

THE IMPACT OF ROW SPACING IN HIGH DENSITY CORN SYSTEMS

TRIAL OVERVIEW

- Corn seeding rates are increasing in both irrigated and dryland environments as indicated by final plant populations and ear counts in the most recent USDA Crop Production Summary.¹
- As farmers move production into higher density systems, continued evaluation of production factors is necessary.

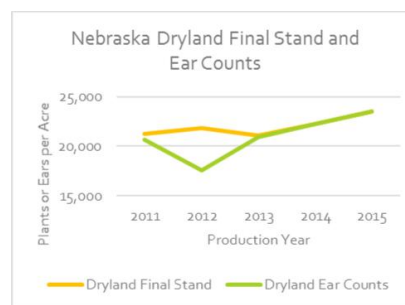
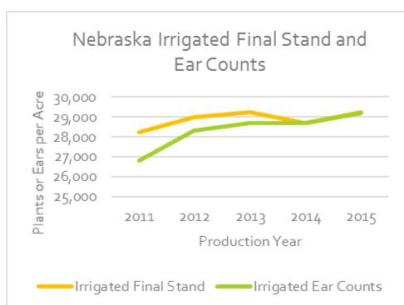


Figure 1. Average irrigated corn seeding rate in Nebraska from 2011 to 2015. Figure 2. Average dryland corn seeding rate in Nebraska from 2011 to 2015.

RESEARCH OBJECTIVE

- This study was established to determine the impact of 30-inch rows and 30-inch twin rows planted at high seeding densities on corn yield potential.

Location	Soil	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield/Acre	Planting Rate/Acre
Gothenburg, NE	Silt Loam	Soybean	Strip-till	04/25/2016	10/11/2016	230	42-60,000

SITE NOTES:

- A 114 RM corn product was planted with a 30-inch planter and a 30-inch twin row planter with rows 8 inches apart.
- Three replications were laid out in a randomized complete block of four-row plots 80 feet long by 10 feet wide.

UNDERSTANDING THE RESULTS



Figure 3. Ear size and plant spacing at 60,000 plants/acre in 30-inch row spacing.



Figure 4. Ear size and plant spacing at 60,000 plants/acre in 30-inch twin rows.

- Yield was significantly increased by planting the 114 RM corn product in 30-inch twin rows as compared to standard 30-inch rows.
- In this demonstration, corn planted on 30-inch twin rows had a higher average yield than corn planted on 30-inch single rows. Average yield increased as seeding density increased at 48,000 and 54,000 seeds/acre.

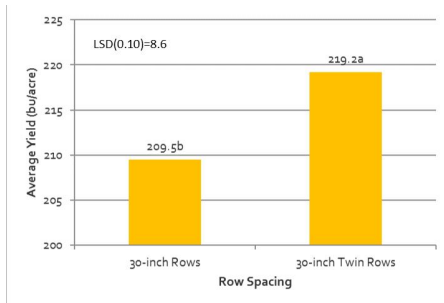


Figure 5. Average yield of 114 RM corn product in 30-inch single and 30-inch twin row spacing.

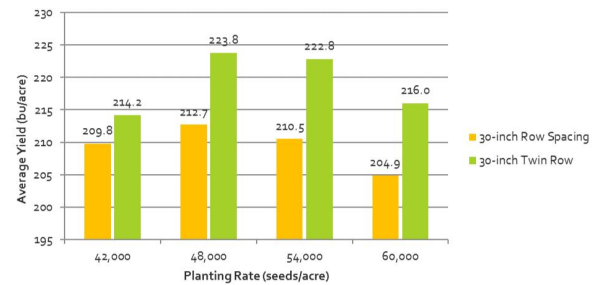


Figure 6. Average yield of 114 RM corn product by planting rate and row spacing.

- This study indicated that different row spacings such as 30-inch twin rows could increase yield potential over standard 30-inch rows when planting a high density corn product.
- However, this was only one corn product in one environment, so continued studies to assess more corn products and row spacings, such as 20-inch rows, will help build a better body of data.
- Results of previous research have varied and earlier work in Nebraska has indicated a 3 bu/acre advantage of using 30-inch twin row spacing when compared to 30-inch row spacing.²

SOURCES

1 Crop Production 2015 Summary. 2016. United States Department of Agriculture, National Statistics Service. ISSN: 1057-7823. <http://usda.mannlib.cornell.edu/>.

2 Barr, R.L., Mason, S.C., Novacek, M.J., Wortmann, C.S., and Rees, J.M. 2013. Row spacing and seeding rate recommendations for corn in Nebraska. University of Nebraska-Lincoln Extension. G2216. <http://extensionpublications.unl.edu/>.

LEGAL STATEMENT

For additional agronomic information, please contact your local brand representative.

Developed in partnership with Technology Development & Agronomy by Monsanto.

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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