



Current News and Updates

I feel like we have just finished a growing season with every possible scenario. A wet April slowed planting progress early then we were blessed with warm temperature and moisture promoting rapid crop development. As our growing season turned to hot and dry we all wonder if yield potential had been lost. For the most part harvest has been a pleasant surprise, bean yields were better than expected even in areas that missed August rains. Some yield was lost on fuller season products north due to frost but most fields finished well.

Corn yields have been solid with better than expected test weight. Some variability has been noticed due to heat stress during pollination but most fields came through with decent kernel set and combined with solid populations yield potential was there. It appears that high management strategies like Headline applications and side dress nitrogen were beneficial as well. Even though plants had to cannibalize the stalk late season to finish the ear which caused some standability issues yields have been very consistent. Warm dry weather in late September and early October brought grain moistures down and now it's just a matter of harvesting corn as quickly as possible to avoid leaving grain in the field due to lodging, ear drop or head shell.

Managing Goss' Wilt

Monsanto Research Efforts. Over the past five years, there has been an increase in the incidence and severity of Goss's Wilt. Monsanto scientists have responded by increasing their focus on this difficult and unpredictable disease by expanding their screening and breeding efforts to develop new products with improvements in Goss's Wilt tolerance. Monsanto's commitment to agriculture resulted in an investment in the Gothenburg, Nebraska corn research location. This facility was established in an area where Goss's Wilt is a consistent challenge for farmers. This state of the art facility allows Monsanto research scientists to utilize new breeding methods to evaluate a broad range of germplasm from around the world to select hybrids with higher yield potential and to increase Goss's Wilt tolerance.



Figure 1. Inoculating Goss's Wilt screening locations for evaluating disease tolerance in new product development plots.

How is Monsanto Screening for Improved Goss's Wilt Tolerance? Improvements in disease tolerance are made by evaluating experimental products during early stages of product development by testing in both artificially inoculated Goss's Wilt screening nurseries and by evaluating tolerance under natural high pressure disease environments. Monsanto has committed additional testing resources to allow for screening at all stages of

to pg. 2 ▶



IOWA

Territory Agronomist

Territory Sales Manager

For additional agronomic information, please contact your Asgrow® and DEKALB® Brands Seed Representative.

ISSUE 1111

▶ from pg. 1 *Managing Goss's Wilt*

commercial product development, with a focused effort in strip trial evaluations during the final critical stages of commercial evaluation called Corn Advancement Trials and Market Development Plots. Data collected at all of these sites allow Monsanto researchers to characterize and select new products with improvements in yield and disease tolerance.



Figure 2. Disease screening techniques to evaluate Goss's Wilt tolerance.



Figure 3. Example shown above is two DEKALB® brands, one on the right shows resistance to Goss's Wilt. The one on the left is susceptible to Goss's Wilt. Products vary in their susceptibility to Goss's Wilt.

Primary Management Options to Reduce the Risk of Goss's Wilt:

1. Crop Rotation
2. Tillage
3. Product Selection
4. Control Weeds (Alternate Hosts)

Management Options for Goss's Wilt

Crop rotation can be an effective management tactic to reduce Goss's Wilt. Growers should evaluate product placement on a field by field basis, matching yield, agronomic traits and disease tolerance to their unique farming operations. Injury from hail or high winds usually plays a direct role in initial infection of Goss's Wilt.

Growers should evaluate their history of hail injury and protect their financial risk through the use of crop insurance. Your local crop insurance professional can help you determine what combination of hail insurance and multi-peril products is best for your operation.

Potential DEKALB® Brands for Fields With Expected Goss's Wilt Pressure

Brand	Trait
DKC43-10	Genuity® VT Double PRO™
DKC43-48	Genuity® VT Triple PRO™
DKC45-79	YieldGard VT Triple®
DKC45-82	Roundup Ready® Corn 2
DKC46-20	Genuity® VT Triple PRO™
DKC49-32	YieldGard VT Triple®
DKC49-94RIB	Genuity® SmartStax® RIB Complete™
DKC52-04	Genuity® VT Triple PRO™
DKC52-59	YieldGard VT Triple®
DKC52-61	Genuity® VT Double PRO™
DKC52-62	Roundup Ready® Corn 2
DKC54-16	YieldGard VT Triple®
DKC55-24	YieldGard VT Triple®
DKC56-55	Genuity® VT Triple PRO™
DKC58-19	Roundup Ready® Corn 2
DKC58-83	Genuity® VT Triple PRO™
DKC59-35	YieldGard VT Triple®

Brand	Trait
DKC59-37RIB	Genuity® SmartStax® RIB Complete™
DKC59-88	YieldGard VT Triple®
DKC59-89	Roundup Ready® Corn 2
DKC59-90RIB	Genuity® SmartStax® RIB Complete™
DKC61-06RIB	Genuity® SmartStax® RIB Complete™
DKC61-49	Genuity® VT Double PRO™
DKC61-88	YieldGard VT Triple®
DKC62-13	Genuity® VT Double PRO™
DKC62-54	YieldGard VT Triple®
DKC62-55	Roundup Ready® Corn 2
DKC62-58	Genuity® VT Double PRO™
DKC62-61	Roundup Ready® Corn 2
DKC62-63	Genuity® VT Triple PRO™
DKC62-97	Genuity® VT Triple PRO™
DKC63-42	YieldGard VT Triple®
DKC63-45	Roundup Ready® Corn 2
DKC63-80	Roundup Ready® Corn 2



