</b>	<b>227.5</b>	<b>21.0</b>	<b>98</b>	<b>55.1</b>	<b>33</b>
<b>POWER PLUS 2N82AM™*</b>	<b>225.9</b>	<b>18.7</b>	<b>99</b>	<b>57.6</b>	<b>34</b>
<b>POWER PLUS 4Y27AMX™*</b>	<b>222.6</b>	<b>21.4</b>	<b>99</b>	<b>60.6</b>	<b>30</b>
<b>POWER PLUS 4P11R™*</b>	<b>218.9</b>	<b>18.7</b>	<b>92</b>	<b>58.7</b>	<b>29</b>
<b>POWER PLUS 5N48™*</b>	<b>217.2</b>	<b>18.9</b>	<b>87</b>	<b>60.1</b>	<b>32</b>
<b>POWER PLUS 4B32AMX-R™*</b>	<b>216.5</b>	<b>20.4</b>	<b>96</b>	<b>59.5</b>	<b>29</b>
<b>BURRUS 541L</b>	<b>213.0</b>	<b>20.4</b>	<b>86</b>	<b>54.9</b>	<b>32</b>
Average	251.7	21.5	96	58.1	32

Carl Kinsey  
Meredosia, IL

**Planted:** May 14 in 30" rows. **Planting Population:** 29,000. **Harvested:** October 14. **Previous Crop:** Soybeans. **Herbicide:** Bicep, Impact, Clarity. **Insecticide:** Force. **Soil Type:** Loam. **Weather:** May–wet, June–normal, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
Pioneer P1498	245.3	19.6	61.9
<b>POWER PLUS 5N48™*</b>	<b>245.0</b>	<b>20.3</b>	<b>60.0</b>
Average	245.2	20.0	61.0



Jim Lutz, Dylan, John, Dean Cook & Burrus RSM Clayton Cook saw their McDonough Co. plot average 235 bu/a!



Burrus remains American, farm family owned.

## ILLINOIS



A reward can be yours

# Get your picture in the paper

Would you like to earn an extra \$25? Wyatt Link of Meadville, MO wore his Burrus cap with pride as he was featured in a Missouri Farm Bureau publication. As a result, he got a check for \$25. It's that easy.

If a photo of you wearing the Burrus, Hoblit®, Hughes® 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. That's right, 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 \$25 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.)

As you attend farm shows this winter, don't forget to wear your Burrus, Hoblit, Hughes or Power Plus® cap, jacket, polo, or other wearables. Burrus routinely offers rewards at shows for those who wear our logo. Just stop by our exhibit to learn about the latest news and collect your reward. To make sure you never miss an opportunity,



wear your Burrus, Hoblit, Hughes or Power Plus® logo every day.

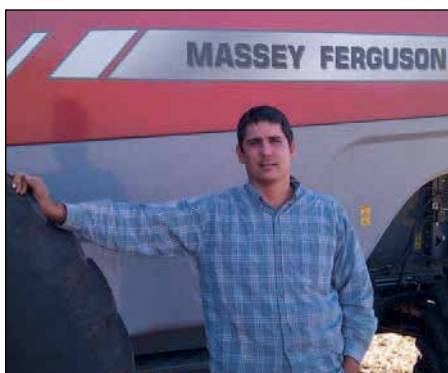
Remember, Wyatt got a reward and you can, too.

## At 255 bu/a Power Plus® 4J93AM™\* wins

Robert and Chris Smith  
Chapin, IL

**Planted:** May 15 in 30" rows. **Planting Population:** 29,000. **Harvested:** October 18. **Previous Crop:** Corn. **Soil Type:** Medium clay. **Weather:** May-wet, June-wet, July-normal, August-normal.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.
POWER PLUS 4J93AM™*	255.0	19.0	100	59.7
BURRUS 6J36 3000GT	248.3	20.0	100	58.0
BURRUS 6T54 3000GT	241.2	21.0	100	56.3
CATALYST 6227 4011	235.3	20.0	100	57.0
CATALYST 7893 3111	235.1	23.0	100	55.7
BURRUS 5Z41 GT	234.4	17.0	100	58.3
POWER PLUS 8V08 S™*	222.6	21.0	100	56.0
POWER PLUS 6F74AMX™*	215.6	20.0	100	61.0
POWER PLUS 4Y27AMX™*	205.3	18.0	100	60.5
Average	232.5	19.9	100	58.1



Jeff Merema saw new Power Plus® 4J95™\* 264 bu/a win at 264 bu/a in Whiteside Co.

## OGLE

### Power Plus® 4P11R™\* wins



David Baker  
Polo, IL



**Planted:** April 27 in 30" rows. **Harvested:** October 1. **Previous Crop:** Corn.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4P11 R™*	257.7	22.4
POWER PLUS 4B32AMX-R™*	245.2	23.0
POWER PLUS 4G46AMX™*	237.7	23.9
BURRUS 6J36 3000GT	221.5	28.3
CATALYST 6227 4011	221.1	28.0
Average	236.6	25.1



Amanda Jackson smiles with her pair of barrows at the Morgan Co. Fair. These pigs were purchased from Todd Burrus.

## PIKE

### Power Plus® 7U15AM-R™\* goes 252 bu/a



Roger Liehr II  
Baylis, IL

**Planted:** May 16 in 30" rows. **Harvested:** October 12. **Previous Crop:** Corn. **✓Check Hybrid:** Pioneer P1498

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	236.2		20.4
Pioneer P1360CHR	255.1	2	20.5
POWER PLUS 7U15AM-R™*	252.0	3	19.8
Pioneer P1339AM1	236.4	10	20.1
FS 63SX1-RIB	259.0	1	22.1
Pioneer P1352AMXT	245.5	6	20.1
DeKalb DKC63-33RIB	251.0	4	19.9
Pioneer P1215AM1	241.1	8	20.4
✓Check	243.0		21.0



Carrie Gill shows her winning rabbit, Uncle Si, along with his ever-present iced tea at the Peoria Co. Fair.

FS E6302RIB	242.7	7	19.7
Pioneer P1241AMXT	240.6	9	19.5
DeKalb DKC60-67RIB	248.9	5	20.2
Pioneer P0945AMX	234.8	12	19.6
Pioneer P0993AM1	236.3	11	19.0
Pioneer P0858AMX	231.3	13	20.0
✓Check	243.6		21.0
Average	243.6		20.2
Check Average	241.0		20.8

## Catalyst™ 7893 3111 is first

Gene Stickman  
Pittsfield, IL

**Planted:** May 7 in 30" rows. **Planting Population:** 31,000. **Harvested:** October 24. **Previous Crop:** Soybeans. **Soil Type:** Light loam. **Weather:** May-wet, June-wet, July-dry, August-dry. **✓Check Hybrid:** Power Plus 6F74AMX™\*

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
CATALYST 7893 3111	216.0	18.3	55.5
POWER PLUS 7U15AM-R™*	214.8	16.4	62.0
POWER PLUS 6F74AMX™*	206.0	16.2	61.0
BURRUS 6T54 3000GT	204.7	18.0	55.5
BURRUS 5Z41 GT	198.2	14.9	54.0
POWER PLUS 4P12 Q™*	195.7	15.3	59.0
POWER PLUS 4V43 S™*	193.9	12.6	58.0
POWER PLUS 6F74AMX™*	191.9	14.2	59.0
POWER PLUS 4J95AMX™*	191.5	15.1	58.0
POWER PLUS 6C41 S™*	179.9	15.4	60.0
CATALYST 4685 3111	167.6	14.5	55.0
Average	196.4	15.5	57.9

## SHELBY

### Catalyst™ 7893 3111 wins at 227 bu/a



Brad Turner  
Herrick, IL

**Planted:** May 15 in 30" rows. **Planting Population:** 30,000. **Harvested:** October 4. **Previous Crop:** Soybeans. **Herbicide:** Roundup, Lexar. **Corn Borer Rating:** Light. **Soil Type:** Light 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	227.7	24.4	100	59.1	27
BURRUS 6T54 3000GT	213.4	21.5	90	61.6	31
BURRUS 6J36 3000GT	211.3	20.2	60	59.2	30
CATALYST 4685 3111	205.4	19.4	80	58.6	28
POWER PLUS 7A18AM1™*	200.8	19.3	100	63.4	30
POWER PLUS 6F74AMX™*	198.6	19.4	90	62.2	30
POWER PLUS 4G46AMX™*	196.7	18.1	90	63.9	30
Average	207.7	20.3	87	61.1	29



Matt Montgomery brings a wealth of knowledge to his Burrus Sales Agronomist job. Use his expertise on your farm.



## Rick Urish

Join us in welcoming Rick Urish as a Burrus Regional Sales Manager. Rick resides in Manito, IL and will provide the top-notch service that growers have come to expect from Burrus in Knox, Fulton, Peoria, Mason, and Tazewell counties. He brings a well-rounded agonomic experience to the Burrus team not limited to the seed industry but also chemicals and fertilizers as well as managing a wide range of soil types and cropping strategies.

Rick graduated from Western Illinois University and earned his Certified Crop Advisor status. Rick and wife, Barb have a college-aged son, Jonathan. Rick coaches boys basketball at Midwest Central High School. His hobbies include serving on the Mason County Fair Board and continuing the Urish tradition of being involved with Duroc show pigs. This tradition dates back to the early 1900's.



Rick looks forward to developing relationships with current and future customers to share the excellent Burrus product lineup. Let Rick help you raise your profit margin.

## TAZEWELL

**Catalyst™ 4685 3111**  
is first at 225 bu/a



**Tazewell County Corn Growers**  
Green Valley, IL

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	227.0		21.2
Agrigold A6408VT3PRIB	218.0	9	19.4
Stine 9631VT3P	219.4	13	19.4
✓Check	235.3		21.4
Beck's 5509A3	230.7	6	22.1
Stone 6058RIB	224.2	12	20.4
✓Check	238.5		22.1
Wyffels W6487	225.3	7	21.6
Pfister Hybrids 2564RA	218.0	11	23.8
✓Check	228.3		25.1
CATALYST 4685 3111	225.9	1	24.3
Pfister Hybrids 2674RA198.5	198.5	14	24.5
✓Check	217.1		23.5
XL 6175AMX-R	208.1	8	19.8
Pioneer P1215AM1	211.3	10	21.1
✓Check	224.4		22.0
Roeschley Rx760SS	223.7	3	22.2
FS 63SV4RIB	223.4	4	22.8
✓Check	225.9		22.8
DeKalb DKC63-33RIB	225.1	2	19.8
Stine 9734VT3P	223.6	5	21.7
Average	222.5	22	
Check Average	228.1		22.6

**Catalyst™ wins**  
at 270 bu/a

**Kent Kleinschmidt**  
Emden, IL

Planted: May 19 in 30" rows. Planting

Population: 32,000. Harvested: October 6. Previous Crop: Soybeans. Fertilizer: N: 185, P: 100, K: 120. Herbicide: Roundup. Corn Borer Rating: Light. Soil Type: Medium clay. Weather: May-wet, June-normal, July-dry, August-dry. ✓Check Hybrid: Burrus 6J36 3000 GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	241.6		26.6	100	31
POWER PLUS 4G46AMX™*	204.2	22	26.1	100	30
HUGHES 5456 3000GT	235.3	15	28.5	100	32
BURRUS 808583	224.2	19	27.6	100	31
BURRUS 724508	206.5	20	26.2	100	30
BURRUS 123206	235.7	14	29.5	100	31
BURRUS 669860	228.3	18	29.1	100	31

## Burrus – the non-GM market leader

Conventional, non-GM corn hybrids are again gaining in popularity. 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 still remains committed to bringing customers a portfolio of the best non-GM hybrids.

It's not a new fad for us. We continue with the tradition of industry-leading hybrid choices for the 2014 growing season with the addition of new Burrus® 5D30. We offer an array of powerful non-GM hybrids. Our lineup includes Hughes® 3252, 3442, 4373, Power Plus® 5N48™\*, 6C40™\*, 6F70™\*, 750™\* along with Burrus 6G64 and 750.

At Burrus, we are fortunate that a significant part of our marketing area has demand for non-GM hybrids. Our research

CATALYST 4685 3111	270.5	1	26.1	100	31
✓Check	259.1		26.4	100	30
BURRUS X5Z41	244.9	8	27.9	100	30
✓Check	259.9		26.9	100	31
BURRUS 780946	251.5	4	27.1	100	29
POWER PLUS 4J95AMX™*	235.7	13	26.4	100	30
BURRUS 359902	248.0	5	28.1	100	29
POWER PLUS 6F74AMX™*	206.2	21	29.0	100	31
✓Check	250.2		27.1	100	30
CATALYST 6227 4011	244.5	9	28.0	100	30
BURRUS 6T54 3000GT	260.0	2	26.5	100	29
BURRUS 589605	241.2	11	27.1	100	31
BURRUS 181496	245.2	7	27.8	100	30
BURRUS 999741	239.9	12	27.5	100	31
BURRUS 486252	241.4	10	27.8	100	31
POWER PLUS 6C41 S™*	253.4	3	28.0	100	30
✓Check	236.9		28.4	100	29
BURRUS 749321	230.0	17	28.2	100	27
CATALYST 7893 3111	247.0	6	28.4	100	30
POWER PLUS 8V08 S™*	230.6	16	28.0	100	30
Average	239.7		27.6	100	30
Check Average	249.5		27.1	100	30

## WHITE

**Burrus top 4 out of 5**



**Brandon Barbre**  
Carmi, IL

Planted: June 5 in 30" rows. Planting Population: 33,000. Harvested: October 4. Previous Crop: Soybeans. Fertilizer: N: 192, P: 92, K: 60. Herbicide: Realm Q/Cinch. Insecticide: Warrior II. Corn Borer Rating: Light. Soil Type: Loam. ✓Check Hybrid: Dairyland 9212 RA. Remarks: Headline AMP @VRT.

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
✓Check	157.9		36.8	30
Pioneer P 1498 AM1	194.0	21	33.4	32
DeKalb DKC63-87RIB	202.4	15	33.0	33
Golden Harvest G10S30	199.2	17	31.2	31
Golden Harvest H-9341-3000GT	168.2	28	32.7	33
Golden Harvest H-9011-3011A	197.3	18	29.7	32
Golden Harvest H-9574-3111	183.7	26	33.5	32

Garst G13U53	170.3	27	34.4	30
Golden Harvest G16T00	186.0	25	31.8	32
Golden Harvest G14H66	193.2	22	35.8	30
Golden Harvest H-9002GT	208.9	11	31.4	30
Golden Harvest H-8969-3122	196.3	20	33.6	33
Golden Harvest H-9173-3111	203.6	14	33.5	31
✓Check	199.1		37.5	32
Dairyland Seed DS-9610	217.7	6	36.9	30
Dairyland Seed DS-9111RA	209.9	10	34.6	32
Dairyland Seed DS-9311RA	197.1	19	34.5	32
✓Check	210.1		34.7	30
Dairyland Seed DS-9713RA	189.3	23	36.4	29
Dairyland Seed DS-9314	186.8	24	39.7	32
Dairyland Seed DS-9614Q	210.7	9	33.8	31
DeKalb DKC62-97RIB	229.0	4	30.1	32
Dairyland Seed 11408 EXP	201.8	16	36.3	32
Dairyland Seed 11107 EXP	204.2	13	31.2	33
Dairyland Seed 11208 EXP	204.5	12	29.7	34
Dairyland Seed 11209 EXP	216.0	7	30.8	32
✓Check	206.6		36.3	33
POWER PLUS 8V08 S™*	233.5	2	34.7	32
CATALYST 6227 4011	215.6	8	34.6	32
BURRUS 6J36 3000GT	239.8	1	35.0	31
POWER PLUS 4V43 S™*	233.1	3	30.4	30
CATALYST 4685 3111	223.6	5	34.0	31
✓Check	232.0		33.3	32
Average	203.7		33.8	32
Check Average	201.1		35.7	

**Chestn Farms**  
Carmi, IL

Planted: May 20 in 30" rows. Planting Population: 33,700. Harvested: October 23. Previous Crop: Soybeans. Fertilizer: N: 192, P: 92, K: 60. Herbicide: Realm Q/Cinch. Soil Type: Medium loam. Weather: May-wet, June-wet, July-normal, August-normal. ✓Check Hybrid: Golden Harvest H9574-3111. Remarks: Used Headline AMP @ VT.

Brand/Product	Bu. Per Acre	Rank	% Moisture	Adj. Test Wt.
✓Check	203.3		16.5	55.2
Golden Harvest G10S30	200.9	22	16.2	57.0
Garst 84Z02GT	187.7	30	16.9	57.2
Golden Harvest 84S11	184.4	31	17.4	60.3
Garst G13U53	174.6	33	17.0	58.3
Garst 83G41-3000GT	180.6	32	16.9	59.2
Golden Harvest 83B38	196.9	25	19.2	57.7

using the same rootworm trait year after year. If you are in an area where the corn rootworm event Cry3Bb1 struggled with rootworm (that is YieldGard VT3 or Genuity 3PRO) control, consider planting a conventional hybrid next year.

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 2014 growing season. Please contact your Burrus or Hughes sales representative for opportunities in your area. You can count on Burrus to be willing and able to help you fulfill end-user demands while keeping our eye on the target.



# Investing in the future

Burrus/Hughes continues to make upgrades. This year is no exception. As our soybean business has grown, the need for more warehouse space has also continued to grow. Today 70% of our beans are delivered in E-Z Load boxes which take up a lot of space even when the boxes are empty in the off-season.

Consequently, we acquired 66,000 sq ft of warehouse space in Jacksonville, about 20 minutes away from our plant. This provides extra space for beans and empty boxes and gives us room to grow.

At Woodstock, IL the Hughes plant has been through several significant upgrades. A new color sorter, refuge in a bag blending unit and batch type seed treater allows the Hughes facility to provide excellent seed quality to meet future needs.

New 4 color color sorters were installed this fall. No, we aren't stuttering, but we are proud to have the latest upgrade in producing the highest possible quality known to man. The machines are the closest thing to a human eye that has ever been developed. One feature of this new model is an undesirable kernel can be held in front of the camera and a picture is taken. Then the sorter will remove any kernel that resembles that example kernel. The EVO, short for "Evolution," is the trade name and our staff is well-trained and will be using it for the 2014 planting season. We have always invited you to scoop your hand in a bag or box of seed just so you can see the quality.

Another improvement made is our

MyFarms<sup>sm</sup> Crop Optimization Planner. It gets updates bi-monthly.

In fact, our management committee meets every Wednesday morning at 7 a.m. with the computer programmers to discuss how to make the results even more accurate and how to make it easier to operate. There are upgrades coming including variable planting that was tested on over 100 fields this year. We will be expanding this research as we harvest more sophisticated plots to improve the system in the future.

To insure our seed supply, we have irrigated more of our family owned land. As larger systems reach their maturity, they

have been replaced and the towers retrofitted to smaller acreages. New wells and renozzeling brings additional acres under irrigation, which reduces one more risk of seed production. That means assured seed supply for you.

Yes, we continue to move forward with upgrades. And you will continue to see improvements in your performance as a result.

Investing in the future with a focus on quality seed and customer service makes perfect sense when you understand the passion for customer satisfaction our management team believes is necessary in the future.



Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 4J95AMX™*	264.8	21.1
POWER PLUS 7A18AM1™*	264.3	22.8
BURRUS 6J36 3000GT	254.0	19.9
POWER PLUS 4G46AMX™*	253.6	19.7
HUGHES 5456 3000GT	253.5	19.4
POWER PLUS 6F74AMX™*	253.4	19.5
POWER PLUS 2V56AMX™*	251.4	19.9
POWER PLUS 4J95AMX™*	250.9	20.8
HUGHES 6132 3000GT	249.6	19.6
Dairyland DS-9111SSX	242.5	21.1
POWER PLUS 4B32AMX-R™*	240.6	18.9
CATALYST 6227 4011	235.8	22.1
CATALYST 4685 3111	233.3	19.8
Dairyland DS-9809RA	233.1	19.6
POWER PLUS 4P12 Q™*	223.8	20.3
HUGHES 4607 3000GT	217.7	19.6
POWER PLUS 4Y27AMX™*	215.0	20.5
Average	243.4	20.3

## WILL

### Catalyst™ 4685 3111 takes fourth place

Will County Corn Growers  
Manhattan, IL

**Planted:** May 7 in 30" rows. **Planting Population:** 31,500. **Harvested:** October 14. **Previous Crop:** Soybeans. **Fertilizer:** N: 220, P: 92, K: 120. **Herbicide:** Propel ATZ, Roundup. **Soil Type:** Silt loam. **Weather:** May-wet, June-wet, July-dry, August-dry. **✓Check Hybrid:** Hughes 5456 3000GT. **Remarks:** Late. First entry included insecticide.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
HUGHES 5456 3000GT	159.9	10	18.3
✓Check	155.6		19.1
Select 5397 SM	147.6	13	21.3
Wyckoff 2505SSRIB	160.3	9	15.9
AXIS 61Z69	167.4	3	17.1
XL Brand 6175AMX	164.6	8	18.7
✓Check	161.2		18.5
Pioneer P1221AMXT	164.6	7	17.3
FS FS 63SV4	166.5	5	19.1
LG Seeds LG2620VT3PRIB	168.3	2	18.9
Channel 213-59STXRIB	164.7	6	19.5
✓Check	161.0		18.6
DeKalb DKC60-67RIB	168.7	1	16.5
CATALYST 4685 3111	167.1	4	20.6
Dairyland Seed DS-9311RA	158.7	11	19.6
Golden Harvest G10D98-3122	157.5	12	19.0
✓Check	150.1		18.0
Average	161.4		18.6
Check Average	157.0		18.6

Golden Harvest G14H66	203.2	19	17.8	57.5
Garst 82K01-3111	202.0	21	19.3	56.7
Golden Harvest G16T00	209.1	13	16.7	58.2
Pioneer P1498AM	205.1	16	16.1	60.0
DeKalb DKC63-87RIB	219.0	5	15.3	58.0
✓Check	209.3		19.1	56.7
POWER PLUS 4V43 S™*	202.6	20	14.3	59.0
CATALYST 4685 3111	195.3	27	17.0	56.3
BURRUS 6J36 3000GT	200.5	23	14.0	56.0
CATALYST 6227 4011	190.1	29	16.5	60.2
POWER PLUS 6C41 S™*	207.3	15	17.5	61.4
POWER PLUS 7U15AM-R™*	219.9	4	16.3	62.0
POWER PLUS 8V08 S™*	211.7	9	17.0	59.3
✓Check	205.5		18.9	56.7
Dairyland Seed DS-9610	210.7	12	15.1	57.0
Dairyland Seed DS-9111RA	211.4	10	15.4	58.0
Dairyland Seed DS-9311RA	204.7	17	15.1	56.0
Dairyland Seed DS-9212RA	213.2	8	15.4	57.0
Dairyland Seed DS-6031RR	207.8	14	16.5	58.2
Dairyland Seed DS-9713RA	213.4	7	18.5	58.6
Dairyland Seed DS-9314	224.0	2	17.4	59.3
Dairyland Seed DS-9614Q	214.3	6	17.2	58.3
DeKalb DKC62-97RIB	228.7	1	16.2	60.0
Dairyland Seed 11408 EXP	191.2	28	17.5	59.4
Dairyland Seed 11107 EXP	196.0	26	14.9	56.0
Dairyland Seed 11208 EXP	204.4	18	14.4	56.0
Dairyland Seed 11209 EXP	200.5	24	15.6	57.0
Dairyland Seed 11509	222.6	3	15.9	55.0
Golden Harvest H-9574-3111	211.3	11	20.5	57.2
Average	204.5		16.7	57.9
Check Average	206.0		18.2	56.2

## WHITESIDE

### Three hybrids above 240 bu/a!

Russell Ottens  
Lyndon, IL

**Planted:** May 8 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 8. **Previous Crop:** Corn. **Remarks:** 46th year corn.

Brand/Product	Bu. Per Acre	% Moisture
BURRUS 6J36 3000GT	244.8	20.8
POWER PLUS 4J95AMX™*	244.2	20.4
HUGHES 6132 3000GT	243.0	18.7
POWER PLUS 4J95AMX™*	239.5	19.0
POWER PLUS 7A18AM1™*	239.1	20.1
HUGHES 5456 3000GT	238.4	18.1
POWER PLUS 4G46AMX™*	234.1	20.0
CATALYST 6227 4011	230.5	20.2
POWER PLUS 6F74AMX™*	229.6	20.2
POWER PLUS 6F74AMX™*	225.0	19.6
POWER PLUS 4B32AMX-R™*	222.1	18.6
POWER PLUS 2V56AMX™*	221.4	19.7
POWER PLUS 4P12 Q™*	220.4	18.9
POWER PLUS 4Y27AMX™*	218.4	19.5
CATALYST 4685 3111	217.8	19.7
HUGHES 4607 3000GT	206.8	18.1
Average	229.7	19.5

## New Power Plus® 4J95AMX™\* at 264 bu/a

Ron & Jeff Merema  
Fulton, IL

**Planted:** May 6 in 30" rows. **Planting Population:** 34,000. **Harvested:** October 12. **Previous Crop:** Corn. **Herbicide:** Balance Flexx. **Weather:** May-wet, June-normal, July-dry, August-dry.



Burrus kicked butt & took names in White Co. for Brandon & Martin Barbre.



Planting Coon's Choice sweet corn will leave you smiling too!



# Beetles, heat, drought, pollen, and silks are all... troublesome combinations

By Matt Montgomery

There are many important moments in the life of a corn plant. The first several days are critical. The plant has to get above ground quickly before pathogens and pests destroy it. The first couple weeks are critical. The plant has to get big enough, fast enough that it can withstand the pressure of the "above-ground" world rather than succumbing to that pressure. The first couple months are critical. The plant must acquire enough nutrients and water to establish lots of leaves and plenty of ear girth. The final part, or last half, of the plant's life is critical. The plant must withstand insects and diseases that would devour leaf and stalk tissue, it must maintain enough stalk integrity to get a combine through the field, and it must ward off conditions that lend themselves to ear rots.

In the middle of this critical passage, from the spring to fall, rests the reproductive season. As is the case with other critical moments, many things can go wrong around the time that silks emerge. Some of those things are within our ability to influence while others can only be managed.

Consider some facts when thinking about how delicate the reproductive process is in corn. A single pollen grain is 0.0001 millimeters in diameter. That means that more than 45 pollen grains could fit within the "O" of "In God we Trust" on a Lincoln Penny (See Figure 1.). The silks receiving that pollen grain are very long, but they are only about 0.0005 millimeters wide (about as wide as the "O"

on the same penny). See Figure 2 which shows the relative size of pollen grains compared to silks.

A few million pollen grains are produced for each of the thousand potential ovules on an ear. Upon landing on the silk, the pollen grain germinates sending a tube into a silk, which is itself connected to the ovule (immature kernel). Each pollen grain contains the male-side of the genetic code, providing the genetic material needed to form a kernel and part of the endosperm's genetic code. It takes about 24 hours for a germ tube to reach the ovule.

Silks emerge within a couple days of tassel emergence, working their way up from the butt to the tip of the ear. The average rate of silk growth is about 1.5 inches per day. However, the actual rate of growth can vary dramatically because it is highly dependent upon moisture. Water pressure drives silk growth which means that drought can slash silk emergence rates. While those silks might continue to grow until fertilization occurs, the opportunity for pollen to fertilize silks is often much more narrow than one might think.

Dr. Bob Nielsen of Purdue University notes that the receptivity of the silk to pollen decreases significantly after a few days and decreases dramatically about 10 days following silk emergence. Part of the decrease in receptivity is due to silk desiccation that can also become an issue during periods of hot weather.

The specifics of pollination/fertilization translate into a narrow opportunity to reach the ideal. Stated alternately, the grower just doesn't have much time to make sure fertilization goes right. As is often the case

in agriculture, starting right and scouting right can make the difference.

Growers cannot control the weather, but they can engage in a little contingency planning. "Outguessing" nature makes little sense, moisture stress and heat will pounce upon a crop at different times from one season to the next, but the grower can spread his or her risk by planting a package of hybrids at various dates. Plant the crop all on one date and the chances of a bad synch between the crop and nature increase. Plant the crop over the span of a few dates, add some hybrids that silk at different points along the way and the likelihood of a bad sync decreases.

Likewise, growers should be careful not to "mud in" a crop and to avoid work ground too wet with hope to "prep it" for planting. Both will increase the likelihood of compaction that will constrict root development and will increase the likelihood of moisture stress. Waiting for better conditions is the ideal and it is the ideal for future silking. Practice both and producers will have done all they can to minimize moisture stress. Ignore either and producers will be face to face with poor kernel set.

Keeping silk clipping pests from the field is difficult, if not (sometimes) impossible. Can you really keep Japanese beetles from your field if they recently arrived in your area? Can you hold back rootworm beetles from your end rows if the neighbor next to you has infestations that could promote problems for both of you? Can you push back against rootworm beetles if your area has encountered inconsistencies in rootworm Bt performance?

More often than not, the answer to those questions is "no." So where does that leave the grower? Once again, the grower is left with contingency planning; this time it takes the form of ambitious field crop scouting. While universities tend to promote insecticides when five or more rootworm beetles exist per plant or when three Japanese beetles exist per plant with "pollination not complete," Burrus suggests a different silk-clipping threshold.

Let's explain that threshold using the decision-making diagram in Figure 3. Figure 3 helps growers make the decision to spray or not to spray for silk-clipping pests. The taller the bar in Figure 3, the more likely growers will see a return on investment. The less red the bar in Figure 3, the less likely growers will promote resistance development because they are drawing closer to the principles of Integrated Pest Management (applying a pest management practice when needed). The chance for success increases, when silk-clipping pests are present, but some other criteria need to be met as well. Those pests need to be present past the end rows of the field, they need to be present 100 paces into the field, they need to be clipping silks off to less than 1/2" and they need to be doing that before 3/4" of the ear is established, to best assure a return on insecticide investment. However, we must stress that determining if one hits the insecticide ideal or if one is close to the insecticide ideal must happen without delay once silks begin to emerge. If growers delay in making that evaluation, they risk losing the opportunity to fix a silk-clipping problem.

## WILL

### Hughes 5456 3000GT takes second

Will County Corn Growers  
Manhattan, IL

**Planted:** May 7 in 30" rows. **Planting Population:** 31,500. **Harvested:** October 14. **Previous Crop:** Soybeans. **Fertilizer:** N: 220, P: 92, K: 120. **Herbicide:** Propel ATZ, Roundup. **Soil Type:** Silt loam. **Weather:** May-wet, June-wet, July-dry, August-dry. **✓Check Hybrid:** Hughes 5456 3000GT. **Remarks:** Early. Last entry included insecticide.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	150.1		18.0
Select 4633VP	157.4	3	16.4
Wyckoff 2635VT3P	144.9	9	17.6
AXIS 56N68	132.3	13	15.4
XL Brand 5475AMX	137.9	11	16.4
✓Check	145.1		18.4



Bob, Andy & Marty Schwartz along with Hughes DSM Gary Hinds load the planter with high yielding seed from Hughes Hybrids.

Pioneer P0407AMXT	156.7	4	16.4
FS 57QX1	150.0	5	15.9
LG Seeds LG5533VT3P	146.3	7	16.4
Channel 202-32STXRIB	136.6	12	15.2
✓Check	151.5		18.2
DeKalb DKC57-75RIB	148.3	6	16.3
POWER PLUS 4P12 Q™*	145.5	8	17.1



Marsha & Cliff Simons saw their McHenry Co. plot average 207 bu/a.

Dairyland Seed DS-9809RA	140.4	10	17.6
Golden Harvest G07F23-3111	171.2	1	19.8
✓Check	180.3		19.1
HUGHES 5456 3000GT	171.2	2	19.0
Average	150.9		17.2
Check Average	156.8		18.4



Tom & Tami Moore of TNT Farms smile as Power Plus® 4J95AMX™\* cranked out 255 bu/a in Winnebago Co.





Figure 1 – This photo shows just how small an actual pollen grain is. Look at the size compared to the “O” on a penny.

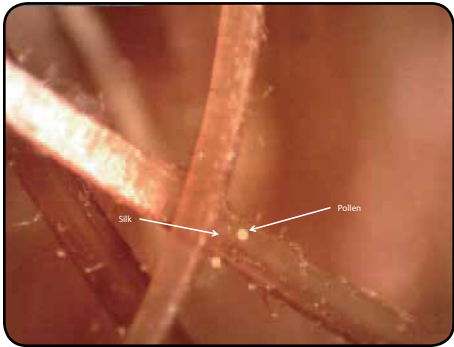
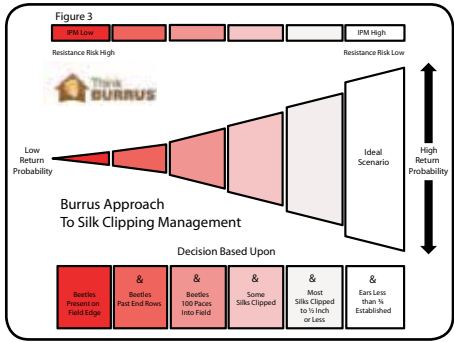


Figure 2 – This photo shows what a pollen grain looks like on a corn silk. Keep in mind the silk is literally as wide as the “O” found on a penny.



Power Plus®4J95AMX™\*  
& 6T54 3000GT go 2 & 3!

Beseke Ag Chem  
Beecher, IL

Planted: May 8 in 36" rows. Harvested:  
October 15.

Brand/Product	Bu. Per Acre	% Moisture
Beck's 5442VT3	198.5	20.7
POWER PLUS 4J95AMX™*	197.2	18.8
BURRUS 6T54 3000GT	195.4	21.5
DeKalb DKC64-87	191.8	18.5
DeKalb DKC61-16	191.3	17.3
Phoenix 5385A3	189.2	19.0
DeKalb DKC57-50	187.5	17.7
DeKalb DKC58-87RIB	185.8	16.3
Pioneer P0987AM1	182.9	17.3
DeKalb DKC63-33RIB	182.1	16.8
DeKalb DKC57-92RIB	181.5	15.8
DeKalb DKC61-88	181.3	16.6
DeKalb DKC60-67RIB	179.3	17.0
DeKalb DKC59-37RIB	177.8	17.7
CATALYST 4685 3111	175.8	19.5
DeKalb DKC62-97	175.5	17.8
DeKalb DKC57-75RIB	171.1	15.9
DeKalb DKC57-50	169.9	16.7
Dekalb DKC57-50	168.6	17.0
DeKalb DKC62-08	165.6	18.0
Pioneer P1339AM1	147.0	19.6
Average	180.7	17.9

Guide to accurate seed corn planting

John Deere Finger Pickup	
Kinze Finger Pickup *1	Reduce speed 10% 35-39#, Reduce speed by 33% below 35#
John Deere Vacuum Pickup	A50617 40-88#, A43215 25-50#, H136478 25-35#
Case IH & IHC Early Riser	Corn Drum 30-80#, Popcorn Drum less than 35#, New E pocket drum for problem sizes
Case IHC 1200	4855 Disc for 30-70#, 4845 disc below 50#
New Holland SP Series	
Ford or White Air 5400	247396B 57-73#, 247454B 42-62# 247535B 28-50#
White Air 5100	247917B 57-73#, 247707B 42-62#, 248505B 28-50#, 247957B 22-33#
White Air 6000	852434 57-73#, 852435 42-62#, 852436 25-50#, 852437 22-33#
New Idea 9000	
Deutz Allis	Seed Disc X Large (585805) 59# & over, Large (586141) 45-60#, Medium (585807) 39-52#, Sm/Medium (1501872) 30-39#, Small (587485) 30# & less

For the PowerShield® Round sizes (PSR) or the Burrus Xtra Round (BXR). Use the chart above for setting your planter.  
We have established our SureDrop system and will now coordinate it with our new size and seed treatment combination.

For plateless planters	Seed Size		SureDrop 2	SureDrop 3	SureDrop 4	SureDrop 5	SureDrop 6	SureDrop 7
	Weight per 80,000 kernel unit		Under 30#	30-39#	40-49#	50-59#	60# and over	70# and over
	Burrus Xtra seed treatment (Poncho® 500)**		BX2	BX3	BX4	BX5	BX6	BX7
	Power Shield®		PS2	PS3	PS4	PS5	PS6	PS7
	High rate Poncho (Poncho 1250)**		HP2	HP3	HP4	HP5	HP6	HP7
	John Deere/Kinze Finger Pickup *1*7	Max. Speed *2	66% *3	66-90% *3 *5	100%	100%	100%	100%
	John Deere Vacuum Pickup *6	Disc Size	A43215	A43215	A43215 A50617	A50617	A50617	A50617
		Vacuum Inches	7-13	7-12	10-13 7-10	9-13	10-13	13-15
	Kinze Edge Vac *7	Disc Size	Regular Corn	Regular Corn	Regular Corn	Regular Corn	Regular Corn	Regular Corn
		Vacuum Inches *8	not recommended	20	20	20	20	20
		Singulator *8	not recommended	8	8	8	8	5
	Case IH and IHC Early Riser	Drum	Popcorn or Corn *5	Popcorn Corn *5	Corn	Corn	Corn	Corn
		Hopper Pres. *4	8-9 oz.	10 oz. 8-9 oz.	9-10 oz.	10-12 oz.	12 oz. max	12 oz. max
		Brush Setting	1/2 down	Wire down up	Lt. Contact	Down	Remove	Remove
	Case IHC 1200 *7	Disc Size	4845 4855	4845 4855	4855	4855	4855	4855
	New Holland SP Series	Vacuum	20 18	22 18	20	20	20	20
		Singulator	1.5 1.75	1.75 1.75	1.75	1.75	1.75	1.75
	White Air 6000	Disc Size	852436	852436	852436	852435	852434	852434
	New Idea 9000			or 852437	or 852437	or 852435		

Please refer to Catalyst bag (chart on back) for planting recommendations.

\*1. Also for Black Machine, Great Plains, Buffalo Finger Pickup, JD1535 drill.  
\*2. For maximum planter speed, multiply the percentage shown times recommended speed range in operator's manual.  
\*3. Worm ripples on the carrier plate can increase overdrop drastically.  
\*4. For IHC Cyclo Air models, deduct 1 ounce of air pressure.  
\*5. Recommendation does not fit every weight in this SureDrop size. Consult recommended weight range above or on your operator's manual.  
\*6. Consult operator's manual for talc recommendation. Double recommendation for Poncho

treated seed.  
\*7. Consult operator's manual for graphite recommendation.  
\*8. Check field performance for specific settings  
For other plate planter recommendations, call our office toll free at (877) 4 BURRUS.  
PS6's and PS7's will be packaged in 40,000 kernel bags, sold as 80,000 units so two bags equal one unit when they weigh above 67.5 lbs/80M  
\*\*Always use talc or graphite liberally for lubricant to avoid bridging in the planter box.

Duracade is coming!

Corn rootworms are irritating pests to corn growers. It is estimated that this pest costs corn growers in excess of \$1 billion annually. Yield loss and treatment costs can really add up across the Corn Belt!  
Today corn growers are seeing that some rootworm traits (Cry3Bb1) are failing in field scenarios in some areas. 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 Agrisure® Duracade™. This new proprietary piece of rootworm technology features a novel mode of action.

Syngenta claims Agrisure Duracade is 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 Agrisure Duracade 5222. This trait package will include Agrisure Duracade 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 on corn pests.

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. Syngenta even claims reduction in corn rootworm beetle emergence by 99.79%. Duracade brings a mode of action that is active against Western corn rootworm and Northern corn rootworm.  
Burrus and Hughes have viewed the Duracade technology in plot locations and we are excited to run this encouraging technology through our battery of tests, too. We will keep you updated on all of the latest developments.





Pete Mitchell, grandson of Tom & Marcy Burrus, was named Cub Scout Pumpkin Chunkin' Champ.



JJ Swanson of Elgin, IL is a 3rd generation Hughes customer. JJ is an active FFA member in his local chapter. Thanks, JJ, we appreciate the support!



Leonard & Ben Nelson, Tom Burrus & Matt Ivy enjoyed a beautiful evening in Panama.

