Standability Evaluations of DEKALB® Brand Corn Products in the Midsouth

Delays in corn harvest can expose corn crops to an increased level of weather-related lodging. Weather-related lodging can result in significant yield loss and the severity can be influenced by planting population and other corn product characteristics[1]. This demonstration trial was conducted to evaluate the ability of DEKALB® brand corn products to stand in the field after the normal harvest window. These evaluations may aid growers in product placement and in-season management decisions. Standability and other product characteristics also serve as preliminary indicators of relative standability among the evaluated corn products.

Study Guidelines

A corn demonstration trial was conducted at the Monsanto Learning Center at Scott, MS to evaluate the ability of DEKALB® brand corn products to stand in the field over a month after the normal harvest time. Corn product standability has an influence on population decisions at planting. Eleven DEKALB® corn brands (DKC61-88, DKC61-78, DKC66-40, DKC62-08, DKC64-69, DKC66-87, DKC66-97, DKC67-57, DKC67-88, DKC68-03, and DKC69-29 brands) and one competitor product were chosen for this demonstration. The trial was set up as 600 ft strip plots and two subplots were harvested from within each strip at two different harvest timings to evaluate standability. One subplot was harvested in a timely manner and the second subplot was harvested 50 days later. Corn was planted on April 16th. The first harvest date was September 16th and the second harvest date was November 5th. The second harvest date was delayed even later than anticipated due to early November thunderstorms. Data was also recorded for ear height, weight, and momentum (average ear height X average ear weight). Standard agronomic practices for the region were implemented and plots were irrigated as needed.

Results

Six of the DEKALB brand corn products (DKC66-40, DKC62-08, DKC66-87, DKC66-97, DKC67-57 and DKC69-29 brands) had similar yields to the first harvest (Figure 1). When harvest was delayed, two DEKALB brand corn products (DKC61-78 and DKC68-03 brands) experienced moderate yield losses of 18% and 10%, respectively. DEKALB brand corn products DKC61-88 brand, DKC64-69 brand, DKC67-88 brand and the competitor product showed the highest yield losses from the delayed harvest of 25.6%, 20.8%, 26.2%, and 41.3%, respectively.

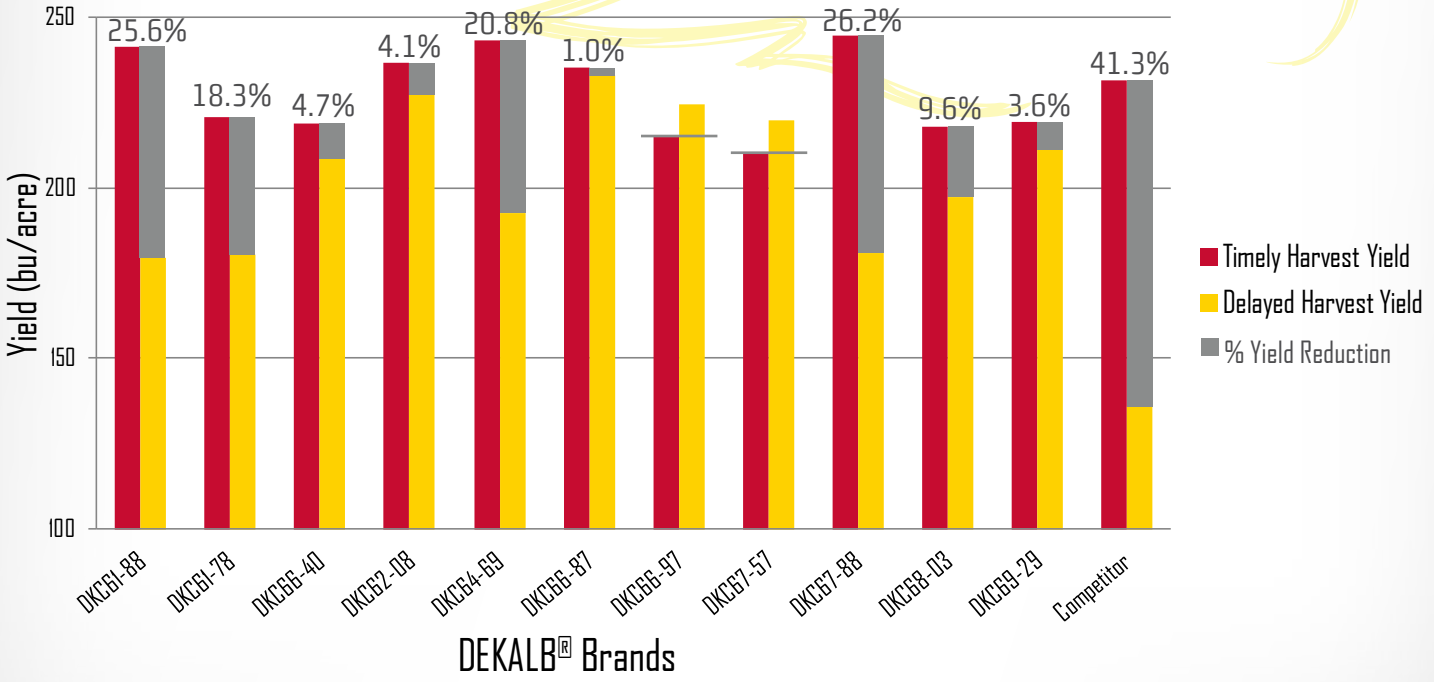

Figure 1. Timely and delayed harvest yield and % loss of delayed harvest for eleven DEKALB® brand corn products and a competitor product.

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Summary Comments

Table 1 lists the percent yield loss found between the timely and delayed harvest, as well as, corn product characteristics: ear height, ear weight, and momentum. Product characteristics can influence the standability of the corn products. Growers should use stalk and root strength ratings of each hybrid to adjust planting populations in the spring. The order of field harvest is often dictated by planting date and relative maturity, but farmers should use published stalk and root strength ratings and scouting to modify the schedule to obtain the best results.

In the event that taller corn products with high ear placement are planted, the following steps can help manage weather-related risks:

- Establish yield goals and provide fertility to maximize stalk quality and grain yield
- Plant low to mid populations (31,000-34,000 kernels per acre)
- Plant corn products with potential lodging risk first
- Manage for earliness
- Harvest these corn products first

Table 1. Standability Evaluations of DEKALB® Brand Corn Products in the Midsouth

Brands	Loss Between 1st and 2nd Harvest (%)	Average Ear Height (inches from the ground)	Average Ear Weight (grams)
DKC61-88	25.6%	51.5	289.3
DKC61-78	18.3%	44.2	285.9
DKC66-40	4.7%	53.8	281
DKC62-08	4.1%	52.6	297.4
DKC64-69	20.8%	48.9	329.6
DKC66-87	1%	47.3	317.2
DKC66-97	-4.4%	43.3	281.8
DKC67-57	-4.5%	46.3	332
DKC67-88	26.1%	63.8	288.5
DKC68-03	10.0%	46.9	267.6
DKC69-29	3.6%	44.4	297.5
Competitor	41.3%	51.7	288.8

Sources and Legals

[1] Thomison, P.R., et al. 2011. Corn response to harvest date as affected by plant population and hybrid. Agron. J. 103:1765-1772 (2011);
[2] Evaluation of DEKALB® Brand corn products to planting density. Scott Learning Center Demonstration Report 2012.

Additional sources used to create this Learning Center Summary: Erickson, B. and Valentin, L. September 2008. Evaluating corn harvest timing. Purdue University. Top Farmer Crop Workshop Newsletter.

The information discussed in this report is from a single site, non-replicated, one-year 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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