



Corn Product Yield Advancements 2018

Trial Objective

- Understanding how corn products respond to different management practices is critical to realizing the product's full yield potential.
- The objective of this trial was to assess corn products across two seeding rates and two irrigation strategies to determine the best management practices for these products.

Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Seeding Rate (seeds/acre)
Gothenburg, NE	Hord silt loam	Wheat	Strip tillage	04/30/18	10/19/18	280	28K, 36K

- Ten corn products ranging from 108 to 116 RM were planted at 28,000 and 36,000 seeds/acre under 100% full irrigation (FI) and 30% FI with four replications.
- A split-split-plot design was used with irrigation strategy as the whole plot, corn product as the sub plot, and seeding rate as the sub-sub plot.
- Because of the unusual timely precipitation events during the growing season, the amount of irrigation applied was only 0.6 and 2.0 inches for the 30 and 100% FI treatments, respectively.
- Rainfall totaled 23.85 inches over the course of the growing season.
- All weeds were controlled uniformly throughout the study area and no fungicide or insecticide was used in crop.

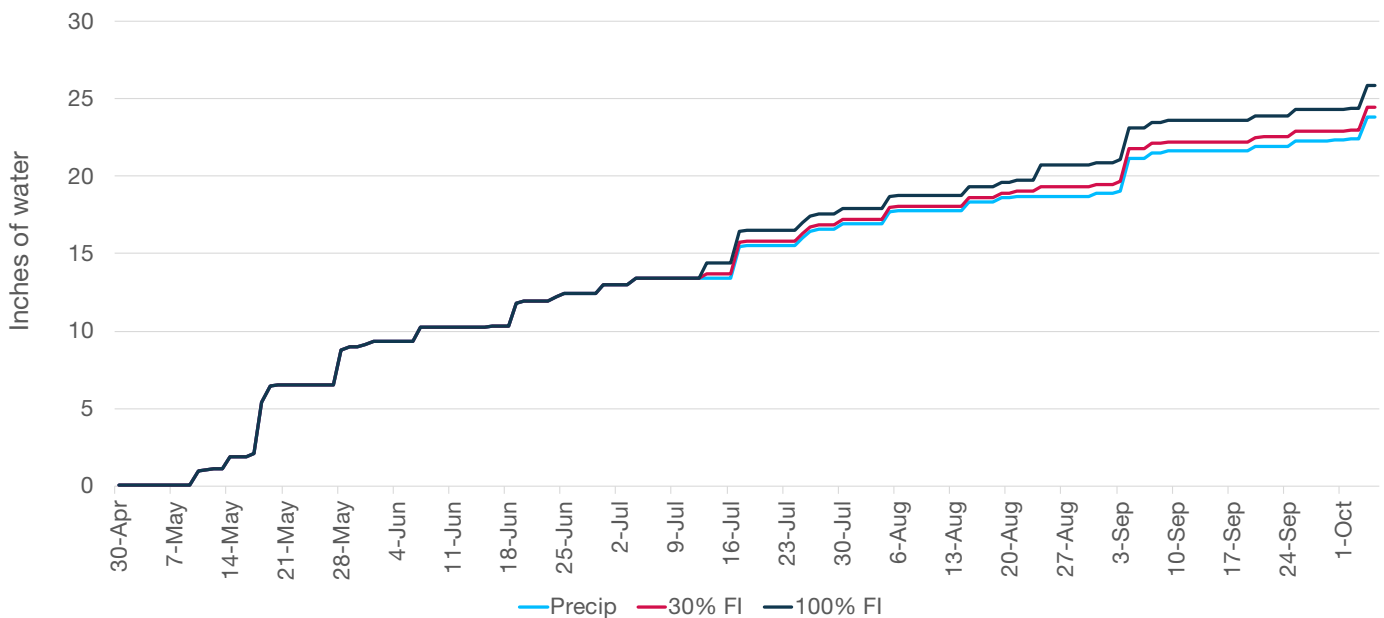


Figure 1. Cumulative precipitation and irrigation during the 2018 growing season. Note that very little irrigation was needed causing very little stress even in the 30% FI treatment.



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Understanding the Results

- The irrigation environment did not dramatically impact yield in 2018 due to timely precipitation events and moderate temperatures during the growing season (Figure 2).
- Yields differed between corn products, with four corn products out yielding the competitor corn products (Figure 3).
- Seeding rate influenced yield across all corn products and irrigation environments with a 15 bu/acre increase observed from increasing the seeding rate by 8,000 seeds/acre.