## WINNEBAGO

**Power Plus® 4J95AMX™\***  
at 255 bu/a

TNT Farms  
Winnebago, IL

Planted: May 15 in 30" rows. Harvested: October 7. Previous Crop: Soybeans. ✓Check Hybrid: Hughes 6132 3000GT.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	217.8		30.0
POWER PLUS 1M45AMRW-R™*	197.0	14	24.6
HUGHES 3953 3000GT	204.6	13	26.3
POWER PLUS 2V56AMX™*	215.9	10	27.1
HUGHES 4607 3000GT	205.1	12	27.1
POWER PLUS 4P12 Q™*	231.8	5	25.2
POWER PLUS 4Y27AMX™*	211.4	11	25.0
✓Check	243.7		25.1
POWER PLUS 4G46AMX™*	219.3		25.4
HUGHES 5456 3000GT	233.5	4	25.9
POWER PLUS 4B32AMX-R™*	219.2	9	23.3
POWER PLUS 4J95AMX™*	255.5	1	25.6
CATALYST 6227 4011	247.3	2	29.2
CATALYST 4685 3111	221.2	8	29.8
BURRUS 6J36 3000GT	237.2	3	29.5
POWER PLUS 6F74AMX™*	227.0	6	28.0
✓Check	239.8		28.0
Average	225.1		26.8
Check Average	233.7		27.7

# Anthracnose in Corn and Soybeans

By John Williams C.P.Ag. / C.C.A.

**Anthracnose in corn has a leaf blight phase and a stalk rot phase. Topdown die back is a significant symptom of the stalk rot phase.** The leaf blight is an indicator that the pathogen is present in the field, but does not confirm that the stalk rot phase will be an issue.

**The stalk rot phase is of greater concern than the leaf blight phase in terms of potential yield loss.** The majority of lost yield potential from anthracnose can be attributed to premature plant death that interrupts filling of the grain and stalk breakage and lodging that causes harvest loss and complications. Early identification of anthracnose can help prioritize fields for harvest, which can help minimize loss at harvest.

Anthracnose of corn, caused by the fungus *Colletotrichum graminicola*, is a disease that affects leaves and stalks. Symptoms appear initially on lower leaves as small, oval water-soaked lesions that enlarge and turn tan to brown with yellow to reddish-brown borders. Lesions may coalesce and blight entire leaves. Older lesions will turn gray in the center with small black specks. These fungal structures (acervuli) look like black spines when viewed with a hand lens. Anthracnose leaf blight may be followed by top kill and stalk rot. The leaf blight rarely causes large yield losses; the stalk rot phase is most important.

**Symptoms on stalks appear as water-soaked areas on the surface of the lower internodes, that later develop into brownish linear streaks.** These streaks turn black later in the season. Larger, oval, black areas may also develop. Pith of infected stalks disintegrates and is gray to dark brown. Severely infected stalks are likely to lodge.

**This disease is favored by cool to warm, wet, humid weather, reduced tillage, and stresses that result in early senescence.** The fungus overwinters in infected crop residue (leaves, leaf

sheaths and stalks) and spores are spread by splashing rain and wind.

In fields heavy with anthracnose stalk rot pressure, it is common to observe that a portion of the plant above the ear dies prematurely while the lower plant remains green. This is known as topdown die back and can be observed any time after tasseling. As the stalk rot phase progresses, the pith and the vascular system get completely rotted reducing the water translocation to the top leaves. Especially when water availability is reduced in the soil, those top leaves tend to dry down and die as a consequence of reduced water supply.

Plants severely damaged by the stalk rot phase are unlikely to remain standing until the normal harvest period. Therefore, preparations should be taken to harvest problem fields early. Although high grain drying costs might be a concern when harvesting wet grain, this expense will likely be a better option compared to the loss of yield potential due to increased lodging later in the fall.

**Scouting fields for potential stalk lodging can be broken down into two methods.** One method is to squeeze or pinch each stalk a couple of nodes above the ground. If more than 10% - 15% of the stalks collapse easily when squeezed, that field might need to be slated for an early harvest. Another method is to push 10 plants in a row, in several locations in the field, and push each stalk 5" from vertical. If more than 10% - 15% of the stalks lodge when pushed, that field may need to be slated for an early harvest.

**Hybrid selection is the first step in disease control.** Hybrids vary widely in their level of susceptibility to anthracnose; with some resistance to the leaf blight phase might not be resistant to the stalk rot phase of anthracnose. Also, hybrids with resistance to other stalk rot fungi (i.e., Gibberella and Diplodia) are not necessarily resistant to anthracnose stalk rot. Growers should carefully select hybrids with the proper leaf blight and stalk rot

resistance, with good standability, and high yield potential.

Because the anthracnose fungus survives in corn residues, especially on the soil surface, the disease might be more serious under reduced tillage systems and in continuous corn. A tillage system that chops and completely buries the residues coupled with a one-year rotation away from corn will eliminate the local source of inoculum. A two-year rotation away from corn may be necessary under no-till or reduced tillage systems.

**Avoid excessive plant stress by using a balanced soil fertility program based on soil tests.** Plant at populations suggested for the particular hybrid and control insects such as the European corn borer and corn rootworm.

Anthracnose in soybeans is a fungal disease that sometimes occurs in late summer in the Midwest. Typically this disease does not cause severe symptoms or yield loss. Development of anthracnose is favored during periods of moderate temperatures and high humidity or wet weather.

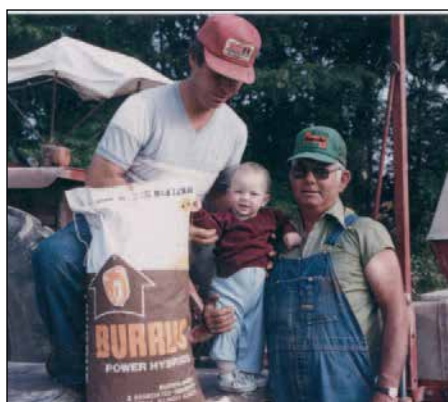
Anthracnose in soybeans is caused by the fungus *Colletotrichum dematium* var. *truncatum* and several related species. The fungi survive between seasons in infested crop residue and seed.

Symptoms of soybean anthracnose are reddish veins, rolled leaves, and dark blotches on stems, pods, and leaf petioles. Severe infection can lead to premature defoliation. The irregularly shaped brown blotches caused by anthracnose might resemble pod and stem blight. Often, anthracnose and pod and stem blight occur together on the same plants late in the season.

The disease is seed borne, so do not use seed from infected plants. Seeds from plants infected by anthracnose might or might not show discoloration. The fungus can also survive from year to year in crop debris. Rotate crops and till areas where anthracnose occurred to bury inoculum and prevent a build-up of the pathogen.



Hughes dealers Jill & Matt Wickens enjoyed an evening onboard the Walworth at Lake Geneva, WI.



Since 1935 generation after generation has believed in the value of Burrus. Our service & integrity are unmatched. The Kiefer family realizes the Burrus difference. Dwight, Kyle & Eddie Kiefer (left photo) knew then. Today, 26 years later (right photo) Dwight, Azlyn & Kyle Kiefer still recognize it!



# Effective use of Liberty herbicide

John Williams C.P.Ag. / C.C.A.

LibertyLink® corn hybrids and soybean varieties with Liberty® herbicide is the most reliable management solution for weeds resistant to glyphosate and multiple herbicide classes. LibertyLink corn hybrids and soybean varieties combine elite genetics and excellent crop safety with built-in tolerance to the powerful, post emergence weed control of Liberty herbicide. Burrus has high-yielding LibertyLink corn hybrids and soybean varieties in a range of maturities.

LibertyLink crops and Liberty herbicide are effective tools to control annual weeds and break the cycle of continuous glyphosate use. Liberty herbicide is effective for control of many ALS and glyphosate-resistant weeds, including marestail, and common or giant ragweed.

Here are guidelines for the successful management of Liberty Link corn and soybeans.

- You will want to start with a clean, weed free field by using an effective burndown. An example would be 2,4-D and a glyphosate. Use residual herbicides to reduce weed populations, slow weed growth, and provide some flexibility in the post emergence application window.
- Apply Liberty herbicide at the proper time and weed size. The preferred approach is if broadleaf weeds are 3 - 4 inches tall, use 29 fl.oz/A of Liberty herbicide, plus a residual herbicide in the first post emergence treatment and follow up, if needed, with a second treatment of 29 fl.oz/a. If the environmental conditions prevent timely application and the broadleaf weeds are 6 - 10 inches tall, an application of 36 fl.oz/a with a residual herbicide followed by a second application 10 days later of Liberty herbicide at

29 fl.oz/a may be used. If yellow foxtail or barnyard grass are present, add a post grass herbicide such as clethodim or Fusion. The maximum season rate of Liberty herbicide is 65 fl.oz/a.

- Having your sprayer set up properly will ensure a successful result. Liberty herbicide should be applied with a minimum of 15 gallons of water per acre. In dense/crop canopies, 20 - 25 gallons of water per acre should be used to ensure thorough spray coverage. Apply Liberty herbicide using nozzles and pressures that generate a medium (250 - 350 micron) spray droplets. Do not use nozzles that produce a coarse spray. Fine sprays should be avoided to minimize spray drift.
- Liberty herbicide should be applied with ammonium sulfate (AMS) at a rate of 1.5 lbs. to 3 lbs. per acre. Anti-foams and drift control agents may be added if needed.
- Spray between dawn and 2 hours before sunset to avoid the possibility of reduced weed control. Avoid spray applications when a heavy dew, fog, mist/rain is present, or when weeds are under stress due to environmental conditions such as drought, cool temperatures, or extended periods of cloudiness.
- Make all Liberty herbicide applications before soybeans begin to bloom and 70 days before harvest.

Crop yield and quality depend on effective application of agricultural chemicals. Proper selection, use, and maintenance of sprayers can save money, improve the performance of the agrichemicals you use, and protect the environment.

In recent years there have been numerous occurrences of corn or soybean crop damage with symptoms resembling injury from growth regulator herbicides. The injuries were attributed to various causes, including the use of

other herbicides and herbicide additives, but in many cases the spray tanks had not been cleaned properly before applying herbicides.

Crop injury from sprayer contamination can occur up to several months after using the sprayer if it has not been cleaned thoroughly. Injury from sprayer contamination can affect crop growth and development for several weeks after application and in severe cases can reduce crop yields. Herbicide residues in the sprayer can be redissolved through later contact with herbicides, their solvents or spray adjuvants.

Thoroughly triple rinse sprayer and use a commercial tank cleaner before using on crops not labeled LibertyLink. Make sure any rinsate or foam is thoroughly removed from spray tank and boom. Rinsate may be disposed of in non-crop areas that do not contain desirable vegetation.

All sprayer components, including the tank, pump, hoses, and nozzles, must be thoroughly cleaned to avoid contamination. The lowest point of the spray system should have a drain, and all sprayer plumbing should gravity drain to that point. If the system does not allow all of the solution to drain out, the effectiveness of cleaning agents is greatly reduced and may be useless. Any contaminated solution remaining trapped in the sprayer system must be diluted and flushed out of the system with repeated rinses.

Once the tank and all circulation lines have pure water, the spray valve to the nozzles should be opened and remain activated until all nozzles are spraying pure water. The sprayer must be thoroughly cleaned and flushed before the new herbicide mixture is added to the tank, or contamination will occur.

Finally, we all know how much it costs to produce a crop and we understand that growers are mindful of managing their input costs to remain profitable. Following best management practices

may cost a little more up front, but in the long-run, best management practices and wise use of any new technology or product is typically going to pay off for growers.

## WINNEBAGO

We win 4 of the top 5 places!



WW Agseeds, Inc.  
Rockford, IL

Previous Crop: Corn. ✓Check Hybrid: Hughes 6132 3000GT

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	159.2		24.1
POWER PLUS 1M45AMRW-R™*	180.2	14	19.7
Agrigold 6276	178.6	15	19.2
HUGHES 3953 3000GT	167.1	27	20.1
POWER PLUS 4P12 Q™*	174.3	21	22.2
Agrigold A6358VT3P	171.7	24	20.0
POWER PLUS 2V56AMX™*	192.1	4	20.9
HUGHES 4607 3000GT	164.6	29	18.9
Pioneer P0533AM1	186.1	7	19.7
✓Check	182.5		21.8
Pioneer P0636AM	176.0	18	20.5
HUGHES 5456 3000GT	176.4	17	19.5
Agrigold A6416	193.0	3	19.6
POWER PLUS 4B32AMX-R™*	181.4	13	22.3
Agrigold A6433VT3PRIB	165.0	28	19.9
POWER PLUS 4Y27AMX™*	183.7	10	19.8
Agrigold A6403VT3PRIB	163.0	30	19.6
Agrigold A6422	182.2	12	19.9
✓Check	185.8		22.7
POWER PLUS 4G46AMX™*	191.0	5	20.9
POWER PLUS 4J95AMX™*	198.9	1	21.5
Agrigold A6458VT3PRIB	135.8	31	22.6
Agrigold A6472	183.6	11	20.4
CATALYST 6227 4011	185.1	9	22.3
Agrigold A6496SSRIB	185.3	8	23.6
Agrigold A6478VT3PRIB	171.2	25	20.8
BURRUS 6J36 3000GT	169.7	26	22.3
✓Check	196.7		24.7
CATALYST 4685 3111	173.8	23	20.8
POWER PLUS 6F74AMX™*	195.4	2	22.0
Agrigold A6501VT3P	176.6	16	21.8
Agrigold A6533VT3PRIB	175.9	19	21.0
Agrigold A6517VT3PRIB	175.8	20	23.6
DeKalb DKC63-87RIB	187.6	6	22.8
Agrigold A6553VT3PRIB	173.9	22	26.8
✓Check	206.7		28.2
Average	179.1		21.6
Check Average	186.2		24.3



Greg Schone is the Logistics Coordinator at Burrus Seed Farms. He is standing in front of our newly acquired warehouse in Jacksonville, IL.



Adam & Mason Krohe, sons of Kevin & Martha Krohe and grandsons of Todd & Deb Burrus, love a good snack after helping "Pa" with his pig chores.



## Stalk rots of corn

By John Williams, C.P.Ag / C.C.A

Stalk rots are some of the most common diseases of corn in the Midwest. It has been estimated that these diseases reduce annual yields by a minimum of 5%. Some years losses can be as much as 20% or more of the expected yield. Losses are primarily due to premature plant death, which results in poor filling of ears or lightweight and poorly finished ears. There are also harvest losses associated with stalk breakage and lodging.

Stalk rots of corn tend to be a complex of several disease-causing fungi. It is common for multiple causal organisms to be isolated from a single disease sample. Plants with a rotted stalk often have a diseased crown and/or roots. Usually, the same casual organism is involved. Fields where stalk rot is developing should be identified and targeted for early harvest.

Several fungi and bacteria can cause stalk rots. Stalk rots result from the combined effects of more than one organism that attacks plants approaching maturity. So, identification of a specific organism causing stalk rot can be very difficult. Some of the more common stalk rot diseases caused by fungi, are *Gibberella* stalk rot, anthracnose, *Fusarium* stalk rot, and *Diplodia* stalk rot. In dry years charcoal stalk rot can be a problem. Bacterial stalk rot is usually not a problem. If it does occur, it will be before tassel time and on random corn plants following heavy rains.

Stalk rots caused by *Gibberella*, *Fusarium* and *Diplodia* fungi are not usually apparent until several weeks after pollination. Diseased plants might die suddenly in various areas within the field, with the leaves first turning a dull grayish-green. Death of the entire plant follows within 7 – 10 days in susceptible hybrids. The lower internodes turn from green to tan and are spongy and easily crushed. When the stalks are split length wise, only the vascular strands are intact and the pith tissue is decayed.

Stalks infected with the *Gibberella* fungus have a characteristic pink to reddish discoloration of the pith and vascular strands. The breakdown of pith tissues starts at the nodes soon after pollination and becomes more severe as the plant matures. Rotting also commonly affects the roots and crown as well as the lower internodes. An additional identifying feature is the presence of small, round, bluish-black perithecia which form on the surface of *Gibberella*-infected stalks in the fall or the following spring. These black speckles can be easily scraped off with a thumbnail. *Fusarium* stalk rots look similar to *Gibberella* but can be

distinguished by a whitish-pink to salmon discoloration.

*Diplodia* stalk rot can be distinguished from other stalk rot diseases by the numerous, small, black dots which the fungus produces at or near the lower nodes of the infected stalks. Unlike the perithecia formed by the *Gibberella* fungus, the pycnidia of *Diplodia* are embedded in the rind and cannot be scraped off with a fingernail.

Corn anthracnose has become much more prevalent since the early 1970's. In addition to rotting the lower stalk, the anthracnose fungus is capable of attacking the stalk above the ears, causing dieback and breakage of the plant tops. The fungus also commonly causes a leaf blight. Although the lower stalk rot phase of anthracnose may cause very susceptible hybrids to be killed before pollination, most hybrids are killed in a week or two before normal maturity. A shiny black or dark brown discoloration of the rind late in the season is a typical symptom of anthracnose on the stalk. This black discoloration usually extends up the stalk for several internodes and may uniformly discolor the rind or give it a blotchy or speckled appearance. The pith tissue beneath these lesions becomes brown or black especially around the nodes. When lodging occurs, it is usually higher on the plant than with other stalk rot diseases.

Charcoal rot is most abundant in hot, dry seasons. As infected plants approach maturity, stalks are killed and the interior of the lower internodes disintegrates. The disease is readily distinguished by the presence of numerous, small, round to irregular, black fungal bodies, which are present in large numbers along the vascular strands in the interior of rotted stalks. The disease derives its common name from the presence of the black fungal bodies, which resembles specks of black dust.

Development of stalk rots is generally favored by an early environment that encourages kernel set and by a late environment that is stressful. Post flowering stresses may include: (1) an excess or lack of moisture, (2) nutrient deficiency or imbalance, (3) excessive cloudiness, (4) insect, nematode, hail or other mechanical injury to the leaves, stalks, or roots, (5) loss of effective leaf area due to foliar diseases or excessive plant population. Extended periods of very dry or wet weather prior to pollination, followed by an abrupt change for several weeks after silking also encourages the development of stalk rot.

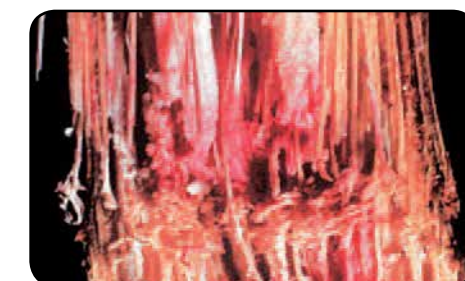
High yields are often associated with stalk rot problems. The plant might over-commit to yield in an ideal environment



Anthracnose stalk rot



Charcoal stalk rot



Gibberella stalk rot



Fusarium stalk rot



Diplodia stalk rot

will go to the kernels. This deprives the stalk and root tissues of adequate nutrients, making them more susceptible to infection by stalk rot organisms.

We saw cannibalization of the stalk in many corn fields during 2013. In such fields, red colored stalks indicated more maintained stalk nutrition. This promoted a longer period of stalk integrity which reduced subsequent stalk rots. Where stalk rots have been an issue, consider using some "red stalk" hybrids.

High nitrogen levels combined with a low level of potassium may increase stalk rot. However, high rates of nitrogen balanced with adequate to high levels of potash do not increase the potential for stalk rot. Adequate to high levels of nitrogen that stimulate early growth followed by a loss of available nitrogen due to denitrification or leaching may dramatically increase the incidence of stalk rot.

Injury to roots, stalks, or leaves by diseases, insects, nematodes, hail, or equipment also can increase the incidence of stalk rot. Injuries created by European corn borers, corn rootworms, and other insects often provide avenues of entry for the stalk rot pathogens. Observations indicate the incidence of stalk rot is increased by nematode damage. High population of root-lesion and spiral nematodes have been associated with increased stalk rot. Hail injury may predispose plants to stalk rot primarily because the effective leaf area is reduced. The loss of photosynthetic leaf tissue because of diseases such as northern corn leaf blight, southern corn leaf blight, anthracnose leaf blight, Stewart's leaf blight, and yellow leaf blight may also increase the incidence and severity of stalk rot.

Stalk rots cannot be entirely controlled. Damage can be reduced through the conscientious use of an integrated control program. Corn growers should select hybrids that have stalk rot and leaf disease resistance, good standability, and high yield potential. Full-season hybrids are generally more resistant than those that mature early in a given area. Resistance to the fungi that cause stalk rots helps prevent losses from premature plant death and lodging. Most hybrids, however, are not resistant to all stalk-rotting organisms.

In addition to stalk rot resistance, growers should select hybrids resistant to foliar diseases important in their area, because lost leaf area can predispose the corn to stalk rots problems. Hybrid standability is another factor that should be considered. Hybrids with a thick rind (stalk strength) or other characteristics that increase standability often remain standing even though the interior of the stalk is thoroughly

from kernel set through pollination period and stress occurs afterwards. The large number of kernels places a high demand on the plant sugars. If the photosynthesis is subsequently reduced because of stress, most of the plant's available sugars



decayed. Corn producers should consider such characteristics when selecting a particular hybrid.

Balanced soil fertility, particularly with respect to potassium, is important, as a high level of nitrogen along with a low level of potassium can decrease the losses from stalk rot. However, a high level of nitrogen with adequate-to-high potassium and phosphorus availability does not necessarily increase the potential for stalk rot. Research has shown the importance of an adequate supply of nitrogen throughout the season in reducing the severity of stalk rot. High levels of nitrogen followed by a loss of nitrogen due to leaching or denitrification may increase the severity of stalk rot dramatically. In areas where leaching or denitrification is expected, the use of a nitrification inhibitor or stabilizer, may help reduce stalk rot. Control of root and stalk-attacking insects, such as the European corn borer and corn rootworms, is important in reducing stalk rot losses.

The use of scouting procedures will reduce unnecessary application of pesticides and increase yields because applications will then be made at the precise time for optimum results. Corn growers should plant a particular field at row widths and populations suggested for the particular hybrid, soil type, fertility level, available soil moisture, and productivity potential. Higher than recommended plant populations and narrow rows cause plants to be stressed, resulting in spindly stalks with a reduced standability and reduced resis-

tance to infection. Crop rotation with non-grass crops in conjunction with a deep plow down of corn residues (only where soil erosion is not a problem) is beneficial in reducing anthracnose, Diplodia, charcoal, and Physoderma stalk rots.

Timely irrigations (where possible) to keep the soil moist during dry periods up to 50 to 55 days after tasseling, weed and nematode control, and other stress-reducing practices are important in reducing stalk rot losses. Monitoring (or scouting) fields on a weekly basis is the best way to determine pest levels in a field. Corn producers should begin to scout fields for stalk rots (lodging potential) when the corn contains 30 to 40% moisture. An effective scouting procedure is to walk a zig-zag pattern through the field while pinching the stalks below the lowest node to check for firmness. Another method is to push random plants (a minimum of 100) about 5 inches from the vertical. If more than 10 to 15 percent of the plants lodge using this procedure, it would be beneficial to harvest the field early to prevent potential harvest losses.

By regularly scouting and rating fields for disease, insect, and weed infestation during the season, growers can carry out timely and effective measures when they are needed. Knowing which fields have the greatest potential for stalk and ear rots will help reduce losses by enabling the grower to schedule these fields for an early harvest.



The Mitch Twenter family watched Power Plus® 7U15AM1™\* go 221 bu/a!



Tom Burrus enjoyed visiting with growers at this year's Farm Progress Show.



The Show Me state was well represented on the Burrus getaway trip to the Panama Canal.



Larry & Louis Zabel with Burrus RSM Dennis Mueller & Chip Turner watched Power Plus® 7A18AM1™\* hit 250 bu/a!

Regardless of the plant density, the beans yielded about the same

# Why are soybean planting rates declining?

The Richard Douglas plot near Dallas City, IL (in Hancock county) demonstrates that the yield from an 80,000 population soybean field can be virtually the same as fields with populations of 120,000 130,000 and 140,000. The Power Plus® 32K0™\* was planted on May 27 in both 15" and 30" rows with the 30" rows dropped at various populations.

This study also explored what final populations are acceptable to avoid replanting. Are you looking for additional ways to control costs? One easy way to lower your seed cost is not to over plant your soybeans.

Based on the test results, growers should not consider replanting soybeans unless their final stands are less than 80,000 plants per acre.

## Richard Douglas 2013 soybean population study

Power Plus 32K0™\*  
Planted 5/27/13  
Harvested 10/2/13

30" rows	
Planting rate	Yield
140,000	64.5 bu.
130,000	64.1 bu.
120,000	64.3 bu.
80,000	64.7 bu.
15" rows	
160,000	63.0 bu.
160,000	63.6 bu.



## Born before 1980?

You probably walked beans to clean up weed escapes from herbicides.

Respect the rotation of chemical families by planting Hoblit® LibertyLink® resistant soybeans or you might be back walking beans like you did in the '80s. But walking beans this time will be to clean up glyphosate-resistant weeds posing a serious threat to a system we have enjoyed for 15 years. These weeds have been documented everywhere.

Bayer® offers new discount programs that team up with our top performing Hoblit LibertyLink soybeans for maximum yields and optimum weed control.

Don't wait until it's too late — you don't want to go back to walking beans.



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To go continuous or not continuous

## Some thoughts on the question

By Matt Montgomery

Do you plant corn another year or do you rotate to beans? What's the right choice? That's quite a question to answer. In fact, that question is nearly impossible to answer with certainty. So let's rephrase the question and proceed. Given cost trends and past history which would seem the better fit – another year of corn or rotating to beans?

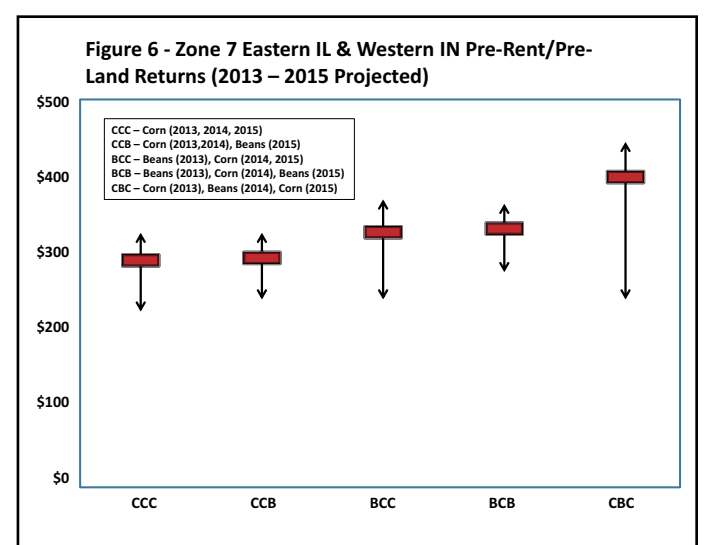
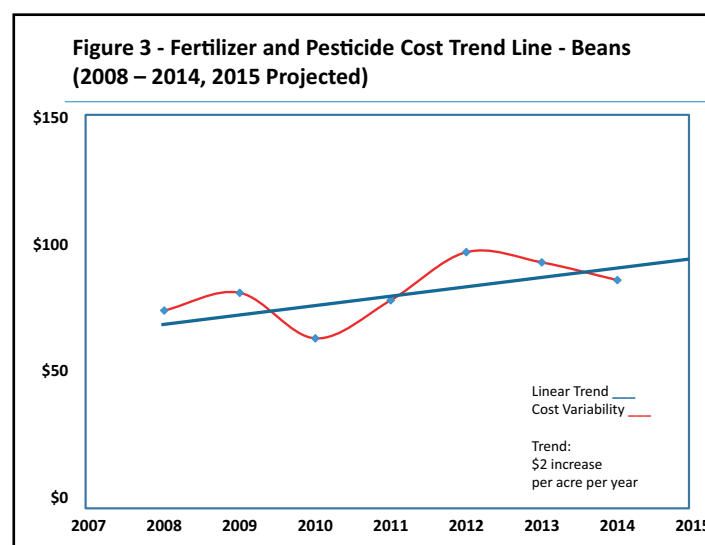
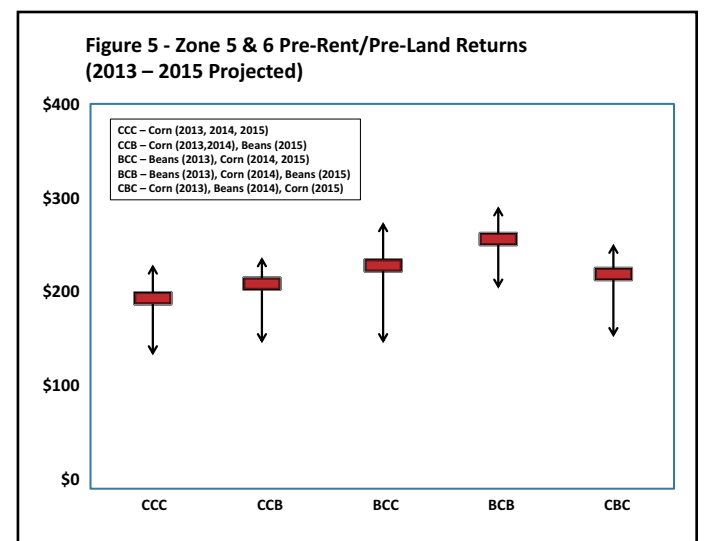
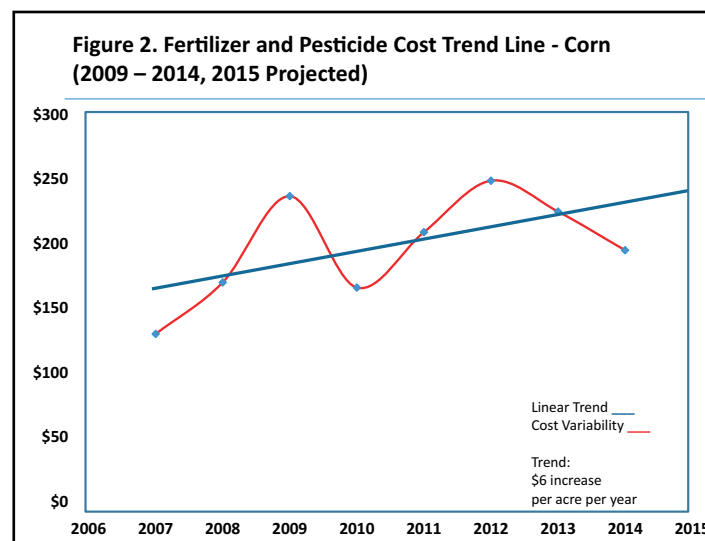
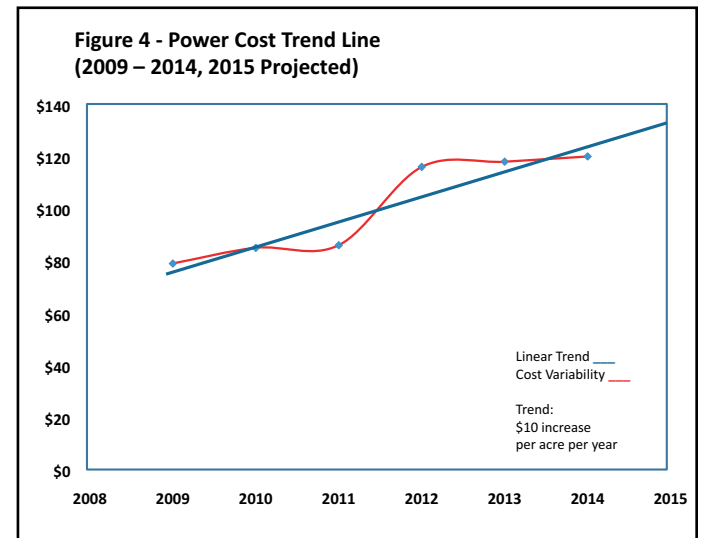
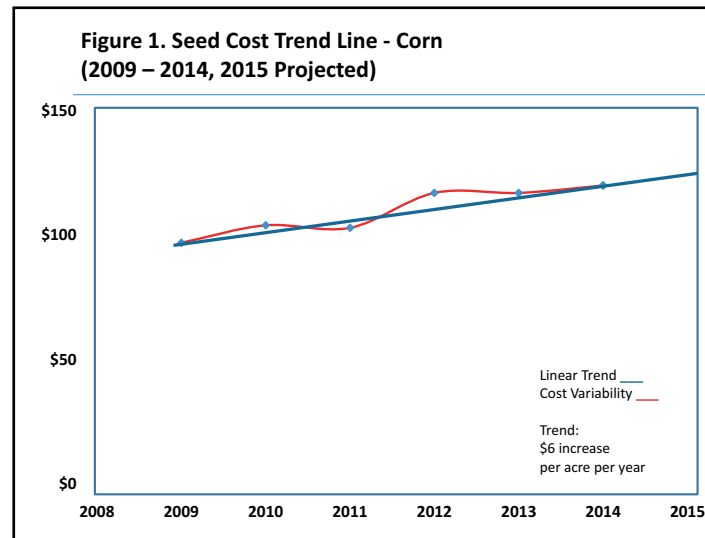
### A little disclaimer

Any time you start to talk economics, it's important to remind people that there is only one who knows the future. He's in the business of causing the sun to rise in the morning, he tends the stars in the sky, feeds the sparrows, and clothes the lilies of the field. We have an important job, but we don't do or know about those things...we raise corn and beans year by year. So remember, as you read, that Burrus' claim to fame is not marketing grain. Our central mission is not the business of providing marketing advice or business planning. We are in the business of providing our clientele with high quality seed and research-based, production information. Providing a few (occasional) "market thoughts" does fit within that mission without straying too far from it. We will provide our own musings on trends and where those trends might position growers as they wrestle with cropping decisions. We are indebted to the University of Illinois and University of Missouri for the public data gleaned to write this article.

### A few cost trends

Price is important, but you don't make a profit when the cost of production is too high. So, what has been the trend in production costs? We all know they are up, but which set has been going up the most dramatically? For that matter, which set of items has also trended toward more erratic fluctuations? The six-year trend in production costs tells an interesting story when one reviews the cost of seed, the cost of fertilizers and pesticides, and the cost of machinery, fuel, etc. (power costs). The six-year trend for each of those categories can be reviewed in Figures 1-4.

Seed costs are on a steady rise. The average increase in seed costs per acre is about \$6 per year over the last six years. That is the increase in corn. Throw beans in the rotation and that average increase is a little closer



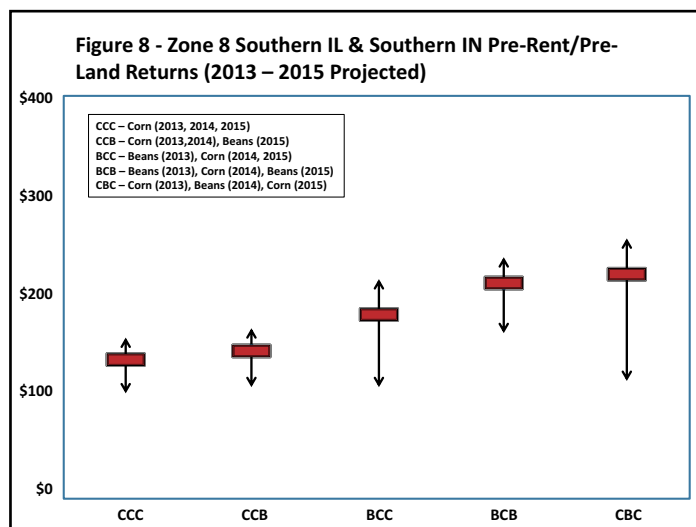
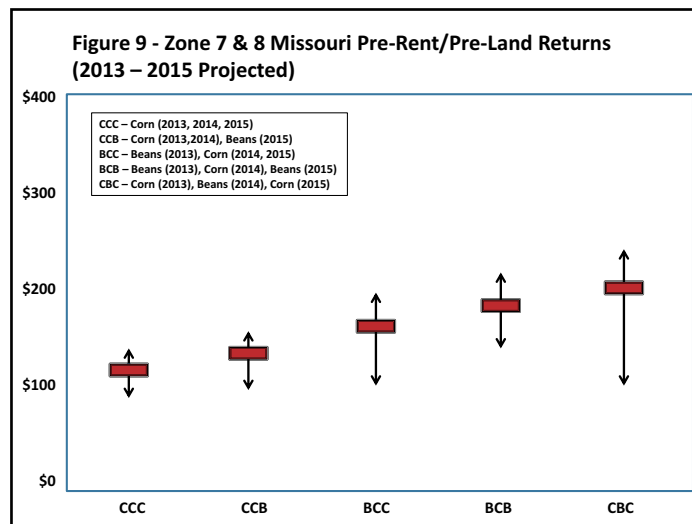
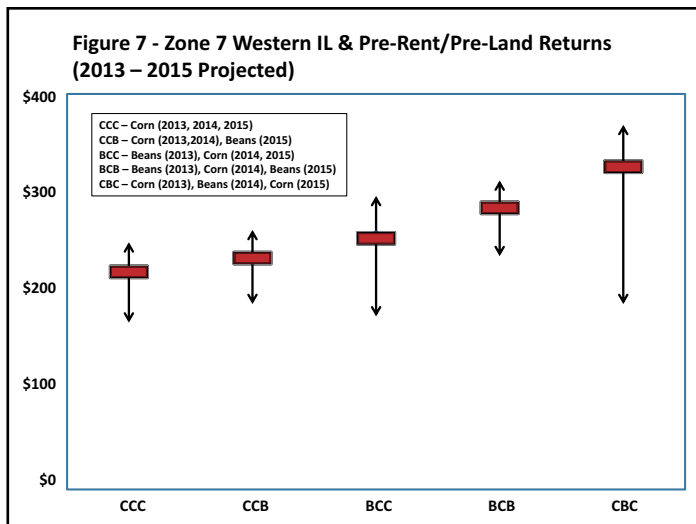
to \$3 or \$4 (seed costs in beans have increased less than a dollar per acre per year). As noted in Figure 1, the cost of a bag of seed corn has been rather stable from one year to the next. Projected to be about \$105 to \$115 per acre in 2014, the trend line for corn would indicate that average seed corn costs per acre may near \$115 in 2015. How does that

increase compare to other production costs?

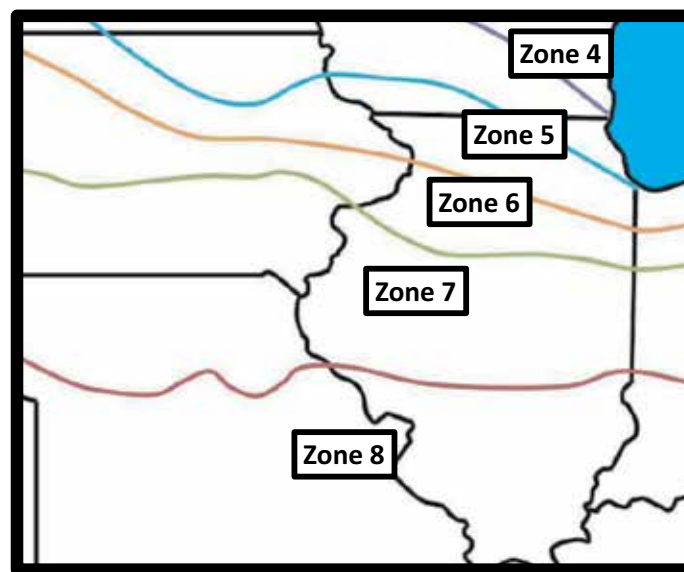
The combined cost of fertilizer and pesticide, in corn, can be viewed in Figure 2. A brief review of that chart will show that average fertilizer and pesticide costs will near the \$215 to \$225 range in 2013. Fertilizer and pesticide costs in beans have increased at the

less dramatic rate of about \$2 per acre per year (see Figure 3). While the trend line in corn fertilizer and pesticide looks very similar to that of seed corn costs, fertilizer costs have fluctuated dramatically from season to season. Fertilizer costs in corn may close in on the \$235 to \$240 range by 2015, but past variability in fertilizer costs could mean that 2014





**Figure 10. Zone Map**



fertilizer costs settle anywhere between \$165 to \$275 per acre. Of all the costs faced by growers, the trend in fertilizer costs is the most variable.

