FIELD FACTS

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# Planter Adjustment Tips for Larger Corn Seed Sizes

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 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:

- ✓ **Planter Lubricants:** The liberal use of talc, graphite, or a talc/graphite blend, 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 Pioneer "Plantability Guide".
- ✓ **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. John Deere recommends talc only and does not support the use of graphite or talc:graphite blends.
- ✓ **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. Kinze recommends

graphite and does not generally support talc:graphite blends except for extremely high humidity conditions.

- ✓ **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 Poncho®1250/Votivo® may require up to 22 inches of vacuum depending on field conditions.
- ✓ **White®**: Although talc has generally not been required with this unit, improved performance has been achieved by adding talc at a rate of ½ to 1 cup per hopper during humid conditions. This has proven to improve both the seed release from the disk as well as reducing treatment buildup on the disk.
- ✓ **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 and the addition of graphite or talc plus graphite (at a recommended 80/20 talc-to-graphite ratio) 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.

## Plantability Reports

Plantability reports on individual seed lots are available directly from your local Pioneer sales representative, or can be accessed online through the Pioneer.com website. Researchers have studied the importance of equidistant corn seed spacing and have shown that 3.4 bu/acre of yield potential can be lost for every inch of standard deviation from uniform plant spacing. A team within Pioneer tests each lot number of every Pioneer hybrid for plantability accuracy, including those treated with seed treatments such as PPST 250 or Poncho 1250/ Votivo. This information can show how each hybrid will plant through each machine with different disks or vacuum settings. To obtain plantability information:

- Contact your local Pioneer sales provider **OR**
- Log on to the Pioneer.com website – (http://www.pioneer.com)

  and click on the "Agronomy" tab. Next click on "Plantability Tools" in the "Tools" section, enter your batch ID from your corn tag, and select your planter.

Find the Batch ID for Corn


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