



Impact of Planter Settings on Corn Yield

Trial Objective

- To measure the impact of seed firmers and properly set row cleaners on corn yield potential.
- Previous work at the Monmouth Learning Center has illustrated the importance of proper planter settings and their impact on even emergence:
 - The Value of Proper Planter Settings – 2017 Monmouth Learning Center Demonstration Report
 - Click on the following link to view the Monmouth Learning Center video talking about planter settings recorded Spring of 2018. <https://vimeo.com/262847274>
- Choice of equipment can affect seed placement, seed-to-soil contact, and the quality of the seed bed. These factors can impact evenness of seedling emergence and stand establishment, ultimately impacting yield.

Research Site Details

Location	Soil Type	Previous Crop	Tillage Type	Planting Date	Harvest Date	Potential Yield (bu/acre)	Planting Rate (seeds/acre)
Monmouth, IL	Silt loam	corn	Conventional till (no-till in 2017)	4/30/18	10/1/18	250	36K

- This was a repeat of a trial we conducted in 2017 on no-till, continuous corn. In 2018, the trial was located in a field with conventional tillage and in the second year of corn production.
- Treatments included:
 - Properly-set row cleaners with seed firmers
 - Properly-set row cleaners without seed firmers
 - Improperly-set row cleaners (not enough pressure) with seed firmers
 - Improperly-set row cleaners without seed firmers
- Each treatment had two replications.

Understanding the Results

- When both seed firmers and row cleaners were used and set correctly, the two-year average yield was 287.6 bu/acre.
- With properly-set row cleaners and seed firmers, we achieved an average of an additional 13.8 bu/acre.
- Without seed firmers, the two-year average yield was 280.9 bu/acre, and with improperly-set row cleaners the two-year average yield was 279.9 bu/acre.
- Without seed firmers and improperly-set row cleaners, the two-year average yield was 273.8 bu/acre.



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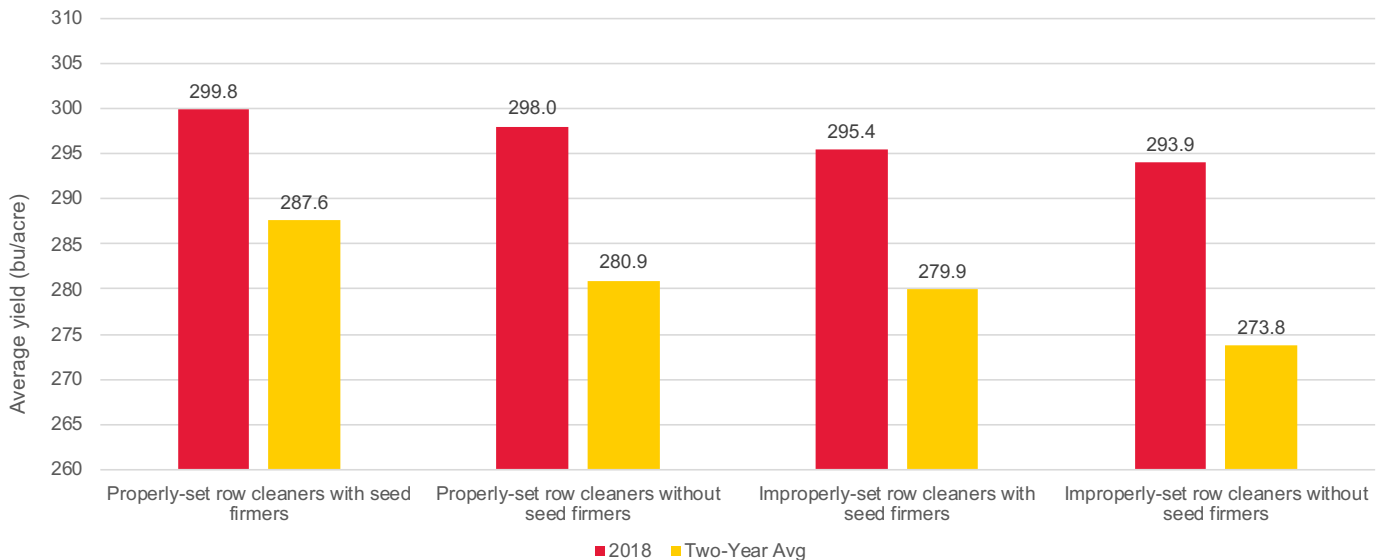


Figure 1. Impact of planter settings on corn yield.

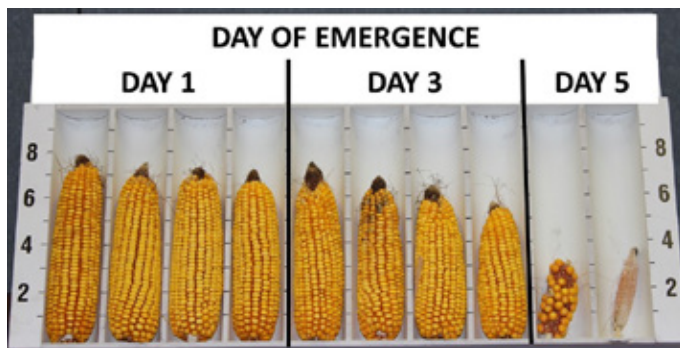


Figure 2. Impact of uneven corn emergence. Later-emerging plants lack the ability to compete for resources, resulting in lower yield potential. Properly adjusted planters can help prepare the seedbed and maximize seed-to-soil contact, which can help promote even emergence.

What Does This Mean For Your Farm?

- Accurate seed placement, good seed-to-soil contact, and a clean seedbed are important factors in enabling corn seedlings to establish quickly and begin growing vigorously.
- Seed firmers can help improve seed-to-soil contact, leading to better establishment, more even emergence, and potentially higher yields.
- Properly set row cleaners can also provide an environment that promotes even emergence which can have a positive impact on crop yield potential.

Legal Statements

Performance may vary, from location to location and from year to year, as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible and should consider the impacts of these conditions on the grower's fields.

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