Machinery, fuel, and similar costs have, not surprisingly, subjected growers to the most dramatic production cost increases. Referred to as “power costs” on the University of Illinois’ 2014 Crop Budget, machinery and fuel costs have increased approximately \$10 per year over the last six years (see Figure 4). Variability has been present, but it has been less dramatic when compared to the fertilizer and pesticide arena. The power costs per raising an acre of corn are roughly mimicked in soybeans where the trend line is about \$7 to \$10 less. See costs in corn surpassed power costs just a few years ago. If the trend line holds true, machinery/fuel costs will get close to seed corn per acre costs in 2014 and may surpass those costs in 2015.

#### Guessing the future and reviewing the past to guide cropping decisions

Burrus reviewed crop budgeting information from the University of Illinois, market data for Illinois and Missouri, and internal data to provide income projections. Because the decision to raise corn or beans is really part of a long-term production/marketing strategy, we decided to answer the question of

“continuous corn or rotation to beans” by projecting the potential outcomes of different 2013 to 2015 production scenarios. We divided the Burrus footprint into five zones.

A zone map is available in Figure 10 and pre-rent/pre-land cost returns are projected for each zone in Figures 5 to 9. Estimated 2014 returns were set as 2015 returns to estimate high income scenarios over three years and various low return combinations were used to estimate low return scenarios. The estimated yearly average return is depicted in each graph. The arrow above and below the red block (estimated average yearly return) indicates the potential highs and lows.

A few interesting observations can be made. First, the low income potential for a rotation never went lower than the low income potential for continuous corn or a corn-corn-bean rotation, regardless of cropping system. Rotating corn and beans has a floor and that floor goes no lower than the “two or more years of corn” rotation.

Second, a corn-beans-corn rotation won the maximum income potential race in all but the northern region (i.e. in all zones but zones 5 & 6) where it was

bested when the rotation started with beans or where beans were followed by two years of corn.

Third, starting out with more than one year of corn tended to result in the least income variability, but it always resulted in the least projected and maximum income potential.

Fourth, while positioning corn after beans (starting and ending with corn or ending with two years of corn) introduced a lot of income variability, such cropping systems always resulted in more projected and maximum income potential.

Finally, the graphs seem to indicate that a decision to rotate (at least deciding to switch crops in 2014) results in the best of the five scenarios (highest projected return, highest maximum returns, and low income levels that hit the same floor as other cropping systems).

So where does that leave the grower? Growers are left with a series of potential income ranges. Some of those ranges are rather narrow and some are rather wide. The wider the range (the longer the double-headed arrow), the more likely a grower may encounter variability and risk. So, growers must ask themselves how comfortable they are with that risk

while also comparing that with the potential income of a less variable approach. Growers are also left looking at potential income ranges and factoring in rental costs/land costs. What is the risk of losing ground? Can the grower afford a rent that might surpass actual income? Do the numbers look better for rotation? Yes. Do they work best for an individual grower? That is a question only the grower can answer.

We have provided some tools and some questions have been presented that growers must answer. Now the gamble begins. Isn't that the best part of farming?



David & Sally Palmer of Andrew Co., MO enjoyed a Burrus trip to Panama.



Three of the top four places go to Burrus family of products in DeKalb Co., MO for Burrus RSMs Riley Young & Brad and Jewell Veale, Donald Schnitker & Randy Wyckoff.



Three beans were within 2 bu/a to emphasize the depth of our bean lineup for Mark & Kristen Jenkins of Carroll Co., MO.



Tom & Marcy Burrus enjoy being on the beach with their grandkids. Gannon Greene, Pete Mitchell, Tom, Marcy, Griffin Greene & Taylor Mitchell.

Photo credit to Chad Mitchell Photography





Alfalfa

High performance forage solutions

388HY Hybrid Alfalfa

388HY 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.

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

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



214FY Alfalfa

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 itself in adverse environments. 214FY is an alfalfa variety for the dairy or beef producer that demands high tonnages of dairy quality forage.

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	

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	4B32AMX-R™ 4A30AM1™ 1285 GCL 4M31AMRW-R™	2796 3111 2987 3111A 3953 3000GT 2V56AMX™ 4607 3000GT 4Y27AMX™ 4P12 Q™ 6132 3000GT 4G46AMX™ 4J95AMX™ 6227 4011	6J36 3000GT 6A12AM1™ 6T54 3000GT 6F74AMX™ 7A18AM1™ 7D51 Q™ 2N82AM™ 4V43 S™ 4J93AM™ 7H23 S™	7U15AM-R™ 8V08 S™ 2428 GTA 2450 GT 1C21 R™ 4P11 R™ 6J35 GT 5Z41 GT 6F71 R™ 3252 3442	4373 5D30 5N48™ 6G64 6F70™ 750™ 750 1M45AMRW-R™ 541L	5456 3000GT 4685 3111 7893 3111 5124 GT 6C41 S™ 6C40™

Best standability is normally achieved at the lowest recommended rates

Allows for a 10% stand loss.



Burrus tests fluency lubricant on many farms in 2013

## Bayer introduces a new seed lubricant

The new Bayer fluency lubricant shows promise to reduce dust off with pneumatic planters that have typically used either graphite or talc as lubricants to reduce friction and improve uniformity of planting. The use of lubricants can result in increased airborne dust particles released from the vacuum planting equipment.

There is concern that foraging honey bees could come in contact with small particles of seed treatment products. With more than 25 years of supporting honey bee health and the vital role of bees in agriculture, Bayer Crop Sciences began looking for alternatives that will reduce dust emitted from vacuum planters. This product can replace either graphite or talc on seed corn or soybeans. The tests show a 90% reduction in total dust compared to talc and 60% reduction in total dust compared to graphite. We tested it on many planters with various seed delivery systems in 2013.

- 89% of growers responding stated the fluency agent performed equal to or better than their current planter lubricant.
- 42% of growers rated it better than their current lubricant.

The fluency product is easy to use, replacing seed lubrication. It can be used on all makes and models of planters. It had no impact on planter accuracy. In addition, it reduced seed coat abrasion and maintained the integrity of the seed coat.

The product works best with 1/8 cup of lubricant per seed unit. It is highly recommended to stir it into the seed rather



This is what Gayle Casner's hands looked like after she stirred in graphite. The fluency lubricant is not as messy.



Honey bees are a valuable agricultural resource. Bayer is actively researching ways to reduce dust exhaust from seed applied treatments in air planters.

than a glob just thrown in the seed box and left for gravity to uniformly distribute it throughout the seed. Growers that were less than satisfied with the performance did not accurately measure the fluency material as they put it in the seed hopper nor did they thoroughly mix it into the seed to promote uniform distribution.

This product is amazingly slick and will work on seed corn and soybeans replacing either talc or graphite. We feel sure you will be hearing more about this product in the years ahead.



Power Plus® 6C41S™ topped the Carroll Co., MO plot for Ronnie, Matthew & Mark Jenkins. Also pictured: John Lorentzen & Darren Littleton.

## BE RIGHT 100% OF THE TIME.

{ Just like your wife. }



100% FREE REPLANT FOR 78 CONSECUTIVE YEARS.

- 100% free replant on PowerShield® treated soybeans, too.
- You're guaranteed a growing start if Mother Nature turns on you.
- Restarting farmers to the tune of \$40 million over the years.
- Top-yielding corn and soybeans, the latest trait technology, extraordinary access to germplasm.
- More choice, higher yield — that's the Burrus family of hybrids!

Catalyst

POWER PLUS

HOBBY

HUGHES

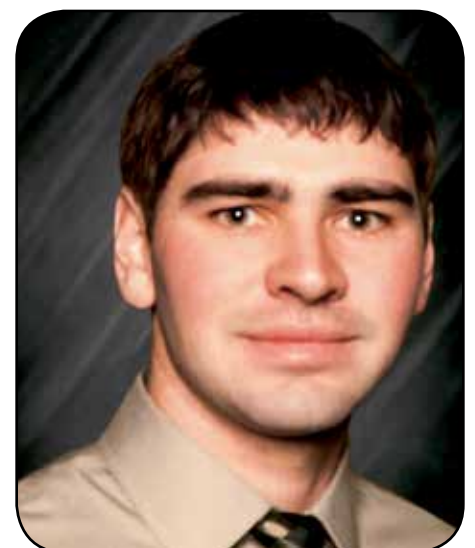
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## Aaron Rice

Aaron Rice of Sterling, IL has joined the Hughes team as a District Sales Manager. Aaron serves Bureau, Carroll, Lee and Whiteside counties. He earned an agronomy degree from Iowa State in December of 2011. Aaron came to us after being a Pioneer Sales Associate immediately after college. He grew up around livestock and crop production with his father David, who manages a livestock nutrition facility in Central Iowa. This experience equipped Aaron with a solid agronomic base and a strong work ethic.

When Aaron is not busy working with customers he can usually be found spending time with family, friends and his yellow lab. He enjoys hunting, fishing, and riding dirt bikes along with watching hockey and football.

He is interested 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.



# Which Burrus Hybrids are right for your farm?

	General characteristics				Planting information			Response to environmental conditions			Protection from pests					High organic soils
	Days to maturity	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 2796 3111	100	7	8	Intermediate	9	Good	20%	7	None	8	No	Yes	Yes	Yes	No	10
Hughes 2987 3011A	101	7	7	Flex	8	Excellent	20%	10	Artesian	8	Yes	Yes	Yes	No	Yes	9
Hughes 3953 3000GT	103	8	8	Intermediate	8	Suitable	20%	8	None	8	Yes	Yes	Yes	No	Yes	9
Power Plus 2V56AMX™*	105	6	6	Intermediate	8	Excellent	Integrated refuge	10	AQUAmax	5	Yes	Yes	Yes	Yes	Yes	7
Hughes 4607 3000GT	105	6	6	Intermediate	7	Excellent	20%	7	None	9	HP only	Yes	Yes	No	Yes	9
Hughes 5456 3000GT	107	8	7	Flex	9	Excellent	20%	8	None	6	HP only	Yes	Yes	No	Yes	10
Power Plus 4B32AMX-R™*	108	7	6	Fixed	8	Good	Integrated refuge	8	None	6	No	Yes	Yes	Yes	Yes	10
Power Plus 4G46AMX™*	108S/107N	7	6	Fixed	7	Good	Integrated refuge	8	None	8	Yes	Yes	Yes	Yes	Yes	9
Power Plus 4Y27AMX™*	108S/107N	5	5	Fixed	8	Excellent	Integrated refuge	10	AQUAmax	8	Yes	Yes	Yes	Yes	Yes	10
Power Plus 4P12 Q™*	108S/106N	5	6	Intermediate	8	Good	20%	9	None	5	Yes	Yes	Yes	Yes	Yes	10
Hughes 6132 3000GT	108	8	8	Intermediate	10	Excellent	20%	8	None	8	HP only	Yes	Yes	No	Yes	10
Power Plus 4A30AM1™*	108	7	6	Fixed	8	Good	20%	8	None	6	No	Yes	Yes	Yes	Yes	10
Power Plus 4J95AMX™*	109	6	6	Intermediate	7	Good	Integrated refuge	10	AQUAmax	8	Yes	Yes	Yes	Yes	Yes	9
Catalyst 4685 3111	109S/112N	5	5	Flex	7	Good	20%	8	None	8	No	Yes	Yes	Yes	Yes	10
Burrus 6J36 3000GT	110S/112N	5	6	Intermediate	8	Good	20%	8	None	8	HP only	Yes	Yes	No	Yes	10
Catalyst 6227 4011	110S/112N	6	7	Intermediate	8	Excellent	20%	10	Artesian	8	No	Yes	Yes	No	Yes	10
Power Plus 6A12AM1™*	112	7	8	Intermediate	9	Excellent	20%	8	None	5	No	Yes	Yes	Yes	Yes	10
Power Plus 6F74AMX™*	113	7	7	Intermediate	8	Excellent	Integrated refuge	9	None	8	HP only	Yes	Yes	Yes	Yes	8
Burrus 6T54 3000GT	113	8	6	Intermediate	8	Excellent	20%	8	None	8	Yes	Yes	Yes	No	Yes	10
Power Plus 7A18AM1™*	114	8	8	Intermediate	8	Excellent	20%	8	None	7	HP only	Yes	Yes	Yes	Yes	10
Catalyst 7893 3111	115	7	6	Flex	8	Good	20%	8	None	8	Yes	Yes	Yes	Yes	Yes	8
Power Plus 7D51 Q™*	115	8	8	Intermediate	7	Excellent	20%	7	None	8	No	Yes	Yes	Yes	Yes	10
Above ground insect control																
Hughes 1285 GCL	94	7	7	Fixed	7	Suitable	20%	7	None	8	No	Yes	No	No	No	10
Power Plus 2N82AM™*	105	5	5	Intermediate	7	Good	Integrated refuge	10	AQUAmax	8	Yes	Yes	No	Yes	Yes	7
Power Plus 4V43 S™*	108	5	7	Intermediate	8	Good	20%	9	None	5	No	Yes	No	Yes	Yes	10
Power Plus 4J93AM™*	109	6	6	Intermediate	7	Good	Integrated refuge	10	AQUAmax	8	Yes	Yes	No	Yes	Yes	9
Power Plus 6C41 S™*	112	7	7	Flex	9	Good	20%	8	None	7	HP only	Yes	No	Yes	Yes	9
Power Plus 7H23 S™*	114	7	6	Intermediate	7	Good	20%	8	None	8	Yes	Yes	No	Yes	Yes	10
Power Plus 7U15AM-R™*	114	8	8	Intermediate	8	Excellent	Integrated refuge	8	None	7	No	Yes	No	Yes	Yes	10
Power Plus 8V08 S™*	116	8	7	Intermediate	7	Good	20%	9	None	5	No	Yes	No	Yes	Yes	10
	Days to maturity	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	High organic soils
Glyphosate tolerance																
Hughes 2450 GT	100	7	8	Intermediate	9	Suitable	None needed	7	None	8	No	No	No	No	No	10
Hughes 2428 GTA	100	7	7	Flex	8	Good	None needed	10	Artesian	8	Yes	No	No	No	No	9
Power Plus 1C21 R™*	102	5	6	Flex	7	Suitable	None needed	9	None	8	Yes	No	No	No	Yes	8
Hughes 5124 GT	107	8	7	Flex	9	Excellent	None needed	8	None	6	No	No	No	No	No	10
Power Plus 4P11 R™*	108S/105N	5	6	Intermediate	8	Good	None needed	9	None	6	HP only	No	No	No	Yes	10
Burrus 6J35 GT	110S/112N	5	6	Intermediate	8	Good	None needed	8	None	8	No	No	No	No	Yes	10
Burrus 5Z41 GT	111	6	5	Intermediate	9	Excellent	None needed	8	None	7	Yes	No	No	No	Yes	9
Power Plus 6F71 R™*	113	7	7	Intermediate	8	Excellent	None needed	9	None	8	HP only	No	No	No	Yes	8
Non-GM conventional																
Hughes 3252	102	7	6	Flex	8	Suitable	None needed	9	None	8	No	No	No	No	No	8
Hughes 3442	102	7	6	Fixed	8	Suitable	None needed	8	None	7	No	No	No	No	No	9
Hughes 4373	104	8	8	Intermediate	9	Good	None needed	8	None	7	No	No	No	No	No	10
Power Plus 5N48™*	110S/108N	6	6	Intermediate	8	Suitable	None needed	9	None	7	No	No	No	No	Yes	10
Burrus 5D30	110	6	6	Intermediate	7	Good	None needed	8	None	8	Yes	No	No	No	Yes	9
Power Plus 6C40™*	112	7	7	Flex	9	Good	None needed	8	None	7	HP only	No	No	No	Yes	9
Power Plus 6F70™*	113	7	7	Intermediate	8	Excellent	None needed	9	None	8	HP only	No	No	No	Yes	8
Burrus 6G64	113	6	5	Intermediate	8	Good	None needed	8	None	8	No	No	No	No	Yes	10
Burrus 750	115	8	8	Intermediate	7	Excellent	None needed	7	None	8	No	No	No	No	Yes	10
Power Plus 750™*	115	8	8	Intermediate	7	Excellent	None needed	7	None	8	No	No	No	No	Yes	10
Other																
Power Plus 1M45AMRW-R™*	102	5	5	Intermediate	7	Suitable	None needed	9	None	8	Yes	No	Yes	No	Yes	8
Power Plus 4M31AMRW-R™*	108	7	6	Fixed	8	Good	None needed	8	None	6	No	No	Yes	No	Yes	10
Burrus 541L	110	7	5	Intermediate	9	Good	None needed	7	None	8	No	No	No	No	Yes	9

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



Our system works on all models of controllers, not just the model our company sells.

37



## The corn borer story – past, present, and future

By Matt Montgomery

Crack open a 20-year-old, field crop entomology text book and you will find that two insects were repeatedly called “the most destructive insects in corn.” Pest number one was the rootworm. It’s still a topic during the winter meeting season and it’s featured, once again, in this edition of the *Burrus Harvest Report*.

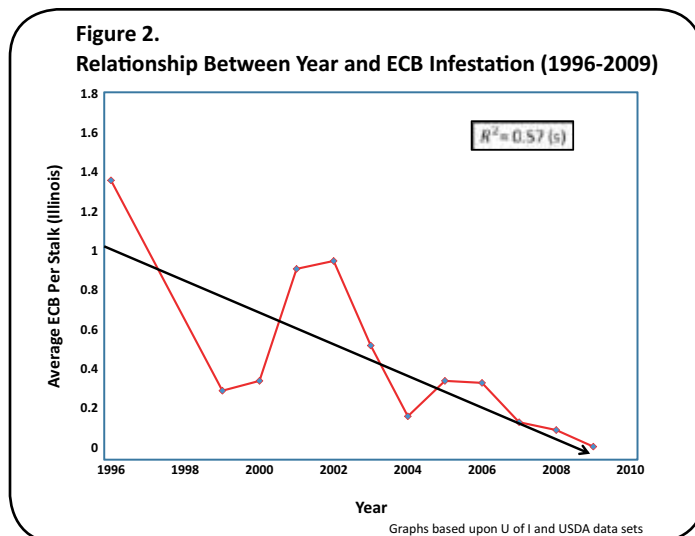
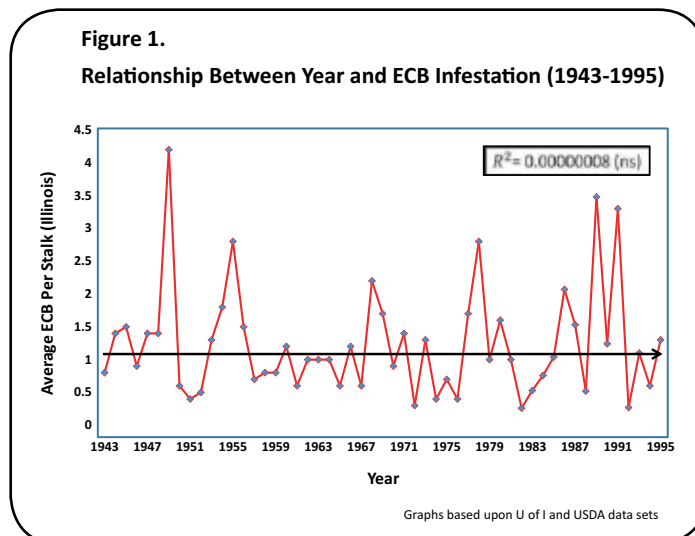
Pest number two was the European corn borer. While rootworms maintained their status during the intervening years, the corn borer’s status seemed to fade a little. Then non-GM growers ran into the 2013 season. In 2013, corn borer suddenly seemed much easier to find. In at least a few locations, Burrus observed corn borer feeding that rivaled worst-case scenarios from 20 and 30 years ago.

Does our experience this season tell us anything about the future? Are 2013 corn borer infestations dramatically different from previous seasons? Will corn borer regain its status and sit beside rootworms in future textbooks? Let’s review the corn borer story, past, present, and future, as we try to answer those questions.

Corn borer basically chew out the stalk’s guts. For those that like a little less drama in their articles, we are talking about water and nutrient conducting tissues. An individual larva may cause 4-6% yield loss during the whorl stage, 6-7% yield loss during the period of tassel emergence, 4-5% yield loss during pollen shed, and 2-3% loss as kernels begin to form. Those numbers represent the direct yield impact of the corn borer. They do not take into account indirect yield losses resulting from decreased stalk integrity, weakened ear shanks, etc.

European corn borer (ECB) overwinter within stalk tissue as larvae. Those larvae pupate the following season emerging as white to brown, “snouted,” inch long moths. The moths lay eggs during the early summer, the next set of larvae emerge, those larvae feed, more adults

### European Corn Borer



emerge following pupation, and the whole process continues. About 2-3 generations occur per year.

The name of this pest, European corn borer, says it all. Like most of us, the insect is not native. It first appeared in the continental United States in 1917. By the late 1930s/early 1940s, the pest had reached Midwest corn growers and the battle was on. It is of little surprise that the University of Illinois began to conduct a fall corn borer survey in 1943. The survey was used to map corn borer pressure over time, becoming an invaluable reference for Midwest entomologists. Except for three growing seasons, that survey continued each harvest until 2010.

The survey tells the story of European corn borer over the decades. One finds something very interesting when looking at the relationship between year and average number of corn borers per stalk. The relationship is depicted in Figure 1.

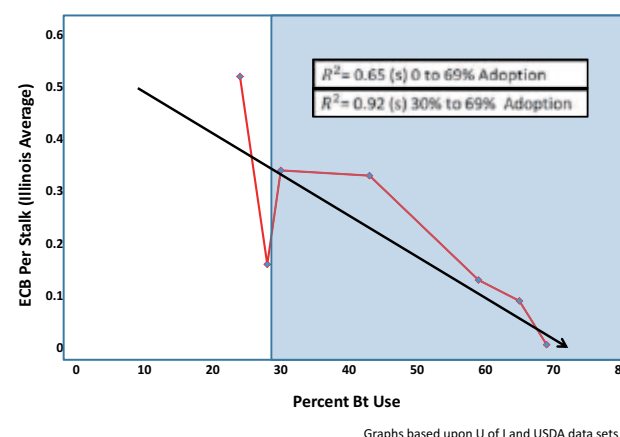
The line in Figure 1 is the best line that can be drawn between all the dots on the page and it is flat. There is no angle up and there is no angle down, the line simply streaks from one side of the page to the other. In other words, Figure 1 basically shows that from 1943-1995 there

was no relationship between the season in question and the number of corn borers per stalk. From one year to the next, the population of corn borer could go anywhere (up or down). Nobody knew where the story was going.

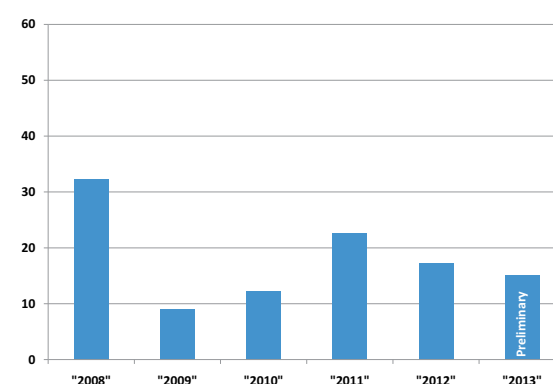
So what? Why does that matter? Well, the absence of a relationship doesn’t seem that important until you look past 1995. Before 1995, the calendar year told entomologists nothing about corn borer levels. It was useless for predicting infestations. However, from 1996 until the survey was discontinued, entomologists could reliably predict that the number of European corn borer would steadily decrease with each season. Take a moment to look at Figure 2, which depicts that relationship. After 1996, each growing season decreased the average number of borer per plant. Each season reduced that number by just under one tenth. Once again, the story is unpredictable previous to ’96, and it then becomes predictable after 1996. That seems like a crazy story unless you know something about growing corn.

Growers know that the adoption of Bt corn explains the fine points of the story. It’s the key to understanding the corn borer story. There is a dramatic relation-

**Figure 3.**  
Relationship Between Bt Use and ECB Infestation



**Figure 4.**  
Percent Plants Infested with European Corn Borer (ECB) (2008 – 2013 Preliminary)



ship between Bt corn adoption (starting in around the late ‘90s) and European corn borer levels. Once Bt adoption hit 30%, the dots on the page (the number of corn borers observed each fall) began to rest very close to the nice, neat line in Figure 3. The line has what is called a R Squared of 92%. In other words, the dots almost draw the line by themselves. That kind of strong relationship is almost unheard of in statistics.

Most scientists/entomologists would say that one rarely, if ever, observes such a strong relationship between two measurements. This exceptionally strong relationship caused ECB to “literally bottom out” in 2009. The University of Illinois therefore discontinued its survey the following year. One can hardly blame them because a pest whose numbers are “on the fast track to zero” hardly deserves much attention or resources. It really doesn’t count as a main character in any story at that point. As of the 2009 survey, Bt appeared to have obliterated corn borer. At least it seemed to have in that part of the tale.

So, let us review our corn borer story. There was not a relationship between year and corn borer counts until after 1996. Then, a somewhat



strong relationship began to appear. Each growing season equaled a steady reduction in the number of corn borer detected each fall. The explanation for that reduction really came down to the adoption of Bt corn. The relationship between Bt adoption and decreasing corn borer numbers was incredibly strong, and it caused "in-stalk corn borer counts" to close in on zero with each passing season. Where does that leave 2013? Luckily, the University of Illinois has not been the only group to conduct fall corn borer surveys. Burrus has done so for several years and we can begin to tell the story where the University of Illinois' survey ended.

Each fall, Burrus RSMs measure corn borer infestations (not number of borer per plant but the percent of borer infested plants). We usually do so in non-GM refuge corn or in "filler corn" associated with the buffering areas of our research plots. Those counts are taken across Illinois and Missouri. Figure 4 provides a summary of our findings since 2008.

As you review that graph, it is important to remember that the Burrus fall survey and the U of I's fall survey are fundamentally different. Because Burrus is sampling areas in west-central, central, and east-central Missouri (areas that have been prone to ECB infestations) and because we sample non-GM corn, our survey runs a little hotter for ECB. We also use a scale-based rating system (i.e. low, moderate, and heavy ECB pressure). That said, we can connect the dots needed to tell the tale.

**Burrus detected moderate/heavy ECB pressure in 32% of surveyed corn plants during 2008.** The corn borer count dropped dramatically in 2009 (below 10%) which somewhat reflects the story told by the U of I's 2009 survey. However, corn borer infestations did not stay below 10%. As a matter of fact, since 2009 our fall survey has always detected moderate to heavy corn borer pressure in at least 10% of sampled corn plants. The number of moderate to severely infested plants (6/25 to 25/25 infested plants) spiked in 2011, reaching an infestation level of 22 percent.

Where does 2013 fit into the ECB story? Although we did observe more heavy pressure ECB fields (more ECB per stalk), although ECB did seem much

"easier" to find in 2013, our preliminary fall survey results fall short of 2011 and 2012 infestations. As of press time, the number of 2013 infested plants would seem poised to match 2011 and 2012 infestation levels (at the most).

Corn borer don't yet seem to be on a steady increase. However, they also do not seem "on the fast track to zero." European corn borer is definitely still around. That is a critically important part of the current corn borer story. It's been beaten down, but it hasn't been beaten for good, and it even seems to be holding its own in a fairly rough Bt environment, making plenty of dramatic appearances.

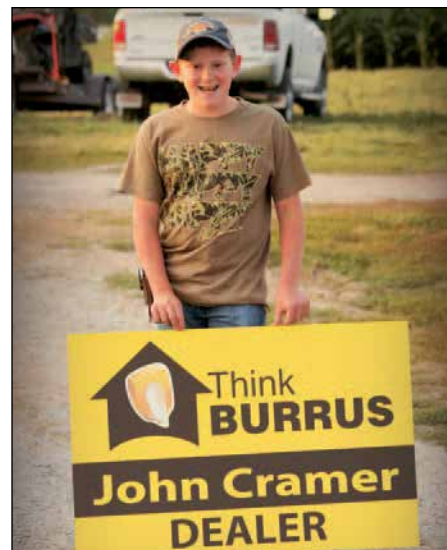
**What might the ECB story look like in years to come?** At the very least, corn growers can expect occasional repeats of 2013. From time to time, corn borer will be very easy to find in non-GM corn, and corn borer will occasionally devastate late planted non-GM fields. Our corn borer survey also says something else about the next chapter. If European corn borer ever does develop resistance to Bt corn, it could start building back from a very healthy population base. Corn borer will not work their way from the bottom up because they are not starting at the bottom. Their story has been on hold, but if resistance comes, corn borer will pick up the story where they left off.

**What's the moral of the corn borer story? There are actually several lessons to be learned so don't count corn borer as being down and out because they are not.** Few things ever really turn out to be "down and out." Also, be careful about planting non-GM corn late because there are still corn borers around and late planted corn tickles their fancy. Remember scout non-GM and GM fields in season, using egg mass counts to trigger the application of insecticides, the target of such scouting is the last generation/generations of corn borer.

**Finally, because the pest maintains a solid population base despite widespread Bt use, it is also important that growers scout Bt corn fields just in case resistance ever develops. When that chapter comes, the resistance chapter, we want to be ready. 1917, 1943, 1995, 1996, 2009, and 2014 – it's a long story for the European corn borer, and it's not over yet.**

**Previous Crop:** Corn. **Fertilizer:** N: 220, P: VRT, K: VRT. **Herbicide:** Harness Xtra, Roundup. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-normal, August-dry. **✓Check Hybrid:** Power Plus 4V43S™\* **Remarks:** Thunderstorm on 9-19-13 with 80 MPH wind.

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓Check	209.0		19.8	100	26
POWER PLUS X2N82™*	195.6	10	18.0	96	29
POWER PLUS 4V43 S™*	211.3	8	18.9	100	23
CATALYST 4685 3111	215.7	7	19.6	100	28
BURRUS 6J36 3000GT	240.1	2	19.8	96	27
BURRUS 6T54 3000GT	236.7	4	22.3	96	27
✓Check	214.7		19.2	100	31



Garrett Cramer proudly displays his dad's Burrus dealership sign.

POWER PLUS 6F74AMX™*	206.6	9	19.3	100	26
POWER PLUS 7U15AM-R™*	239.8	3	21.6	90	28
POWER PLUS 6C41 S™*	247.6	1	21.7	100	29
CATALYST 7893 3111	228.2	6	22.8	100	29
POWER PLUS 8V08 S™*	231.9	5	20.5	58	29
✓Check	210.5		19.5	100	27
Average	222.1		20.2	95	28
Check Average	211.4		19.5	100	28

## AUDRAIN

Carl Ehrlich  
Ladonia, MO

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

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
POWER PLUS 6F74AMX™*	167.8	22.9	60.6
POWER PLUS 6F74AMX™*	152.0	23.1	61.7
Pioneer P1498AM	143.5	21.8	60.4
Pioneer P1498AM	141.3	19.6	59.9
Average	151.2	21.8	60.7

## CARROLL

**Power Plus® 8V08S™\* brand wins at 236 bu/a**



Kevin Casner  
Carrollton, MO

**Planted:** May 23 in 30" rows. **Harvested:** September 27. **Previous Crop:** Soybeans. **Herbicide:** Keystone, Sharpen, Roundup, Status. **Insecticide:** Hero. **Corn Borer Rating:** Heavy. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-dry, August-dry. **✓Check Hybrid:** Burrus 6J36 3000GT.

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
POWER PLUS 4A30AM1™*	190.8	23	18.1	100	30
POWER PLUS 2V56AMX™*	191.3	22	18.5	100	31
BURRUS X2N82	179.2	26	17.7	100	28
POWER PLUS 4V43S™*	189.6	25	19.6	100	27
✓Check	208.9		19.5	100	31
HUGHES 5456GT3	203.8	14	17.9	100	28
BURRUS 808583	207.0	11	19.2	100	30
BURRUS 255137	210.2	10	19.0	100	30
✓Check	205.3		19.5	100	32
BURRUS 5Z41GT	202.2	16	20.0	100	31
CATALYST 4685 3111	202.6	15	20.2	100	29

POWER PLUS 4J93AM™*	225.9	3	16.6	100	32
✓Check	209.7		19.9	100	32
BURRUS 780946	199.6	19	18.5	100	31
POWER PLUS 4J95 AMX™*	218.1	9	18.1	100	32
CATALYST 6227 4011	199.4	21	20.4	100	27
POWER PLUS 6F71 R™*	218.8	8	21.8	100	32
POWER PLUS 6F74 AMX™*	200.1	18	18.3	100	29
POWER PLUS 6B51 R™*	228.3	2	18.1	100	32
✓Check	215.2		17.8	100	32
BURRUS 532642	199.4	19	20.4	100	31
BURRUS 999741	221.3	5	22.8	100	31
BURRUS 669860	212.4	11	18.5	100	30
BURRUS 6T54 3000GT	219.3	7	19.7	100	30
BURRUS 558879	209.4	10	21.7	100	32
BURRUS 486252	221.1	6	19.7	100	32
POWER PLUS 6C41 S™*	227.1	3	21.7	100	29
✓Check	210.0		18.0	100	32
BURRUS 749321	204.1	14	21.0	100	32
POWER PLUS 8V08 S™*	236.7	1	18.7	100	31
CATALYST 7893 3111	198.3	22	17.5	100	32
Average	208.5		19.3	100	31
Check Average	209.8		18.9	100	59



Jenkins Farms  
DeWitt, MO

**Previous Crop:** Corn. **Corn Borer Rating:** Moderate. **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	Adj. Test Wt.	1000 Plants /Acre
✓Check	229.5		17.5	58.4	30
POWER PLUS 8V08 S™*	223.4	3	17.0	59.3	32
CATALYST 7893 3111	208.2	6	19.3	56.7	33
✓Check	227.3		17.6	59.4	33
POWER PLUS 6F74AMX™*	208.8	7	17.6	60.9	32
POWER PLUS 7U15AM-R™*	233.4	2	17.4	61.3	32
POWER PLUS 6C41S™*	240.4	1	18.2	60.0	32
POWER PLUS 4B32AMX-R™*	192.7	11	16.6	61.2	32
BURRUS 6J36 3000GT	215.8	5	15.6	56.0	33
BURRUS 5Z41GT	204.9	8	16.2	56.0	29
CATALYST 4685 3111	193.1	10	18.0	54.5	31
POWER PLUS 4V43S™*	203.0	9	16.8	59.2	25
POWER PLUS 4J93AM™*	221.7	4	16.6	57.2	28
✓Check	232.3		17.4	59.3	31
Average	216.7		17.3	58.5	31
Check Average	229.7		17.5	59.0	31

Kaiser Family Farms  
Carrollton, MO

**Planted:** May 13 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 8. **Previous Crop:** Soybeans. **Soil Type:** Silt loam.

Brand/Product	Bu. Per Acre	% Moisture
Pioneer P1395R	250.9	21.2
DeKalb DKC63-87RIB	249.5	21.3
DeKalb DKC65-80RIB	249.0	21.7
DeKalb DKC66-97RIB	248.2	22.4
DeKalb DKC61-89RIB	246.4	20.2
Pioneer P1522HR	245.5	22.1
DeKalb DKC66-40RIB	244.8	21.6
Pioneer P1395R	241.5	20.0
Pioneer P1555CHR	241.0	24.1
DeKalb DKC67-57	239.3	22.9
DeKalb DKC62-08RIB	237.3	19.5
CATALYST 7893 3111	237.3	26.0
DeKalb DKC64-87RIB	234.6	20.8
DeKalb DKC61-78RIB	232.9	19.8
DeKalb DKC62-98RIB	231.8	19.5
DeKalb DKC64-69	229.6	20.0
DeKalb DKC64-99RIB	229.3	21.1
DeKalb DKC63-33RIB	229.1	19.1
DeKalb DKC60-67RIB	227.6	19.0
Pioneer P1151R	222.4	20.3
POWER PLUS 6F74AMX™*	220.8	20.8
DeKalb DKC60-63RIB	220.4	18.6
DeKalb DKC58-87RIB	202.7	18.3
POWER PLUS 4B32AMX-R™*	202.6	21.4
Average	233.9	20.9

## ATCHISON

**Power Plus® 6C41S™\* brand wins at 247 bu/a**



Dan Athen  
Rock Port, MO



**Planted:** April 29 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 2.



Burrus/Hughes multiple trait options

## Get maximum performance and convenience

We have redesigned the Harvest Report. We start with the products with above and below ground insect control. Always consult the product maps that show the most favorable geography for each individual hybrid. Then realize that rather than carry multiple trait versions of every genetic package, several are zone priced.

### Agrisure® traits bring more yield.

You will see for 2014 Burrus/Hughes has adopted the trait numbering system, matching the last four digits of the hybrid number on the Agrisure® traitled products for simplicity today and in the years to come.

The Agrisure® number system tells the story of what classes of insects are controlled as well as how many modes of action are in the seed. The master brand is Agrisure® with a suffix such as Viptera™ followed by 4 digits. The first number indicates the product's technology series, as well as other benefits that will come in the future. The last three digits represent the number of modes of action for broad lepidopteran, corn borer and rootworm presence respectively. Consequently Agrisure® Viptera® 3111 has one mode of action for each of the 3 insect classes.

When seeking the highest performing products consider using some structured refuges. We offer an outstanding lineup of products containing 3000GT and Agrisure® Viptera® 3111. Yes they require a 20% structured refuge but will deliver top performance, genetic diversity and save you some money too. We are highly recommending a second mode of action for these products in heavy corn rootworm areas by adding Force insecticide. Years of data says this can add additional 10 bu/A in yield across many environments.

In some cases you can qualify for a rebate when you use Force insecticide on Agrisure corn rootworm traits. Ask your Burrus/Hughes representative about this opportunity.

Agrisure® 3000GT provides corn rootworm and corn borer protection as well as herbicide flexibility with both glyphosate and glufosinate tolerance. It is available in eight products, namely Hughes 3953 3000GT, 4607 3000GT, 5456 3000GT, 6132 3000GT, Burrus 6J36 3000GT, 6T54 3000GT. In addition Hughes 2987 3011A and Catalyst 6227 4011 has the Agrisure Artesian® designation plus the 3000GT insect protection.

Agrisure® Viptera® 3111 provides

What growers will see: **Agrisure Viptera** 3111

On each seed bag tag, growers will see four numbers. Each number has a meaning. How it works:

**[Agrisure]** **[Viptera]** **[3]** **[1 1 1]**

Master Brand Suffix Technology Series Broad Lepidopteran Trait Corn Borer Trait Corn Rootworm Trait

- The brand suffix changes as new technologies are introduced.
- The first number indicates the product's technology series. The current technology series number represents herbicide tolerance; other benefits will come in the future.
- The last three numerical identifiers represent the number of modes of action in each hybrid for broad lepidopteran, corn borer and rootworm presence.

Corn Rootworm and corn borer protection as well as herbicide flexibility with both glyphosate and glufosinate tolerance. This trait stack carries all the same protection plus Broad lepidopteran control. It is available in 3 products namely Hughes 2796 3111, Catalyst™ 4685 3111 and Catalyst™ 7893 3111.

Agrisure® Viptera® 3222 E-Z refuge trait stack delivers performance in a single bag refuge as well as the Agrisure® 3122 which we hope to have soon.

### Optimum® AcreMax® insect protection is single-bag refuge in the corn belt!

The ultimate in technology preservation has arrived. The next generation of integrated refuge products – Optimum® AcreMax® and Optimum® AcreMax® Xtra insect protection – allow growers to meet all refuge requirements with a single-bag product, delivering convenience for insect refuge management (IRM) and offering two versions for grower choice.

There are two types of Optimum® AcreMax® products: 1) Three versions for above-ground protection and 2) six versions of the Optimum® AcreMax® Xtra products in the Power Plus® brand for above-and below-ground protection. Both types should assist in increasing overall farm yield potential by reducing refuge and helping to ensure durability of important traits through built-in IRM compliance.