ISSUE 1111 Interpreting Plot Data

Yield trial results offer an opportunity to compare corn and soybean products in a geography similar to one's own farm and can assist growers in selecting quality products for next season. As yield results are examined this fall and winter, keep in mind the following:

Evaluate Multiple Locations

Data from a single plot location near one's farm is only one snapshot of performance, and it may not provide a complete picture of hybrid potential. Hybrids may yield well at one location and poorly at another. Weather, insect pressure, and fertility are just a few variables that can affect hybrid performance across locations. Therefore, evaluation of a hybrid across multiple locations allows the greatest opportunity to get an accurate picture of its performance and consistency. If there is data available, an evaluation of hybrid performance across years is also beneficial.

Evaluate Multiple Scenarios

Field management can also affect hybrid performance. Take a look at the field history. When was the field planted? What was the crop rotation? How much tillage was involved? Was a soil insecticide used? How were weeds controlled? What traits were in the seed and how did they contribute to yield?

Seek Head-to-Head Comparisons

When trying to determine if one hybrid is superior to another, compare the hybrids not just at one plot, but at many. You may find that one product consistently outperforms the other.

In large plots with many entries, it may be tempting to compare two hybrids in the same plot. However, if Hybrid A is entry #3 and Hybrid B is entry #15, it probably would not make sense to compare the two hybrids when they are located so far from each other in the plot. It is better to compare each hybrid to the nearest "check" hybrid. A "check" hybrid or variety is to be used as a reference in comparing the yields of products that are in close proximity to it. The purpose of the "check" is to provide a relative measure of hybrid performance in that general area of the field. When the check is yielding well, you would expect neighboring products to also respond closer to the higher end of their yield potential. Conversely, if a check is not performing well, the neighboring products would be demonstrating their yield potential within that non-optimal part of the field.

Another good practice is to plant and harvest a second replication of the products you are trying to compare. Additionally, by reviewing the "brief summary" yield data section available on asgrowanddekab.com you have access to multiple comparisons from your local Monsanto representatives.

Statistical Differences

"Statistical differences" signify that the results are unlikely to have occurred by chance

Asgrow® and DEKALB® Brands Seed Product performance comparisons can be found on the website:

www.asgrowanddekab.com.

Growers can also direct questions regarding yield data and seed placement to Asgrow® and DEKALB® Brands Seed Representatives.

and have a high probability of repeating themselves. If yields are not determined to be statistically significant, it indicates that the differences due to seed products are not large enough relative to the experimental variation in the field. Plot results may include an LSD, which stands for least significant difference. This numerical value is usually listed at the bottom of yield tables. Differences among varieties are significant only if they are equal to or greater than the LSD value. For example, if the LSD value is 10, and Variety A yielded 12 bu/A greater than Variety B, then Variety A had a significantly higher yield at that plot location (Figure 1). If the LSD is 10, and Variety C yielded 7 bu/A greater than Variety B, then the varieties are not statistically different in yield at that location (Figure 4).

Additionally, plot results may include a coefficient of variation, or CV. This value refers to the magnitude of experimental variability relative to the mean, usually reported as a percentage (Figure 4). A high CV indicates that there is excessive experimental variability, leading to less precise estimates of yields of seed products. A low CV normally results from a more uniform plot location. In field test results, a CV of 15% or less is desired and the closer the CV is to zero, the higher the quality of data from that test.

Identify Differences not Related to the Seed

Plot results may include differences in yields that can come from variations across a plot test site. Care should be taken to identify how much of the yield variations reported may be attributed to other field factors not related to pg. 4