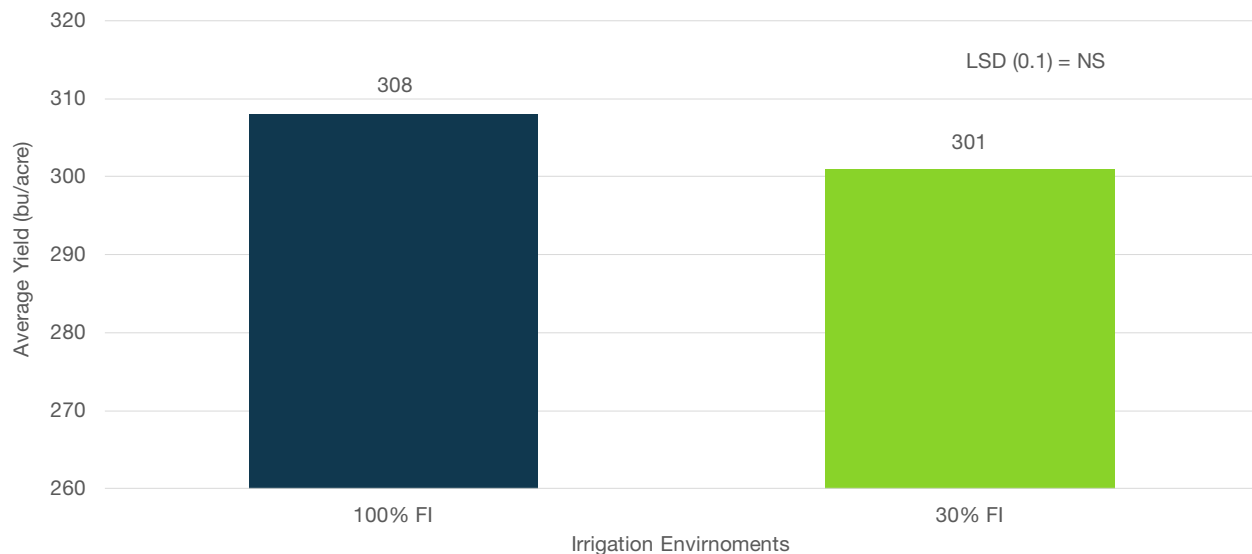


Figure 2. Average yield by irrigation environment across both seeding rates and corn products.

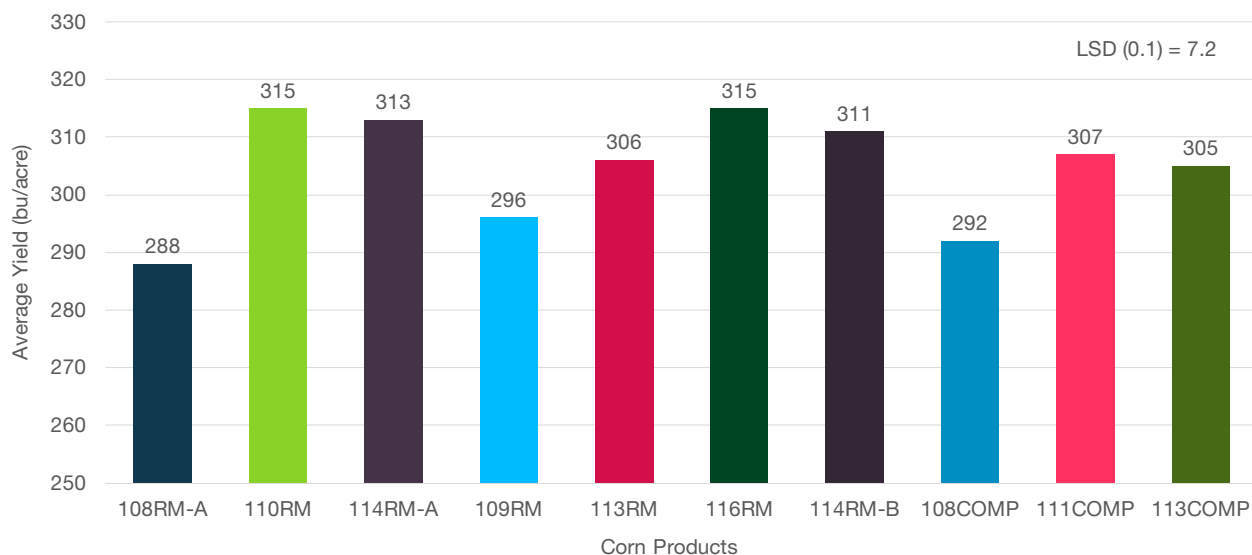


Figure 3. Average yield across irrigation environment and seeding rate for the ten corn products.