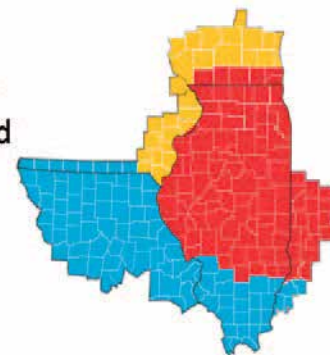
### Above-and-below-ground protection:

**Power Plus Brand 2V56AMX™\*, Power Plus 4Y27AMX™\*, Power Plus 4B32AMX-R™\*, Power Plus 4G46AMX™\*, Power Plus 4J95AMX™\*, Power Plus 6F74AMX™\* brands.**

For growers needing above-and below-ground protection, there are six Power Plus® products with the single bag refuge. The Optimum® AcreMax® Xtra combines Herculex® XTRA stacked with YieldGard®

### Above and below ground insect protection?

The **RED** area has the Corn Rootworm variant. Above and below ground insect protection is recommended



Corn Borer. The systems with the –R at the end of the product brand contain only Glyphosate tolerance, not Glufosinate tolerance. The products that do not have the –R at the end of the brand name, have both the Glyphosate and Glufosinate tolerances.

Eliminating the need for separate refuge plantings means more acres are protected with the industry-leading Herculex® traits, thus increasing harvestable yield.

In the Power Plus brand, there are three major points:

1. The products are in proven genetic families
2. The technology works and has been confirmed effective time and time again.
3. These systems effectively simplify the refuge need.

### Grower Value at a Glance

Simplified Refuge + Maximized Farm Yields + Technology Preservation

**Above-ground protection:** Power Plus 2N82AM™\*, Power Plus 4J93AM™\*, Power Plus 7U15AM-R™\* brands. In addition for the areas where only above ground protection is needed we also recommend the Agrisure 3000GT and Agrisure Viptera 3111 products that are zone priced to reflect only what the grower will use rather than what the product contains.

### Optimum® AcreMax® insect protection single-bag refuge!

\* Power Plus®, Optimum® and AcreMax® are trademarks of Pioneer Hi-Bred. Optimum® brand products available in the Power Plus® brand. Power Plus® brand seed is distributed by Burrus.

† YieldGard and the YieldGard Corn Borer design are registered trademarks used under license from Monsanto Company.

Agrisure® RW is a trademark of, and used under license from a Syngenta Group Company. Agrisure® technology incorporated into these seeds is commercialized under a license from Syngenta Crop Protection AG.

## CHARITON

David Emmerich  
Salisbury, MO

**Planted:** May 17 in 30" rows. **Planting Population:** 30,000. **Harvested:** September 26. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: 70, K: 80. **Herbicide:** Corvus. **Weather:** May–wet, June–normal, July–dry, August–dry. **✓Check Hybrid:** Burrus 6J36 3000GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
POWER PLUS X2N82™*	144.8	1	18.7	100	27
POWER PLUS 2V56AMX™*	143.2	2	16.1	100	27
POWER PLUS 4V43S™*	131.7	6	16.8	100	27
✓Check	114.4		17.4	100	28
HUGHES 5456GT3	108.3	15	17.4	95	28
BURRUS 808583	125.6	5	17.4	100	25
BURRUS 255137	109.1	13	16.0	100	30
BURRUS 780946	113.9	8	16.3	95	25
BURRUS 5Z41GT	110.0	12	16.9	95	28
POWER PLUS 4J93AM™*	129.7	4	15.4	95	30
CATALYST 4685 3111	110.1	10	16.0	100	30
BURRUS 6J36 3000GT	109.1	14	15.2	100	30
✓Check	100.9		15.0	100	29
POWER PLUS 6F71R™*	109.1	9	15.2	100	30
BURRUS 159808	111.4	7	15.0	95	25
CATALYST 6227 4011	102.2	17	14.8	100	30
POWER PLUS 6B51R™*	102.0	18	15.8	100	27
BURRUS 532642	97.5	22	18.7	100	29
✓Check	108.3		15.0	100	29
BURRUS 589605	92.0	24	16.4	100	25
BURRUS 999741	91.4	25	16.0	100	29
BURRUS 6T54 3000GT	111.9	11	17.0	100	30
BURRUS 558879	90.1	26	18.1	100	27
BURRUS 486252	100.3	23	18.1	100	30
BURRUS 669860	105.1	21	15.0	100	30
POWER PLUS 6C41S™*	109.2	16	17.5	100	28
✓Check	110.9		15.4	100	26
BURRUS 749321	133.3	3	17.1	100	27
CATALYST 7893 3111	107.6	19	17.1	100	29
POWER PLUS 8V08 S™*	106.7	20	17.0	100	27
Average	111.3		16.5	99	28
Check Average	108.6		15.7	100	28



# The information is at your fingertips

Let us find the right seed for you. Visit our website [www.burrusseed.com](http://www.burrusseed.com) and click the products tab on the home page to begin matching the best products to meet your needs. If you select corn, it will take you through a series of questions that filter down the products to just the ones that interest you. Go ahead and try it out! Once you filter down through the questions and options regarding herbicide, insects to control as well as refuge options, only the products matching the options you've selected will remain.

It has made looking for suitable products much simpler and easier as the infor-

mation is constantly being updated behind the scenes. Our web tool is fast and easy. It's also a great resource to help you confidently select the products to deliver more profit to your farm.

If you prefer to hold an actual Product Selection Guide in your hand, just call us toll free at 877-4-BURRUS or drop us a note to 826 Arenzville Road, Arenzville, IL 62611 and we will be happy to mail you a copy.

Some seed companies are encouraging growers to download an app for their phone. There is no need to do that with Burrus.



Mark Monier, Burrus dealer from Marshall Co. loves to pour over the positive yield results on his farm.



Tessa Link waits patiently for her grandfather Rex Wood of Linn Co., MO to dump his truckload of Burrus corn.



Shelby & Tucker Wood enjoy a little father/daughter time during planting season. We love having them on the Burrus team!

## CLINTON

Grimes Farms, Inc.  
Osborn, MO

**Planted:** May 17 in 30" rows. **Planting Population:** 30,100. **Harvested:** October 25. **Previous Crop:** Soybeans. **Fertilizer:** N: 220, P: 25, K: 40. **Herbicide:** Bicep, Callisto. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-wet, June-dry, July-dry, August-dry. **✓Check Hybrid:** Burrus 6J36 3000GT

Brand/Product	Bu. Per Acre	% Moisture	% Erect	1000 Plants /Acre
POWER PLUS 2V56AMX™*	169.6	14	15.7	99 26
POWER PLUS X2N82™*	174.5	10	16.4	96 29
POWER PLUS 4V43 S™*	165.1	15	16.6	100 26
✓Check	175.6		16.3	100 28
HUGHES 5456 3000GT	173.6	11	15.1	95 30
HUGHES 6132 3000GT	181.0	7	16.3	100 28
BURRUS 255137	179.7	8	16.9	95 27
CATALYST 4685 3111	173.6	12	16.4	100 27
BURRUS 5Z41 GT	186.4	2	15.1	100 29
POWER PLUS 4J93AM™*	206.0	1	16.4	98 29
BURRUS 6J36 3000GT	183.5	5	16.0	100 29
✓Check	184.2		16.1	100 29
BURRUS 780946	184.2	4	16.5	100 27
POWER PLUS 4P11 R™*	185.3	3	16.8	100 28
POWER PLUS 6F71 R™*	181.1	6	16.7	100 28
POWER PLUS 6B51 R™*	162.1	16	16.3	95 31
CATALYST 6227 4011	171.5	13	16.1	99 25
BURRUS 6T54 3000GT	176.0	9	17.8	100 29
✓Check	163.3		15.7	100 23
BURRUS 532642	158.2	18	17.4	100 29
BURRUS 589605	153.4	20	17.1	98 31
BURRUS 999741	151.8	22	17.0	100 25
BURRUS 558879	144.2	24	18.7	100 27
BURRUS 486252	152.7	21	16.0	100 29
BURRUS 669860	151.3	23	15.3	96 29
POWER PLUS 6C41 S™*	154.7	19	16.9	100 27
✓Check	150.1		14.4	100 26
BURRUS 749321	160.8	17	17.0	100 24
POWER PLUS 8V08 S™*	117.8	26	15.1	100 29
CATALYST 7893 3111	125.7	25	14.7	100 29
Average	166.6		16.3	99 28
Check Average	168.3		15.6	100 27

Grimes Farms, Inc.  
Osborn, MO

**Planted:** May 17 in 30" rows. **Planting Population:** 30,100. **Harvested:** October 26. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: 25, K: 40. **Herbicide:** Capreno. **Soil Type:**

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

Brand/Product	Bu. Per Acre	% Moisture	% Erect	1000 Plants /Acre
POWER PLUS 4J95AMX™*	201.2	13.4	100	29
BURRUS 181496	198.8	14.9	100	29
CATALYST 7893 3111	192.3	13.9	96	30
BURRUS 903359	190.2	12.8	92	28
POWER PLUS 4J93AM™*	190.1	13.0	100	28
BURRUS 749321	187.1	13.1	96	29
BURRUS 589605	186.5	15.0	100	28
POWER PLUS 4V43 S™*	185.7	12.7	96	26
POWER PLUS 4G46AMX™*	180.6	13.2	96	27
POWER PLUS 6C41S™*	180.0	13.7	100	27
BURRUS 255137	179.0	13.7	100	27
POWER PLUS 8V08 S™*	178.6	12.9	84	28
BURRUS 6T54 3000GT	178.2	14.8	100	31
BURRUS 780946	174.4	13.2	100	28
BURRUS 794814	173.4	16.3	100	26
BURRUS 532642	173.4	13.8	100	30
BURRUS 6J36 3000GT	172.7	13.5	100	28
BURRUS X5Z41	170.3	13.1	100	27
POWER PLUS 6F71 R™*	169.3	12.7	100	31
BURRUS 584746	168.1	13.9	100	34
BURRUS 558879	168.0	14.2	92	26
CATALYST 4685 3111	165.8	13.0	100	30
BURRUS 926331	164.7	13.3	100	30
BURRUS 908487	162.7	13.6	100	28
POWER PLUS X7A18™*	161.6	13.8	100	28
CATALYST 6227 4011	146.4	12.8	96	29
BURRUS 180291	144.4	13.9	100	26
BURRUS 6G64	142.3	12.2	100	29
POWER PLUS 6F73 AMX™*	140.8	13.1	100	30
Average	173.3	13.6	98	29

## DEKALB

Donald Schnitker  
Clarksdale, MO

**Planted:** April 30 in 30" rows. **Harvested:** October 22. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: VRT, K: VRT. **Herbicide:** Basis, Corvus, Roundup, 2,4-D, Atrazine. **Insecticide:** None. **Corn Borer Rating:** Light. **Soil Type:** Light loam. **Weather:** May-wet, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect
✓Check	92.9		15.9 26
CATALYST 4685 3111	87.6	11	16.5 28
POWER PLUS 4V43 S™*	98.3	9	16.2 24
POWER PLUS X2N82™*	128.7	2	16.0 32
POWER PLUS 4J93AM™*	134.1	1	15.5 28
BURRUS 6J36 3000GT	109.6	7	17.3 28
Dekalb DKC62-98RIB	122.2	3	16.5 28
✓Check	72.5		16.6 26
POWER PLUS 6F74AMX™*	116.0	6	16.8 31
POWER PLUS 6C41 S™*	86.3	12	18.8 29
POWER PLUS 7U15AM-R™*	121.3	4	16.3 28
CATALYST 7893 3111	105.2	8	18.9 33
Dekalb DKC63-87RIB	116.2	5	17.5 28
POWER PLUS 8V08 S™*	92.5	10	18.3 33
✓Check	85.3		16.5 26
Average	104.6		16.9 29
Check Average	83.6		16.3 26

Ashley Davis began working in the Burrus office in December 2012. She graduated from the University of Illinois in Springfield with a Bachelor's Degree in Business Administration. Her duty at Burrus involves general support for RSMs. She enjoys the work because as the seasons change so do the job responsibilities.

Ashley resides in Astoria, IL. Her fiancé is Josh Kenrick. She really enjoys watching his two children, Taegen, age 5, and Malachi, age 4, play sports. Ashley's license plates read ASHALEE because that is how the kiddos pronounce her name. The household also includes a dog named Cali. In her spare time, Ashley enjoys traveling, shopping, cooking, sewing and crafts. She also enjoys spending time with family and friends.

Next time you call the Burrus office, you might hear the friendly voice of Ashley. If

**Remarks:** Entry 1@21K, Entries 2 and 7@26.6K, Entries 3 and 8@31K, Entries 4 and 9@36K, Entries 4 and 10@40.7K, Entries 6 and 11@43.9K.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
CATALYST 4685 3111	127.5	16.0	59.0	19
CATALYST 4685 3111	124.2	15.1	58.0	27
CATALYST 4685 3111	92.8	16.0	59.0	31
CATALYST 4685 3111	55.7	16.0	58.0	36
CATALYST 4685 3111	60.2	16.1	58.0	40
CATALYST 4685 3111	32.7	15.5	58.0	44
BURRUS 6J35 GT	130.2	15.8	60.0	25
BURRUS 6J35 GT	122.5	16.3	60.0	28
BURRUS 6J35 GT	88.4	15.7	61.0	36
BURRUS 6J35 GT	95.6	15.5	59.0	41
BURRUS 6J35 GT	92.5	16.2	61.0	41
Average	92.9	15.8	59.2	33

Donald Schnitker  
Clarksdale, MO

**Planted:** April 30 in 30" rows. **Planting Population:** 31,000. **Harvested:** October 22. **Previous Crop:** Soybeans. **Fertilizer:** N: 180, P: VRT, K: VRT. **Herbicide:** Basis, Corvus, Roundup, 2,4-D, Atrazine. **Corn Borer Rating:** Light. **Soil Type:** Light loam. **Weather:** May-wet, June-normal, July-dry, August-dry. **✓Check Hybrid:** Catalyst 4685 3111

Brand/Product	Bu. Per Acre	% Moisture	% Erect
✓Check	92.9		15.9 26
CATALYST 4685 3111	87.6	11	16.5 28
POWER PLUS 4V43 S™*	98.3	9	16.2 24
POWER PLUS X2N82™*	128.7	2	16.0 32
POWER PLUS 4J93AM™*	134.1	1	15.5 28
BURRUS 6J36 3000GT	109.6	7	17.3 28
Dekalb DKC62-98RIB	122.2	3	16.5 28
✓Check	72.5		16.6 26
POWER PLUS 6F74AMX™*	116.0	6	16.8 31
POWER PLUS 6C41 S™*	86.3	12	18.8 29
POWER PLUS 7U15AM-R™*	121.3	4	16.3 28
CATALYST 7893 3111	105.2	8	18.9 33
Dekalb DKC63-87RIB	116.2	5	17.5 28
POWER PLUS 8V08 S™*	92.5	10	18.3 33
✓Check	85.3		16.5 26
Average	104.6		16.9 29
Check Average	83.6		16.3 26

# Ashley Davis joins the Burrus office staff



you are ever in our office, please take the opportunity to introduce yourself.



Continuous corn

# It's nothing mysterious

By Matt Montgomery

Going continuous corn can seem an intimidating prospect. Corn-on-corn seems prone to more pest-related headaches, some increased cost, and some reduced yield potential. For instance, continuous corn may yield 10% to 25% less than rotated corn, non-land costs run about 3 percent higher in continuous corn, and foliar disease is more common than it is in rotation. For many growers, those facts (and others) make continuous corn a mysterious endeavor. There must be some great secret to getting it right – a secret only known by an elite few, correct? Not really. If a grower stops to think about it, he knows the goal and he knows what factors help us reach that goal. In other words, growers already have the basic skill set/basic experience/basic understanding needed to squeeze more yield from corn minus a bean rotation.

## The goal

Let's begin by talking about the goal. The goal of corn on corn is really nothing new. It is essentially the same as any cropping strategy. Regardless of the crop and regardless of rotation, the goal of any cropping system is to:

- 1) Start the season with maximum genetic yield potential
- 2) Start the season in a manner that best assures maintained yield potential
- 3) Migrate through the season – keeping as much yield as is economically reasonable

That is the goal of crop production and it is the goal of continuous corn. Our ability to meet that goal is influenced by various factors including how we position the crop, the availability of water, our ability to manage water needs, the supply of plant-available nutrients, and our skill in promoting the leaf area/plant material needed to fill and physically support kernels.

Start by “test driving” corn after corn. If curious, first move to a 2/3 corn and 1/3 bean rotation. This way you always have 1/3 of your acres in beans and 1/3 in corn and 1/3 in corn after corn.

## Starting the season with maximum genetic potential

The first part of any cropping system and the first component in continuous corn, is to maximize genetic yield potential. There is nothing mysterious about that.

The only real difference might be that the same product should not be used in continuous corn for two years in a row. A host of plant characteristics tend to correlate with improved corn-on-corn success. However, characteristics mean nothing if they are not first accompanied by strong yield potential. “Put lipstick on a pig, and it's still a pig” as some of my colleagues have said.

As noted earlier, continuous corn yields less than rotated corn (on average). Select a poor yielding product and the results will not be pretty. Growers should scout plot results and should consult a Burrus/Hughes RSM or dealer to determine which products have the most potential given their location, historic conditions, etc. Is the hybrid recommended for the grower's location? Is the hybrid recommended for their soil type? Success in continuous corn begins with basic seed selection research. It ends when seed is not carefully selected.

## Starting the season in a manner that best assures maintained yield potential

Positioning the crop for success, managing water, supplying nutrients, and promoting leaf area/plant material – those concepts are not for the season's end. The grower can start the season in a manner that promotes all four. Ignore any of the four early and continuous corn will struggle.

We have already reviewed the importance of positioning continuous corn for genetic success. Now let's discuss a less exciting, but critically important component of continuous corn. Stated simply – “The right corn must be positioned in the right environment in the right way and it must be able to compensate when that perfect scenario falls short.” Even the best genetic potential can crash if a plant is not treated correctly. The crash becomes even more severe when errors are made at planting time. Stand is always an important component of translating genetic potential into field-based yield potential. Thin too much of the stand, make plant spacing too erratic, or introduce emergence variability and the result will be yield penalties. It really doesn't matter if corn is following corn or if it's following beans – getting stand right is always a must. However, the likelihood of a thin stand, erratically spaced plants, and variable emergence is much higher in continuous corn than it is in rotated corn. Precise seed placement (always important) is thus even more important when a grower is prepping for two or two plus years of corn. In other words, growers need to plant at the recommended rate, calibrate the planter, and add some row cleaners. All three will increase the

likelihood of getting closer to the ideal. Because continuous corn will still fall short of the ideal, using a flex or intermediate ear hybrid is probably a good idea. Such hybrids will compensate for reduced stand and erratic seed placement.

The yield differential between corn-on-corn and corn after beans is most dramatic when plants are subjected to moisture stress. Manipulating the water variable can seem an impossible task. However, some new and old hybrid tools can be used to help manage water-related issues. First, producers should select products that “grow out” well. Tall plants shade the soil, decrease evaporation, and maintain more plant available soil moisture throughout the season. If drought conditions build, continuous corn planted to taller hybrids will often minimize the moisture-related yield differential.

Second, growers should consider products that silk early. Hybrids that tassel/silk early start the reproductive process (the kernel establishment process) earlier in the growing season. In continuous corn, that means those hybrids are better positioned to minimize yield-reductions associated with moisture/heat stress.

Finally, growers should consider utilizing drought management technology (non-GMO traits such as Optimum® AQUAmax™ and Agrisure Artesian®) when going continuous corn. Drought management technology does not result in drought miracles, but it does smooth out yield variation and allows hybrids to better withstand brief periods of moisture stress. If drought management technology is not an option, growers should at least select a hybrid with exceptional drought ratings. Mitigating the potential impact of moisture stress is always part of raising corn successfully, but it is even more important to successful corn-on-corn.

Supplying adequate plant-available nutrients is also nothing new to corn growers. So, it doesn't take a Ph.D. to realize that adequate nutrient supply also factors into continuous corn. The necessity for nitrogen, phosphorus, and potash is the same – but there are some differences between this less common and more common systems.

Corn residue is tough to break down and much larger than bean residue. It has lots of carbon in it and, relatively speaking, a lot less nitrogen. Corn residue, which accumulates rapidly in a continuous system, has to be chewed up by microbes. The optimum nitrogen rate for continuous corn is thus about 30 to 50 pounds higher than rotated corn simply because fertilizer/soil nitrogen is being tied up in the “bodies” of microbes.

Adding an additional 30 to 50 pounds of N may help alleviate the problem.

At the very least, the time span between nitrogen application and plant uptake should be minimized and nitrogen should be placed in the soil profile (never on the soil surface) to assure that more nitrogen is actually present for the crop. We want nitrogen in the crop and not volatilized into the air. Fall applied materials must use an inhibitor, a fall/spring split application should be considered, and spring-only applications should be pursued.

In other words, environmentally conscious nitrogen recommendations should be followed zealously. Those recommendations will maintain more nitrogen and will benefit continuous corn in addition to the ecosystem. Phosphorus and potash should be incorporated as well, and soil samples should be drawn every four years due to corn's high demand for phosphorus.

Promoting leaf area/plant structure is a function of nutrients, but maintaining leaf area/plant structure is also a function of pest management. Pests are common to both rotated and continuous corn with continuous corn encountering more pest-related issues on average. Early season pests include insects, weeds, and disease and many of those issues stem from residue. Corn residue shields the soil from sunlight and shelters it from fluctuations in humidity. The soil beneath continuous corn therefore tends to be cooler and tends to be wet. Both conditions slow emergence and create an opening for insects and disease which, over time, translate into less photosynthetic area per acre. That means reduced yields. From a hardware standpoint, row cleaners (noted earlier) can allow seed-proximity soil to slightly dry and warm which can decrease disease/insect issues. Growers should also consider shifting corn on corn to only their most well drained soils and should use hybrids that handle wet feet. Continuous corn fields benefit from the use of insecticide treated seed such as Poncho® 500 VOTiVO™, but they also benefit from using seed with exceptional emergence scores. The more quickly vulnerable tissue reaches the “light of day,” the less likely it will be damaged by pathogens or bugs. Because increased residue increases problems with winter annuals, growers must at least use spring applied pre-emergent herbicides (suited for winter annual control) and they might want to consider a fall herbicide program as well.

The need to start corn off on the right foot, and the process for getting there, does not really involve secret techniques. Everything mentioned above is common to early-season successful corn production.



Migrate through the season keeping as much yield as is economically reasonable

Working toward a positive multi-year corn experience does not end once the crop is planted. Continuous corn, as is the case with corn in general, requires vigilance and much of that vigilance centers upon maintaining leaf area/plant material until the season is brought to a close. Doing so must make sense from a dollar standpoint, but when economically reasonable maintaining leaf area/plant material is a must.

Foliar disease, stalk rots, and ear rots will be more common in continuous corn – but growers are pretty familiar with those problems in rotation as well. The techniques for managing those problems really do not differ if corn is multiplied by one, two, or three seasons. Selecting hybrids with strong Gray Leaf Spot scores, strong Northern Corn Leaf Blight scores, and strong Diplodia scores represent the beginning but not the end of managing in-season disease pressure.

Growers must scout fields two weeks plus and minus tasseling. If lesions begin to appear in proximity to the ear-line on fifty percent of plants, a fungicide may be needed. If stalk rots begin to accelerate, stalk quality begins to decrease, or ear rots begin to appear, growers will want to harvest early and will probably want to move back into rotation (i.e. bring continuous corn to an end in that field). The goal is to have relatively clean ears that are being supported by the plant, not diseased ears or ears on the ground. That's not a new idea and it's not an idea specific to continuous corn.

Insect pest management also begins with hybrid selection, early season pesticides etc. but, as is the case with managing disease, it does not end there. Yes, rootworm traits are a necessity. Yes, corn borer traits are a necessity. Yes, high risk rootworm areas might require an insecticide, too. Once again though, scouting is a must. Silk clipping, defoliation, etc. must be managed during the critical period in which the plant is establishing kernels/kernel row length (the two weeks just before tasseling). Should rootworm pressure become too much for a soil insecticide and/or traits (i.e. should root digs/scouting detect exceptional injury), growers will want to target those fields for an early harvest (with a rationale very similar to that noted above).

Stand-reducing pests such as cutworms will need to be scouted for as well. Once again, these insect recommendations are common to corn regardless of the cropping system, but continuous corn requires even more vigilance.

Finally, weed management will be critically important in continuous corn. Each 10% increase in weed leaf area within the field equates to about a 10% reduction in yield (up to about 30% weed leaf

<div>Think BURRUS</div> <div>Hybrids</div> <div>POWER PLUS</div> <div>Catalyst</div>											
Which insects are controlled?											
☑☑ Control      ☑ Suppression      - no effect											
Group	Technology	Designation	Corn Rootworm	Wireworm	Nematode	Black Cutworm	European Corn Borer	Corn Earworm	Western Bean Cutworm	Fall Armyworm	
Above/Below-Ground Insect Control	Optimum® AcreMax® Xtra	AMX	☑☑	-	-	☑☑	☑☑	☑	☑☑	☑☑	
	Optimum® AcreMax® 1	AM1	☑☑	-	-	☑☑	☑☑	☑	☑☑	☑☑	
	Agrisure Viptera® 3111	3111	☑☑	-	-	☑☑	☑☑	☑☑	☑☑	☑☑	
	Optimum® TRIssect	Q	☑☑	-	-	☑☑	☑☑	☑	☑☑	☑☑	
	Herculex® Xtra	Q	☑☑	-	-	☑☑	☑☑	☑	☑☑	☑☑	
	Agrisure 3000GT	3000GT	☑☑	-	-	-	☑☑	☑	-	☑	
Above-Ground Insect Control	Agrisure Artesian® 3011A	3011A	☑☑	-	-	-	☑☑	☑	-	☑	
	Agrisure Artesian® 4011	4011	☑☑	-	-	-	☑☑	☑	-	☑	
	Optimum® AcreMax®	AM	-	-	-	☑☑	☑☑	☑	☑☑	☑☑	
Other	Herculex® I	S	-	-	-	☑☑	☑☑	☑	☑☑	☑☑	
	Agrisure® GT/CB/LL	GCL	-	-	-	-	☑☑	-	-	-	
	Optimum® AcreMax® RW	AMRW	☑☑	-	-	-	-	-	-	-	
	PowerShield® Cruiser® 250	PS	-	-	-	-	-	-	-	-	
	Cruiser® 500	SY	-	-	-	-	-	-	-	-	
	Cruiser® 500 Avicta®	SY	-	-	☑	-	-	-	-	-	
	Burrus Xtra Poncho® 500	BX	-	☑☑	-	☑	-	-	-	-	
	Burrus Xtra Poncho® 500 VOTiVO	BX	-	☑☑	☑	☑	-	-	-	-	
	High rate Poncho® 1250 VOTiVO	HP	☑	☑☑	☑	☑☑	-	-	-	-	
	Force® insecticide		☑☑	☑☑	-	☑☑	-	-	-	☑☑	
	Aztec® insecticide		☑☑	☑☑	-	☑☑	-	-	-	☑☑	

area). Weeds will have to be controlled before they reach a few to several inches and residual programs will need to be considered. The conversation surrounding weed management is going to occur regardless of cropping system, but there is less room for error in continuous corn. We've taken a moment or two to list

pre-season and in-season strategies for corn-on-corn in this article. We've described what is necessary to minimize the yield divide. We've noted that most of those strategies are common to rotation with only a few subtle differences. Growers have the basic skills needed to make continuous corn work. Is it a mys-

tery? No. Does it take a little extra thought, labor, and vigilance? Yes. Continuous corn is doable if growers take some common steps that are always needed to get corn right. The big ideas are not new, but a few specifics are.

GRUNDY

Green Hills Feeders, Inc.  
Trenton, MO

Planted: May 14 in 30" rows. Harvested: September 23. Previous Crop: Soybeans. Fertilizer: N: 180, P: 40, K: 60. Herbicide: Prequel, Atrazine. Corn Borer Rating: Light. Soil Type: Light loam. Weather: May-wet, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
CATALYST 7893 3111	136.2	19.8	58.9
POWER PLUS 4V43 S™*	134.6	18.7	57.6
G2 Genetics 5F-811	133.9	19.3	59.2
POWER PLUS 4V43 S™*	130.9	18.0	58.5
POWER PLUS 4J93AM™*	127.7	17.5	57.9
CATALYST 4685 3111	117.9	16.9	56.2
POWER PLUS 8V08 S™*	115.5	20.1	58.5
POWER PLUS 7U15AM-R™*	112.6	18.8	62.7
POWER PLUS 6C41 S™*	109.3	23.5	63.4
Average	124.3	19.2	59.2

HOLT

Corbin Farms  
LLC, Mound City, MO

Planted: May 11 in 30" rows. Planting Population: 42,000. Harvested: September 29. Previous Crop: Soybeans. Soil Type: Silt loam.

Brand/Product	Bu. Per Acre	% Moisture
DeKalb DKC62-98RIB	301.2	26.3
DeKalb DKC61-89RIB	293.5	26.4
DeKalb DKC67-57	292.2	28.4
DeKalb DKC62-08RIB	290.3	26.5
DeKalb DKC61-89RIB	288.7	28.6
POWER PLUS 4B32AMX-R™*	288.0	28.1
DeKalb DKC63-33RIB	287.1	25.6
DeKalb DKC65-80RIB	283.5	28.0
DeKalb DKC64-99RIB	282.8	26.0
POWER PLUS 4J93AM™*	281.3	27.1
DeKalb DKC65-81RIB	280.3	29.5
DeKalb DKC64-69	277.5	26.3
Pioneer P1498R	277.3	30.3
DeKalb DKC66-42RIB	276.6	28.8
Pioneer P1151AM	275.6	26.8
DeKalb DKC61-78RIB	275.5	27.5
DeKalb DKC64-87RIB	274.9	27.9
DeKalb DKC62-27RIB	274.8	24.8
DeKalb DKC63-87RIB	274.3	30.6
DeKalb DKC66-97RIB	273.9	28.7
DeKalb DKC66-40RIB	273.2	28.6
Pioneer P1151R	270.2	25.9
DeKalb DKC63-55RIB	270.1	28.0

DeKalb DKC63-55RIB	266.9	28.0
POWER PLUS 7U15AM-R™*	259.1	33.8
DeKalb DKC57-77RIB	258.9	24.0
DeKalb DKC60-63RIB	257.7	26.8
Pioneer P1395R	257.6	28.9
DeKalb DKC60-55RIB	255.3	21.7
DeKalb DKC63-25RIB	254.2	27.0
DeKalb DKC64-69	245.2	29.4
BURRUS 6J36 3000GT	223.3	23.5
Average	273.2	27.4

LINN

Jimmie and Josh Palmer  
Brookfield, MO

Planted: May 15 in 30" rows. Planting Population: 27,500. Harvested: October 16. Previous Crop: Soybeans. Fertilizer: N: 170, P: 80, K: 80. Herbicide: Atrazine, Liberty. Corn Borer Rating: Light. Soil Type: Medium loam. Weather: May-wet, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect.	1000 Plants /Acre
POWER PLUS 6T54 3000GT	229.6	23.4	100	29
POWER PLUS 6C41S™*	223.9	21.1	96	26
POWER PLUS 4G46AMX™*	197.0	19.4	88	30
POWER PLUS 4V43S™*	191.5	19.4	100	26
POWER PLUS 4J93AM™*	162.1	19.4	84	32
Average	200.8	20.5	94	29



## LINN

Same hybrids win  
irrigated & drylandJimmie and Josh Palmer  
Brookfield, MO

**Planted:** May 15 in 30" rows. **Planting Population:** 27,500. **Harvested:** October 16. **Previous Crop:** Soybeans. **Fertilizer:** N: 170, P: 80, K: 80. **Herbicide:** Atrazine, Liberty. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6T54 3000GT™*	181.5	23.0	100	57.7	32
POWER PLUS 6C41S™*	168.9	20.3	100	58.0	25
POWER PLUS 4G46AMX™*	167.5	17.9	84	60.5	31
POWER PLUS 4V43S™*	144.4	18.1	100	59.5	27
POWER PLUS 4J93AM™*	104.3	16.4	92	57.0	32
Average	153.3	19.1	95	58.5	29

## NODAWAY

Power Plus® 6C41S™\*  
at 234 bu/a!Danny Cline  
Pickering, MO

**Planted:** April 29 in 30" rows. **Planting Population:** 31,700. **Harvested:** September 30. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: VRT, K: VRT. **Herbicide:** Harness Xtra, Roundup. **Corn Borer Rating:** N/A. **Soil Type:** Heavy loam. **Weather:** May-wet, June-wet, July-dry, August-dry. ✓**Check Hybrid:** Catalyst 4685 3111

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓ <b>Check</b>	205.1		20.3	92	31
POWER PLUS 4J93AM™*	228.8	3	19.6	68	30
POWER PLUS 4P12Q™*	212.4	6	17.8	100	26
✓ <b>Check</b>	207.7		20.5	90	30
BURRUS 6J36 3000GT	217.6	5	21.2	100	30
POWER PLUS 6C41S™*	234.8	1	21.6	50	25
POWER PLUS 7U15AM-R™*	233.1	4	22.6	60	24
POWER PLUS 6F74AMX™*	211.0	7	19.9	80	24
CATALYST 7893 3111	233.6	2	23.7	10	29
✓ <b>Check</b>	213.9		20.0	84	32
Average	219.8		20.7	73	28
Check Average	208.9		20.3	89	31

## SCOTT

Jansen Bros.  
Oran, MO

**Previous Crop:** Soybeans. **Herbicide:** Realm Q, Atrazine, Roundup. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-wet, August-normal.

## MO/IA

Early Pay Savings and  
Financing Options

**Purpose:** To offer our growers the opportunity to pay for their seed early or finance their seed purchases for 2014.

**Opportunities:** Growers will have the option of paying for their 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 Farm Plan or Rabo. These criteria are determined by Farm Plan and Rabo and not by Burrus Seed or

## FARM PLAN™

Hughes Hybrids. Then, once qualified growers may choose which plan best supports their needs. All Early Pay options must be postmarked by the deadline date to qualify.

## Early Pay Savings Opportunities

## Deadline Early Pay Savings

10/10/2013	11.0%
11/10/2013	10.5%
12/10/2013	10.0%
1/10/2014	10.0%
2/10/2014	5.5%
3/10/2014	4.5%
4/10/2014	3.5%
5/10/2014	2.0%
6/10/2014	1.0%

## Financing Options for 2014

We will offer financing options with both Farm Plan and Rabo for the 2014 sales season.

Please contact your RSM/DSM or our office for complete financial options and details.

Complete details of the finance options available can be found on the dealer section of burrusseed.com

\*Master Card and Visa can be used with a 2% reduction in the EPS discount rate.

\*\* Minimum purchase of \$2500 is required for Farm Plan and Rabo participants.

\*\*\*Farm Plan participants will be asked to complete a remittance form for allocation of payment from their Farm Plan account.

**Due date for all accounts – June 30, 2014**

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.
CATALYST 7893 3111	237.7	22.7	55.5
Channel RI217-08RIB	234.4	20.4	57.0
POWER PLUS 8V08S™*	233.1	19.5	59.1
DeKalb DKC64-69	232.5	18.8	59.0
BURRUS 6J36 3000GT	231.8	17.1	58.2
Pioneer 1319	231.8	17.4	61.0
Pioneer PI1690	231.6	19.9	62.6
Armor 1555	228.3	19.0	58.2
Channel 214-14VT3RIB	225.4	17.7	60.7
DeKalb 62-08	225.2	17.9	59.8
Mycogen 2Y267	222.7	20.6	53.6
DeKalb DKC66-87	222.5	20.1	56.8
Agrigold A6489VT2RIB	222.5	18.8	59.6
Stone 60-54	221.5	16.4	59.7
Armor 1550PRO2	217.3	19.1	61.7
POWER PLUS 4J93AM™*	216.5	16.6	60.2
Armor 1262PRO2	214.0	19.2	58.9
Pioneer PI2088	212.6	19.7	59.5
DeKalb DKC66-97	211.6	19.5	57.6
Stone 6404GVT3P	203.0	19.4	58.8
Channel 215-52RIB	198.8	20.1	58.9
Mycogen 2P768	198.6	18.3	57.4
Average	221.5	19.0	58.8

Max, Atrazine. **Corn Borer Rating:** Light. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-normal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture	Adj. Test Wt.	1000 Plants /Acre
POWER PLUS 6C41 S™*	254.7	22.3	59.5	32
POWER PLUS 7U15AM-R™*	251.1	21.0	61.3	32
POWER PLUS 8V08 S™*	239.2	21.5	58.4	32
BURRUS 6J36 3000GT	237.0	19.6	58.9	32

POWER PLUS 4J93AM™*	232.3	20.0	58.0	32
CATALYST 4685 3111	230.8	19.3	54.7	32
CATALYST 7893 3111	225.3	25.5	56.4	32
Pioneer P1498	219.5	20.5	60.2	32
POWER PLUS 6F74AMX™*	216.8	20.2	60.5	32
POWER PLUS 4V43 S™*	211.1	19.7	60.9	32
Pioneer P1395R	190.6	20.5	59.2	32
Average	228	20.9	58.9	32

## Riley Young

Burrus is pleased to welcome Riley Young to the team. Riley serves as a Burrus Regional Sales Manager in Northwestern Missouri. His counties include Buchanan, Platte, Clinton, Caldwell, Ray, Clay, Jackson, and Johnson, MO.

Riley graduated from Northwest Missouri State University where he majored in Agricultural Science. He grew up helping with his family's farming operation and remains actively involved. Riley also proudly serves our country as a diesel mechanic in the Army National Guard.

In his spare time Riley loves duck and goose hunting and being outdoors. He enjoys meeting new growers and learning about their farming techniques. Put Riley to work for your farming operation. Let him make solid recommendations based on your herbicide preference and refuge choice. Riley looks



forward to bringing a valuable package of Burrus products to your farm.

## WARREN

Power Plus® 6C41S™\*  
at 254 bu/aAl and Scott Jacob  
Marthasville, MO

**Planted:** May 15 in 30" rows. **Planting Population:** 32,000. **Harvested:** October 11. **Previous Crop:** Corn. **Herbicide:** Guardsman





Power Plus® 4J95AMX™\* took second surrounded by experimentals in Washington Co., IA for Darrell & Carmen Steele.

