

Planter Adjustment Tips for Larger Soybean Seed

Soybean seed size is influenced by both genetics and the environment. Under similar growing conditions, varieties will differ from each other in the seed size they produce - small, medium, or large. Genetic effects on size of seed are largely predictable but weather conditions and their effects on size of seed are not. Consequently, growers are often faced with using seed sizes that are above or below the norm. With appropriate planter adjustments, however, excellent planting accuracy and stands can be achieved, even with 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 soybean seed. Refer to your planter manufacturer's owner's manual for complete recommendations.

Seed Delivery

Central Commodity System (CCS™), Bulk Fill or Air Seed Delivery (ASD) planter systems may be challenged with larger seed as well as 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.
- ✓ **Seed Treatment:** The planter performance of untreated versus treated seed may be different. Generally, larger seed combined with 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, especially when 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.

Seed Metering

Kinze® Brush Meter: Brush meters have two discs available for soybeans. When the size falls on the split, typically you will need the 48-cell (dark blue) disc (see table at top of next column).

Crop	Disc Color-code (Disc Part No.)	Upper Brush Retainer	Cells	Seed Size range	Lubricant
Soybean	Black (GA5794)	GD11122	60	2200-4000	Graphite/talc
Specialty Soybean	Dark Blue (GA6184)	GD11122	48	1400-2200	Graphite/talc

- ✓ **Kinze EdgeVac®:** Kinze recommends graphite and does not generally support talc/graphite blends except for extremely high humidity conditions.
- ✓ **Case IH® Vacuum Planter:** The soybean seed disk with 130 holes can create a low vacuum issue when the larger soybeans touch each other. This causes the soybean seeds to sit in the pocket incorrectly. Use the soybean disk with 80 holes. If the maximum planting speed is too slow with the 80-hole soybean disk, order a 100-hole soybean disk.

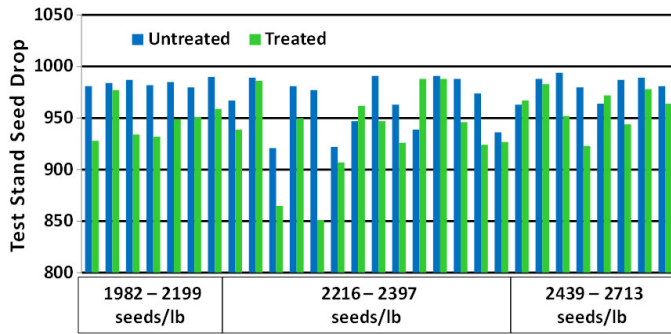
Description	Part Number
3.5 mm 100-hole soybean disk	87698876
4.5 mm 100-hole soybean disk	87698875

- ✓ **John Deere® Vacuum:** Start with eight inches of vacuum and adjust to match seed size/treatment. John Deere recommends talc only and does not support the use of graphite or talc/graphite blends.
- ✓ **John Deere Radial Bean Meter:** There are three standard soybean seed size settings. Refer to operator's manual for correct setting to match seed that is being planted.
- ✓ **White®:** Although talc has generally not been recommended with this unit, improved performance has been achieved by adding ½ to 1 cup talc per hopper during humid conditions.

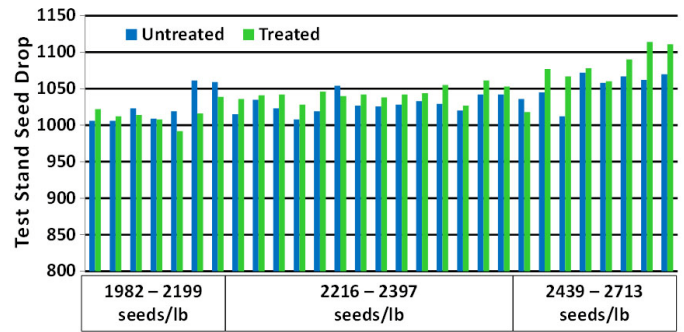
Soybean Plantability Testing by Pioneer

- ✓ Pioneer conducted plantability tests of 2012-produced soybean seed using seven different planter metering units.
- ✓ Treated and untreated samples were tested for each seed source. The treatment included: EverGol™ Energy, Allegiance®, Gaucho® and PPST 2030.
- ✓ Seed tested included 29 sources ranging in size from 1982 to 2713 seeds/pound.
- ✓ Planter stand seed drop of 1000 seeds would represent perfect plantability. Results are shown below:

