

Planter Adjustment Tips for Larger Corn Seed Size

Corn seed size is influenced by both genetics and the environment. Seed parents may be intrinsically small-medium-, or large-seeded; thus, even when growing conditions are similar, seed parents differ from each other in the seed size they produce. In addition, because the growing environment also plays a major role in seed size determination, the same seed parent can produce different seed sizes under different growing conditions.

Genetic effects on seed size are largely predictable, but weather conditions and their effects on seed size are not. Consequently, growers are often faced with using seed sizes that are above or below the norm, even though the most stringent management practices may be implemented by seed growers and suppliers. With appropriate planter adjustments, however, excellent planting accuracy and stands can be achieved using either large or small seed. This bulletin, produced in a collaborative effort between DuPont Pioneer and equipment providers, offers management tips to help growers maximize planter performance and ensure the highest possible planting accuracy with larger seed sizes.

Seed Delivery

Central Commodity System (CCS), Bulk Fill, or Air Seed Delivery (ASD) planter systems may be challenged with larger and more heavily-treated seed. To help ensure a high level of performance, proper attention must be given to:

- **Seed Lubricants:** The liberal use of a seed lubricant, specific by planter type, is critical. Thorough mixing of these lubricants in seed generally produces the best results. Planter-specific information may be found in the DuPont Pioneer Seed Corn Plantability Guidelines.

Dust-reducing fluency agent is available as an alternative for talc, graphite and talc/graphite blended planter seed lubricants. Dust-reducing fluency agent helps reduce the amount of total dust and further minimizes the amount of active ingredient potentially released in treated seed dust during planting.

Seed Lubricant Requirements for Canada:

- If using a lubricant for seed flow purposes with neonicotinoid-treated corn seed, only dust-reducing fluency agent is permitted. Talc and graphite are no longer permitted for this purpose in positive or negative air planters.



- If a grower requires graphite to lubricate the planting mechanism (eg. finger pick-up units for corn or for soybean brush metering systems) this is still acceptable.
- If a grower has not used a lubricant in their planter in the past, it is not necessary to start using dust-reducing fluency agent now. This is strictly to replace the past usage of talc and graphite for planters that needed it to help move the seed through the system.
- Please be sure to follow the labelled use rates for the dust-reducing fluency agent. Do not over-apply.

Dust-Reducing Fluency Agent Guidelines

Add dust-reducing fluency agent at the rate of 1/8 cup per 80,000-kernel unit of seed or 4 3/8 cups per 35 bushels. Mix the dust-reducing fluency agent thoroughly into the seed. When filling large central fill seed hoppers, add the dust-reducing fluency agent to seed as it is filling the hopper to assure even distribution. Do not use more than 1/8 cup per seed unit. Dust-reducing fluency agent can be used in all makes and types of planting equipment that recommend the use of a planter seed lubricant.

- **Seed Treatment:** The performance of standard treatment versus high-rate treatment (with a higher load or buildup of treatment on the seed) may be different. Generally, large seed combined with high-rate treatment will require a higher level of management. Tank pressure, fan speeds, and other adjustments should be made for the specific seed/treatment combination that is being planted. Refer to the planter operator's manual for recommendations.

- **Ground Speed:** High population settings, combined with high ground speed, may provide challenges. With higher ground speeds, the metering units are operating at faster RPM's, making it more challenging to keep seed in place as the unit rotates. If meters are "starving" for seed, a reduction in ground speed may provide a solution. Do not exceed the planter manufacturer's recommendations for ground speed.
- **Equipment Modifications:** For John Deere® CCS planters produced prior to Model Year 2005, replace the inlet hose (obsolete JD Part # A75164) in the mini-hopper of the row units with a larger inlet hose (current JD Part # A77493). Planters produced since 2005 have the large inlet hose factory-installed.

Seed Metering

- **John Deere Vacuum:** Increase vacuum level at the meter by 10% to 20% to keep seed flowing and improve meter accuracy.
- **Kinze EdgeVac:** For most kernel sizes, set vacuum at 18 inches. Incrementally increase the vacuum level to improve accuracy when needed on larger, more heavily treated seed.
- **Case IH® Vacuum Planter:** Incremental upward vacuum adjustments may produce improved performance with large, heavily-treated seeds.



- **Precision Planting e-Set® Vacuum Disc:** Precision Planting's recommended 15 to 18 inches of vacuum is adequate for most seed sizes; however, larger seed treated with a high-rate seed treatment may require up to 22 inches of vacuum depending on field conditions.
- **Finger Units:** With larger seed, especially if graphite is not used in liberal amounts, the brush can push the seed from under the finger, causing skips. Finger units need graphite for lubrication; the addition of graphite will improve the performance of finger units. Adding a small amount of seed in the bottom of the hopper along with a little extra graphite at startup can greatly improve finger unit accuracy. This is especially important for first-of-year planter season startup and will provide a lubricating layer to minimize any meter build-up of treatment.

- **Precision Planting® Finger Units:** By design, these fingers do not open wide enough to let larger round seed sizes under them. Installing a Precision Planting shim will typically correct this issue.

Batch-Specific Plantability Information

For the most precise recommendations, you can directly access information for individual seed batch numbers and your specific planter type at www.pioneer.com/plantability.



Find the Batch ID for Corn

The Pioneer® Field360™ Plantability app provides precise planter settings for corn seeds of all sizes and shapes. The Pioneer Field360 Plantability app allows users to scan the seed bag tag and select the planter make. The app then generates a customized grid with the suggested plate or disc size, pressure or vacuum setting speed, and the singular setting, in addition to the predicted seed drop for each individual batch and planter combination. This tool is available for iPad®, iPhone® and Android™ devices currently. To download, go to the Apple Store or Google Play on your device.



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The foregoing is provided for informational use only. Please contact your Pioneer sales professional for information and suggestions specific to your operation. Product performance is variable and depends on many factors such as moisture and heat stress, soil type, management practices and environmental stress as well as disease and pest pressures. Individual results may vary.

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