IOWA

CLINTON

Power Plus® 7A18AM1™\*  
above 250 bu/a



**Harmesen Farms**  
Clinton, IA



Planted: May 14 in 30" rows. Planting Population: 33,000. Harvested: September 30. Previous Crop: Corn. Soil Type: Medium loam.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.
POWER PLUS 7A18AM1™*	252.3	26.6	100	61.7
POWER PLUS 6F74AMX™*	248.3	25.0	100	62.6
POWER PLUS 4J95AMX™*	247.1	26.3	100	57.5
POWER PLUS 4B32AMX™*	242.2	23.8	100	63.0
HUGHES 6132 3000GT	241.9	25.0	100	59.1
POWER PLUS 4Y27AMX™*	238.6	22.6	100	62.1
POWER PLUS 4P12Q™*	234.3	25.0	100	60.7
HUGHES 5456 3000GT	232.2	21.8	100	58.4
BURRUS 6J36 3000GT	224.3	26.5	100	58.4
CATALYST 4685 3111 GT	220.0	25.0	100	57.5
Average	238.1	24.8	100	60.1

LOUISA

Tim Whittaker  
Columbus Junction, IA

Previous Crop: Soybeans. Corn Borer Rating: Light. Soil Type: Heavy loam. Weather: May–wet, June–dry, July–dry, August–dry. Remarks: Burrus products planted May 1

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.
CATALYST 7893 3111	208.5	17.2	60.3	29
POWER PLUS 7A18AM1™*	207.6	17.4	64.3	30
BURRUS 6J36 3000GT	197.5	15.8	58.0	27
POWER PLUS 4G46AMX™*	192.8	16.4	61.0	31
POWER PLUS 2N82AM™*	191.3	15.0	59.0	31
POWER PLUS 6F74AMX™*	191.2	16.7	64.2	29
POWER PLUS 2V56AMX™*	189.1	16.4	61.0	29
POWER PLUS 4B32AMX-R™*	187.3	16.8	62.7	28
POWER PLUS 4P12 Q™*	184.5	16.8	60.2	29
CATALYST 4685 3111	183.4	15.4	57.0	31
POWER PLUS 6K24Q™*	169.3	16.5	63.2	29
Average	191.1	16.4	61.0	29

Refuge guidelines

DiFonzo & Cullen's Bt Trait Table 6-May-13	Bt protein(s)	Insects controlled (bold) or suppressed ( <i>italics</i> ) Above-ground----- in soil	Herbicide tolerant	Refuge % location in the MIDWEST
Agrisure Trait Family				
Agrisure CB/LL	Cry1Ab	ECB CEW FAW SB	LL	20% within 1/2 mile
Agrisure GT/CB/LL	Cry1Ab	ECB CEW FAW SB	GT LL	20% within 1/2 mile
Agrisure RW	mCry3A		CRW	20% in field/adjacent
Agrisure GT/RW	mCry3A		CRW	20% in field/adjacent
Agrisure CB/LL/RW	Cry1Ab mCry3A	ECB CEW FAW SB	CRW	20% in field/adjacent
Agrisure 3000GT	Cry1Ab mCry3A	ECB CEW FAW SB	CRW	20% in field/adjacent
Agrisure 3011A	Cry1Ab mCry3A	ECB CEW FAW SB	CRW	20% in field/adjacent
Agrisure Artesian 4011	Cry1Ab mCry3A	ECB CEW FAW SB	CRW	20% in field/adjacent
Agrisure Viptera 3110	Cry1Ab Vip3A	BCW CEW ECB FAW WBC SB	GT LL	20% within 1/2 mile
Agrisure Viptera 3111	Cry1Ab mCry3A Vip3A	BCW CEW ECB FAW WBC SB	CRW	GT LL
Agrisure 3122 E-Z Refuge	Cry1Ab Cry1F mCry3A Cry34/35Ab1	BCW ECB FAW WBC CEW SB	CRW	GT
Agrisure Viptera 3220 E-Z Refuge	Cry1Ab Cry1F Vip3A	BCW CEW ECB FAW WBC SB		GT
Agrisure Duracade 5122	Cry1Ab Cry1F mCry3A eCry3.1Ab	BCW ECB FAW WBC CEW SB	CRW	GT LL
Agrisure Duracade 5222	Cry1Ab Cry1F Cip3A mCry3A eCry3.1Ab	BCW CEW ECB FAW WBC SB	CRW	GT LL
Herculex Trait Family				
Herculex I (HX1)	Cry1F	BCW ECB FAW WBC CEW SB		LL RR2 (most)
Herculex RW (HXRW)	Cry34/35Ab1		CRW	
Herculex XTRA (HXX)	Cry1F Cry34/35Ab1	BCW ECB FAW WBC CEW SB	CRW	
Optimum Trait Family				
Optimum AcreMax (AM-R)	CryF Cry1Ab	BCW ECB FAW WBC CEW SB		RR2
Optimum AcreMax1 (AM1)	Cry1F Cry34/35Ab1	BCW ECB FAW WBC CEW	CRW	LL RR2
Optimum AcreMax Rootworm (AMRW-R)	Cry34/35Ab1		CRW	RR2
Optimum (AMX) AcreMax Xtra	Cry1F Cry1Ab Cry34/35Ab1	BCW ECB FAW WBC CEW SB	CRW	RR2
Optimum (AMXT) AcreMax Xtreme	Cry1F Cry1Ab mCry3A Cry34/35Ab1	BCW ECB FAW WBC CEW SB	CRW	RR2 (most)
Optimum Intrasect	Cry1F Cry1Ab	BCW ECB FAW WBC CEW SB		LL RR2
Optimum Intrasect Xtra	Cry1F Cry1Ab Cry34/35Ab1	BCW ECB FAW WBC CEW SB	CRW	LL RR2
Optimum Instrasect Xtreme	Cry1F Cry1Ab mCry3A Cry34/35Ab1	BCW ECB FAW WBC CEW SB	CRW	LL RR2
Optimum TRIssect	Cry1F mCry3A	BCW ECB FAW WBC CEW SB	CRW	LL RR2
YieldGard/Genuity Trait Family				
YieldGard VT Triple	Cry1Ab Cry3Bb1	ECB CEW FAW SB	CRW	RR2
Genuity VT Double PRO RIB Complete	Cry1A.105 Cry2Ab2	CEW ECB FAW		RR2
Genuity VT Triple PRO RIB Complete	Cry1A.105 Cry2Ab2 Cry3Bb1	CEW ECB FAW	CRW	RR2
Genuity SmartStax RIB Complete	Cry1A.105 Cry2Ab2 Cry1F Cry3Bb1 Cry34/35Ab1	CEW ECB FAW SB WBC	CRW	LL RR2
Refuge Advance Trait Family				
Refuge Advanced Powered by SmartStax	Cry1A.105 Cry2Ab2 Cry1F Cry3Bb1 Cry34/35Ab1	BCW CEW ECB FAW SB WBC	CRW	LL RR2

**Key**

BCW - black cutworm  
CEW - corn rootworm  
CRW - corn rootworm

ECB - European corn borer  
FAW - fall army worm  
SB - stalk borer  
WBC - western bean cutworm

GT - glyphosate tolerant  
LL - LibertyLink or glufosinate tolerant  
RR2 - Roundup Ready 2

Chart courtesy of Chris DiFonzo, Michigan State University, East Lansing, MI and Eileen Cullen, University of Wisconsin, Madison, WI.



Another demonstration of the unusual 2013 crop season

# Population and planting date study

By Earl Allen, Research Agronomist

Two “what if” questions frequently reflected upon by growers when looking back at a cropping season have to do with their planting date and planting population. What would have happened if the crop would have been planted sooner or delayed longer? What would have happened if I had planted the corn at higher or lower rates? To start documenting such effects, a population by planting date study was launched this year at the Burrus Seed Farms Arenzville, IL research location.

The primary objectives of this study were: 1) to begin building a history of planting date impacts on yield, and 2) to examine the interactions between planting date and planting population rates. Eight hybrids were planted at four different times from early May to mid-June at three population rates – 26,000, 36,000 and 46,000 plants per acre. Hybrids selected were Catalyst™ 4685 3111 and 7893 3111, Power Plus® 4G46™\*, 4B32,™\* 4J95™\*, 6F74™\*, and 7A18™\*, and Burrus 6J36 3000GT. (This study was conducted in addition to our multi-location population studies that involve 20 hybrid platforms at 12 locations evaluating 6 population rates each.) The first planting was completed on May 8 and the final planting on June 15. Some of the yield results are depicted in the graphs.

Here are a few of the findings:

- **June planted corn did better than May planted corn in 2013** – In a testament to the unusual cropping season, June planted corn did better than May planted corn this season (Figure 1). We know typically this is not the case. In the central Corn Belt, we normally expect our best yields when planting in late April to early May. For this unusual year, our data showed better overall yields for the June 3 and June 15 planting dates than for May 8 or May 18. Growers might have actu-

ally benefited from delays in planting rather than being hurt this year. The cooler than normal July and August temperatures along with the warm September probably accounted for the result by allowing good plant development and excellent kernel-fill despite later planting. Unfortunately we were unable to include April planting dates in the test due to the wet spring weather. Hopefully next year included will be two April dates in addition to May and June plantings.

- **Changing population did not change the planting date trend** – Yield results for the three population rates across all 8 hybrids are presented in Figure 2. Yields were improved by planting later for all three populations tested. Additionally, yields increased as the population was raised from 26,000 to 36,000 for all four planting dates. When increasing the population from 36,000 to 46,000, yields remained similar showing slight decreases for the May 18, June 3, and June 15 planting dates but a slight increase for the earliest May 8 planting date. These results highlight the importance of growers maintaining ade-

Fig. 1 Average Yield For Four Planting Dates in 2013

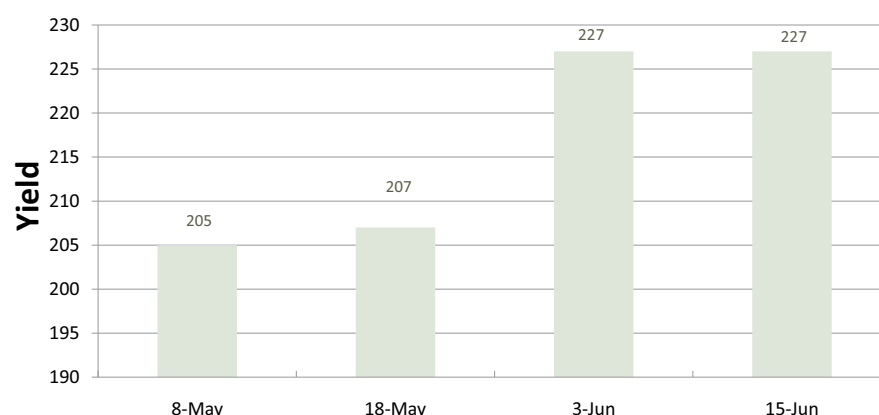


Fig. 3 - Average Yield of Catalyst 7893 3111 As Effected by Population and Planting Date

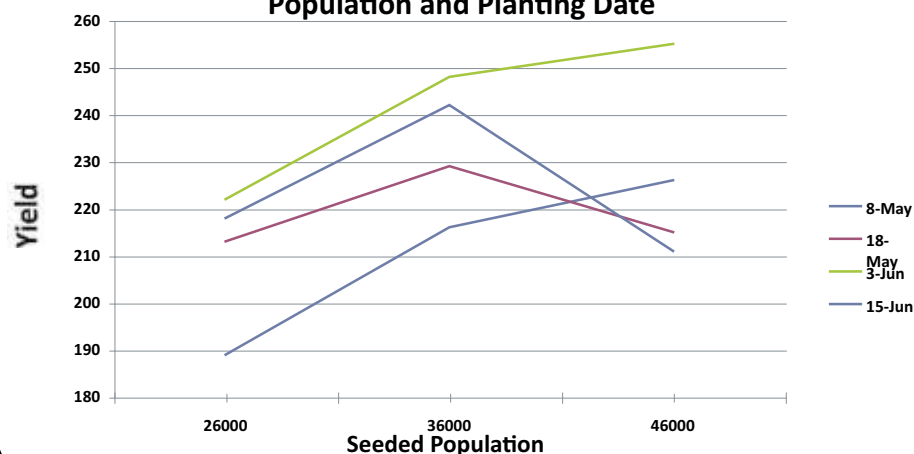


Fig. 2

Average yield across planting date and population for 8 Burrus hybrids

Hybrid	Yield (bu/a)
Catalyst™ 7893 3111	223.8
Power Plus® 4J95AMX™*	223.7
Power Plus® 7A18AM1™*	220.1
Burrus 6J36 3000GT	215.4
Catalyst™ 4685 3111	211.7
Power Plus® 6F74AMX™*	211.4
Power Plus® 4G46AMX™*	211.0
Power Plus® 4B32AMX-R™*	205.2

quate populations even if planting is delayed in a given year.

- **The best hybrid in this study was Catalyst™ 7893 3111** – When looking at individual hybrid results in this study, the best performing of the eight planted was Catalyst™ 7893 3111 with a 223.8 bu/a average (Figure 1). Amazingly, its highest yield was 255 bu/a which occurred under the June 3 planting – 46,000 population combination (Figure 3). Other trends by this hybrid were similar to the overall trends for the eight hybrids combined. However, in contrast, it

exhibited a steeper decline in yield with respect to the June 15 planting date when increasing population from 36,000 - 46,000.

- **Take home messages** – Overall this study provided some interesting results. Two applications for growers to consider are: 1) It is beneficial to maintain adequate populations even when planting late and 2) Spreading your planting dates may be a good risk management tool in case unusual growing conditions play out in a given year.



IOWA

WASHINGTON

Faith Farms, Inc.  
Washington, IA

Planted: May 12 in 30" rows. Planting Population: 35,000. Harvested: October 8. Previous Crop: Soybeans. Herbicide: Envide, Flexstar, Roundup. Corn Borer Rating: Light. Soil Type: Muck. Weather: May-wet, June-dry, July-dry, August-dry. ✓Check Hybrid: Burrus 6J36 3000GT

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
BURRUS 926673	197.8	13	18.0	100	32
POWER PLUS 4Y27AMX™*	177.6	26	21.1	100	31
POWER PLUS 2V56AMX™*	194.5	20	22.4	100	30
✓Check	194.3		22.9	100	32
POWER PLUS 4P12 Q™*	186.0	24	22.9	100	36
POWER PLUS 4G46AMX™*	202.6	8	21.3	100	33
BURRUS 123206	196.7	15	20.7	98	31
HUGHES 5456 3000GT	191.4	23	20.2	100	36
BURRUS 808583	212.0	4	22.9	100	33
BURRUS 724508	192.9	22	22.2	100	37
BURRUS 669860	195.6	18	20.7	100	29
✓Check	212.4		21.2	100	36
CATALYST 4685 3111	201.3	10	19.7	100	36
BURRUS 780946	216.4	1	20.5	100	35
BURRUS 5Z41 GT	205.1	7	23.9	100	33
POWER PLUS 4J95AMX™*	214.2	2	22.1	100	34
BURRUS 359902	201.2	11	24.6	100	35
BURRUS 6J36 3000GT	212.7	3	20.7	100	35
✓Check	214.0		19.8	100	36
CATALYST 6227 4011	196.7	16	20.7	100	32
POWER PLUS 6B51 R™*	182.2	25	22.3	100	3
POWER PLUS 6F74AMX™*	196.7	17	23.2	100	32
BURRUS 589605	193.8	21	27.0	100	36
BURRUS 999741	199.7	12	24.0	96	35
BURRUS 6T54 3000GT	211.4	5	26.0	100	37
BURRUS 181496	202.2	9	24.6	100	29
✓Check	198.2		20.5	100	35
BURRUS 486252	195.2	19	21.7	100	35
BURRUS 749321	208.1	6	25.4	100	28
CATALYST 7893 3111	197.5	14	25.6	100	36
Average	200.0		22.3	100	33
Check Average	204.7		21.1	100	35



## WISCONSIN

### GRANT

Dave Kuhle  
Hazel Green, WI

**Planted:** May 13 in 30" rows. **Planting Population:** 38,000. **Harvested:** October 18. **Previous Crop:** Soybeans. **Fertilizer:** N: 158, P: 9, K: 5. **Herbicide:** Lumax, Roundup. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture	% Erect	Adj. Test Wt.	1000 Plants /Acre
Cornelius C533SSRIB	266.7	24.9	100	57.2	38
DeKalb DKC62-08RIB	264.4	27.9	100	58.9	34
Cornelius C728VT3P	263.1	28.0	100	58.0	38
Agrigold A6422	262.9	22.5	100	56.6	38
Pioneer P0496AMX	262.9	21.1	100	56.3	37
<b>POWER PLUS 4J95AMX™*</b>	<b>253.8</b>	<b>25.5</b>	<b>100</b>	<b>57.4</b>	<b>41</b>
Pioneer P1221AMXT	250.0	26.9	98	57.7	33
Pioneer P0636AM1	248.8	26.2	96	56.5	37
Croplan Genetics 5415RR	247.8	22.5	84	55.6	35
Cornelius C574SS-RIB	247.1	23.0	100	57.7	38
<b>POWER PLUS 4G46AMX™*</b>	<b>246.4</b>	<b>26.1</b>	<b>98</b>	<b>58.5</b>	<b>35</b>
Arrow 2212	245.8	24.0	96	56.0	38
Agrigold A6267	238.2	21.1	99	55.3	38
DeKalb DKC57-75RIB	235.2	25.3	100	58.3	38
Cornelius C594VT3P	234.8	28.8	95	60.2	38
DeKalb DKC53-56RIB	231.9	20.6	99	56.2	39
Pioneer P1221AMXT	231.3	24.9	100	59.2	39
Croplan Genetics 6274SSRIB	228.3	27.7	100	58.9	41
DeKalb DKC53-78RIB	225.4	21.6	100	55.4	37
Agrigold A6408VT3P	216.7	22.6	96	56.6	38
<b>POWER PLUS 4Y27AMX™*</b>	<b>216.6</b>	<b>25.7</b>	<b>100</b>	<b>59.4</b>	<b>39</b>
Pioneer P0533AM1	212.6	22.6	92	55.6	37
<b>HUGHES 4607 3000GT</b>	<b>204.4</b>	<b>23.0</b>	<b>91</b>	<b>55.7</b>	<b>39</b>
Average	240.7	24.5	98	57.3	38

## JEFFERSON

### Hughes & Power Plus® go 1-2-3

Kutz Farms LLC  
Fort Atkinson, WI

**Planted:** May 15 in 30" rows. **Harvested:** October 17. **Previous Crop:** Soybeans.

Brand/Product	Bu. Per Acre	% Moisture
<b>HUGHES 4607 3000GT</b>	<b>278.1</b>	<b>24.4</b>
<b>POWER PLUS 1H37Q™*</b>	<b>261.0</b>	<b>24.0</b>
<b>POWER PLUS 1M45AMRW-R™*</b>	<b>258.0</b>	<b>25.6</b>
DeKalb DKC53-56RIB	254.9	26.3
DeKalb DKC49-29RIB	254.8	22.6
Renk RK598SSTX	248.0	22.2
DeKalb DKC52-59	238.9	23.6
Renk RK596 SSTX	233.9	23.4
Mycogen 2K595	232.7	25.2
Average	251.1	24.1

## LAFAYETTE

Ron Woodworth  
Shullsburg, WI

**Planted:** May 8 in 30" rows. **Harvested:**

# Reward yourself with LibertyLink® seed

Take advantage of the LibertyLink® LinkUp™ Offer to earn a rebate when you purchase LibertyLink soybean seed for the 2014 season. As a part of the Bayer CropScience Innovation Plus™ program, this offer is another reason for growers to use the LibertyLink system. See your Burrus/Hughes seed representative to take advantage of this offer.

#### Program Rewards

- Growers who purchase a minimum of 50 acres\* of LibertyLink soybean seed will receive a cash-equivalent rebate from Bayer CropScience as follows:
- LibertyLink soybean seed: \$5/unit\*\*

#### Qualifying Products

- LibertyLink soybean seed is available in the Hoblit soybean brand.

#### Program Details

- All orders placed from September 1, 2013 through August 31, 2014 are included in offer.
- Growers must purchase a minimum of 50 acres\* of Hoblit® LibertyLink soybean seed.
- Growers who have a valid Bayer Grower Technology Agreement (BGTA) and BGTA number are eligible to purchase LibertyLink seed.
- BGTA number must be associated with all orders and purchases.
- Proof of grower purchase for LibertyLink soybean seed must be provided electronically by retailer or licensee soybean seed company to Data Dimensions™ Inc. via the reporting tool on the LinkUp site at [www.LinkUp.BayerCropScience.us](http://www.LinkUp.BayerCropScience.us) by August 31, 2014.
- The LinkUp Offer will be fulfilled through the Bayer CropScience Innovation Plus Program, which will award points to growers on validated, qualified purchases as reported by participating retailers or licensee soybean seed companies. Points valued at \$0.05 each.
- Growers can redeem Innovation



Plus points for cash or merchandise upon request after November 18, 2014, via the Innovation Plus website at [www.InnovationPlusProgram.com](http://www.InnovationPlusProgram.com), the Bayer Customer Interaction Center 1-866-99-BAYER (1-866-992-2937) or by visiting [www.BayerCropScience.us](http://www.BayerCropScience.us)

- Points not redeemed will expire automatically on January 31 of the second calendar year following invoice date.

#### Program Conditions:

Bayer CropScience reserves the right to modify or withdraw this program or any portion thereof without prior notice. Grower programs are an important part of the marketing strategy for Bayer CropScience (BCS). If a grower purchases BCS products from a source other than BCS (or a BCS-authorized retailer), BCS retains the option to deny payment to the grower under the terms of the grower program. Only products purchased from BCS or another BCS-authorized entity and sold to growers are eligible for grower program payments. Grower program payments will not be paid on Bayer products reimbursed for product performance. All federal, state or local taxes on payments received under this program are the sole responsibility of the payment recipient and not of Bayer CropScience, its parent company or its agents. Fraudulent reporting

of sales information or documentation will be grounds for withholding or invalidating all program payments or reimbursement of any payments already made. Bayer CropScience reserves the right to use Bayer CropScience auditors or an independent auditing firm to verify all claims for payments under this program, and in matters of discrepancy, reserves the right of final decision. Bayer CropScience reserves the right to debit future payments due or otherwise seek reimbursement if errors are discovered after payments have been issued.

#### Innovation Plus

- \* Based on seeding rates of 1 acre/unit of soybean seed.
- \*\* A unit is defined as soybeans = 140,000 seeds.

Bayer CropScience LP, 2 T.W. Alexander Drive, Research Triangle Park, NC 27709. Always read and follow label directions. Bayer (reg'd), the Bayer Cross (reg'd), Innovation Plus™, Liberty®, LibertyLink®, LinkUp™ and the Water Droplet Design (reg'd) are trademarks of Bayer. Liberty is not registered in all states. Data Dimensions Inc. is a trademark of AGDATA.

For additional product information, call toll-free 1-866-99-BAYER (1-866-992-2937) or visit our website at [www.BayerCropScience.us](http://www.BayerCropScience.us)

Bayer CropScience encourages growers to focus their use of Liberty® on LibertyLink crops to help ensure availability.

For more information, contact your Retailer or Bayer CropScience Representative.

September 30. **Previous Crop:** Soybeans. **Fertilizer:** N: 130, P: 44, K: 50. **Weather:** May–wet, June–wet, July–dry, August–dry. ✓**Check Hybrid:** Power Plus 4P11™\*

Brand/Product	Bu. Per Acre	Rank	% Moisture	% Erect	1000 Plants /Acre
✓ <b>Check</b>	181.3		23.5	100	32
✓ <b>Check</b>	179.7		25.5	100	32

HUGHES 2987 3011A	199.9	3	20.5	100	32
HUGHES 3953 3000GT	188.4	7	20.1	64	32
POWER PLUS 1M45AMRW-R™*	191.1	5	19.8	100	30
POWER PLUS 2N82AM™*	211.1	1	24.4	100	32
POWER PLUS 2V56AMX™*	205.6	2	24.9	100	32
HUGHES 4607 3000GT	185.3	9	23.4	96	31
POWER PLUS 4P12 Q™*	179.3	10	23.6	98	28
POWER PLUS 4G46AMX™*	185.9	8	23.9	88	33

POWER PLUS 4Y27AMX™*	168.9	13	23.3	100	30
POWER PLUS 4J95AMX™*	190.7	6	24.0	100	33
✓ <b>Check</b>	179.3		23.4	79	28
CATALYST 6227 4011	194.3	4	25.6	92	32
POWER PLUS 6B51R™*	170.1	12	25.2	98	32
HUGHES 6132 3000GT	172.2	11	28.1	100	34
Average	186.4		23.7	95	31
Check Average	180.1		24.1	93	31



Growers see corn dying from damping off

## Burrus SE Iowa research

By Dr. Matt Montgomery

Growers in southeast Iowa have been encountering some unusual stand issues for a few years and Burrus is doing its part to come up with a solution.

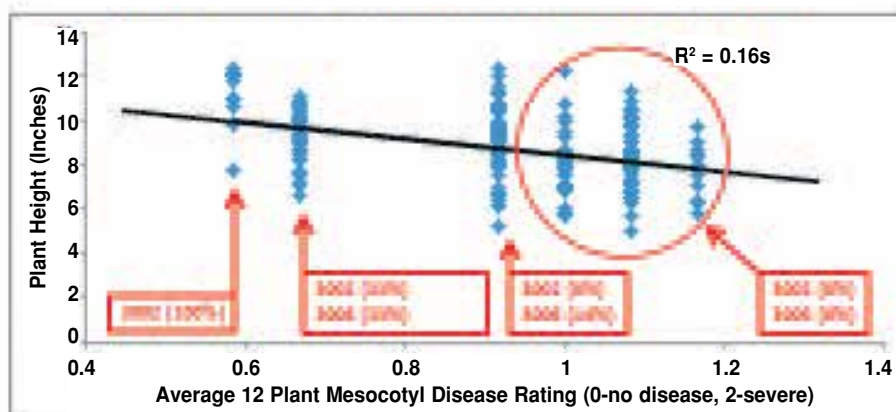
Imagine the frustration – you plant corn, it comes up well, it gets a few leaves on it, and then...it dies. The problem extends from grower to grower, company to company, hybrid to hybrid, and seed treatment to seed treatment. Everyone seems to encounter the problem and most disturbingly – nobody can come up with a solution. To be honest, nobody is really sure what the nature of the problem is.

Has a common soil pathogen developed resistance? Has the population of a common soil pathogen shifted toward a race that can withstand popular seed treatments? Have we shifted away from common soil pathogens to a set of more virulent, but less typical soil pathogens? Are we actually encountering a complex of soil pathogens rather than just one? Burrus tried to change the equation by instituting a southeast Iowa research project in 2013.

Our research team worked with Darrell Steele, a Burrus grower and dealer in southeast Iowa, to establish a pertinent research location. After identifying a promising location (a location known to struggle with southeast Iowa damping off), Burrus then established the mechanics of the study in consultation with specialists and industry leaders. Seven different products were selected for testing. Those seven products were examined with two goals in mind. First, Burrus designed our southeast Iowa plot with the intention of developing a short-term/immediate solution. Second, Burrus designed this seed treatment trial to help indicate which pathogen/pathogens might be causing the problem. In other words, we wanted to work toward a long-term solution based on a more complete picture of the culprit.

The trial was planted in April of 2013. Once emerged, we took stand counts. We also measured plant heights and rated the level of subterranean disease. Burrus specifically measured injury to the mesocotyl (the region of the plant between the seed and the crown/the lifeline between the seed and the crown). The results have been intriguing and are noted in the graph. As noted in that chart, mesocotyl disease resulted in a four inch decrease in average plant height (a decrease was somewhat expected). Furthermore, as mesocotyl disease increased, the variability in

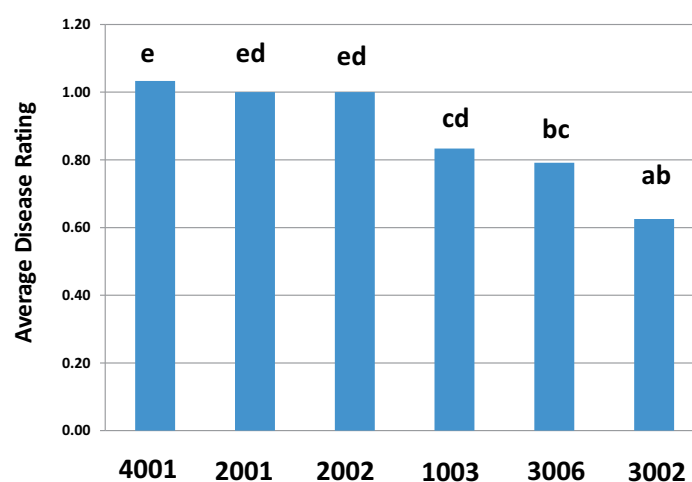
Relationship Between Mesocotyl Health and Plant Height



Burrus Seed Treatment Plot  
Washington, Iowa 2013  
Darrell Steele Cooperator

### 3006 & 3002 Seed Treatments (Disease Incidence Compared to All Other Treatments)

Average Plant Disease Rating– 2001,2002, 1003, 3006, 3002 Series



plant height also increased. Either trend is known to correlate with decreased yield. The most positive development in our research came with the identification of two seed treatments that appeared to do well against this version of damping off. Coded “3002” and “3006,” the two treatments made up the best scores in our study.

Burrus stresses that our 2013 results represent one plot and one year’s worth of data. In other words, Burrus cannot yet state that we have “discovered” the solution to the problem. We also cannot state that we have determined the definitive cause of damping off in southeast Iowa. However, we do believe that the results are encouraging.

We look forward to partnering with other growers hoping that the results and progress in year one will be repeated in year two.

In the meantime, if you want to plant seed with the “Burrus special recipe” in

2014, call us right now at 877-4BURRUS (877-428-7787).



Dalton Shepherd, Burrus summer intern, examines the Burrus SE Iowa test plot.

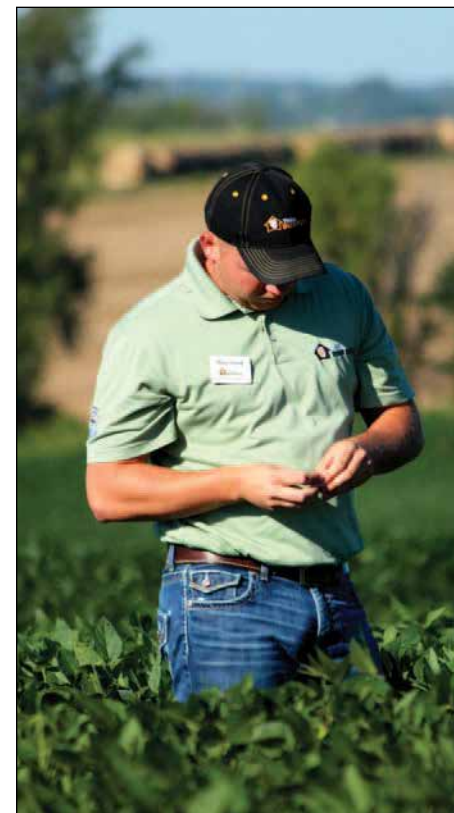
## SOYBEANS ILLINOIS

### CHAMPAIGN

Gifford State Bank-Royal  
Gifford, IL

Planted: May 23 in 30" rows. Harvested:  
October 18. Previous Crop: Corn. ✓Check  
Hybrid: NK Brand S39-U2

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	54.6		14.8
Channel 3701R2	52.5	19	15.1
Channel 3402R2	57.7	2	14.3
Stone 2R3303	57.4	4	14.3
Stone 2R3604	55.5	11	14.1
Asgrow AG3533	57.7	2	14.3
Asgrow AG3832	56.4	7	14.9
NK Brand S39-U2	54.5		15.0
XL Brand 348NR	54.5	21	15.0
XL Brand 368NR	54.7	20	15.1
NK Brand S34-Z1	55.4	16	15.2
✓Check	55.3	18	14.9
Great Lakes Hybrids GL 3729R2	61.2	1	14.4
Great Lakes Hybrids GL 3879R2	57.9	12	14.6
✓Check	60.0		14.9
POWER PLUS 38D2™*	60.0	13	15.1
POWER PLUS 37F4™*	58.0	17	14.9
Pioneer P28T33R	59.6	14	15.0
Pioneer P39T67R	62.6	5	14.6
FS 34A22	58.9	15	14.7
FS 38A32	61.1	9	15.0
✓Check	59.8		15.1
LG Seeds C3989R2	59.7	10	14.9
LG Seeds C3650R2	60.7	6	14.9
Pfister Hybrids 38R25	55.8	22	14.8
Pfister Hybrids 34R20	60.3	8	15.5
✓Check	57.4		15.3
✓Check	58.4		15.5
Average	57.8		14.9
Check Average	57.6		15.1



At Burrus, we do the little things right.



# The power of independence

We understand the power of a bulldozer. We understand that when you put two of those engines in a “scraper” you have more power.

At Burrus/Hughes the power behind your products is like two of those “scrapers” hooked together. Consider the “research engines” of DuPont, Syngenta, Bayer, and others. In the business world today, agriculture is a great place to invest in the future. The research is exponentially growing by looking at ways to improve productivity through traits, treatments, and genetics.

The “trait company” seed suppliers tout their “research engine.” In reality, Burrus has successfully hooked those engines together to bring you superior products with trait and genetic diversity that single sourced seed companies can’t match.

Put the power of independence to work for your farm with Burrus/Hughes.

## EFFINGHAM

Lagerhausen Farms Ltd  
Shumway, IL

**Planted:** June 12 in 30" rows. **Planting Population:** 140,000. **Harvested:** October 14. **Previous Crop:** Corn. **Herbicide:** Roundup. **Soil Type:** Medium loam. **Weather:** May–wet, June–normal, July–wet, August–dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 43D1™*	57.8	12.1
POWER PLUS 39B3™*	54.9	11.8
POWER PLUS 38D2™*	52.5	12.0
POWER PLUS 34T3™*	51.4	12.3
POWER PLUS 36J3™*	50.9	12.5
POWER PLUS 37F4™*	48.1	12.4
Average	52.6	12.2



Power Plus® 2N82AM™\* beat the heat to win in Lafayette Co., WI for Sherry & Ron Woodworth.



## GREENE

Ben Gilmore  
Roodhouse, IL

**Planted:** June 14 in 30" rows. **Planting Population:** 170,000. **Harvested:** October 21. **Previous Crop:** Corn. **Herbicide:** Touchdown. **Soil Type:** Light loam. **Weather:** May–wet, June–dry, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 36J3™*	40.0	11.3
POWER PLUS 36C0™*	41.0	11.4
POWER PLUS 38D2™*	39.0	11.3
POWER PLUS 39B3™*	39.0	11.1
POWER PLUS 41F9™*	44.0	11.2
POWER PLUS 43D1™*	38.0	11.5
Average	40.2	11.3

## HAMILTON

Gene Delap  
Broughton, IL

**Planted:** May 29 in 30" rows. **Planting Population:** 160,000. **Harvested:** October 10. **Previous Crop:** Corn. **Herbicide:** Authority XL. **Weather:** May–wet, June–wet, July–normal, August–dry. **✓Check Hybrid:** Dairyland DSR-4633R2Y

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	41.1		12.1
Dairyland Seed DSR-4850R2Y	41.3	4	12.7
NK Brand X2R4835	38.5	11	12.3
NK Brand S47-N3	36.9	14	11.8
NK Brand X2R4633	29.7	24	11.9
NK Brand X2R4631	41.8	3	12.1
NK Brand X2R4634	36.2	16	11.9
NK Brand X2R4632	32.5	21	12.0
NK Brand S46-G9	34.1	20	12.2
NK Brand S46-L2	40.0	7	12.1
✓Check	35.2		11.8
NK Brand S45-V8	36.0	17	12.6
✓Check	37.8		11.8
Dairyland Seed DSR45-004	40.3	5	11.7
Pioneer 94Y50	38.9	10	11.5
Dairyland Seed DSR-4330	43.0	2	12.0

NK Brand S43-K1	39.5	8	11.3
POWER PLUS 43D1™*	35.8	18	11.9
NK Brand S42-W9	37.8	12	11.9
NK Brand S41-J6	36.3	15	11.5
Dairyland Seed DSR-4010	39.1	9	11.6
NK Brand S39-U2	43.2	1	12.2
Dairyland Seed DSR-3703R2Y	37.4	13	11.9
Dairyland Seed DSR 37-005	28.3	25	11.7
NK Brand X2R4233	31.5	23	11.4
NK Brand X2R4334	35.7	19	11.9
POWER PLUS 38D2™*	24.4	26	11.3
POWER PLUS 39B3™*	32.0	22	11.4
✓Check	31.9		11.7
NK Brand X2R4232	40.2	6	10.8
Average	36.5		11.8
Check Average	36.5		11.9

## KANKAKEE

Jason Zimmer  
Reddick, IL

**Planted:** May 17 in 30" rows. **Harvested:** October 15. **Fertilizer:** N: 0, P: 0, K: 90. **Herbicide:** Harness Xtra. **Soil Type:** Medium loam. **Weather:** May–wet, June–wet, July–dry, August–dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 36J3™*	69.3	10.2
POWER PLUS 28J0™*	69.3	10.1
POWER PLUS 32K0™*	64.4	10.1
POWER PLUS 34T3™*	64.2	10.1
POWER PLUS 28V2™*	60.0	10.1
Average	65.4	10.1

## Rob Kiefer

Rob Kiefer recently joined the Burrus Regional Sales Manager team. He gives top notch service in southern Illinois. His counties include Perry, Jackson, Union, Alexander, Pulaski, Massac, Johnson, Williamson, Franklin, Jefferson, Hamilton, Saline, Pope, Hardin, Gallatin, and White.

Rob graduated from Rend Lake Community College with his Associate of Applied Science. He also received both his Bachelor of Science in Ag Production and Master of Science in Plant and Soil Science from Southern Illinois University in Carbondale. Rob carries a C.C.A. and has a lot of experience in the ag industry. His most recent professional experience was as a Certified Crop Specialist within the Growmark system.

Rob and his family live on the farm, which he was born and raised on, in Belle Rive, IL. Rob and his wife, Monika have 5 children; Haley, Hayden, Will, Alex, and Alaina. They are very involved with their local school and in their community, in addition to being active members of their local Farm Bureau, PTO and Sports Boosters. Rob also currently serves on the Hamilton County Telephone, Co-Op Board of Directors.



Rob is involved in his family farm making seed and chemical recommendations for the farm as well as taking care of some of the operational duties. He likes trying new things on his farm like adopting new technologies and utilizing product to push yields higher. Rob is very excited for the 2014 growing season and looks forward to helping growers place the right hybrids on their farms for greater profitability.



# Fungicide Decisions

By Matt Montgomery

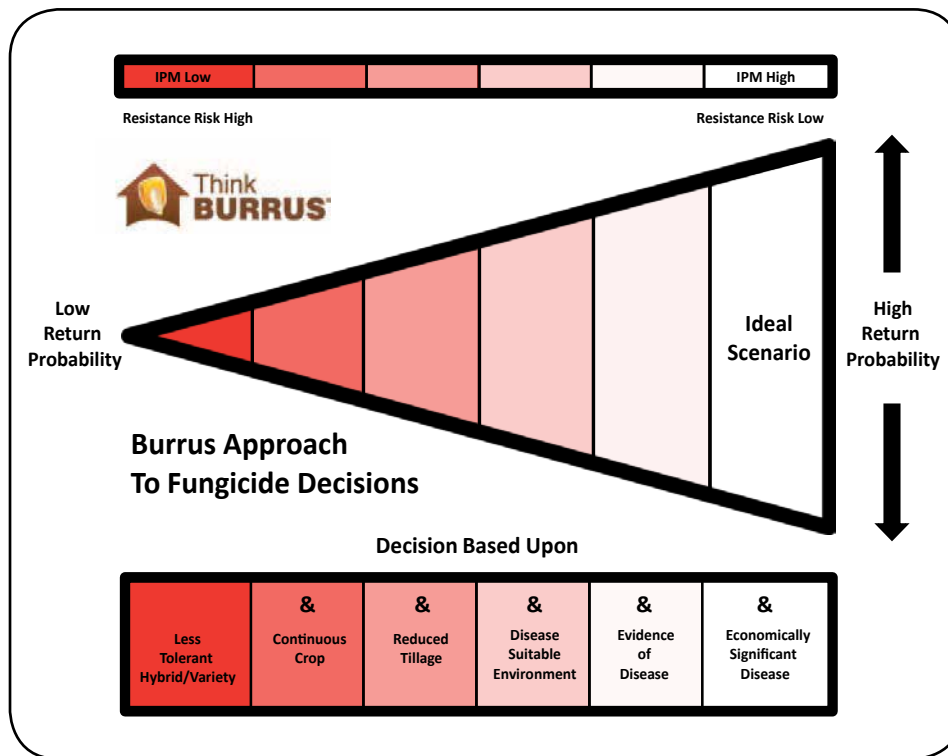
The decision to use or not use a fungicide is riddled with contradictions. On the one hand, growers need to apply fungicides when significant disease is present and they want to practice IPM. On the other hand, fungicides have sometimes provided a yield benefit that doesn't seem directly related to disease suppression and custom pesticide applications often have to be requested ahead of time. What is a grower to do? Examining a little research, considering a few disease-related facts, and contemplating hybrid/variety characteristics can provide direction in both corn and beans.

University research begins to clarify the decision to use or not use fungicides. In general, university research has shown a yield response to fungicide applications, but those results have also shown that achieving a return on investment is a little trickier.

Pick a random corn field and fungicide applications could show a yield advantage. A classic series of studies from around 2007 demonstrated a yield benefit from fungicide use in about 70% of corn fields. A University of Illinois 2008 study demonstrated a yield benefit in about 66% of treated fields. For reasons that are not entirely understood, fungicides often do trigger a yield advantage in corn. However, once costs were factored in, growers broke even or made money in those studies only about 30% of the time. In other words, studies demonstrated a fungicide-related yield bump, yet that yield increase could not cover fungicide-related costs in most cases.

Pick a soybean field at random and fungicide trials, once again, did demonstrate a yield benefit. University data would indicate that a yield benefit might be observed in about 60 – 70% of treated bean fields. South Dakota State noted this trend in a 2006 multi-state fungicide trial and University of Illinois trials (2005 to 2008) also noted that trend. Once product and application costs were factored in, the story changed much like it did in corn. The yield advantages only translated into dollar advantages about 40% of the time.

