

## PLANTER ADJUSTMENTS FOR SOYBEANS

**Always refer to the manufacturer's manual and any added aftermarket equipment manuals before performing any maintenance.**

### Setting and Adjusting the Planter

Seed bags or tags should be reviewed for planting recommendations. Bag weight and seeds per pound are commonly printed on the tag or bag. To obtain the desired planting rate, the manufacturer's manual for the planter or drill should be referenced for recommended settings and planting. Along with the manufacturer's manual, the manuals for any added aftermarket parts should also be referenced for planting recommendations. Soybean planting rates should be based on seeds per acre or foot of row rather than pounds per acre.

Tables 1 and 2 may be helpful for selecting an initial seed disc or for determining vacuum/pressure settings. After planting a short distance, seed spacing and planting depth should be checked to determine if adjustments are required.

### Plateless Planters (Air, Vacuum, and Finger Pickup)

- GRAPHITE should be used in finger pickup planters. TALC should be used in vacuum planters.
- Additional GRAPHITE/TALC should be used with seed-applied insecticides.
- Maximum levels of GRAPHITE/TALC should be used on high applications of seed-applied insecticides.
- Air pressure/vacuum should be adjusted and monitored continually for desired planting rate.
- The proper drum or disc should be used based on the seeds per pound and seed shape.
- Electronic monitors should be utilized to help achieve desired planting rates and detect problems.
- Treated seed does not flow as freely as untreated seed. Adjustments should be made to compensate for restricted seed flow to prevent lower than desired seeding rates.

### CASE IH Cyclo® Planters

- The Cyclo drum gauge should be used to determine the correct seed drum to use.
- No part of the seed should poke through the hole(s) in the drum selected.
- Air pressure and brush should be adjusted to optimize desired seeding rate.

### Feed Cup Type Planters

- Sprocket and speed settings should be reviewed in the manufacturer's manual.
- Planting speed should be adjusted to maintain feed cup rotations per minute (RPM) if the sprocket size is changed and not greater than the defined maximum speed for the sprocket in the manufacturer's manual.
- A slower moving feed cup can pick up additional seed resulting in an increased planting rate.
- The torque required to turn the finger pickup mechanism should be adjusted with the appropriate tension tool.

### John Deere® Finger Pickup Planters

- Planter should be operated between 1/2 speed and maximum speed to optimize planting rate;
- Planting too fast may result in doubles and triples; planting too slow may result in skips.
- Poor depth control and erratic seed spacing may result from planting too fast for conditions.
- The torque required to turn the finger pickup mechanism should be adjusted with the appropriate tension tool.

### John Deere® Radial Type Bean Meters

Seed can be singulated with radial bean meters. Daily maintenance should include inspection of the brush, seed bowl, and knockout assembly.

- At higher planting speeds, large soybean seed may plant at lower rates.
- At slower planting speeds, the planting rate of smaller soybean seed may be increased.
- To adjust for different seed sizes, the indicator should be moved to:
  - (A) for small seeds (~3,700 to 4,500 seeds per pound).
  - (B) for medium-small seeds (~2,800 to 3,700 seeds per pound).
  - (C) for large seeds (~2,000 to 2,800 seeds per pound).<sup>1</sup>

## Kinze® Brush-Type Seed Meters

Black 60 cell soybean disk is generally used for smaller seed as indicated in Table 1.<sup>3</sup> The dark blue 48 cell brush meter seed plate is recommended for larger seed (1,400 to 2,200 seeds per pound).<sup>3</sup>

## Grain Drills

Grain drills are traditionally the means of planting when a narrow row (7 to 10 inches) soybean crop is desired. Unless depth control wheels or bands are on the drill, a uniform planting depth of .75 to 1.25 inches can be difficult to achieve. Seeding depth can be too shallow when planting into firm soil and too deep in loose soil. Caution should be exercised if drills are equipped with fluted metering devices as large soybean seed can be cracked, and seed may not be spaced uniformly in the row. Vacuum or seed-singulating devices have the ability to plant more uniformly.

