



The Response of Refuge Corn Products to Population Density

Study Guidelines

A corn demonstration trial was planted on April 16, 2013 at the Monsanto Learning Center near Scott, MS to:

- Evaluate the response of refuge (non-*B.t.*) corn products to low, medium and high populations.
- Determine the population that optimizes the yield potential for each refuge corn product.
- Show growers how to optimize performance of refuge corn products in their corn refuges.
- Encourage improved grower compliance with refuge requirements

Twelve DEKALB® corn brands (DKC57-22, DKC58-81, DKC59-89, DKC61-86, DKC64-69, DKC64-82, DKC66-94, DKC66-97, DKC67-86, DKC68-04, DKC69-43, and DKC69-72) were each planted at populations of 31,000, 34,000, and 37,000 seeds/acre.

Results and Conclusions

- Growers should select locally adapted refuge corn products with similar maturity and agronomic characteristics to the corn products with insect protection traits.
- There is a wide selection of non-*B.t.* corn products that may be planted in a refuge.
- DEKALB® brand refuge corn products are bred for strong roots and strong stalks.
- Refuge corn products should be scouted and treated if target insects reach threshold levels.
- With proper selection and management, refuge corn products have very good yield potential.

Summary

- All corn growers in the Cotton-Growing Area who plant any corn products with *Bacillus thuringiensis* (*B.t.*) technology are required by the EPA to plant a non-*B.t.* corn refuge.
- A non-*B.t.* corn refuge will help reduce the risk of insects developing resistance to the *B.t.* insect-protection trait.
- Specific refuge requirements for *B.t.* corn products can be found in the IRM Grower guide at: <http://www.genuity.com/stewardship/Pages/InsectResistanceManagement.aspx>
- To help ensure compliance, growers can use the IRM Refuge Calculator, which can be found at: <http://www.refuge.irmcalculator.com>.
- Contact your DEKALB® brand seed representative for questions about specific corn products and refuge requirements.

Corn Brands		Average Yield (Bushel/Acre)
DKC57-22		176
DKC58-81		178
DKC59-89		166
DKC61-86		172
DKC64-69		199
DKC64-82		186
DKC66-94		187
DKC66-97		212
DKC67-86		203
DK 68-04		186
DKC69-43		163
DKC69-72		175
Overall Average		184

Figure 1. Refuge corn products in this demonstration produced an overall average yield of 184 bu/acre, with individual product yields ranging from a low of 163 bu/acre to a high of 212 bu/acre.

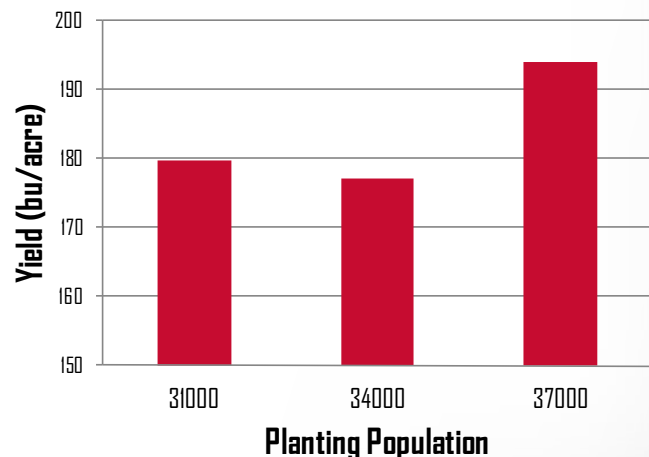


Figure 2. Refuge corn products produced higher yields at higher plant populations.