Corn fungicide research also highlights an additional important point. In cases where disease was severe at the time of application, the likelihood of a return increased to almost 65%.



A return on fungicide investment will become more likely if the crop is actually diseased at the point of application. Disease shifts odds in the grower's favor. The principle really holds true whether the crop is either corn or beans.

Knowing a few disease generalities also can clarify decision-making for growers. If disease increases the chance of a return on fungicide investment, then factors that promote disease will also increase the likelihood of a return. In order to have a diseased plant, the pathogen responsible for the disease must be present, the environment must be suitable, and enough time must be available for symptoms to develop.

Many plant diseases (not all but many) overwinter in residue. Reduced tillage therefore increases the likelihood that disease will appear within the field and a return becomes more likely in fields characterized by reduced tillage. If continuous cropping is the norm rather than rotation, residue will continue to accumulate – a host plant will always be present “in-season” – and the disease will have plenty of time (multiple seasons) in which to develop. Add a little moisture to the mix, which tends to promote fungi, and the likelihood of a return on fungicide investment will continue to grow.

Some product knowledge can also assist the grower. University trials have noted that growers are more likely to break even or make money on their investment when fungicides are applied to disease-susceptible hybrids. If disease tends to increase the chance of a fungicide return

and if resistant hybrids tend to keep disease from developing, then susceptibility plays quite a role in making money on fungicide. In cases where fungicides were targeted toward such diseases-susceptible hybrids, the likelihood of breaking even or making dollars increased to about 40%.

Figure 1 takes all of the information above and distills it into a decision-making tool that we call “The Burrus Approach to Fungicide Decisions.” The tool can be used to make decisions in corn and in soybeans. The ideal scenario (depicted on the right hand side of the graph) would be fungicide applications where there is evidence of economically significant disease. This decreases the likelihood of resistance development and increases the likelihood of a return (the bars across the top are white instead of red and the triangle is wide). However, we previously noted that a grower cannot always make their decisions in the ideal, so the decision-making tool provides the “next best” scenario. As one meets more and more criteria (as their circumstances allow them to move from left to right across the page), the likelihood of resistance decreases and the likelihood of a return increases.

## LASALLE

### Power Plus® 28V2 & 34T3™\* go 6th & 8th

La Salle County Corn Growers  
Ottawa, IL

Planted: May 15 in 30" rows. Planting Population: 135,000. Harvested: October 2. Previous Crop: Corn. Fertilizer: N: 15, P: 72, K: 140. Insecticide: Leverage 360, Endigo. Soil Type: Silty clay loam. ✓Check Hybrid: Unknown.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	64.2		13.7
POWER PLUS 34T3™*	67.3	8	12.8
XL Brand 335NR	63.0	19	13.2
Asgrow AG3231	60.9	22	14.2
Croplan Genetics R2C3290	70.7	4	13.8
Croplan Genetics R2C 3273	71.2	2	14.7
LG Seeds C3220R2	70.7	3	12.8
✓Check	66.0		12.8
AXIS 3121NR	64.7	15	12.5
NK Brand S31-L7	65.7	12	12.3
Asgrow AG2933	74.0	1	11.8
Dairyland Seed 2995 R2Y	63.2	17	11.9
POWER PLUS 28V2™*	67.7	6	12.0
Dairyland Seed DS-2880	67.0	9	12.4
✓Check	69.9		12.3
LG Seeds C2835R2	61.6	21	12.3
NK Brand S28-U7	61.6	20	12.3
Pioneer P28T33R	67.3	7	11.9
Steyer Seeds 2801R2	66.8	10	12.0
Beck's 278R4	65.4	13	11.8
Croplan Genetics R2C2721	66.2	11	11.7
Steyer Seeds 2702GENRR2Y	63.7	16	12.2
Asgrow AG2632	63.1	18	12.0
LG Seeds C2672R2	69.3	5	11.7
NK Brand S25-E5	60.4	23	12.0
Pioneer P25T51R	65.0	14	12.1
AXIS 2411R	59.0	24	12.1
Average	65.8		12.5
Check Average	66.7		12.9

La Salle County Corn Growers  
Ottawa, IL

Planted: May 15 in 30" rows. Planting Population: 135,000. Harvested: October 2. Previous Crop: Corn. Fertilizer: N: 15, P: 72, K: 140. Herbicide: Touchdown Total, Fusilade DX. Insecticide: Leverage 360. Soil Type: Silty clay loam. ✓Check Hybrid: Unknown.

Brand/Product	Bu. Per Acre	% Moisture
✓Check	60.2	13.1
POWER PLUS 34T3™*	67.3	13.0
XL Brand 335NR	62.6	12.7
Asgrow AG3231	57.5	13.6
Croplan Genetics R2C3290	66.0	13.3
Croplan Genetics R2C 3273	67.5	13.5
LG Seeds C3220R2	69.3	12.5
✓Check	66.1	12.8
Beck's 312NR	67.4	12.2
NK Brand S31-L7	59.6	12.3
Asgrow AG293364.5		12.0
Dairyland Seed 2995 R2Y	60.6	11.9
POWER PLUS 28V2™*	63.1	12.1
Dairyland Seed DS-2880	58.1	12.6
✓Check	60.6	12.5
LG Seeds C2835R2	66.0	12.4
NK Brand S28-U7	62.3	12.2
Pioneer P28T33R	65.1	12.0
Steyer Seeds 2801R2	65.3	12.1
Beck's 278R4	65.4	11.9
Croplan Genetics R2C2721	67.3	11.9
Steyer Seeds 2702GENRR2Y	59.4	12.3
✓Check	67.0	12.1



# Learn from the Agronomy U

The new Agronomy U is the easiest way to access information from Burrus/Hughes. The latest in agronomic topics are discussed, covering everything from planter calibration to statistics. No reading is necessary; just sit back and listen to Dr. Matt Montgomery explain what is happening in your world.

Open [www.burrusseed.com](http://www.burrusseed.com) and click on the Agronomy U icon. Register to receive regular Agronomy U update notifications. It might just save you time and make dollars for you.

Asgrow AG2632	73.8	12.0
LG Seeds C2672R2	64.5	11.7
NK Brand S25-E5	64.3	11.9
Pioneer P25T51R	66.2	12.0
AXIS 2411R	68.1	11.8
Average	64.5	12.4
Check Average	63.5	12.6

## MARION

**Steve Brummel**  
Salem, IL

**Planted:** June 14 in 30" rows. **Planting Population:** 140,000. **Harvested:** October 24. **Previous Crop:** Corn. **Herbicide:** Prefix, Select. **Soil Type:** Light loam. **Weather:** May-wet, June-wet, July-normal, August-dry. **✓Check Hybrid:** Public Benjamin.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	46.2		13.9
Public Benjamin	47.6	1	13.3
✓Check	46.7		13.0
FS 41C90	43.7	4	12.9
✓Check	45.5		13.4
POWER PLUS 43D1™*	46.9	2	12.6
✓Check	39.6		13.0
HOBLIT 423LL	39.1	5	13.0
✓Check	38.6		13.0
POWER PLUS 39B3™*	44.0	3	12.4
✓Check	37.5		13.2
POWER PLUS 38D2™*	38.3	6	12.6
✓Check	36.6		12.9
POWER PLUS 37F4™*	32.7	8	12.5
✓Check	33.5		13.0
POWER PLUS 36J3™*	35.9	7	12.2
✓Check	29.4		13.1
HOBLIT 343LL	26.4	9	13.1
✓Check	34.6		12.7
Average	39.1		12.9
Check Average	38.8		13.1

## MERCER

 **Scott Olson**  
Joy, IL

**Planted:** May 8 in 30" rows. **Planting**

## BURRUS AGRONOMY



**Population:** 130,000. **Harvested:** October 10. **Previous Crop:** Corn. **Herbicide:** Roundup, Hero. **Soil Type:** Heavy loam. **Weather:** May-wet, June-normal, July-dry, August-dry. **Remarks:** Entry 2@130K, Entry 8@110K, Entry 9@150K..

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 34T3™*	57.8	10.8
POWER PLUS 36C0™*	54.3	10.4
POWER PLUS 28J0™*	54.1	11.4
POWER PLUS 32K0™*	53.6	10.6
POWER PLUS 36J3™*	53.5	10.5
POWER PLUS 28V2™*	52.2	10.8
POWER PLUS 38D2™*	52.0	10.3
POWER PLUS 28J0™*	46.4	10.7
POWER PLUS 28J0™*	45.8	10.7
Average	52.2	10.7

## MONROE

**Chris Howell**  
Columbia, IL

**Planted:** May 15 in 30" rows. **Planting Population:** 32,500. **Harvested:** September 22. **Previous Crop:** Soybeans. **Fertilizer:** N: 200, P: 100, K: 60. **Herbicide:** Lexar, Atrazine, Roundup. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-normal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 43D1™*	65.6	12.9
POWER PLUS 41M4™*	65.3	12.3
POWER PLUS 39B3™*	63.8	12.3
POWER PLUS 36J3™*	63.8	13.3
POWER PLUS 34T3™*	60.9	13.2
POWER PLUS 38D2™*	60.1	12.2
POWER PLUS 36C0™*	58.1	13.0
POWER PLUS 47A3™*	56.9	12.6
Average	61.8	12.7

## MONTGOMERY

**Montgomery County**  
**Corn Growers**  
Raymond, IL

**Planted:** June 12 in 30" rows. **Planting Population:** 150,000. **Harvested:** October 12. **Previous Crop:** Corn. **✓Check Hybrid:** NK Brand S39-U2



Jason & Ed Zimmer saw Power Plus® 28J0™\* & Power Plus® 36J3™\* tie for first in Kankakee Co. bean plot.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	63.9		10.8
POWER PLUS 39B3™*	61.4	10	10.5
NK Brand S36-M8	61.0	13	10.9
VPMaxx 39A2RR	66.5	2	10.9
Great Lakes Hybrids GL 3879R2	60.6	15	10.8
Lewis Hybrids 381R2	61.7	9	10.5
✓Check	62.8		10.7
AG Venture 37E2RR	57.2	28	10.3
Mycogen 5N360R2	60.3	17	10.7
LG Seeds C3650R2	60.2	18	10.8
Beck's 358R4	61.6	8	10.4
Dyna-Gro S39RY33	61.2	11	11.0
✓Check	63.6		11.0
Pioneer P35T58R	61.6	16	10.5
Kruger K2-3802	62.4	12	11.1
Pfister Hybrids 38R21	59.8	25	10.7
ProHarvest 3466CR2Y	59.8	24	10.8
Dairyland Seed DSR-3595R2Y	60.9	23	11.1
✓Check	65.3		11.3



Growers are increasing their acres of Power Plus, Hughes and Hoblit soybeans because of our quality seed, excellent service and top yields.

AG Venture AV 35B5RR	59.8	27	10.9
Kruger K2-3502	62.1	19	11.0
POWER PLUS 36J3™*	61.8	22	10.9
Dyna-Gro S38RY84	66.1	4	11.3
Beck's 391R4	61.9	20	10.8
✓Check	65.1		11.4
Great Lakes Hybrids GL 3729R2	68.5	1	11.2
Pfister Hybrids 38R25	61.4	21	11.5
Lewis Hybrids 351R2	65.1	6	11.2
NK Brand S37-B1	62.1	14	11.4
Pioneer P39T67R	64.6	7	11.3
✓Check	64.4		11.7
Dairyland Seed DSR-3703R2Y	57.6	30	11.8
Pro Harvest 3666CR2Y	58.7	29	11.8
LG Seeds C3989R2	66.1	3	11.6
Mycogen 5N386R2	59.7	26	11.6
Hisoy HS 37A22	65.4	5	12.2
✓Check	65.2		12.3
Average	62.4		11.1
Check Average	64.3		11.3

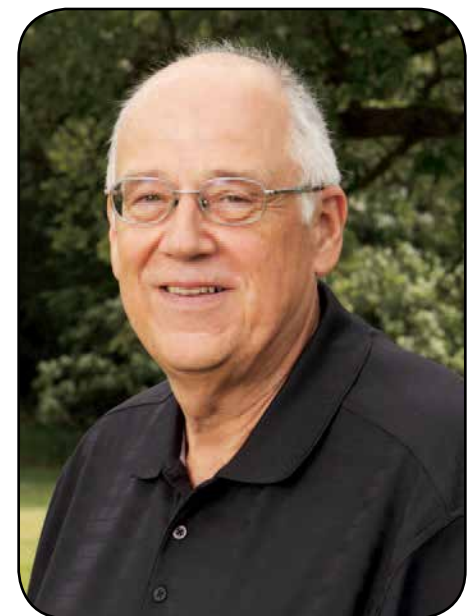
# Kerry Greenwald

Kerry Greenwald, longtime Hughes Hybrids employee, passed away unexpectedly on October 8, 2013. Kerry worked as a District Sales Manager for Hughes for 40 years.

Kerry was born in 1947 and graduated from Stillman Valley High School. He went on to graduate from Southern Illinois University in Carbondale with a Bachelor's Degree in Agriculture and completed additional graduate work.

In 1974, Kerry began his work at Hughes Hybrids. During Kerry's exceptional career, he pushed his territory to levels that are rarely seen in the seed industry. At his peak, Kerry reached the 38,000 corn unit level one year in his region. He sold over 700,000 units of seed corn throughout his career with Hughes Hybrids. Kerry established a dealer network with over a dozen selling dealers who sold more than 1,000 units per year, including a few at the 3,500 bag level. Many of those dealers or their children do business with us today. Kerry was well known for his tireless promotion of the company including a late summer run of evening plot tours that became known as "Twilight Steak Fries."

When Kerry was in the neighborhood, everyone knew it, as his trademark green vans were always painted as rolling Hughes Hybrids billboards. Another Kerry



trademark was his constant drive towards self-improvement. Kerry was always attending motivational classes and was one of the first to earn the Certified Crop Advisor (CCA) degree when the program was established. Kerry lived and breathed seed corn and agronomy every day.

Kerry is a legend at Hughes and Burrus and will be remembered for all he has done for our families. Everyone at Burrus/Hughes extends their deepest sympathy to Kerry's family. He will be deeply missed by all who were privileged to know him.



Don't panic but it is coming our way!

## Palmer Amaranth

It's big, it's bad, and it's on the move. *Amaranthuspalmeri*, better known as Palmer Amaranth or Careless Weed, has become THE broadleaf management topic over the past few growing seasons. Most weed scientists agree that an invasion into Midwest fields is merely a matter of time. At least one recent survey indicates this competitive weed is already working its way through Burrusland.

Palmer Amaranth was first observed in the deserts of northwest Mexico during the mid-19<sup>th</sup> century. By the middle part of the 20<sup>th</sup> century, it had established footholds in various scattered locations within the United States, including some footholds in the Midwest. However, it remained merely an odd pigweed-relative until about eight years ago when glyphosate (Roundup) resistant Palmer Amaranth was detected in Georgia. By 2006, similar resistance had been detected in the Carolinas and by 2009 resistance had worked its way throughout the south.

The following description of Palmer Amaranth (a description first presented in the January 17 issue of the Burrus Buzz), hints at the weed's impact on southern agriculture:

Palmer Amaranth is a "dioecious (male or female) plant species, it germinates over a wide period of time, it grows inches per day, it rapidly gets out of hand, it can grow up to six or eight feet, and originated in the desert which means" it laughs as "row crops stumble."

Palmer Amaranth has all the components that weed scientists dread in a weed. Cotton production, which already struggled with very few herbicide options, suddenly became a very expensive proposition because of it.

Dr. Ford Baldwin, a weed scientist formerly with Extension in Arkansas, got a front row seat to that disaster and began to preach the hazards of this species wherever he could find a listening ear. Figures 1- 4 represent pictures taken by Dr. Baldwin during a four-year field experiment. As illustrated in that series of pictures, one glyphosate resistant *Amaranthuspalmeri* resulted in total crop loss within just three years. Elvira, the name given to the parent weed in that study, produced 1.8 million seeds. Most text books state that the species will produce at least 200,000

to 600,000 seeds. Yet those text books and Dr. Baldwin's study reiterate the simple fact that Palmer is exceptionally productive. With individual plants producing a half million or more seeds and with readily dispersible pollen, resistance rushed across fields. A few years following that disaster, Dr. Baldwin stresses that *Amaranthuspalmeri* will rush into the Midwest as well. Cotton fell to this super weed and Dr. Baldwin warns that corn and beans can too.

Weed scientists know that glyphosate-resistant Palmer Amaranth has been found in Missouri, Illinois, Iowa, and Indiana. However, a recent survey by the University of Illinois provides a glimpse as to how extensively the weed has worked its way across Illinois. Figure 5 shows that this weed can be found in at least the southern two-thirds of the Land of Lincoln. The Show Me state is likely in a very similar predicament, while the Hoosier state and the Hawkeye state are just beginning to experience this "pigweed gone wild."

Managing Palmer Amaranth requires

more than just herbicide, as recently noted by Dr. Aaron Hager in his September 24, 2013 article "Update on Palmer Amaranth Distribution in Illinois" (<http://bulletin.ipm.illinois.edu/?p=1689>). In that article, Dr. Hager mentioned using other modes of action – pre-emergent products – and residual products, but he also mentions using an "integrated approach." The integrated weed management component of that recommendation is:

- 1) Fields with Palmer Amaranth populations should be the last fields harvested this fall and the last fields planted next spring.
- 2) Mark or flag areas where Palmer Amaranth plants have produced seed. These areas should be intensively scouted the following season and an aggressive Palmer Amaranth management plan implemented to prevent future seed production.
- 3) Do not mechanically harvest mature Palmer Amaranth plants with crop harvesting equipment. Physically remove the plants immediately

prior to harvest and either leave the plants in the field or place in a sturdy garden bag and remove the plants from the field. Bury or burn the bags in a burn barrel as soon as possible.

- 4) Fields in which Palmer Amaranth seeds were produced should NOT be tilled during the fall or following spring. Leaving the seeds near the soil surface increases the opportunities for seed predation by various granivores.

Figure 1 The Power of One!



Elvira produced 1.8 million seeds!!

Figure 2 Year Two



Figure 3 Year Three

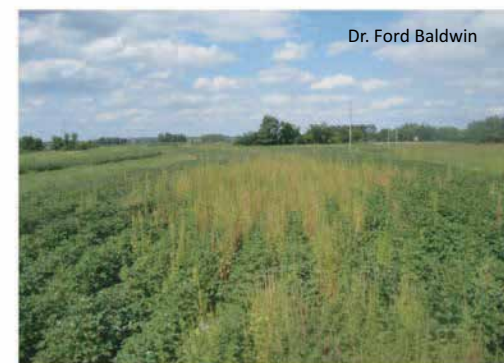
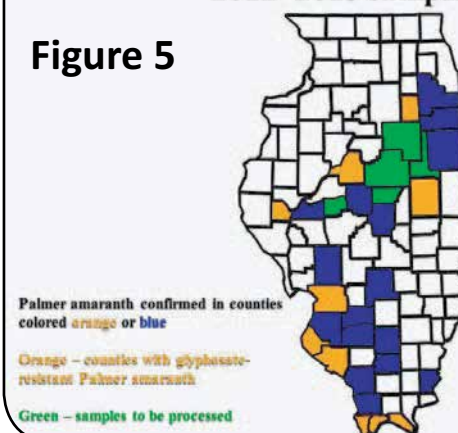


Figure 4 Year Four



Palmer amaranth Distribution in Illinois 2012–2013 sampling

Figure 5



Courtesy University of Illinois



## SHELBY

55 bu/a beans!

Schultz Farms  
Stewardson, IL

Previous Crop: Corn. Herbicide: Roundup. Soil Type: Medium loam. Weather: May-wet, June-wet, July-dry, August-dry..

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 38D2™ *	55.2	11.5
POWER PLUS 37T1™ *	54.9	11.5
POWER PLUS 36J3™ *	53.0	11.7
POWER PLUS 37T1™ *	52.4	11.6
POWER PLUS 39B3™ *	52.4	11.7
POWER PLUS 43D1™ *	51.8	11.9
Becks 375NR	50.8	11.8
POWER PLUS 37F4™ *	50.4	11.4
POWER PLUS 34T3™ *	49.8	12.3
Average	52.3	11.7

Power Plus® 36J3™  
above 60 bu/a

Brad Turner  
Herrick, IL

Planted: June 7 in 30" rows. Planting Population: 160,000. Harvested: October 9. Previous Crop: Corn. Herbicide: Roundup, Canopy XP. Soil Type: Light loam. Weather: May-wet, June-normal, July-normal, August-dry.

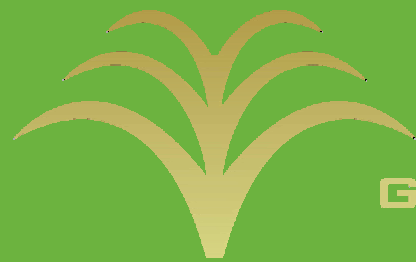
Brand-Variety	Bu. Per Acre	% Moisture
POWER PLUS 36J3™ *	60.4	12.6
POWER PLUS 32K0™ *	60.1	12.4
POWER PLUS 43D1™ *	59.2	13.2
POWER PLUS 39B3™ *	58.9	12.8
POWER PLUS 38D2™ *	56.7	12.9
POWER PLUS 37F4™ *	56.4	12.6
POWER PLUS 34T3™ *	55.4	12.5
POWER PLUS 36C0™ *	55.1	12.7
Average	57.8	12.7

## STEPHENSON

Schlachter Farms  
Lena, IL

Planted: May 19 in 30" rows. Planting Population: 150,000. Harvested: October 9. Previous Crop: Corn. Remarks: \*\*Treated with Pastorira.

Brand/Product	Bu. Per Acre	% Moisture
HUGHES 201RR	74.6	11.9
POWER PLUS 24P4™ *	73.8	11.8
POWER PLUS 25H4™ *	72.8	12.3
POWER PLUS 25G3™ *	73.6	12.1
Asgrow AG2933	78.6	13.0
Asgrow AG2834	78.5	12.5
Asgrow AG2433	80.1	12.0
Pioneer 92Y75	77.1	12.1
NK Brand 25-E5	76.0	11.8
NK Brand S22-S1	68.0	11.6
NK Brand 20-T6	77.8	11.8
Hisoy 28A32	75.5	12.1
Hisoy 26A32	71.5	12.2
Hisoy 24A32	75.4	12.3
Hisoy HS 22A21	71.9	12.2
Hisoy HS 20A22	71.4	12.5
Hisoy HS 20A22**	73.4	12.3
Average	74.7	12.1



# SEEDWARE

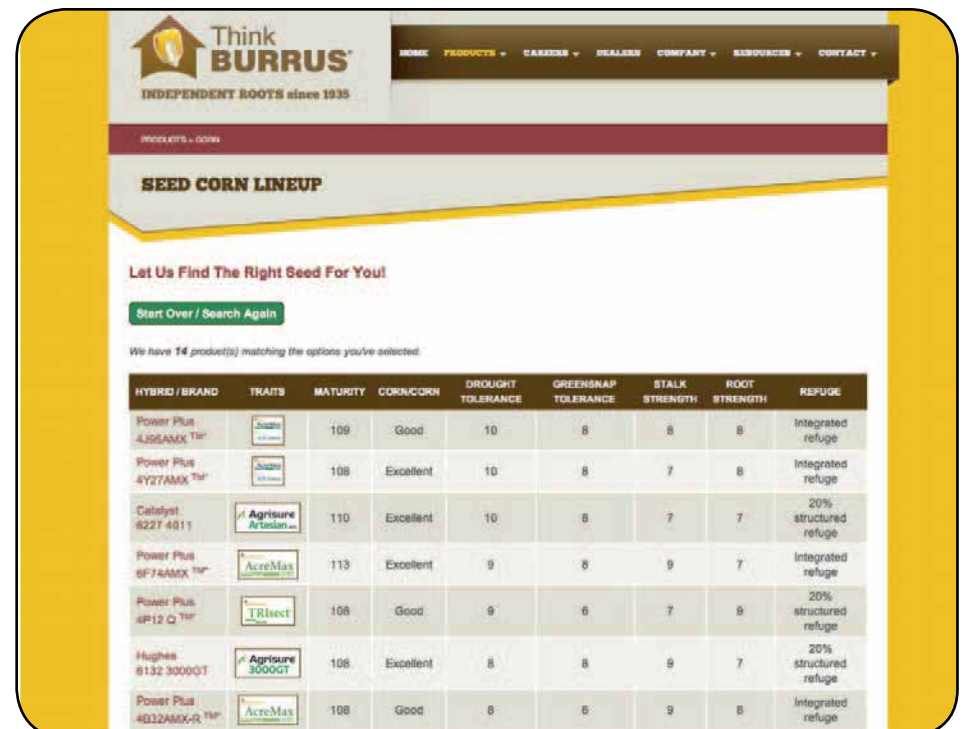
GROWING YOUR BUSINESS

Have you heard of SeedWare? Maybe not. However, you might notice your Burrus/Hughes seed invoice has a new look. You might also have noticed our new plot results map at [www.burrusseed.com](http://www.burrusseed.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 RSMs/DSMs and dealers can access customer information such as orders and statements online at any time. Now orders can be edited even during off-hours.

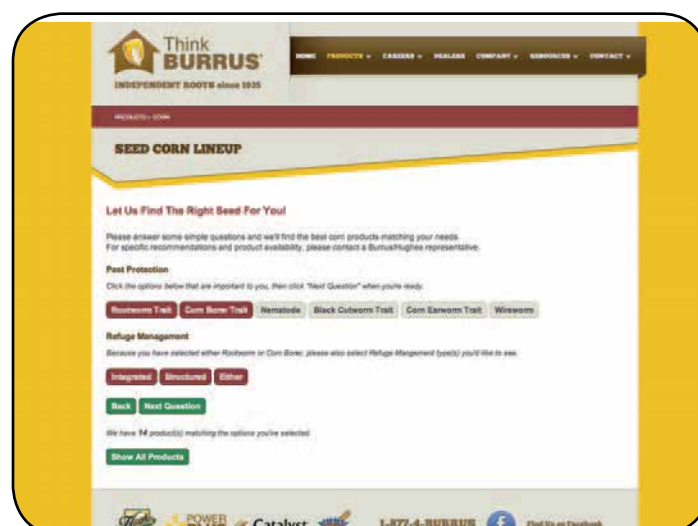
SeedWare works on traditional computers as well as a wide variety of mobile devices, such as tablets and smart phones. Information is now updated instantaneously between the office, the online system, and even the production staff. We continue our long-standing practice of only accepting orders for product/treatment/seed 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 than ever before.



## WARREN

Don Chipman  
Roseville, IL

Planted: June 19 in 30" rows. Planting Population: 130,000. Harvested: October 25. Previous Crop: Corn. Soil Type: Heavy loam. Weather: May-wet, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
Power Plus RR 36J3™ *	58.6	13.4
Power Plus RR 38D2™ *	56.6	13.6
Power Plus RR 39B3™ *	56.4	13.2
Power Plus RR 37F4™ *	55.0	13.0
Power Plus RR 28J0™ *	54.3	14.3
Power Plus RR 36C0™ *	52.4	13.6
Power Plus RR 34T3™ *	52.0	14.1
Power Plus RR 32K0™ *	51.1	13.5
Power Plus RR 28V2™ *	46.6	13.5
Average	53.7	13.6



Don & Vera Chipman were all smiles as they enjoyed the Burrus trip to Panama last winter. New Power Plus® 36J3™ kept them smiling through harvest as it was best in their bean plot.



# Why worry about herbicide resistance

By John Williams C.P.Ag. / C.C.A.

Weeds resistance to herbicides is not really that new. In fact, pesticide resistance is a worldwide problem, unconfined to any single pest. The first report of insecticide resistance came in 1908, plant pathogens resistant to fungicides in 1940, and weed resistance (triazines) first appearing in 1968. By 1991, 120 weed biotypes that were resistant to triazine herbicides and 15 other herbicide families were documented throughout the world. Results of a 1992 North Central Weed Science Society survey of the north central United States and Canada reflect a worldwide trend toward increased herbicide resistance. Pests have proven to be ecologically and biochemically adaptable to agrichemicals.

In corn, soybean, and small grains there are many herbicide options, so why should a grower be concerned if a weed biotype is resistant to a particular herbicide? There are several reasons.

Many herbicide options could quickly be lost if the right combination of herbicide resistance developed within the right weed species. Obviously, a loss of herbicide options could have important economic and environmental consequences to agriculture. Also, in an era of high re-registration costs for older herbicides and high development costs for new herbicides, the possibility of replacement herbicides diminishes. Finally, in most cases, it will not be easy or inexpensive to assess resistant weed biotypes. Due to cross resistance, many resistance problems may have to be solved by trial and error, which could be quite expensive.

Selection for change in weed populations begins when a small number of plants within a weed species have a genetic makeup that enables them to survive a particular herbicide application. Where this difference in genetic makeup originated is not clear. However, herbicides are not known to directly cause the genetic change that allows resistance. The resistant biotype, therefore, is present in low numbers in natural populations. When a herbicide is applied, most of the susceptible weeds die but the few resistant weeds survive, mature, and produce seed. If the same herbicide continues to be applied and the resistant weeds reproduce, the percentage of the weed population that is resistant will increase.



Some growers worry about Roundup resistant marehail. If Palmer Amaranth arrives it will smother out the marehail and the crop. It can get 10 feet tall.

It is difficult to predict exactly which weed species will have biotypes resistant to a given herbicide. However, we have learned from previous pesticide resistance problems that the occurrence of herbicide resistant weeds is linked directly to the herbicide program used, the weed species present, and the crop management practices employed.

Selection intensity acts, in a sense, like a filter that can screen out susceptible weed biotypes while leaving resistant biotypes. Herbicides by definition are effective weed killers and therefore have the potential to exert heavy selection intensity on weeds. The more susceptible a weed species is to a given herbicide the greater the selection intensity. As a result, the rate of selection for resistance can be quite rapid if the same herbicide or herbicides with the same site of action are repeatedly used in a particular field.

One would think that the increase in the number of herbicide resistant biotypes would be readily observable. This is not the case. Resistant biotypes generally are only detectable when they make up about 30% of the population. During the first several years of a weed control program (a weed control program that relies on only one herbicide), the proportion of resistant biotypes is very low (less than 1% of the population). As long as the application of

this herbicide continues and the resistant biotypes reproduce, the proportion of the population that is resistant will increase.

It is very common to go from excellent control of a particular weed species to very poor control within one growing season. A gradual decline in performance is seldom seen. In field situations, resistance to sulfonylurea herbicides has been reported to occur after 3-5 years of repeated use. With triazine herbicides, resistance has generally appeared after seven or more years of repeated use. Therefore, depending upon the proportion of the population that was initially resistant to a herbicide, repeated use of a product for more than two years could develop a herbicide resistance problem.

The herbicide characteristics that affect herbicide resistance are:

- Herbicides that act on a single site of action.
- Herbicides that are applied multiple times during the growing season.
- Herbicides used for several consecutive growing seasons or repeated application of herbicides with the same site of action to the same or different crops.
- Herbicides used without other weed control options (e.g. cultivation) and are considered "stand alone" weed control programs.

Weeds, by their nature, have a diverse genetic background that gives them the ability to adapt to many different environments. For example, the repeated mowing of a lawn selects for low growing plants that avoid or are not affected by repeated cutting. Therefore, it should not be surprising that weeds can adapt to certain herbicide programs. Weeds with a diverse genetic background might have a resistant biotype that has a 1 in 1 million chance of occurring within a weed population. Although these odds sound remote, a 1 in 1 million chance of occurrence can translate into a high probability of selecting for a herbicide resistant weed biotype unless proper methods to reduce selection intensity are used.

As a herbicide resistant biotype becomes more predominant in the weed population, two factors increase in importance:

- Weed reproductive capability.
- Weed seed dispersal mechanisms.

The greater the reproductive success of the resistant biotype, the greater its potential to spread and become a dominant part of the population. Due to the extended viability of most weed seeds, once established, a herbicide resistant biotype will be difficult to eliminate from the population, even if extensive remedial weed control measures are used. As a result of the diverse seed dispersal mechanisms of weeds, it is apparent that a farm manager must always use good herbicide resistance management strategies to prevent resistant biotypes from developing on the land and prohibit the establishment of resistant weed biotypes spreading from adjacent lands or from custom harvesting equipment and other machinery.

Before assuming that any weeds surviving a herbicide application are resistant, rule out other factors that might have affected herbicide performance. Several factors would be misapplication, unfavorable weather conditions, improper timing of herbicide application and weed flushes after application of a non-residual herbicide. If resistance appears to be a likely possibility, check for the following:

- Are other weeds listed on the product label controlled satisfactorily? Chances are only one weed species will show herbicide resistance in any given field situation. Therefore, if several normally susceptible weed species are present, reconsider factors other than herbicide resistance as the cause of the lack of weed control.
- Did the same herbicide or herbicide with the same site of action fail in the same area of the field in the previous year?
- Do field histories indicate extensive use of the same herbicide or herbicide site of action year after year?

If one or more of these three situations apply, it is possible that the weeds are



resistant to the herbicide. If resistance is suspected, control the weeds with a labeled herbicide having another site of action or use appropriate nonchemical weed control methods to prevent the weeds from going to seed. Next, contact your local crop consultant or extension agent, state weed specialist, and the appropriate chemical company to develop a comprehensive weed control program to manage the problem.

**The following is a list of strategies for avoiding and managing problems with herbicide resistant weed biotypes. Keep in mind that reliance upon any one strategy is not likely to be effective. The crop producer must use the following strategies in carefully selected combinations if herbicide resistant weed problems are to be avoided or properly managed.**

1. Use herbicides only when necessary. Where available, herbicide applications should be based on economic thresholds. Continued development of effective economic threshold models should be helpful.
2. Rotate herbicides (sites of action). Do not make more than two consecutive applications of herbicides with the same site of action to the same field unless other effective control practices are also included in the management system. Two consecutive applications could be single annual applications for two years or two split applications in one year.
3. Apply herbicides in tank-mixed, pre-packaged or sequential mixtures that include multiple sites of action. Both herbicides, however, must have substantial activity against potentially resistant weeds for this strategy to be effective. Remember that in the past, weeds that were selected for herbicide resistance

often were not the primary target species. It may be expensive to apply herbicide combinations that duplicate a wide spectrum of weed control activity. Many of the more economical herbicide combinations may not be adequate.

4. Planting new herbicide resistant crop varieties should not result in more than two consecutive applications of herbicides with the same site of action against the same weed unless other effective control practices are also included in the management system.
5. Combine, where feasible, mechanical weed control practices such as rotary hoeing and cultivation with herbicide treatments.
6. Rotate crops, particularly those with different life cycles, e.g. winter annuals such as winter wheat, perennials such as alfalfa, summer annuals such as corn or soybeans. At the same time, remember not to use herbicides with the same site of action in these different crops against the same weed unless other effective control practices are also included in the management system.
7. Include, where soil erosion potential is minimal, primary tillage as a component of the weed management program.
8. Scout fields regularly and identify weeds present. Respond quickly to changes in weed populations to restrict spread of weeds that may have been selected for resistance.
9. Clean tillage and harvest equipment before moving from fields infested with resistant weeds to those that are not.

In summary, the best place to start is to consider herbicides as a resource that needs to be preserved.

## WHITESIDE

### New Power Plus® 24P4™\* wins!

Ron Merema  
Fulton, IL

Planted: May 15 in 30" rows. Harvested: October 9.

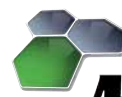
Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 24P4™*	65.0	12.5
HUGHES 201RR	64.8	12.4
HUGHES 555RR	64.8	12.4
POWER PLUS 25G3™*	63.2	12.1
HUGHES 777RR	63.0	12.4
HUGHES 777RR	61.8	12.6
POWER PLUS 28V2™*	61.1	12.7
POWER PLUS 25H4™*	59.1	12.5
Average	62.8	12.5

## WILL

Beseke Ag Chemical  
Beecher, IL

Planted: June 8 in 15" rows. Planting Population: 150,000. Harvested: October 14. Previous Crop: Corn. ✓Check Hybrid: Asgrow AG2632

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	45.6		12.8
Asgrow AG2433	45.0	11	13.2
Asgrow AG2534	46.8	10	13.7
✓Check	48.7		12.7
Pioneer 92Y80	49.4	6	13.5
Asgrow AG2834	48.5	7	12.9
Asgrow AG2933	51.9	3	12.4
Pioneer 93Y15	50.8	5	12.8
Asgrow AG3231	51.5	4	12.7
Asgrow AG3334	54.8	2	12.4
Asgrow AG3431	55.5	1	12.2
✓Check	52.5		12.6



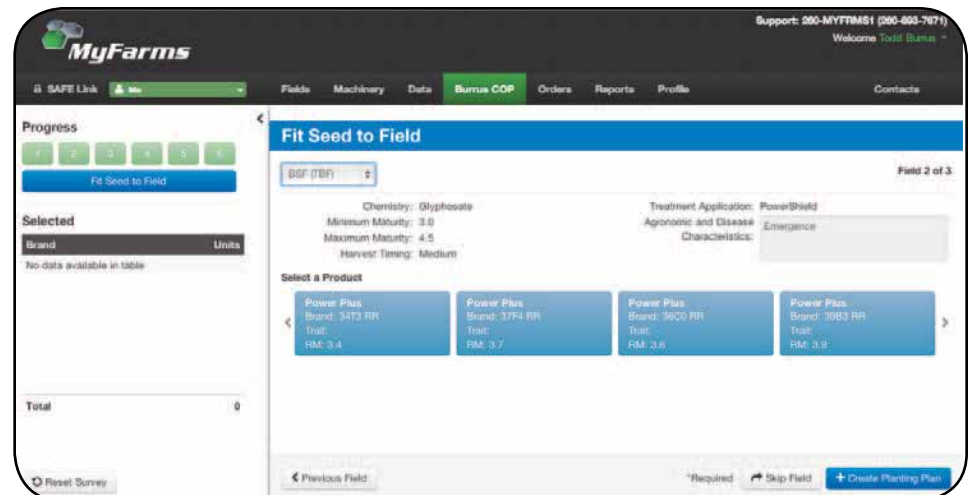
## MyFarms for beans

MyFarms<sup>SM</sup> Crop Optimization Planner (COP) for soybean placement was initiated in the fall of 2013. This addition to MyFarms<sup>SM</sup> uses the same principles for soybean product selection that is used for corn.

The computer combines the soil productivity associated with each field. It then gathers customer preferences using

a series of questions. The final piece of information includes the ratings and testing information. After combining the 3 key information sources, it narrows the choices to the best 4 products to consider.

The MyFarms<sup>SM</sup> tool then becomes a valuable resource to help growers plan and be able to adjust, execute, and record that plan during the growing season.



POWER PLUS 34T3™*	48.4	8	12.5
POWER PLUS 32K0™*	47.1	9	12.6
XL Brand 325NRR	44.9	12	12.8
✓Check	44.3		12.7
Average	49.1		12.8
Check Average	47.8		12.7

## WINNEBAGO



TNT Farms  
Winnebago, IL

Planted: May 15 in 30" rows. Harvested: May 15. Previous Crop: Corn. ✓Check Hybrid: Hughes 555RR.

Brand-Variety	Bu. Per Acre	Rank	% Moisture
✓Check	76.7		14.2
HUGHES 201RR	77.0	2	14.1
POWER PLUS 24P4™*	66.9	9	13.6
HUGHES 454RR	75.9	3	13.5
POWER PLUS 25H4™*	74.7	5	13.5
Pioneer 92Y51	77.4	1	13.3
✓Check	75.2		13.2
HUGHES 777RR	72.0	8	13.0
POWER PLUS 28V2™*	75.3	4	14.6
Pioneer 93M11	74.4	6	14.1
POWER PLUS 25G3™*	72.3	7	13.1
✓Check	78.5		12.8
Average	74.7		13.6
Check Average	76.8		13.4



Burrus & Hughes dealers enjoyed a winter get away trip to one of the seven wonders of the world—the Panama Canal.





Maddy Walkup won first place at the Missouri State Fair Open Show with a pig purchased from Todd Burrus. Congrats Maddy!



Josh & Jimmie Palmer saw their irrigation add 47 bu/a in Linn Co., MO on corn.

