

# THE IMPACT OF CORN SEED SIZE AND SHAPE ON YIELD POTENTIAL

## TRIAL OVERVIEW

- Every year, farmers must turn their attention to the seed they will be planting.
- Many farmers prefer a particular seed size and/or have had issues with a particular seed size in the past. However, as planters have improved in their ability to handle many different seed sizes, the question arises, "Does seed size and shape impact yield and stands?"

## RESEARCH OBJECTIVE

- To determine if corn product seed size and shape has an impact on seedling emergence and yield.

Location	Soil	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield/Acre	Planting Rate/Acre
Gothenburg, NE	Hord silt loam	Corn	Strip tillage	04/21/2017	10/24/2017	270 bu/acre	34,000 seeds/acre

### SITE NOTES:

- The following seed shapes and sizes were used in the study: AF (medium flats) 34.5 lb. unit, AF 40.0 lb. unit, AR (medium rounds) 43.0 lb. unit, AF2 (large flats) 48.5 lb. unit, and AR2 (large rounds) 59.0 lb. unit.
- A 110 RM SmartStax® RIB Complete® corn blend product was used.
- The study was conducted as a randomized complete block design with five treatments and six replications.
- Corn was seeded with a precision plot planter at a depth of 2.25 inches.
- Emergence stand counts were taken at five dates: May 11, May 12, May 13, May 15, and May 22, 2017.
- During the growing season, final stand count, barren plants, green-snapped plants, and the number of plants that died prematurely were recorded.
- Weeds were controlled uniformly throughout the season and no insecticides or fungicides were needed to control insects or diseases.

## UNDERSTANDING THE RESULTS

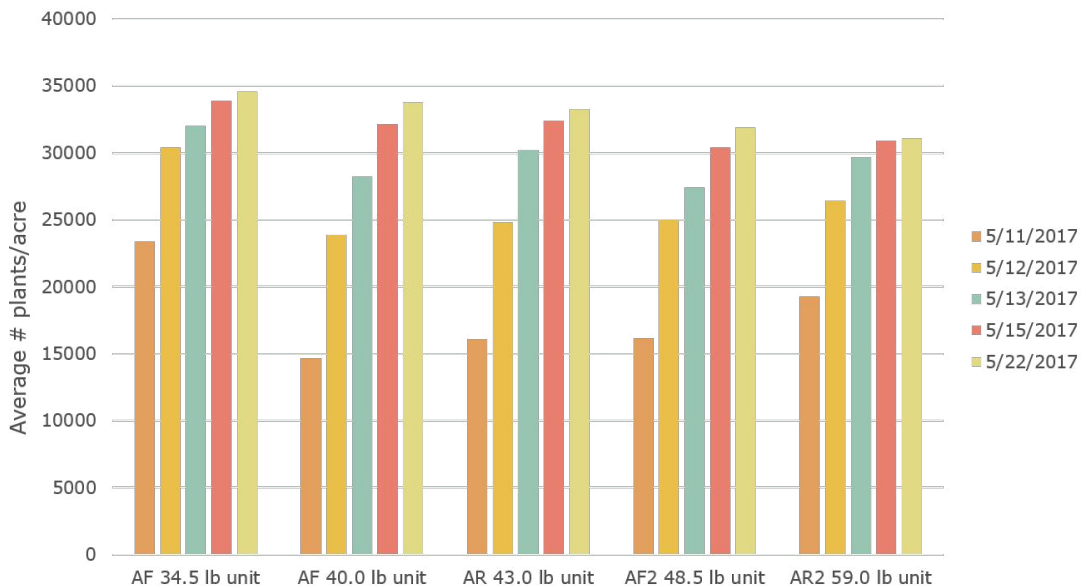


Figure 1. Average number of plants per acre counted on the five different dates

Seed Size	Average Yield (bu/acre)	Final Stand (plants/acre)
AF 34.5 lb unit	269.5	34,881
AF 40.0 lb unit	266.0	33,827
AR 43.0 lb unit	263.9	34,101
AF2 48.5 lb unit	268.6	33,173
AR2 59.0 lb unit	264.7	31,870*
LSD (0.1)	NS	1,641

Table 1. Impact of seed size on yield and final stand count. \*The larger seed may not have been planted properly by the planter. NS = non-significant.



Figure 2. Plot photos: AF 34.5 lb. unit (left), AR 43.0 lb. unit (middle), and AR2 59.0 lb. unit (right)

- No difference was observed in the number of barren plants, green-snapped plants, or plants that died prematurely between the different seed sizes.
- There were some differences in initial corn emergence between the different seed sizes, especially between the May 11 and May 12 stand counts (Figure 1), but the emergence numbers taken on May 22 were similar to the final stand count numbers reported in Table 1.
- There was a slight reduction in final stand counts when using the larger seed size.

## WHAT DOES THIS MEAN FOR YOUR FARM?

- This was a limited study evaluating seed size from one corn product at one location with six replications. However, the results from this study indicate that there was no difference in yield performance between the various seed sizes.
- For additional information on this subject, please read the Spotlight, *The Impact of Corn Seed Size on Yield Potential*.



## LEGAL STATEMENT

The information discussed in this report is from a single site, replicated demonstration. This information 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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**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.

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