Monsanto Learning Center at Scott, MS

2013 DEMONSTRATION REPORT

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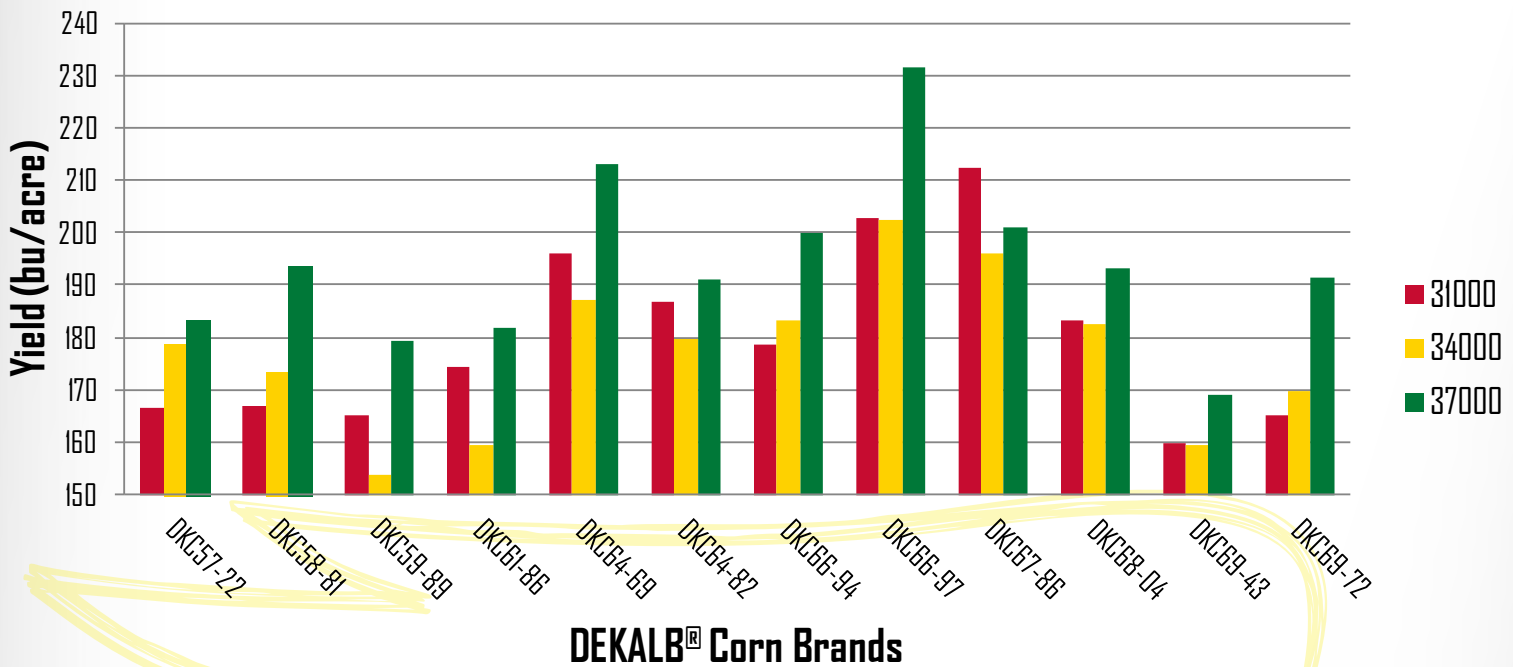


Figure 3. Response of refuge corn brands to population. Growers should evaluate refuge corn product characteristics, and yield potential, as well as their own agronomic decisions, as they select refuge corn products.

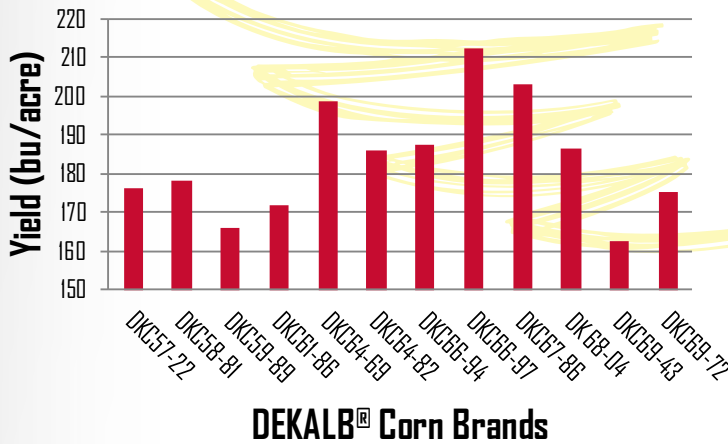


Figure 4. All refuge corn products tested produced average yields of more than 160 bushels per acre at all population levels.



Figure 5. Cotton-Growing Area

Legals

The information discussed in this report is from a single site, 2 rep demonstration. This informational piece is designed to report the results of this demonstration and is not intended to infer any confirmed trends. Please use this information accordingly.

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B.t. products may not yet be registered in all states. Check with your Monsanto representative for the registration status in your state.

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.

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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.