MISSOURI

CARROLL

New Power Plus®  
41M4™\* at 67.7 bu/a

Casner Farms  
Carrollton, MO

Planted: June 5 in 30" rows. Planting  
Population: 150,000. Harvested: October 22.  
Previous Crop: Corn. Herbicide: Roundup,  
Cobra. Soil Type: Medium loam. Weather: May-  
dry, June-dry, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 41M4™*	67.7	11.3
NK Brand S39-U2	67.3	11.2
POWER PLUS 36J3™*	67.1	11.0
POWER PLUS 43D1™*	67.0	12.2
POWER PLUS 47A3™*	64.6	13.1
POWER PLUS 39B3™*	62.6	10.9
POWER PLUS 37F4™*	62.6	11.0
POWER PLUS 34T3™*	61.3	11.1
POWER PLUS 38D2™*	58.9	11.2
Average	64.3	11.4

Jenkins Farms  
DeWitt, MO

Planted: May 25 in 8" rows. Planting  
Population: 170,000. Harvested: October 1.  
Previous Crop: Soybeans. Herbicide: Authority  
first, then Roundup. Soil Type: Medium loam.  
Weather: May-wet, June-normal, July-dry,  
August-dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 38D2™*	55.8	11.2
POWER PLUS 37F4™*	53.8	11.2
POWER PLUS 34T3™*	53.3	11.3
POWER PLUS 36J3™*	52.5	11.4
POWER PLUS 39B3™*	51.7	11.5
POWER PLUS 41M4™*	50.6	11.2
POWER PLUS 47A3™*	48.5	11.3
POWER PLUS 43D1™*	48.2	11.2
Average	51.8	11.3

MISSOURI

To battle glyphosate resistant weeds

New choices are coming

Glyphosate resistant weeds are becoming a pain in the neck for many growers. Several species of weeds have evolved to form resistance to the commonly used 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.

Herbicide resistant beans like LibertyLink® beans have started to gain considerable marketshare in many areas where Roundup resistant weeds are significant. Two new herbicide resistant technologies, 2,4-D resistant beans and dicamba resistant beans are 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 with improved drift control. The 2,4-D platform of herbicide resistance will be part of Dow AgroScience's Enlist™ Weed Control System. The Dicamba resistant beans will be coming from Monsanto; they will be called Roundup Ready® 2 and Xtend™. The Roundup Ready® 2 Xtend™ technology was developed in collaboration with BASF.

Growers are beginning to look 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. Growers should not just depend on a two herbicide blend. The new blends are both designed to decrease volatility and increase the flexibility growers have for application.

There are other herbicide traits in the pipeline that will increase the options for multiple modes of action. Syngenta and Bayer CropScience are collaborating on herbicide resistance and crops tolerant to even more herbicides are getting closer to market, too.

The new herbicide tolerant bean from this collaboration is called MGI. MGI is an acronym for the three herbicide active ingredients to which the product provides tolerance: Mesotrione (Callisto®), Glufosinate (Liberty®), and Isaxaflutole (Balance®). This bean is designed to provide another soybean weed management tool to combat glyphosate resistance.

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.

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 tools in the fight against weed resistance. Growers will still need to rotate chemicals and will still need to include non-chemical methods whenever possible. If you are battling some weed resistance issues on your farm, talk to your Burrus or Hughes representative to discuss options.

Guide to Accurate Soybean Planting

	Small to Normal Seed Size 2500 seeds per pound or greater; 56 lbs. or less per 140 k unit	Large Seed Size 2500 seeds per pound or less (1800 to 2500) 56lbs. Per 140K unit or more
John Deere Non-Vac (Finger Pickup Type Corn Planters) *1 *4 *5	Using Kinze Brush Meters - (2500 seeds/lb or More) Black Brush Type 60 Cell Seed Metering Plate Using Radial Metering Bean Plate - (3700 - 4500 seeds/lb) setting "A"; (2800 - 3700 seeds/lb) setting "B"	Using Kinze Brush Meters - (2500 seeds/lb or Less) Blue Brush Type 48 Cell Seed Metering Plate Using Radial Metering Bean Plate - (2000 - 2800 seeds/lb) setting "C"
Kinze Non-Vac (Finger Pickup Type Corn Planters) *2 *1 *5	(2500 seeds/lb or More) Black Brush Type 60 Cell Seed Metering Plate	(2500 seeds/lb or Less) Blue Brush Type 48 Cell Seed Metering Plate
John Deere Vac Planters *3 *1 *5	Only one disk option - Vacuum setting at 8	Only one disk option - Vacuum setting at 9 (test and adjust accordingly) If feeding problems persist - remove the elbow from the hose feeding the hopper
Kinze Vac Planters *2 *1 *5	Use 60 cell plate - Singular setting of 5 - Vacuum setting at 10	Use 60 cell plate - Singular setting of 5 - Start vacuum setting at 10 (test and adjust accordingly)
Case IH Vac Planters *6 *1 *5	(2600 - 3500 seeds/lb) 193017A1 disc - Singulator setting at 8 - Vacuum at 15-17" (3500 - 4500 seeds/lb) 87420630 disc or comparable - Singulator setting at 8 - Vacuum at 15-17" (2500 - 3500 seeds/lb) 87698875 disc or comparable - Singulator setting at 8 - Vacuum at 15-17"	(2000 - 3500 seeds/lb) 87698875 disc or comparable - Singulator setting at 8 - Vacuum at 15-17"
White Vac Planters *7 *1 *5	(3000 - 4500 seeds/lb) Use 7000722513 (120 cell) disc - Air pressure at 1 - 3" (2000 - 3500 seeds/lb) Use 852432 (120 cell) disc for 30 " rows - Air pressure at 2 - 2.5" (2000 - 3500 seeds/lb) Use 852433 (60 cell) disc for 15" rows - Air pressure at 2 - 2.5"	(2000 - 3500 seeds/lb) Use 852432 (120 cell) disc for 30 " rows - Air pressure at 2 - 2.5" (2000-3500 seeds/lb) Use 852433 (60 cell) disc for 15" rows - Air pressure at 2 - 2.5" (test and adjust accordingly)
*1 Consult the operator's manual for additional talc/graphite recommendations *2 One TBSP of graphite per hopper for a standard 2 bu hopper, and 1-1.5 lbs of graphite per 50 unit container *3 For central fill planters use a 1/2 rate of talc for untreated beans and a full rate (corn rate) of talc with treated beans *4 Add 3/8 TBSP of graphite per hopper		*5 Adjust speed as directed in the operator's manual *6 Consult the operator's manual for seed disc RPM recommendations *7 Do not exceed 35 RPM on seed disc Always check the operator's manual



## CHARITON

### Power Plus® takes 8 of the top 10 places

**COMPARE!** McCormick Farms  
Sumner, MO

**Planted:** June 5 in 12" rows. **Planting Population:** 150,000. **Harvested:** October 14. **Previous Crop:** Corn. **Fertilizer:** N: 0, P: 60, K: 80. **Herbicide:** Roundup. **Soil Type:** Medium loam. **Weather:** May-normal, June-dry, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 47A3™*	40.9	11.6
POWER PLUS 40V1™*	40.5	12.6
POWER PLUS 43D1™*	39.0	9.7
POWER PLUS 41M4™*	38.9	9.3
POWER PLUS 39B3™*	38.0	9.0
Asgrow AG4232	35.3	9.9
Pioneer 94Y23	34.1	9.9
POWER PLUS 36J3™*	33.4	9.2
POWER PLUS 37F4™*	32.5	9.1
POWER PLUS 38D2™*	32.2	9.0
Asgrow AG4433	31.3	7.4
Asgrow AG3833	28.9	9.3
Asgrow AG3934	28.9	9.1
Asgrow AG4033	28.5	9.5
Asgrow AG4034	28.3	10.1
POWER PLUS 34T3™*	28.1	9.0
Pioneer 93Y82	27.7	9.3
Asgrow AG3832	27.6	9.5
Asgrow AG3734	27.4	9.1
Asgrow AG3634	27.1	9.1
Asgrow AG3731	26.5	9.5
Average	32.1	9.5

## CLINTON

Walkup Farm Supply  
Gower, MO

**Planted:** June 8 in 30" rows. **Planting Population:** 160,000. **Harvested:** October 18. **Previous Crop:** Corn. **Herbicide:** Cobra, Roundup. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 40V1™*	60.0	11.5
POWER PLUS 43D1™*	59.4	11.3
POWER PLUS 39B3™*	58.7	11.2
POWER PLUS 41M4™*	58.1	11.6
POWER PLUS 36J3™*	56.0	10.8
POWER PLUS 40V1™*	55.9	11.6
POWER PLUS 38D2™*	54.2	10.7
POWER PLUS 34T3™*	52.4	10.7
POWER PLUS 32K0™*	51.9	10.9
Average	56.3	11.1

## LINN

Jimmie and Josh Palmer  
Brookfield, MO

**Planted:** May 15 in 30" rows. **Planting Population:** 140,000. **Harvested:** October 16. **Previous Crop:** Corn. **Fertilizer:** N: 0, P: 80, K: 80. **Herbicide:** Liberty, Headline AMP, Mustang. **Soil Type:** Medium loam. **Weather:** May-wet,

## Frogeye Leaf Spot

By Matt Montgomery

It's amazing how much things can change in a decade, how some things do not come to pass while unforeseen things do. Ten years ago, Midwest growers worried that Asian Soybean Rust would make "a hop, skip, and a jump" north. They were afraid it would clear the Gulf of Mexico and land in Midwest soybean fields. Many agronomists and university specialists feared that its entrance would devastate soybean production, but those experts also worried about something else. The pathogen responsible for causing Asian Soybean Rust (ASR) was known to have a rapid lifecycle. Therefore, the pathogen's ability to produce dozens of generations per season meant the disease might rapidly develop resistance to available fungicides.

Ten years later, ASR has rarely wandered into the Midwest and it has done so too late to reduce yields. However, fungicide use in beans has dramatically increased over that time. Instead of ASR developing resistance to fungicides, a once obscure fungal disease has developed resistance to fungicides. The disease is called Frogeye Leaf Spot. It was obscure 10 years ago, but it's not so obscure today.

Frogeye Leaf Spot is caused by the fungus *Cercosporasojina*. In the northern part of the Burrus footprint, Frogeye Leaf Spot is typically a cosmetic disease. However, it is a cosmetic disease that seems to be on the rise. In the southernmost part of the Burrus footprint, Frogeye Leaf Spot can be a very serious disease.

The symptoms of infection are pretty easy to identify. Frogeye forms irregular shaped but somewhat circular tan spots on leaves that are surrounded by a thin red halo. In much of our territory, a few of the spots mark leaflets and the disease leaves it at that. If those lesions appear at more intense levels and begin to make up more than a quarter of the leaf area, plants will rapidly lose their leaves and severe yield losses can result. Those yield losses began to rack up before, during, and after that level of defoliation. The disease is not restricted to leaf



symptoms during such outbreaks. It can also result in stem lesions, can infect pods, and can eventually work its way into seed. All of this requires the type of warm weather and humidity common to areas just north and definitely south of I-64. When warm and humid conditions persist, the fungus produces fuzz-like masses of spores and generations rapidly progress one after another. The "generation upon generation" nature of Frogeye Leaf Spot is somewhat responsible for the disease developing exceptional resistance to Strobilurin fungicides. Managing Frogeye Leaf Spot requires that growers use a combination of techniques. One option available to growers is resistance.

However, there are some high yielding varieties that should not be excluded merely because they exhibit average Frogeye Leaf Spot scores. An example would be Power Plus® 41M4™\*. This bean is exceptionally high yielding with Frogeye scores running slightly lower than the rest of the Burrus lineup. Where the disease has been of minor importance, growers should consider capturing the extra yield boost from this bean. If growers have encountered exceptional pressure from Frogeye Leaf Spot, they might want to switch to a comparable, more resistant, bean in the Burrus lineup. Where the disease has been of minor or average importance, growers

will want to plant the bean and monitor it for Frogeye.

A second option is to apply a fungicide to more susceptible beans typically around the R2 to R3 growth stage. However, Burrus would strongly encourage growers to avoid using Strobilurin fungicides (such as Quadris® or Headline®) against Frogeye Leaf Spot because the effectiveness of Strobilurins against Frogeye may have been compromised. Growers should use other soybean fungicides or at least a strobilurin-triazole fungicide combo where Frogeye Leaf Spot is the primary target (for instance use products such as Echo®, Priaxor®, Proline®, Quadris® Top, Quilt® Xcel, Stratego®, Topsin®, etc.). From season to season, growers should rotate from one non-strobilurin to another being careful to rotate to a different mode of action not just a different product. Burrus always encourages fungicide use based on evidence.

Growers should consider tillage where Frogeye has been a concern. Frogeye persists upon residue and tillage can substantially reduce inoculum in fields where this disease has been of average to low importance. Where the disease has been most severe, growers will want to rotate to two or more years of corn in order to reduce inoculum.

June-normal, July-dry, August-dry. Remarks: Irrigated plot.

Brand/Product	Bu. Per Acre	% Moisture
HOB LIT 372LL	57.0	12.5
HOB LIT 423LL	52.1	12.4
HOB LIT 343LL	46.4	12.5
Average	51.8	12.5

Jimmie and Josh Palmer  
Brookfield, MO

**Planted:** May 15 in 30" rows. **Planting Population:** 140,000. **Harvested:** October 16. **Previous Crop:** Corn. **Fertilizer:** N: 0, P: 80, K: 80. **Herbicide:** Liberty, Headline AMP, Mustang. **Soil Type:** Medium loam. **Weather:** May-wet, June-normal, July-dry, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
HOB LIT 372LL	44.7	12.8
HOB LIT 423LL	43.4	12.5
HOB LIT 343LL	29.9	12.5
Average	39.3	12.6





Go to [www.burrusseed.com](http://www.burrusseed.com)

## Benefit from the new soybean selection tool

The Burrus commitment to customer service took another step forward with a tool on the Burrus Seed website. It is a tool to help in the product selection process.

Many growers have expressed the need for a simpler seed selection tool. They don't want to study a 70 page book with hundreds of vital information details on each page.

This "let us find the right seed for you" approach asks a series of questions like preferences for herbicide,

maturity, pest protection, and important characteristics. This information is used to narrow the choices and rank the products to help growers clearly understand the differences between these best choices.

The website takes a "product first" approach to seed selection where the MyFarms<sup>SM</sup> tool takes a "soil type first" approach. We hope both of these computerized selection tools can help you make an educated choice when choosing the right seed for your farms.

### WARREN



Al & Scott Jacob  
Marthasville, MO

**Planted:** June 10 in 30" rows. **Harvested:** October 20. **Previous Crop:** Corn. **Herbicide:** Roundup, Valor, XLT, Fierce. **Soil Type:** Medium loam. **Weather:** May-wet, June-wet, July-nor-mal, August-dry.

Brand/Product	Bu. Per Acre	% Moisture
POWER PLUS 41F9 <sup>TM</sup> *	69.2	12.6
POWER PLUS 39B3 <sup>TM</sup> *	68.2	12.3
Pioneer 94Y22	67.3	12.5
POWER PLUS 36C0 <sup>TM</sup> *	65.6	12.3
POWER PLUS 43D1 <sup>TM</sup> *	65.4	12.8
Pioneer 94Y23	65.2	12.3
POWER PLUS 38D2 <sup>TM</sup> *	64.9	12.5
POWER PLUS 47A3 <sup>TM</sup> *	61.3	13.4
POWER PLUS 34B9 <sup>TM</sup> *	59.7	12.8
Average	65.2	12.6

### WISCONSIN

### LAFAYETTE

Hughes beans yield  
75 bu/a

Ron Woodworth  
Shullsburg, WI

**Planted:** May 25 in 30" rows. **Harvested:** October 8. **Previous Crop:** Corn.

Brand-Variety	Bu. Per Acre	% Moisture
HUGHES 777RR	75.4	13.5
HUGHES 201RR	75.1	13.6
HUGHES 555RR	74.5	13.2
HUGHES 454RR	70.1	13.5
POWER PLUS 25H4 <sup>TM</sup> *	69.8	13.4
POWER PLUS 23Z1 <sup>TM</sup> *	68.8	13.3
POWER PLUS 25G3 <sup>TM</sup> *	66.2	13.5
POWER PLUS 24P4 <sup>TM</sup> *	66.0	13.5
Average	70.7	13.4

### MO/WI

## Seed Piracy

### Soybean Seed Piracy Statement: Roundup Ready<sup>®</sup> soybeans

Seeds containing the Roundup Ready<sup>®</sup> trait are protected under numerous U.S. patents. Seed containing patented traits, such as seed containing the Roundup Ready<sup>®</sup> trait, can only be used to plant a single commercial crop. It is unlawful to save and replant Roundup Ready<sup>®</sup> 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: <http://www.monsanto.com/productpatents>

**Monsanto Company is a member of Excellence Through Stewardship<sup>SM</sup> (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 gain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship<sup>SM</sup> is a service mark of Biotechnology Industry Organization.

**ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** Roundup Ready<sup>®</sup> crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup<sup>®</sup> brand herbicides. Roundup<sup>®</sup> agricultural brand agricul-



Corbin (19 months) and Colton (1 week) Aeschliman know that at Burrus we measure success by customer satisfaction. They are the sons of Court and Sharail Aeschliman of Schuyler Co., MO.

## BENEFITS OF NEW CERTIFIED SEED

### CONVENIENCE

- Highest quality and highest yielding product vs. bin-run
- Meets quality standards of seed company
- Professionally handled and rigorously tested
- Dramatically reduces splits and foreign matter
- Ensures varietal purity
- Germination tests to ensure peace of mind
- Weed-free
- Reliable seed supply in many maturities
- Access to the most elite germplasm
- Meets U.S. Federal Seed Law standards

### ECONOMICS OF NEW SEED VS. BIN-RUN

- Income lost by not selling as commodity grain (e.g. one bushel of bin-run seed multiplied by the price of a soybean bushel)
- Average loss of ~10-15% cleanout at harvest for bin-run seed
- Handling and transportation costs for bin-run (approx. \$.35-\$.75/bushel)
- Bin-run planting rates are generally 15% higher than new certified seed
- New seed yields an average of 1.8 bushel/acre more than bin-run (University yield trials range from 1.2-5.9 bushel/acre)

### LIMITED WARRANTY BENEFITS

- Dealer agronomic support before and after the sale
- Risk management benefits of Roundup Rewards<sup>®</sup> (over \$600 million in benefits paid)

### NEW INNOVATIONS BENEFIT FOR FARMERS?

- **Monsanto's 100% commitment to agriculture**
- **Research and Development Milestones**
  - 2010 — 4 commercial product launches
  - Pipeline: 11 advanced stage high impact products
- **Impact on the Farm<sup>1</sup>** (increase in national farm income)
  - GM soybeans: \$ 1.56 Billion
  - GM corn: \$ 2.00 Billion
  - GM cotton: \$ .27 Billion
  - GM Canola: \$ .031 Billion
  - TOTAL \$ 3.861 Billion
- **Industry Support**
  - The Beyond the Seed Program was launched by the American Seed Trade Association (ASTA) to raise awareness and understanding of the value that goes beyond the seed. The future success of U.S. agriculture depends upon quality seed delivered by an industry commitment to bring innovation and performance through continued investment. For more information about seed technology, visit ASTA's Beyond the Seed Program at [www.beyondtheseed.org](http://www.beyondtheseed.org).
  - Stronger intellectual property rights in the seed sector are associated with higher yield growth.<sup>2</sup>
  - Our very preliminary estimate is that farmers get a \$6 benefit for each \$1 spent on private sector research.

You're buying more than just seed. You're getting value today and innovation for tomorrow.



<sup>1</sup> Graham Brookes and Peter Barfoot. GM Crops: global socio-environmental and environmental impacts 1996-2008. PG Economics, UK, April 2010.  
<sup>2</sup> Sergio Lence and Dermot Hayes. "Returns from Private Sector Seed Research." [www.BeyondTheSeed.com](http://www.BeyondTheSeed.com), Oct. 2009.  
Roundup Rewards<sup>®</sup> applies only to Roundup<sup>®</sup> branded and other agricultural herbicides specified by Monsanto. Program details referenced in this publication are subject to change and should be verified by visiting RoundupRewards.com or checking with your local Monsanto dealer.  
For more information about seed technology, visit ASTA's Beyond the Seed Program at [www.beyondtheseed.org](http://www.beyondtheseed.org). ASTA, as a trade industry association, does not endorse products, services or technology of individual companies.  
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tural herbicides will kill crops that are not tolerant to glyphosate. Roundup<sup>®</sup>, and Roundup Ready<sup>®</sup> are trademarks of Monsanto Technology LLC.

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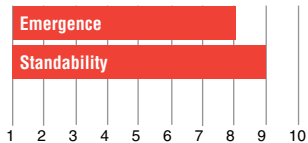
# For the best in performance

**201RR** brand



**Maturity 2.1**

- Comes from a good family
- Early yield power
- Very good white mold score
- BSR resistant
- Widely adapted
- Avoid fields with history of severe SCN

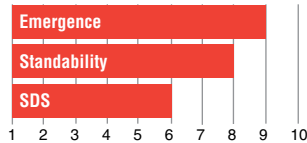


**24P4<sup>TM</sup>\*** brand



**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



**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

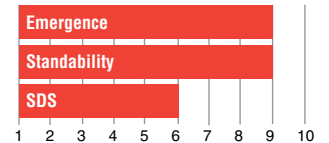


**25G3<sup>TM</sup>\*** brand



**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



**25H4<sup>TM</sup>\*** brand



**Maturity 2.5**

- Tall line with good standability
- Excellent in stress/light soil environments
- Strong emergence
- Very good on Sudden Death Syndrome
- Great PI88788 resistance (Race 3)
- Impressive Brown Stem Rot package
- PowerShield® seed treatment optional



**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



**28J0<sup>TM</sup>\*** brand



**Maturity 2.8**

- Offensive yields for Illinois and Iowa
- Very good SCN race 3 resistance
- Prefers better soils
- Good iron deficiency chlorosis tolerance
- Very good Sudden Death Syndrome field tolerance
- Good southern movement for maturity



**28V2<sup>TM</sup>\*** 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





# SOYBEAN UPDATE



**32K0™\***  
brand



**Maturity 3.2**

- Very good soybean aphid antibiosis
- Multi-race Phytophthora resistance (Rps1k)
- Good Sudden Death Syndrome field tolerance
- Above average frogeye leaf spot tolerance
- Outstanding SCN race 3 resistance
- Taller plant height will provide an edge in stress environments
- Works on all soils

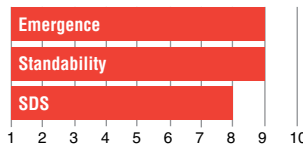


**34T3™\***  
brand



**Maturity 3.4**

- Exceptional field emergence scores
- Great harvest standability
- Great SCN resistance with 88788 (Race 3)
- Multi-race Phytophthora resistance (Rps1K)
- Great tolerance to SDS
- Impressive BSR package
- Performs best on good soils but will work everywhere



NEW



**36C0™\***  
brand



**Maturity 3.6**

- Prefers good soils
- Multi-race Phytophthora resistance (Rps1k)
- Very good SCN race 3 resistance
- Moderate iron deficiency chlorosis tolerance
- Very good Sudden Death Syndrome field tolerance
- Outstanding frogeye leaf spot tolerance
- Excellent harvest standability

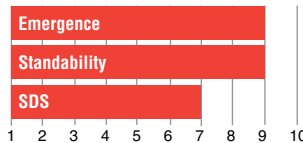


**36J3™\***  
brand



**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

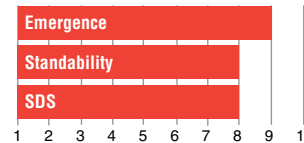


**37F4™\***  
brand



**Maturity 3.7**

- Best on most productive soils
- Great standability
- Outstanding PI88788 SCN resistance (Race 3)
- Multi-race Phytophthora resistance (Rps1k)
- Exceptional SDS tolerance
- Above average height and canopy
- Strong frogeye leaf spot package



NEW

## 100% Free Replant on Seed Corn and treated Soybeans

The entire Burrus family of products, including Burrus®, Power Plus®, Hughes®, Catalyst™ and Hoblit® brands qualify for the replant guarantee of free seed, free seed treatment if available and free tech fees of equal or less value, if from the same technology family. Ask your local dealer for complete details.

**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



**41M4™\***  
brand



**Maturity 4.1**

- Really strong field emergence scores
- Great harvest standability
- Great SCN resistance with 88788
- Really good phytophthora tolerance
- Very good tolerance to SDS
- Performs best on better soil types/higher yielding environments
- A possible "kink in the armor" with frogeye leaf spot



NEW

**47A3™\***  
brand

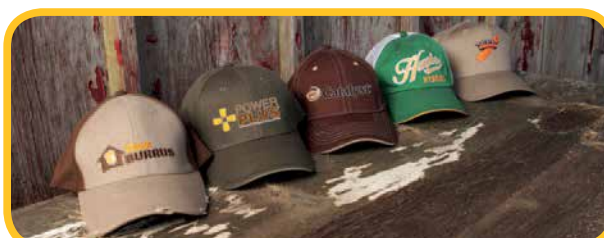


**Maturity 4.7**

- 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



NEW





**343LL** brand

**Maturity 3.4**

- A great Liberty Link® variety
- Taller plant type
- Very good SCN tolerance
- Very good Phytophthora scores
- Good defensive package
- Works across variety of environments

Emergence: 9, Standability: 9, SDS: 7

**372LL** brand

**Maturity 3.7**

- Consistently high yields
- Taller plant type with good branching
- Very good SDS tolerance
- Good lodging and shattering scores
- Very good Phytophthora scores with k gene
- Will work in areas where RR weed resistance is a problem

Emergence: 9, Standability: 9, SDS: 8

**Hoblit 384LL**

**Maturity 3.8**

- Fantastic trials in 2012 (#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” after 2012
- Great standability
- Good Phytophthora scores

Emergence: 9, Standability: 9, SDS: 6

**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

Emergence: 9, Standability: 9, SDS: 7

## 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, post-emergence 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.

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](http://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.

## 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.

## 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

## 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	Canopy Width	Plant Height	Light Soils	Pubescence
Hughes Brand 201RR	2.1	None	RR	8	9	9	6	10	NR	NR	7	7	8	7	L. Tawny
Power Plus® Brand 24P4™ NEW	2.4	Peking	RR	9	8	7	6	10	6	9	5	6	7	6	L. Tawny
Hughes Brand 555RR	2.5	PI88788	RR	9	9	9	6	7	7	NR	6	6	7	7	L. Tawny
Power Plus Brand 25G3™	2.5	Peking	RR	9	9	8	5	6	6	8	6	7	5	5	Gray
Power Plus Brand 25H4™ NEW	2.5	PI88788	RR	9	8	7	5	8	7	7	5	6	8	8	L. Tawny
Hughes Brand 777RR	2.7	PI88788	RR	8	9	9	6	8	8	NR	6	8	9	8	L. Tawny
Power Plus Brand 28J0™	2.8	PI88788	RR	9	9	6	5	4	7	7	5	7	7	6	L. Tawny
Power Plus Brand 28V2™	2.8	PI88788	RR	9	9	7	5	9	7	9	5	6	8	6	L. Tawny
Power Plus Brand 32K0™	3.2	PI88788	RR	9	8	6	6	4	8	7	5	7	7	7	L. Tawny
Power Plus Brand 34T3™	3.4	PI88788	RR	9	9	6	6	9	8	6	6	6	6	7	L. Tawny
Power Plus Brand 36C0™	3.6	PI88788	RR	10	10	7	5	NR	8	9	NR	7	6	5*	L. Tawny
Power Plus Brand 36J3™	3.6	PI88788	RR	9	9	NR	7	NR	7	6	NR	7	7	7	L. Tawny
Power Plus Brand 37F4™ NEW	3.7	PI88788	RR	9	8	7	6	NR	8	7	NR	7	7	5	Tawny
Power Plus Brand 38D2™	3.8	PI88788	RR	9	9	7	6	NR	7	5	NR	7	7	8	L. Tawny
Power Plus Brand 39B3™	3.9	PI88788	RR	8	8	9	6	NR	6	9	NR	8	7	9	Tawny
Power Plus Brand 41M4™ NEW	4.1	PI88788	RR	10	9	8	7	NR	8	5	NR	7	6	7	L. Tawny
Power Plus Brand 47A3™ NEW	4.7	PI88788	RR	8	9	8	7	NR	7	6	NR	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	Canopy Width	Plant Height	Light Soils	Pubescence
Hoblit Brand 343LL	3.4	Race 3 resist.	LL	10	9	9	8	NR	7	NR	NR	7	8	7	L. Tawny
Hoblit Brand 372LL	3.7	Race 3 resist.	LL	9	9	9	8	NR	8	NR	5	7	7	7	L. Tawny
Hoblit Brand 384LL NEW	3.8	Race 3 resist.	LL	9	9	9	8	NR	6	7	NR	7	8	7	L. Tawny
Hoblit Brand 423LL	4.2	Race 3 resist.	LL	10	9	9	8	NR	7	NR	NR	7	8	8	L. Tawny

atings: 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. Liberty Link is a registered trademark of Bayer, Roundup Ready is a registered trademark of Monsanto, Co.



# CORN UPDATE

Catalyst

POWER PLUS

HOBLOIT

Hughes HYBRIDS



ABOVE/BELOW-GROUND  
INSECT CONTROL



2796 3111

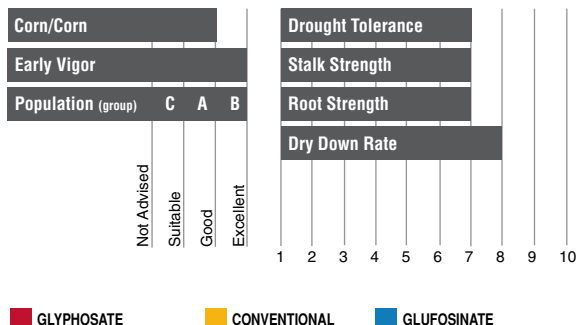
Brand

100 Day Maturity

Hughes



- Agrisure Viptera® provides control of cutworm
- Good root structure
- Best performance in high yield environments
- Nice stable package



Top end yielder for better soils.

2987 3011A

Brand

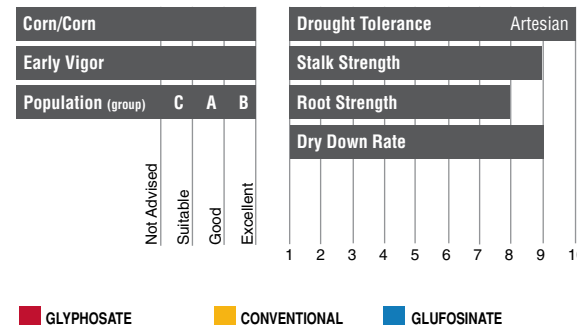
101 Day Maturity

CORN ON CORN

Hughes



- Agrisure® Artesian drought system
- Excellent late-season stalk and fall appearance
- Consistent high yielding choice
- Good agronomics in early season product



Gets it done when conditions are tough.

3953 3000GT

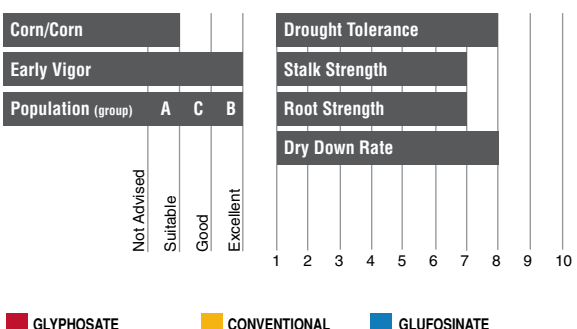
Brand

103 Day Maturity

Hughes



- Medium-tall plant with good agronomics
- Best adapted to IL/WI state line area
- Will work corn after corn
- Versatile product that performs in corn after corn situations



A performer for the state line.

2V56AMX™\*

Brand

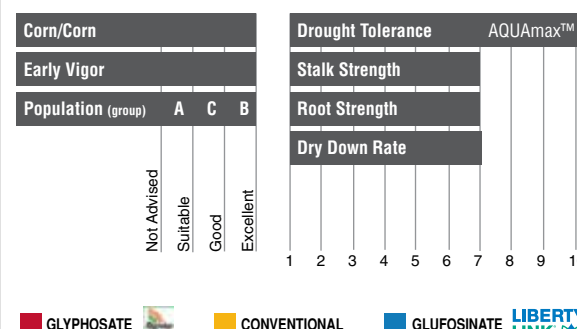
105 Day Maturity

CORN ON CORN

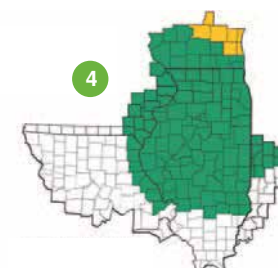
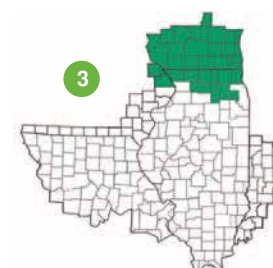
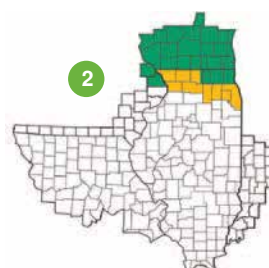
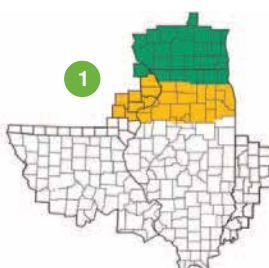
POWER PLUS



- Optimum® AQUAmax™ hybrid with great drought tolerance
- High test weight grain
- Good top-end yield potential leads to grower's smiles
- No additional refuge needed
- Will benefit from fungicide applications under GLS pressure



Convenience, drought protection and yield.





**4607 3000GT**  
Brand

**105 Day Maturity**

**5**

- Compact plant stature
- Excellent late season health and stalks
- Solid performer corn following corn
- Performs best in high yield situations

**Performance Summary:**

Population (group)	C	A	B
Corn/Corn	Not Advised	Suitable	Good
Early Vigor	Not Advised	Suitable	Good
Drought Tolerance	Not Advised	Suitable	Good
Stalk Strength	Not Advised	Suitable	Good
Root Strength	Not Advised	Suitable	Good
Dry Down Rate	Not Advised	Suitable	Good

GLYPHOSATE CONVENTIONAL GLUFOSINATE

Looks good in the fall, high top end yields.

**5456 3000GT**  
Brand

**108S / 107N Day Maturity**

**6**

- A strong choice; very consistent performance
- Excellent ear flex capability
- Very good fall appearance and intactness
- Husks open well for fast drydown

**Performance Summary:**

Population (group)	A	B	C
Corn/Corn	Not Advised	Suitable	Good
Early Vigor	Not Advised	Suitable	Good
Drought Tolerance	Not Advised	Suitable	Good
Stalk Strength	Not Advised	Suitable	Good
Root Strength	Not Advised	Suitable	Good
Dry Down Rate	Not Advised	Suitable	Good

GLYPHOSATE CONVENTIONAL GLUFOSINATE

Fits all operations.

**4Y27AMX™\***

**108S / 107N Day Maturity**

**7**

- Good stress tolerance, but keep on average or better soils
- Excellent greensnap resistance along with excellent roots
- Good in no-till and early planting
- Optimum® AQUAmax™ hybrid with great drought tolerance
- No refuge needed

**Performance Summary:**

Population (group)	C	A	B
Corn/Corn	Not Advised	Suitable	Good
Early Vigor	Not Advised	Suitable	Good
Drought Tolerance	Not Advised	Suitable	Good
Stalk Strength	Not Advised	Suitable	Good
Root Strength	Not Advised	Suitable	Good
Dry Down Rate	Not Advised	Suitable	Good

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Plant it on your best farm.

**4P12 Q™\***  
Brand

**108S / 106N Day Maturity**

**8**

- Makes a grower's choice easy as it works across all soil types
- The addition of Poncho® 1250 adds an extra layer of protection for CRW
- Plant integrity is a definite plus
- Good drought package
- Goes south well

**Performance Summary:**

Population (group)	C	A	B
Corn/Corn	Not Advised	Suitable	Good
Early Vigor	Not Advised	Suitable	Good
Drought Tolerance	Not Advised	Suitable	Good
Stalk Strength	Not Advised	Suitable	Good
Root Strength	Not Advised	Suitable	Good
Dry Down Rate	Not Advised	Suitable	Good

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

The sleeper in the line up.

**6132 3000GT**  
Brand

**108 Day Maturity**

**9**

- High management returns big yield
- Push population and fertility
- Very good late season stalk gives peace of mind
- Moves north well as a full-season corn

**Performance Summary:**

Population (group)	C	A	B
Corn/Corn	Not Advised	Suitable	Good
Early Vigor	Not Advised	Suitable	Good
Drought Tolerance	Not Advised	Suitable	Good
Stalk Strength	Not Advised	Suitable	Good
Root Strength	Not Advised	Suitable	Good
Dry Down Rate	Not Advised	Suitable	Good

GLYPHOSATE CONVENTIONAL GLUFOSINATE

Top yields across wide geography.

**4G46AMX™\***  
Brand

**108S / 107N Day Maturity**

**10**

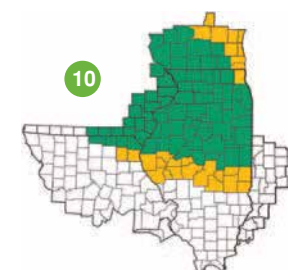
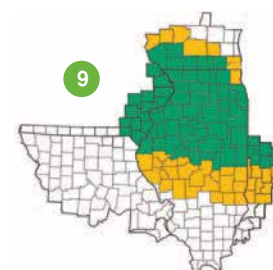
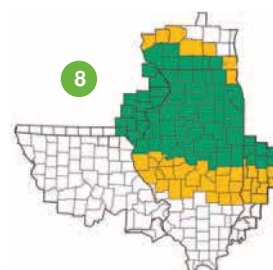
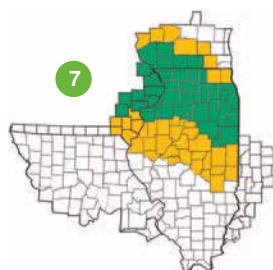
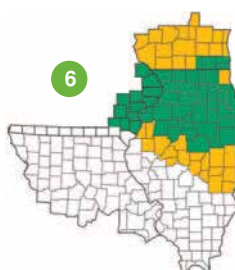
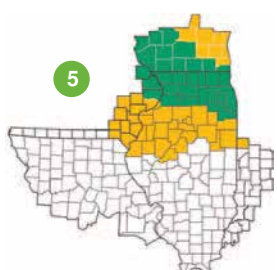
- A serious performer with high, top end yield potential
- Heavy test weight grain
- Very good drought tolerance
- Responds to high management practices like fungicide applications
- Plant it first, harvest it first

**Performance Summary:**

Population (group)	A	C	B
Corn/Corn	Not Advised	Suitable	Good
Early Vigor	Not Advised	Suitable	Good
Drought Tolerance	Not Advised	Suitable	Good
Stalk Strength	Not Advised	Suitable	Good
Root Strength	Not Advised	Suitable	Good
Dry Down Rate	Not Advised	Suitable	Good

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

High yield with convenience.





# CORN UPDATE



## ABOVE/BELOW-GROUND INSECT CONTROL



Jerad Ropp, Burrus Precision Farming Consultant, shows the attributes of the MYFarms<sup>SM</sup> Crop Optimization Planner at the Farm Progress Show in Decatur, IL

### 4B32AMX-R<sup>TM</sup>\* 4A30AM1<sup>TM</sup>\*

Brand

Brand



#### 108 Day Maturity



Corn/Corn	
Early Vigor	
Population (group)	C B A
	Not Advised
	Suitable
	Good
	Excellent

Drought Tolerance	
Stalk Strength	
Root Strength	
Dry Down Rate	

- Best at very high populations
- Superb yield potential
- Excellent stalk and root strength complete the package
- Heavy test weight grain

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Top of the class.

