

## SEEDS AND SEEDING

Many varieties of seeds are available commercially in Minnesota and North Dakota. The Coded Variety Trial provides an excellent comparison of the performance of varieties in this area. Contact your agriculturist or seed company representative for more information on varieties. Complete coded variety trial results for American Crystal Sugar Co. and Minn-Dak Farmers' Cooperative are available in the Sugarbeet Research and Extension Reports.

6 Sugarbeet should be planted as early as weather, soil moisture and temperature conditions permit. The potential for very high yields from early plantings is usually considered worth the risk of frost damage.

1. Plant seed 1.00 to 1.25 inches deep for maximum germination and emergence. Use shallow depths for earlier planting.
2. Plant sugarbeet seeds 3 to 4 inches apart in 22-inch rows if they are to be thinned.
3. Plant sugarbeet seeds 4.5 to 5 inches apart in 22-inch rows if planting to stand.
4. A planting speed of 4 miles per hour is recommended.
5. Perform needed maintenance on planter prior to planting.
6. **Please attend planter test stand clinic.**

## **PLANTER MAINTENANCE CHECKLIST**

1. Check the condition of hoppers, disks, drives, and chains.
2. Be sure disc furrow openers are clean and turn freely.
3. Check seed ejection tubes for restrictions or blockage.
4. Be sure row spacing's are correct, equal, and row markers adjusted.
5. Lubricate the planter properly.
6. Clean seed hoppers daily.
7. Match seed sizes and planter plates carefully.
8. Test the planter on a hard surface to check the seed distribution pattern.
9. Number plates to match planter units.
10. Calibrate starter and/or fungicide application systems.

## **PLANTER OFF SEASON STORAGE**

1. Clean planter with a pressure washer or high pressure air; especially important to wash off all starter fertilizer to prevent corrosion; flush all liquid handling systems.
2. Remove plates and store on a wood dowel hung horizontally.
3. Remove seed plate doors – do not stack on top of each other; use original boxes for storage.
4. Release tension on press wheel springs.
5. Check for missing insecticide spoons or banders.
6. Make a list of needed repairs and parts.
7. Mouse proof seed tubes (place fabric softener sheets in seed hoppers).
8. Save all new planter plate boxes for warranty use referral.
9. Keep track of how many acres are seeded on a set of plates (write the date of purchase in owner's manual or on the plates themselves).
10. Grease/Protect electrical harness

## Sugarbeet Seed Specifications

<b>Size</b>	<b>Company</b>	<b>Diameter</b>	<b>Units/Case</b>	<b>Bulk (Units)</b>
<b>Mini Pellets</b> (Orange Label)	Betaseed	8-10/64	4	Not Available
	Crystal	8-10/64	6	
	SESVanderHave	8-10/64	6	
	Maribo	8-10/64	4	
	Hilleshog	8-10/64	4	
<b>Agracoat</b> (Green Label)	Seedex	8-10/64	6	

## Sugarbeet Seed Specifications

Size	Company	Diameter	Units/Case	Bulk (Units)
<b>Regular Pellets</b> (White Label)	Betaseed	9.5-11.5 /64	4	96
	Crystal	9.5-11.5 /64	4	
	ACH	9.5-11.5 /64	4	96
	Hilleshog	9.5-11.5 /64	4	
	Seedex	9.5-11.5 /64	4	
	SESVanderHave	9.5-11.5 /64	4	
	Maribo	9.5-11.5 /64	4	
<b>XTREME</b> (Light Blue)	Crystal	10.5 -13.5/64	3	
<b>S2</b> (Yellow)	Hilleshog	11 -14/64	4	125-150
	Maribo	11 -14/64	4	
<b>Pro 200</b> <b>ELS</b> (Gray Label)	Betaseed	11.5 -13.5/64	4	96
	ACH	11.5 -13.5/64	4	
<b>Ag S</b> (Yellow Label)	Seedex	10.5 -13.5/64	3	
<b>LP Pellets</b> (Green Label)	SESVanderHave	10.5 - 13.5/64	3	

## Recommendations for John Deere Maxi II Planter \*

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<b><u>Medium Plate - (H 136445)</u></b>	2 inches of vacuum
Mini Pellets.....	2 inches of vacuum
Regular Pellets.....	Not Recommended
S1.....	2 - 3 inches of vacuum
Agracoat.....	2 - 3 inches of vacuum

<b><u>Large Plate - (A 51713)</u></b>	
Mini Pellets.....	Not Recommended 2 - 3
Regular Pellets.....	inches of vacuum
Agracoat.....	2 - 3 inches of vacuum
LP Pellets.....	2 - 3 inches of vacuum
XTREME.....	2 - 3 inches of vacuum
	3 - 4 inches of vacuum

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14

<b><u>Sorghum Plate -(A 43066)</u></b>	
Mini Pellets.....	Not Recommended
Regular Pellets.....	3 - 4 inches of vacuum
Pro200.....	4 - 5 inches of vacuum
ELS.....	3 - 5 inches of vacuum
XTREME.....	3 - 5 inches of vacuum
LP Pellets.....	3 - 4 inches of vacuum
S2.....	3 - 4 inches of vacuum
Ag S.....	3 - 5 inches of vacuum

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\* Central delivery system: Vacuum may need to be higher  
Consult your agriculturist or seed representative prior to updating your planting equipment.