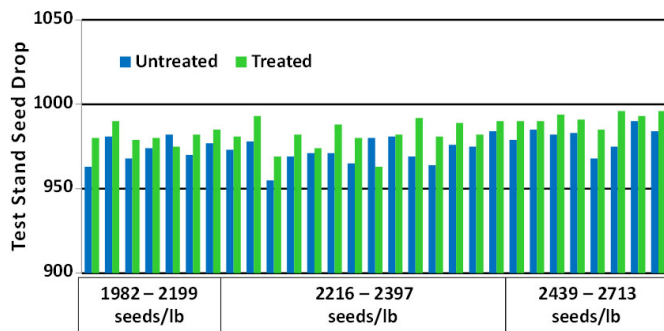
Kinze® Brush Meter – 60-cell plate



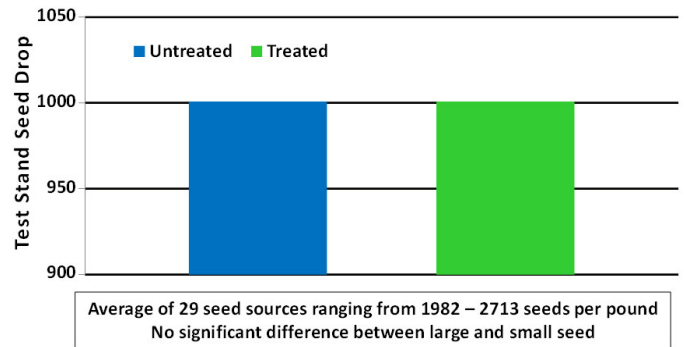
Kinze Brush Meter – 48-cell plate



John Deere® Radial Bean Meter – Seed Setting “C”

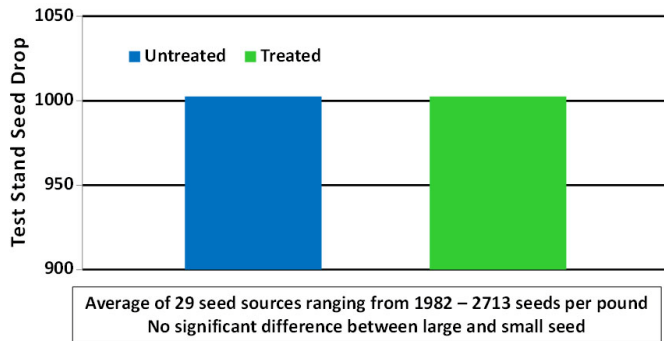


John Deere Vacuum – 108-Cell Soybean Disk



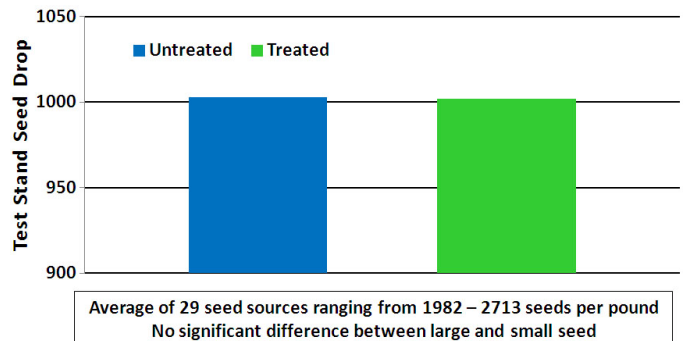
Up to 8 Inches Vacuum Pressure

Case IH® – Vacuum – ASM – 100-Cell Soybean Disk



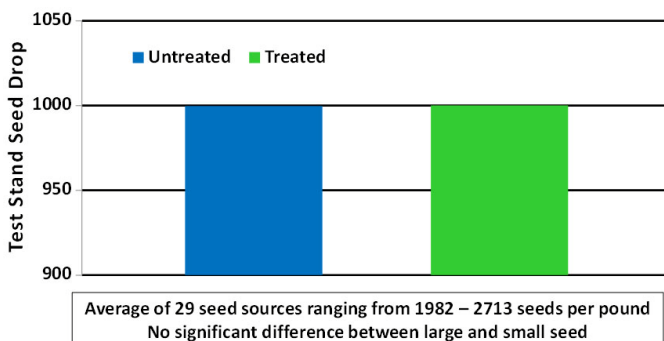
13 – 16 Inches Vacuum Pressure

AGCO White® – Air – 60-Cell Seed Disc (852433-60)



1 – 2 Inches Air Pressure

Precision® E-Set – Vacuum



14 – 15 Inches Vacuum Pressure

Plantability Testing - Conclusions

- ✓ Treated and untreated seed planted close to 100% on the vacuum and air planters with very few skips and doubles.
 - Equal plantability of treated and untreated seed demonstrates the value of the seed treatment polymer used by Pioneer in improving flowability and reducing dust-off.
- ✓ Acceptable plantability could be achieved with seed as large as 1,982 seeds/lb with proper planter settings or plate selection on any of the planters tested.

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