### 4J95AMX<sup>TM</sup>\*

Brand



NEW

#### 109 Day Maturity



Corn/Corn	
Early Vigor	
Population (group)	C A B
	Not Advised
	Suitable
	Good
	Excellent

Drought Tolerance	AQUAmax <sup>TM</sup>
Stalk Strength	
Root Strength	
Dry Down Rate	

- Silks early for this maturity opening opportunities
- Prefers high yield environment
- Good agronomics and responds favorably to fungicide management
- Optimum<sup>®</sup> AQUAmax<sup>TM</sup> hybrid with great drought tolerance

GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

The new standard for yield with no refuge needed.

### 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	
Dry Down Rate	

- Compact plant stature with excellent standability
- Prefers medium to good soil
- Excellent plant integrity allows for harvest flexibility
- May respond to fungicide application management
- Keep at lower populations

GLYPHOSATE CONVENTIONAL GLUFOSINATE

Order while supply lasts.

### 6227 4011

Brand



#### 110S / 112N Day Maturity



Corn/Corn	
Early Vigor	
Population (group)	C A B
	Not Advised
	Suitable
	Good
	Excellent

Drought Tolerance	Artesian <sup>®</sup>
Stalk Strength	
Root Strength	
Dry Down Rate	

- Consistent, chunky ears = yield
- Good health package with a strong defensive mindset
- A strong option to capture the best performance on prairie soils
- Agrisure Artesian<sup>®</sup> technology maximizes yield when it rains and increases yield when it doesn't

GLYPHOSATE CONVENTIONAL GLUFOSINATE

Excels on good soils.

### 6J36 3000GT

Brand



#### 110S / 112N Day Maturity



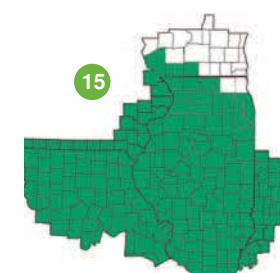
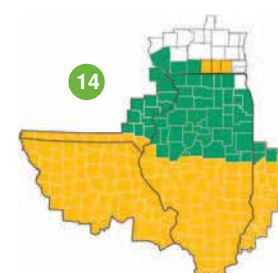
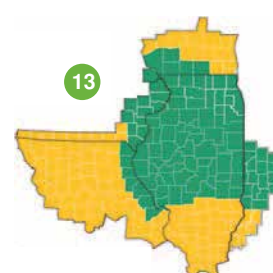
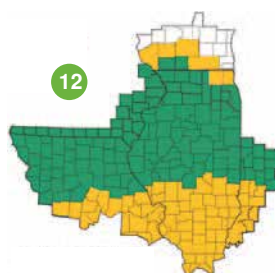
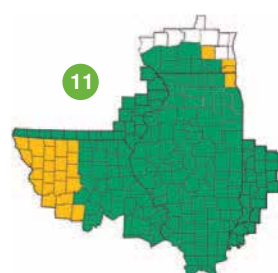
Corn/Corn	
Early Vigor	
Population (group)	C A B
	Not Advised
	Suitable
	Good
	Excellent

Drought Tolerance	
Stalk Strength	
Root Strength	
Dry Down Rate	

- Plant at high populations
- One of our very best yielders year after year; consistent across environments
- Very good stalks and roots
- Good drought tolerance

GLYPHOSATE CONVENTIONAL GLUFOSINATE

Very exciting performer...look at the Harvest Report.





NEW

6T54 3000GT

Brand

113 Day Maturity

Agrisure 3000GT

Agrisure 3000GT

- High yield potential on prairie soils
- Great early planting choice because of excellent emergence ratings
- Use soil insecticide or add Poncho® 1250 VOTIVO for second mode of rootworm control
- Excellent silage option north
- Avoid wet feet

CORN ON CORN®

Think BURRUS

Corn/Corn				
Early Vigor				
Population (group)	C	A	B	
	Not Advised	Suitable	Good	Excellent

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE


Drought Tolerance	8
Stalk Strength	9
Root Strength	7
Dry Down Rate	8

It will fool you with more corn than it looks.


# 7A18AM1™\*

Brand


## 114 Day Maturity



**AcreMax 1**  
Glyphosate





**AcreMax 1**  
Conventional




**AcreMax 1**  
Glufosinate

- Super high yield potential backed with excellent agronomics
- Great choice for the corn rootworm areas
- Exceptional drought tolerance
- Nice stay green with good stalks and roots





CORN/CORN				
Early Vigor				
Population (group)	A	C	B	
	Not Advised	Suitable	Good	Excellent


Drought Tolerance										
Stalk Strength										
Root Strength										
Dry Down Rate										




**GLYPHOSATE**



**CONVENTIONAL**



**GLUFOSINATE**




**LIBERTY LINK**

Off the chart performance.

# 7893 3111


Brand




## Catalyst

NEW

### 115 Day Maturity

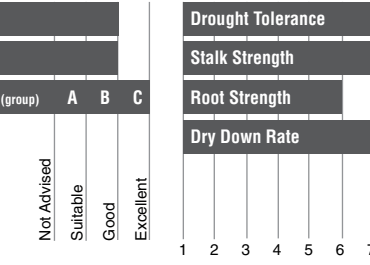




- Strong, stable performance east to west in zones 6, 7 and 8
- Great choice for sand irrigated acres
- Harness the top end yield potential
- Adaptable to most management practices
- Flex ear likes lower populations

	A	B	C
Corn/Corn			
Early Vigor			
Population (group)	A	B	C

Not Advised
Suitable
Good
Excellent



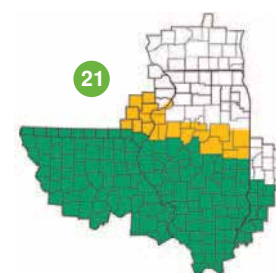
Trait	Glyphosate	Conventional	Glufosinate
Drought Tolerance	8.5	8.5	8.5
Stalk Strength	9.5	9.5	9.5
Root Strength	6.5	6.5	6.5
Dry Down Rate	7.5	7.5	7.5

■ GLYPHOSATE

■ CONVENTIONAL

■ GLUFOSINATE

## The Banker's corn, plant it along the road.





# CORN UPDATE

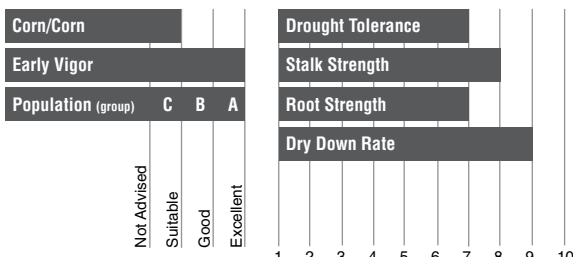


## ABOVE-GROUND INSECT CONTROL

**1285 GCL**  
Brand



94 Day Maturity



GLYPHOSATE CONVENTIONAL GLUFOSINATE

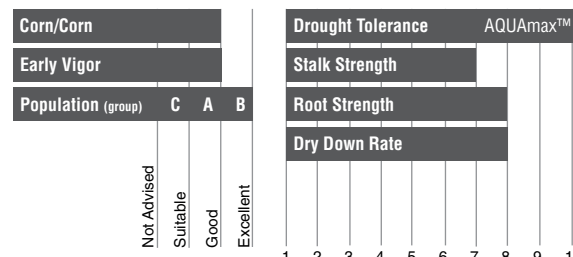
The problem solver.

- Prefers good ground
- Responds to high management practices
- Fixed ear requires population bump
- Husks open up for rapid dry down

**2N82AM™\***  
Brand



105 Day Maturity



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

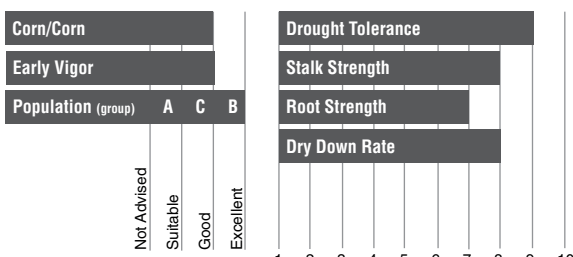
A nice early product for light soils.

- Allows growers to plant early and harvest early
- No additional (or separate) refuge required.
- Optimum® AQUAmax™ hybrid with great drought tolerance
- A good early season product for light soils

**4V43 S™\***  
Brand



108 Day Maturity



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

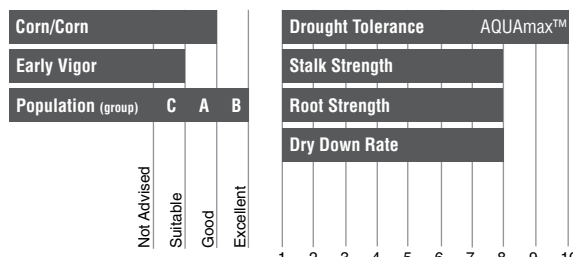
Tremendous yield potential and versatility.

- Coveted by growers for its tremendous yield potential
- Well adapted to the non-variant areas of Illinois and Missouri
- Good stalks and roots with consistency across environments
- Good health well into the fall

**4J93AM™\***  
Brand



109 Day Maturity



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

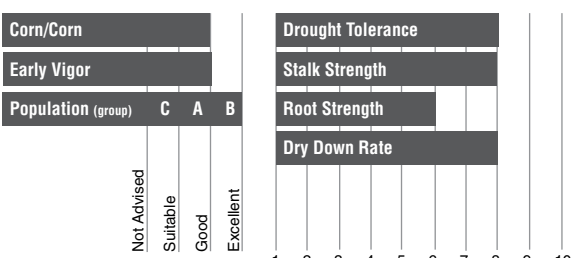
Setting a new performance standard.

- New Optimum® AcreMax® version of Power Plus 4J95AMX™\*
- Short, low ear with excellent ear retention
- Will work across geography
- Prefers medium to better soils
- Optimum® AQUAmax™ hybrid with great drought tolerance

**6C41 S™\***  
Brand



112 Day Maturity



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

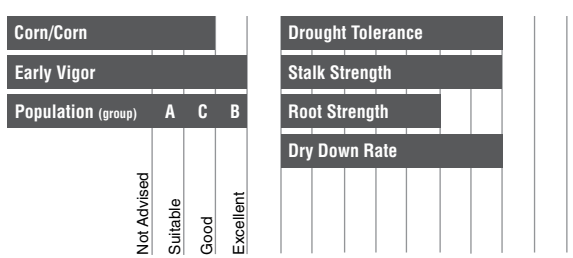
Hard endo premium candidate.

- Super high yield potential with durability across soils
- Taller plant type with excellent stalks
- Designed for Southern Illinois and Missouri
- Heavy test weight grain similar to Power Plus 7D51 Q™\*

**7H23 S™\***  
Brand



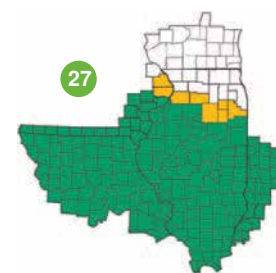
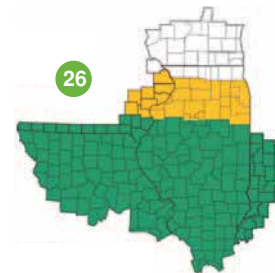
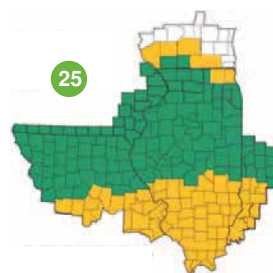
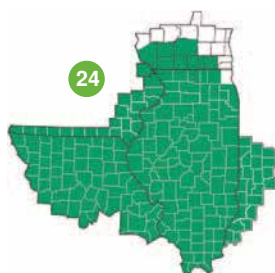
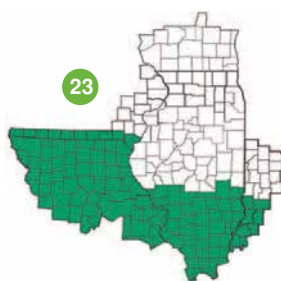
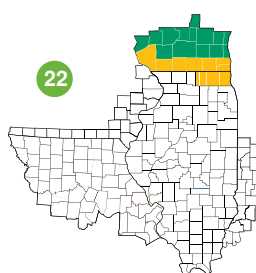
114 Day Maturity



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Might have the most raw yield of any product.



- Deep kernels with girth is a key attribute
- Great drought tolerance allows for wide adaptability
- Excellent ear retention helps extend the harvest window
- Silks early for maturity
- Outstanding performance






7U15AM-R™\*

Brand

114 Day Maturity



- Convenient with no separate refuge required
- Excellent agronomic characteristics
- Good drought tolerance
- Growers will appreciate this high yield potential

Population (group)	A	C	B
Corn/Corn	[Bar chart showing performance across soil types]		
Early Vigor	[Bar chart showing performance across soil types]		
Drought Tolerance	[Bar chart showing performance across soil types]		
Stalk Strength	[Bar chart showing performance across soil types]		
Root Strength	[Bar chart showing performance across soil types]		
Dry Down Rate	[Bar chart showing performance across soil types]		

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE



LIBERTY LINK

Off the chart performance.



28

8V08 S™\*

Brand

116 Day Maturity

- One of the highest yielding hybrids we've ever launched!
- Taller plant type with excellent stalks and roots
- Specifically designed for Southern Illinois and Missouri
- Works across all soils

Population (group)	A	C	B
Corn/Corn	[Bar chart showing performance across soil types]		
Early Vigor	[Bar chart showing performance across soil types]		
Drought Tolerance	[Bar chart showing performance across soil types]		
Stalk Strength	[Bar chart showing performance across soil types]		
Root Strength	[Bar chart showing performance across soil types]		
Dry Down Rate	[Bar chart showing performance across soil types]		

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

LIBERTY LINK

Superior yielding stacked product.


29

## CORN UPDATE


GLYPHOSATE-RESISTANT

2428 GTA

Brand



100 Day Maturity



- Excellent late-season stalk and fall appearance opening the harvest window
- Excellent performance across soil types
- Very good agronomics in early season product

Population (group)	C	A	B
Corn/Corn	[Bar chart showing performance across soil types]		
Early Vigor	[Bar chart showing performance across soil types]		
Drought Tolerance	[Bar chart showing performance across soil types]		
Stalk Strength	[Bar chart showing performance across soil types]		
Root Strength	[Bar chart showing performance across soil types]		
Dry Down Rate	[Bar chart showing performance across soil types]		

GLYPHOSATE

CONVENTIONAL

GLUFOSINATE


Early and tough.

30


NEW

2450 GT

Brand



100 Day Maturity



- Superb choice for no-till and early planting
- Keep on your best soils for best performance opportunities
- Top yield potential
- Great choice where growers have Goss's wilt concerns

Population (group)	C	A	B
Corn/Corn	[Bar chart showing performance across soil types]		
Early Vigor	[Bar chart showing performance across soil types]		
Drought Tolerance	[Bar chart showing performance across soil types]		
Stalk Strength	[Bar chart showing performance across soil types]		
Root Strength	[Bar chart showing performance across soil types]		
Dry Down Rate	[Bar chart showing performance across soil types]		

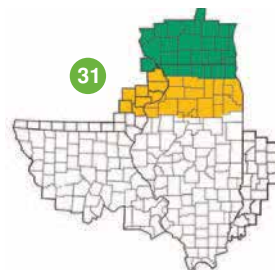
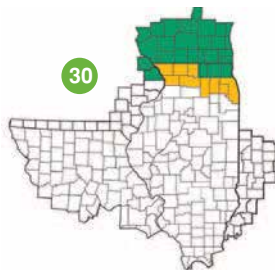
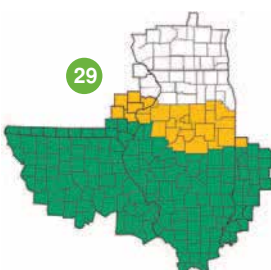
GLYPHOSATE

CONVENTIONAL

GLUFOSINATE

Top end yielder for better soils.

31





# CORN UPDATE



GLYPHOSATE-RESISTANT

## 1C21 R™\*

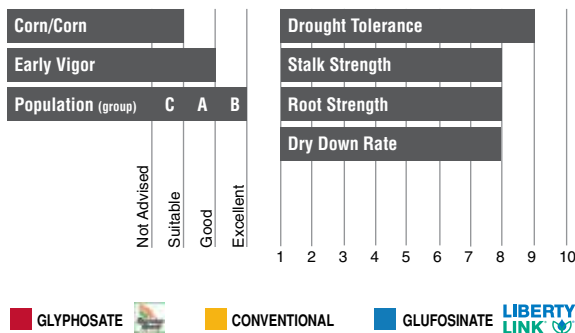
Brand

102 Day Maturity



NEW

- Short plant stature that stands well
- Very adaptable for lighter soils
- Great on your best dirt
- Good Northern Leaf Blight tolerance



Up to the challenge.

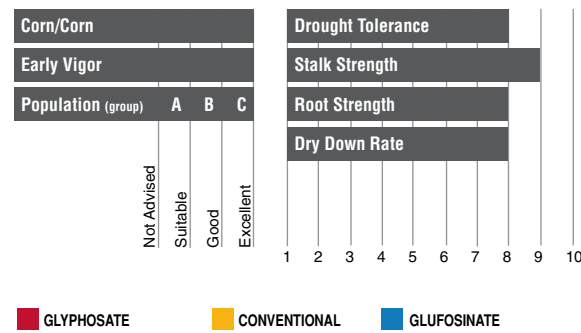
## 5124 GT

Brand

107 Day Maturity



- Very good stalk and stress tolerance
- Nice roots to anchor the plant
- Gain incremental yield improvement
- Very good ear-flex supports medium populations



Fits all operations.

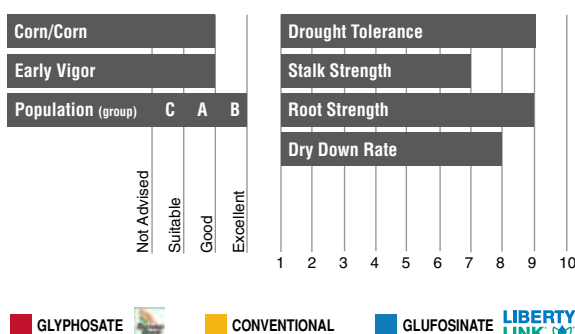
## 4P11 R™\*

Brand

108S / 105N Day Maturity



- Tough hybrid, widely adapted
- Consistently high yields
- A very complete package
- Performance merits use beyond just refuge



Expand the meaning of yield.

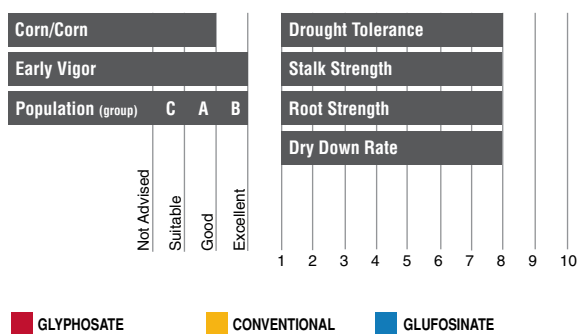
## 6J35 GT

Brand

110S / 112N Day Maturity



- Consistent across variable environments
- Higher populations allow for greater results
- Very good stalks and roots
- Optimum dry down characteristics



Very exciting performer...look at the Harvest Report.

## 5Z41 GT

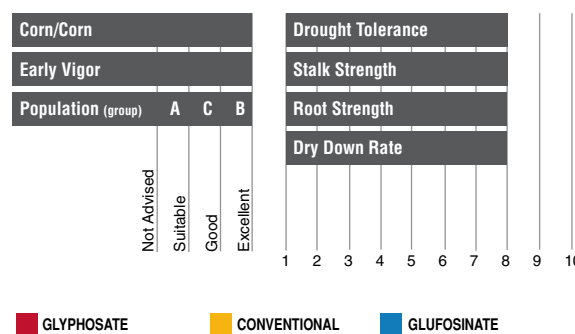
Brand

111 Day Maturity



NEW

- Nice early plant option across soil types
- Excellent in corn on corn situations
- Big ears with deep kernels to make you proud
- Prefers medium plant population densities



Long spiky kernels on a girthy ear spells yield.

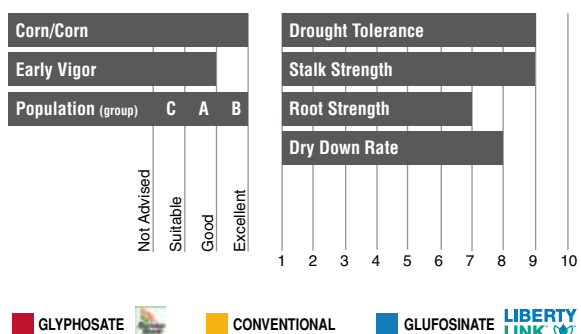
## 6F71 R™\*

Brand

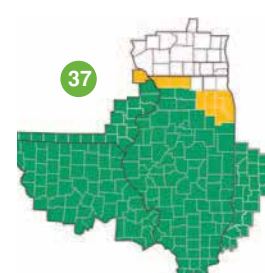
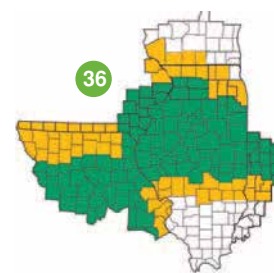
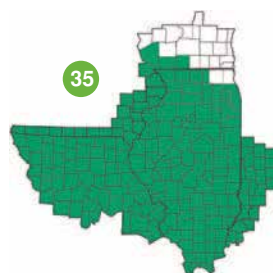
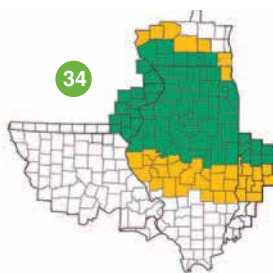
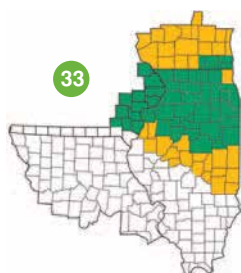
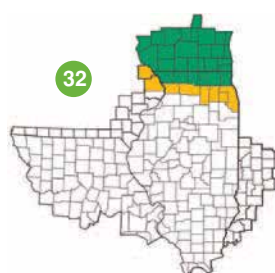
113 Day Maturity



- Tall plant type with medium ear placement
- Excellent stalks and very good roots
- Good drought tolerance
- Superb refuge choice



Plant it with confidence.





# CORN UPDATE



NON-GM

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

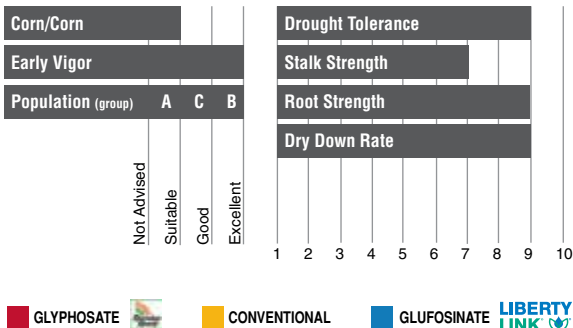
3252

Brand

102 Day Maturity

3252

*Hughes*



- Carries its lunch pail on those toughest soils
- Avoid plant growth regulators for best results
- Good Goss's Wilt rating allows for flexibility across acres
- Designed for IL/WI state line area

Rugged non-GM platform.

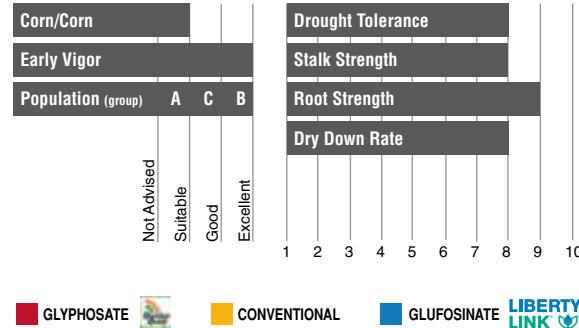
3442

Brand

102 Day Maturity

3442

*Hughes*



- Top performance in the IL/WI stateline area
- Not recommended for drought-prone soil
- Very good stalk and roots
- Medium plant size adds stability

High yield with non-GM freedom.

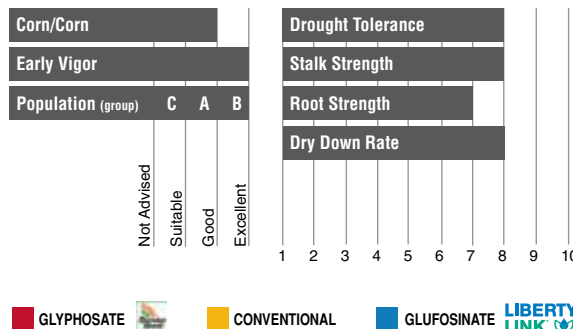
4373

Brand

104 Day Maturity

4373

*Hughes*



- Can handle all soil types with relative ease
- Optimal performance has been shown north of Route 136
- Nice early vigor is a key for no-tillers
- Excellent ear retention is a harvest time key

Broadly adapted.

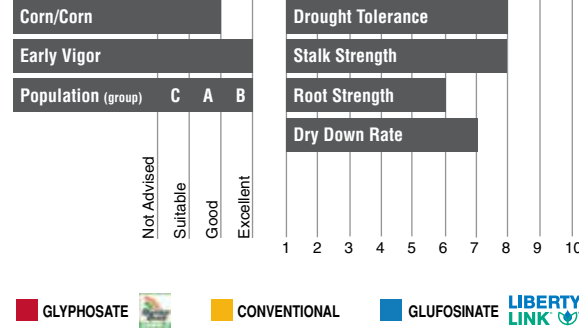
5D30

Brand

110 Day Maturity

5D30

Think **BURRUS**



- Extremely consistent across all soil types
- Excels in corn on corn management
- Sets big, girthy ears
- Excellent roots
- Outstanding performance

A great new conventional.

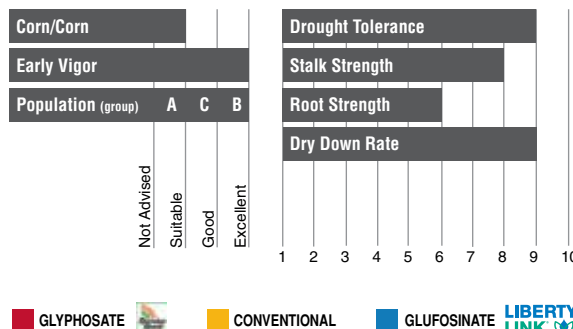
5N48<sup>TM\*</sup>

Brand

110S / 108N Day Maturity

5N48<sup>TM\*</sup>

POWER PLUS



- Heavy test weight grain is a crowning attribute
- Good stalks
- Excels under higher management practices like fungicide applications
- Avoid corn after corn and dryland sand

Super yield potential, fast drying.

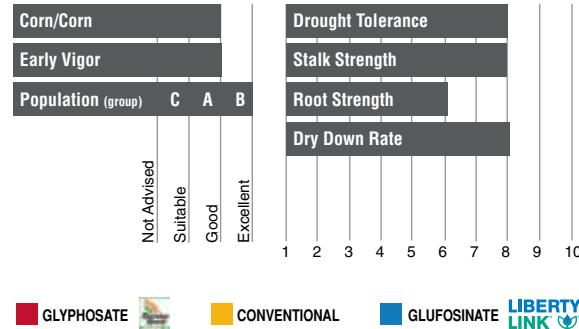
6C40<sup>TM\*</sup>

Brand

112 Day Maturity

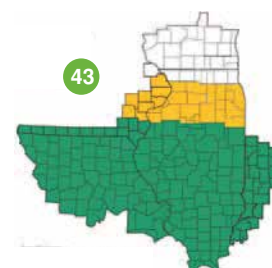
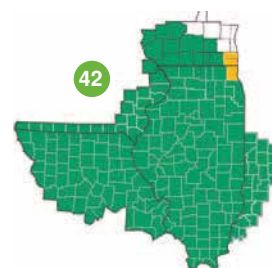
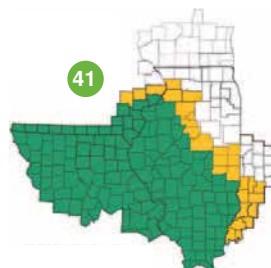
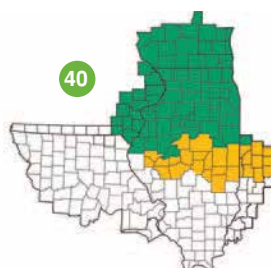
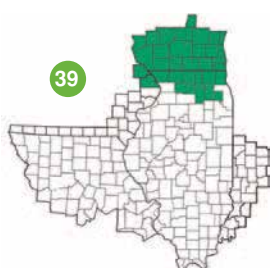
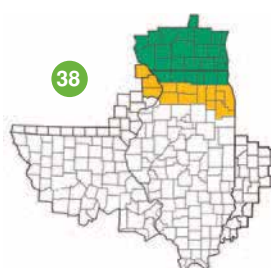
6C40<sup>TM\*</sup>

POWER PLUS



- Genetics for the non-GMO market!
- Marked by its high end yield response and consistency
- Taller plant type with excellent stalks
- Heavy test weight grain is the foundation

Hard endo premium candidate.





# CORN UPDATE



NON-GM

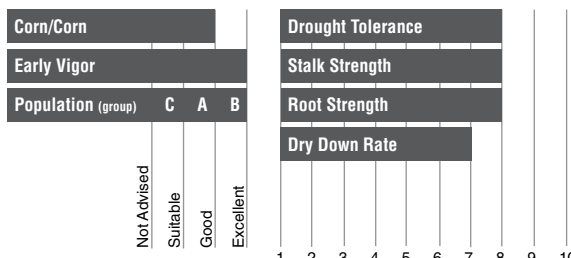
## 6G64

Brand

113 Day Maturity

6G64™\*

- Consistent ears equal high yields
- Excellent stalks and roots
- Good drought tolerance
- Good greensnap tolerance



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Super high yielding non GM.

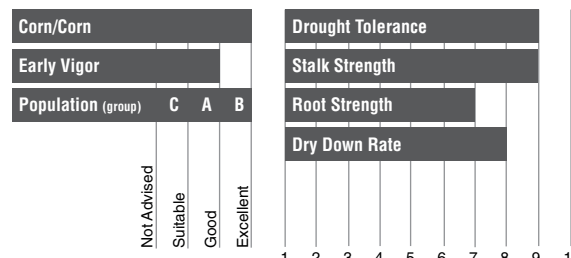
## 6F70™\*

Brand

113 Day Maturity

6F70™\*

- Tall plant type with medium ear placement
- Heavy test weight grain, food grade candidate
- Drought tolerance is a strength
- Very good leaf disease and ear rot tolerances



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Plant it with confidence.

## 750™\*

Brand

## 750

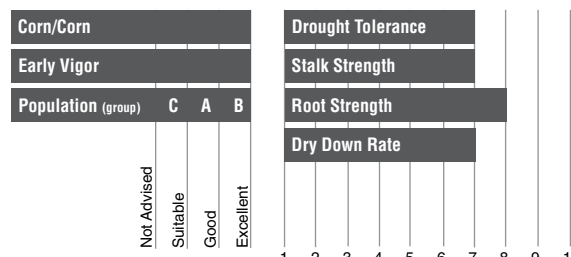
Brand

115 Day Maturity

750™\*

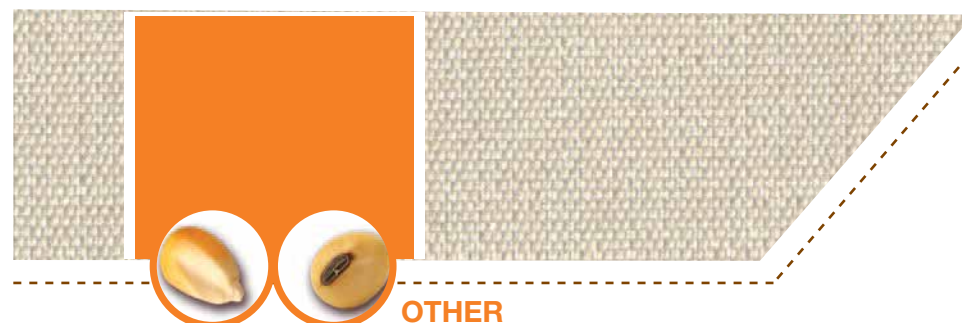
750

- Hard endo hybrid with awesome yields!
- Big plants with very good stalks and roots
- Great late season plant health
- Keep south of I-80



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

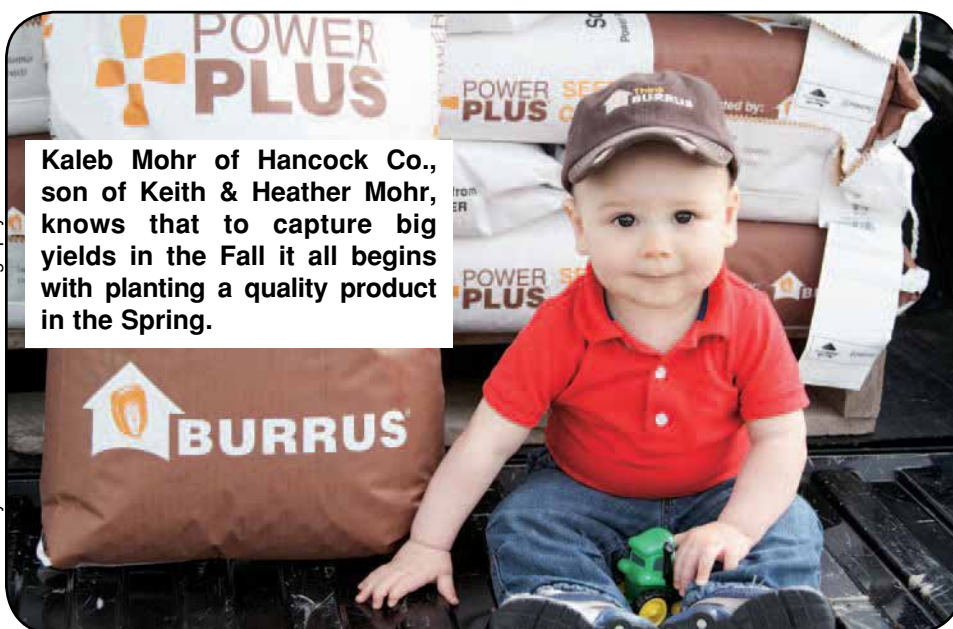
Capture a non-GM premium, hard endo too!



OTHER

Kaleb Mohr of Hancock Co., son of Keith & Heather Mohr, knows that to capture big yields in the Fall it all begins with planting a quality product in the Spring.

Photo by Holst Creative Touch Photography



## 1M45AMRW-R™\*

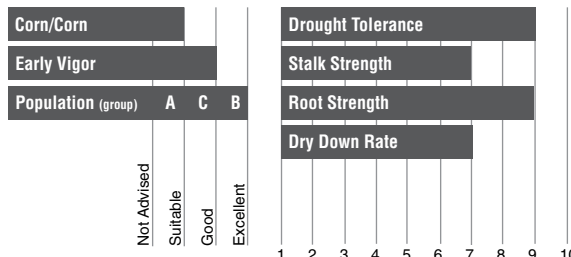
Brand



102 Day Maturity

AcreMax

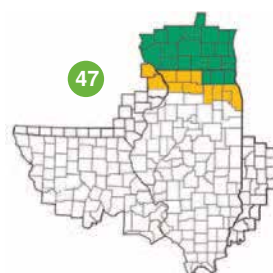
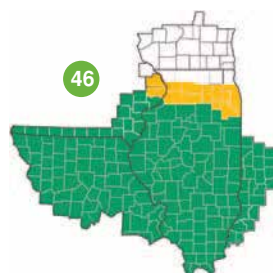
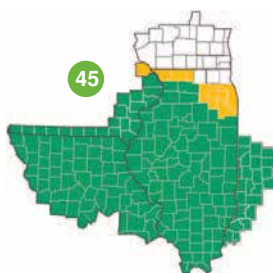
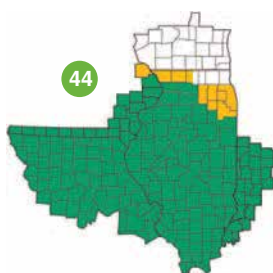
- Short stature with excellent roots
- Excellent stress tolerance with some ear flex
- Goes south well as an early corn
- Consider a late fungicide application for NCLB



GLYPHOSATE CONVENTIONAL GLUFOSINATE LIBERTY LINK

Everything you need in one bag.

NEW





CORN UPDATE



OTHER

541L

Brand

110 Day Maturity



Corn/Corn

Early Vigor

Population (group)

Not Advised  
Suitable  
Good  
Excellent

A

C

B

1 2 3 4 5 6 7 8 9 10

Drought Tolerance

Stalk Strength

Root Strength

Dry Down Rate

GLYPHOSATE



CONVENTIONAL

GLUFOSINATE



Outstanding Liberty® refuge product, hands down.



2014 Burrus family of products lineup by technology



Maturity	South/North	AMX	AMX-R	AM 1	AM RW-R	HXR	3111	4011	3000GT/3011A	TRIsect	AM	S	GCL	RR2	GT	L	NON GMO
94	100						27963111		29873011A				1285GCL		2428 GTA		
101	102				1M45AMRW-R <sup>TM</sup>										2450GT		
102	102					1H37Q <sup>TM</sup>											3442
103	105	2V56AMX <sup>TM</sup>							39533000GT						1C21 R <sup>TM</sup>		3252
105	105																4373
108/105	107								46073000GT						5124GT		
108/105	107								54563000GT	4P12Q <sup>TM</sup>				4P11R <sup>TM</sup>			
108/107	108	4Y27AMX <sup>TM</sup>															
108	108	4G46AMX <sup>TM</sup>							61323000GT								
108	108											4V43S <sup>TM</sup>					
108	109	4J95AMX <sup>TM</sup>	4B32AMX-R <sup>TM</sup>	4A30AM1 <sup>TM</sup>	4M31AMRW-R <sup>TM</sup>							4J93AM <sup>TM</sup>					
109/112	110/108						4685 3111										
110	110															541L	5N48 <sup>TM</sup>
111	111																5D30
112/110	112							6227 4011							5Z41 GT		
112	112								6J363000GT						6J35GT		
112	112	6F74AMX <sup>TM</sup>		6A12AM1 <sup>TM</sup>													6C40 <sup>TM</sup>
113	113														6F71R <sup>TM</sup>		6F70 <sup>TM</sup>
113	113																6G64
113/110	114								6T54 3000GT								
114	114				7A18AM1 <sup>TM</sup>							7U15AM-R <sup>TM</sup>					
114	115					7D51Q <sup>TM</sup>						7H23S <sup>TM</sup>					750
115	115						78933111										
116	116																
Herbicide resistance																	
Roundup		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Liberty		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Insects controlled		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ECB		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BCW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WBC		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SWCB		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FAW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NCRW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WCRW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MCRW		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SCSB		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SB		S	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SCB		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CEW		S	S	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Refuge needed in the CEW variant area

No refuge needed with EPA approval

no refuge needed

no refuge needed

20% using AMRW products

AMRW refuge options

20% with granular soil insecticide

20% with granular soil insecticide

20% with granular soil insecticide

20% with granular soil insecticide

20% with granular soil insecticide

20% with granular soil insecticide

20% with granular soil insecticide

20% with granular soil insecticide

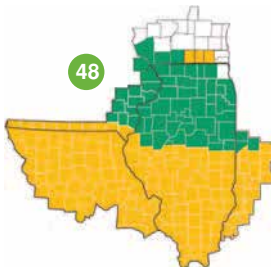
20% with granular soil insecticide

20% with granular soil insecticide

20% with granular soil insecticide

ECB -European Corn Borer, BCW- Black Cutworm, WBC -Western Bean Cutworm, SWCB Southwestern Corn Borer FAW -Fall Armyworm, WCRW -Western Corn Rootworm, NCRW- Northern Corn Rootworm

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**Address Service Requested**

# A variable rate leader.



## The Burrus Crop Optimization Planner:

- Select a field or farm to show each soil type and productivity.
- Identify how to control pests by answering a few questions.
- Choose one of four recommended products.
- Determine seed quantity needed based on the recommended population.
- If you have variable rate planting capability, build your monitor prescription.
- Gain an extra 8-16 bu/a with the C.O.P.