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- Significant differences for corn products were not observed in yields across the different irrigation by seeding rate environments, although there were some numerical differences in yield recorded (Table 1).
- There was a significant increase in yield for all corn products when the seeding rate was increased (Figure 4).

Table 1. Average yields of corn products by irrigation environment and seeding rate (note that there are no significant differences).

Corn Product	Irrigation Environment	Seeding Rate (seeds/acre)	Average Yield (bu/acre)	Corn Product	Irrigation Environment	Seeding Rate (seeds/acre)	Average Yield (bu/acre)
108RM-A	100%FI	28K	280	116RM	100%FI	28K	312
108RM-A	100%FI	36K	299	116RM	100%FI	36K	341
108RM-A	30% FI	28K	272	116RM	30% FI	28K	293
108RM-A	30% FI	36K	301	116RM	30% FI	36K	313
110RM	100%FI	28K	306	114RM-B	100%FI	28K	312
110RM	100%FI	36K	331	114RM-B	100%FI	36K	319
110RM	30% FI	28K	305	114RM-B	30% FI	28K	294
110RM	30% FI	36K	321	114RM-B	30% FI	36K	317
114RM-A	100%FI	28K	310	108COMP	100%FI	28K	288
114RM-A	100%FI	36K	320	108COMP	100%FI	36K	295
114RM-A	30% FI	28K	301	108COMP	30% FI	28K	292
114RM-A	30% FI	36K	319	108COMP	30% FI	36K	293
109RM	100%FI	28K	293	111COMP	100%FI	28K	307
109RM	100%FI	36K	305	111COMP	100%FI	36K	319
109RM	30% FI	28K	289	111COMP	30% FI	28K	298
109RM	30% FI	36K	297	111COMP	30% FI	36K	303
113RM	100%FI	28K	293	113COMP	100%FI	28K	299
113RM	100%FI	36K	323	113COMP	100%FI	36K	317
113RM	30% FI	28K	295	113COMP	30% FI	28K	300
113RM	30% FI	36K	312	113COMP	30% FI	36K	305
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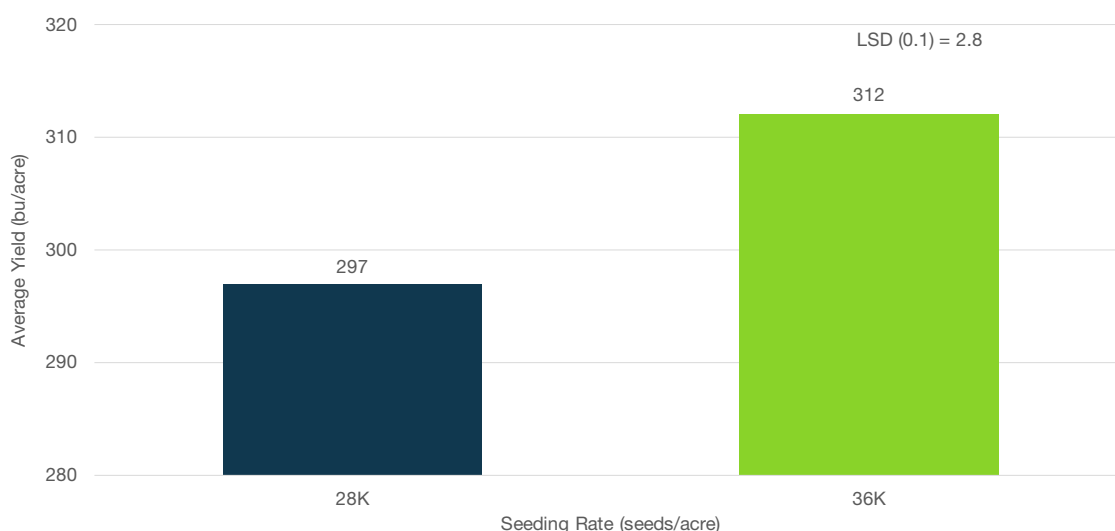


Figure 4. Average yield by seeding rate across both irrigation environments and corn products.



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113RM at 100%FI and 28K/a



113RM at 100%FI and 36K/a



Figure 5. Representative corn ears from the 113RM corn product at 100% FI and 28,000 seeds/acre (top) and from the same 113RM corn product at 100% FI and 36,000 seeds/acre (bottom).

What Does This Mean for Your Farm?

- Increasing the seeding rate from 28,000 to 36,000 seeds/acre significantly increased yield for all corn products across both irrigation environments.
- The four top-yielding corn products out yielded all competitor corn products across the different irrigation environments and seeding rates.

Legal Statements

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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