### VACUUM PLANTER COMMENTS

**Before purchasing a new planter or different planter plates contact your agriculturist, Norm Cattanach, or your seed salesman to discuss advantages or disadvantages.**

#### **JOHN DEERE:**

- 1) These are the best plate combinations. Other combinations will work but may result in more skips or multiples. Adjust vacuum as necessary.
- 2) It is common for some of the new plates to have the air holes partially blocked with plastic residue from the production process. This causes skips and lower than desired population readings on the monitor. Before installing new plates, clean out obstructions by hand with a 1/16 inch drill bit. **Do not enlarge air hole.**
- 3) Some new planters have small rough areas on casting from production process, file down as necessary.
- 4) Run units with all seals in place. Without all seals in place a variation in vacuum levels from unit to unit will be experienced. Replace worn seals.
- 5) Check monitor eye in drop tube to make sure it is properly positioned. Seed may bounce off monitor eye assembly if it is twisted slightly out of position.
- 6) In large tank central delivery system remove fuse that controls agitation in tank. If not removed, seeds may be damaged.
- 7) In large tank central delivery system use sorgum inserts.
- 8) When unfolding, check to see that all tubes have refilled with seed.
- 9) Replace “wipers” and knock-out wheels

### **Monosem Planter Plates Recommendations**

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#### **Plate 4016**

Mini Pellets Agracoat  
S1

#### **Plate 4020**

Agracoat  
S1  
Mini Pellets Regular  
Pellets

#### **Plate 4025**

Agracoat  
S1  
Mini Pellets Regular  
Pellets  
S2  
Ag S ELS  
Pro 200  
LP Pellets  
XTREME

#### **Plate 3622**

Regular Pellets  
Ag S  
S2  
Pro200  
ELS  
LP Pellets  
XTREME

### **White Planter Plates Recommendation**

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#### **854047**

Mini Pellets  
Agracoat

#### **N 857115**

Regular Pellets

#### **N 856067**

Pro200  
ELS  
LP Pellets  
Ag S  
S2  
XTREME



### **VACUUM PLANTER COMMENTS**

#### **MONSEM NG+:**

- 1) Using plates smaller than recommended may result in seed falling off plate when planter bounces in field.
- 2) 36 cell plates with the appropriate hole diameter will work although increased plate turning speed may require higher vacuum levels to avoid seed falling off plate.
- 3) When starting out in field, monitor seed discs to ensure seed is staying on plate. Increase vacuum if necessary.

#### **WHITE SEED BOSS:**

- 1) Use shims to obtain proper air gap between plant and meter.
- 2) Adjustment and/or modification of the tickler brush will improve performance.
- 3) Sugarbeet cutoff brush with metallic bristles helps remove static electricity.

#### **CASE PLANTER:**

- 1) Case planter - singulators should be adjusted properly to percentage of hole showing and lubricated to work very freely.
- 2) Case planter may be better to run at a higher vacuum pressure
- 3) Case planter has no agitation in large tank; to compensate run use pure graphite or a graphite/talc blend.

### **Plate Recommendation**

<b>Pellet Size</b>	<b>Plate No.</b>	<b>Vacuum [in inches of water]</b>
Mini	8020/6020/6023	[16-20]
Regular	8020/6020/6023	[18-22]
Larger than Regular	8023/6020/6023	[20-30]

### Plate Planters

Size	Planter	Metal	Plastic	Thickness (In.)	Cell Dia. (In.)
<b>Medium</b>	John Deere Milton	B 13304	Blue	0.105	10 /64 11 x 7 /64
<b>Extra Large</b>	John Deere	B 29402	Brown	0.125	12 /64
	John Deere	B 12733		0.125	11 /64 Drill to 12 /64
<b>Mini Pellets Agracoat</b>	John Deere Milton		Orange		12 x 9 /64
<b>Regular Pellets</b>	John Deere Milton		Light Green		14 x 11 /64

#### John Deere Plate Planters

- 1) Plastic plates turn harder than steel, so lubricate the plate, false ring and hopper bottom lightly with talc. Plate should turn easily by hand.
- 2) Monitor spring on drop tube and keep free of soil. Drop tubes should move freely up and down.

**SEEDING RATE AND PLANT POPULATION ESTABLISHMENT (22 INCH ROWS)**

	Plant Establishment*	Seed Spacing (Inches)					
	%	3	4	5	6 **	7 **	8 **
		------(Plants per 100 feet of 22 inch row)-----					
	90	360	270	216	180	155	135
	80	320	240	192	160	138	120
	70	280	210	168	140	120	105
	60	240	180	144	120	103	90
	50	200	150	120	100	86	75
	40	160	120	96	80	69	60
	30	120	90	72	60	52	45

\* Average stand establishment is about 68%

\*\* Not recommended

## PLANT POPULATION

Plants per 100 ft. of row		75	100	125	150	175	200	225
Plants/Acre	22 inch rows	17,852	23,803	29,754	35,705	41,397	47,607	53,894
Plants/Acre	30 inch rows	13,068	17,424	21,780	26,136	30,302	34,848	39,450

## TRACTOR SPEED CALIBRATION CHART

mph	100 ft.	200 ft.	300 ft.
4	17	34	51
5	14	28	42
6	11	22	33
7	10	20	30

-----Time in seconds required to travel a given distance-----