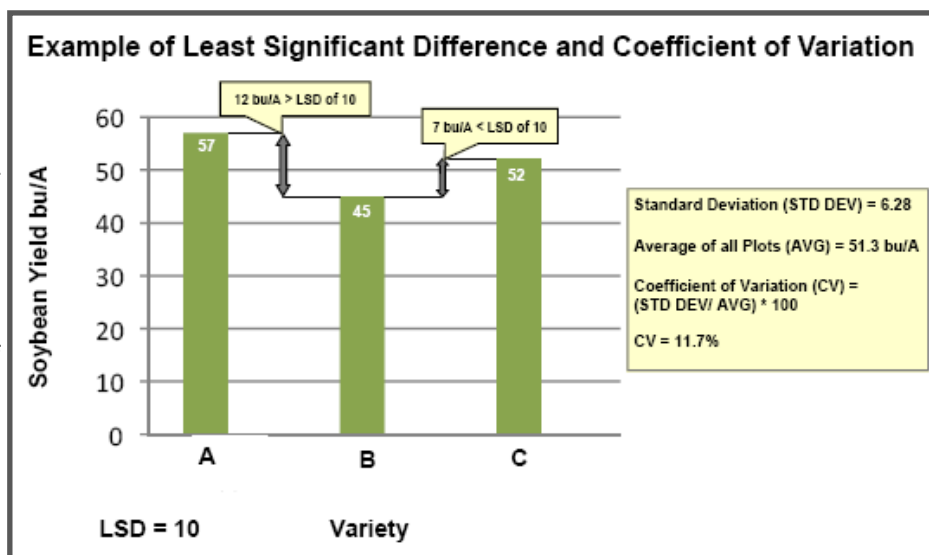


Figure 4. Difference in yield between Variety A and B is 12 bu/A. Since this is greater than the Least Significant Difference of 10, the yield difference is SIGNIFICANT and is NOT likely to be due to experimental variation in the field but genetic differences. Difference in yield between Variety C and B is 7 bu/A. Since this is less than the Least Significant Difference of 10, the yield difference is NOT SIGNIFICANT and IS likely due to experimental variation in the field and not genetic differences. The Coefficient of Variation from this test is 11.7%. A CV ≤ 15% is desired and the closer it is to zero the lower the amount of variability in the data.

ISSUE **1111**

SUBSCRIBE

Want to receive the Growing Knowledge® newsletter as soon as it is released, as well as agronomic ALERT and Spotlight publications on timely, local agronomic subjects? If so, please go to:

<http://growingknowledge.brightoninteractive.com> and sign up for email notifications sent by your Territory Agronomist.

IN THIS ISSUE

- Current News and Updates | 1**
- Managing Goss's Wilt | 1**
- Potential DEKALB® Brands for Fields With Expected Goss's Wilt Pressure | 2**
- Interpreting Plot Data | 3**

GROWING KNOWLEDGE

A KEY SOURCE FOR LOCAL AGRONOMIC INFORMATION



Growing Knowledge®

▶ from pg. 3 *Interpreting Plot Data*

to the seed choices.

In summary, yield trials can provide growers with important information that can help select quality corn and soybean products for the next season. To obtain quality yield data comparisons, follow the suggestions below:

- **Evaluate Multiple Locations** to help achieve the most accurate look at a hybrid or varietal performance and consistency.
- **Look at Field History.** Management practices such as tillage or weed control may have had an affect on

hybrid performance.

- **Seek Head-to-Head Comparisons.**
 - Compare products at multiple locations.
 - Compare each product to the nearest "check" hybrid in close proximity to it.
- **Consider Statistical Differences and Reliability.**
 - Least Significant Difference (LSD) is a value used to determine if plot values are statistically different.
 - Coefficient of Variation (CV) is a value used to determine how reliable a data set may be.

Monsanto Company is a member of Excellence Through Stewardship® (ETS). Monsanto products are commercialized in accordance with ETS Product Launch Stewardship Guidance, and in compliance with Monsanto's Policy for Commercialization of Biotechnology-Derived Plant Products in Commodity Crops. Commercial product(s) has been approved for import into 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 import is not permitted. Growers should talk to their grain handler or product purchaser to confirm their buying position for this product. Excellence Through Stewardship® is a registered trademark of Biotechnology Industry Organization. **B.t. products** may not yet be registered in all states. Check with your Monsanto representative for the registration status in your state. **IMPORTANT IRM INFORMATION: RIB Complete™** corn does not require the planting of a structured refuge **except** in the Cotton-Growing Area where corn earworm is a significant pest. **Genuity® SmartStax® RIB Complete™** Corn is a blended seed corn product. See the IRM/Grower Guide for additional information. Always read and follow IRM requirements. **Individual results may vary**, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** **Roundup Ready®** crops contain genes that confer tolerance to glyphosate, the active ingredient in Roundup® brand agricultural herbicides. Roundup® brand agricultural herbicides will kill crops that are not tolerant to glyphosate. Asgrow and the A Design®, Asgrow®, DEKALB and Design®, When Performance Counts®, DEKALB®, Genuity and Design®, Genuity Icons, Genuity®, Growing Knowledge and Design®, Growing Knowledge®, Monsanto and Vine Design®, RIB Complete™, Roundup Ready 2 Technology and Design®, Roundup Ready®, Roundup®, SmartStax®, VT Double PRO™, VT Triple PRO™, and YieldGard VT Triple® are trademarks of Monsanto Technology LLC. Ignite® and LibertyLink® and the Water Droplet Design® are registered trademarks of Bayer. Herculex® is a registered trademark of Dow Agro-Sciences LLC. Respect the Refuge and Corn Design® and Respect the Refuge® are registered trademarks of National Corn Growers Association. All other trademarks are the property of their respective owners. ©2011 Monsanto Company.



Before opening a bag of seed, be sure to read, understand and accept the stewardship requirements, including applicable refuge requirements for insect resistance management, for the biotechnology traits expressed in the seed as set forth in the Monsanto Technology/Stewardship Agreement that you sign. By opening and using a bag of seed, you are reaffirming your obligation to comply with the most recent stewardship requirements.