- Drill should be leveled with the tractor.
- Wheel tracks should be removed ahead of the drill in tilled soil.
- To help promote uniform planting depth, utilize a leveling tool between the tractor and drill.
- Double-disk openers should utilize depth bands or depth gauge wheels.
- Press wheel down-pressure should be adjusted to help maintain good seed-to-soil contact.
- Planting speed should be monitored as higher speeds can increase planting depth.
- Seed metering devices should be adjusted to plant desired seeds per foot of row. Smaller seed is normally planted more uniformly with fluted metering devices.

Planter Type	Seeds per Pound					
	3500	3700	4000	4100	4500	5000
John Deere® Vacuum	Use 64 cell cotton disc and vacuum levels of +5-7 inches. Sprocket setting should be reviewed and planting speed may need to be reduced					
Case IH, New Holland ASM Vacuum	Use regular soybean disc			Use small soybean disc		
Kinze® Brush-Type Seed Meter	Use black 60 cell soybean disc					
John Deere® Radial Bean Meter	Use "B" setting			Use "A" setting		
John Deere® Feed-Cup	Use soybean cup and standard soybean seed guide			Use soybean cup and # 48005 seed guide		
John Deere® 750 Grain Drill	Set Seed Index Notches to manual specifications for the rate in lbs/acre					

Planter Type	Large Seeded Soybean Recommendations
John Deere® Vacuum	Use disk # A42586 (108 cell) for 1,700 to 3,500 seeds/lb and vacuum level of 8 inches. <sup>5</sup>
Case IH Early Riser® ASM Seed Meter System	Use seed disk B7698875 (10045-SB) or 377669A1(8045-SB) and vacuum setting of 15-17 inches, baffle setting of 2, and singulator dial setting of 8 for 2,000 to 3,500 seeds/lb <sup>4</sup>
Kinze® Brush-Type Seed Meter	Use dark blue 48 cell soybean disc for 1,400 to 2,200 seeds/lb <sup>3</sup>
Kinze® EdgeVac® Seed Metering System	Use black 60 cell for 2,200 to 4,000 seeds/lb; Use dark blue 120 cell for high rate seeding of 2,200 to 4,000 seeds/lb <sup>2</sup>
John Deere® Radial Bean Meter	Use "C" setting for 2,000 to 2,800 seeds/lb <sup>6</sup>
John Deere® Feed-Cup	Use soybean cup and standard soybean seed guide
John Deere® 750 Grain Drill	Set Seed Index Notches to manual specifications for the rate in lbs/acre.

Source: <sup>1</sup>OMA85407\_19 John Deere Manuals (verified 3/24/14); <sup>2</sup>Introducing Kinze® EdgeVac® seed metering. Kinze Manufacturing. EV 7-05. <http://www.machinery.com> (verified 3/24/14); <sup>3</sup>Kinze Black and Blue soybean discs. <http://www.sloanex.com> (verified 3/24/14); <sup>4</sup>Early Riser® Planter Productivity Tips. 2012. PL-3076-12. CNH America LLC. [www.caseih.com](http://www.caseih.com) (verified 3/24/14); <sup>5</sup>John Deere® planter parts, parts guide. John Deere®. <https://jdparts.deere.com> (verified 3/24/14); <sup>6</sup>OMA86807. Deere/Bauer Planters John Deere® Components. 2002. Deere & Company. <http://deere.com>; (verified 3/24/14); <sup>7</sup>Small soybean seed meter considerations for planters. John Deere®. <http://www.deere.com> (verified 3/24/14); <sup>8</sup>QA seed services lab. Monsanto Company. Waterman, IL; <sup>9</sup>Tony McClelland email. Crop Production Sales Specialist. Case IH. 12/17/2012; Other sources for this publication: Beuerlein, J., April, 2001. Adjusting a grain drill for planting soybeans. AGF-114-01. Ohio State University Extension Fact Sheet. The Ohio State University. <http://ohioline.osu.edu>. (verified 3/24/14).

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. **ALWAYS READ AND FOLLOW PESTICIDE LABEL DIRECTIONS.** Leaf Design® is a registered trademark of Monsanto Company. All other trademarks are the property of their respective owners. ©2014 Monsanto Company. 03272014LGM