Table of Contents

Great Plains
Manufacturing, Inc.
www.greatplainsmfg.com

Seed, Fertilizer, and Volumetric Rate Charts for the YP2425A Yield-Pro® Planter with Air-Pro® Seed Meters

The following pages are to assist in the proper setting of seeding and fertilizer rate for the 60-foot (18 meter) two-section Yield-Pro Planters with Air-Pro Meters. To assure the most accurate seeding rates, Great Plains recommends checking singulated rates.

ORIGINAL INSTRUCTIONS

EN

© Copyright 2019

Printed 2024-04-11

401-626B

Table of Contents

Introduction **1**
Models Covered 1
Document Family 1
Rate Setting Overview **2**
Setting Singulated Rate 2
Setting Volumetric Rate 2
Setting Fertilizer Rate 2
Population Reference Information 3
Air-Pro® Meter Disk Selection 6
Meter Pressurization 10
Initial Meter Pressurization: Round Corn 11
Initial Meter Pressurization: Flat Corn 12
Checking Planting Rate 13
Planting Rate **15**
Hydraulic Drive Meter Rate 15
Meter RPM Limit Charts 16
Meter RPM Limits: Corn 24 Cell 16
Meter RPM Limits: Corn 40 Cell 17
Meter RPM Limits: Cotton 60 Cell 18
Meter RPM Limits: Milo 30 Cell 19
Meter RPM Limits: Milo 65 Cell 20
Meter RPM Limits: Milo 130 Cell 21
Meter RPM Limits: Soybeans 84 Cell 22
Meter RPM Limits: Soybeans 168 Cell 23
Meter RPM Limits: Sunflower 24 Cell 24
Meter RPM Limits: Hemp 5 Cell 25
Meter RPM Limits: Hemp 30 Cell 26
Sprocket Indexing (Stagger) 27
Indexing Preparation 28
Basic Indexing 28
Indexing Fine Adjustment 30
Sprocket Indexing Charts 31
30 inch Twin Row Sprocket Indexing 32
30 inch Twin Row Sprocket Indexing 33
Canola Seeding **34**
General Information 34
Prepare Meters 34
Loading Seed 34
Configure Monitor 35
DICKEY-john® IntelliAg® WSMT2 35
Material Setup 35
Material Setup: Hydraulic Drive 35
Channel Setup: Hydraulic Drive 36
Row Monitor Setup 37
DICKEY-john® IntelliAg® WSMT3 38
Material Setup 38
Material Setup: Hydraulic Drive 38
Controls Setup: Hydraulic Drive 39
Air-Pro® Meter RPM Limits: 150 Cell Canola 40
Air-Pro® Meter RPM Limits: 250 Cell Canola 41
Canola Field Update 42
Volumetric Seeding **44**
General Information 44
Related Documents 44
Clean-Out Meters 44
Grain Shield 45
Install Discs / Set Shutters 45
Take Note of Meter Pressure 46
Calibrate 46
Furrow Checking Rate 47
DICKEY-john® IntelliAg® Lvl 2 Access 48
DICKEY-john® IntelliAg® WSMT2 48
DICKEY-john® IntelliAg® WSMT3 49
Material Setup 50
DICKEY-john® IntelliAg® WSMT2 51
Calibrate Speed Sensor 54
DICKEY-john® IntelliAg® WSMT3 55
Calibrate Speed Sensor 57
IRC Setup 57
Meter RPM Limits: Volumetric 58
Fertilizer Rate **59**
Common Setup Information 59
Strainer 59
Orifice Plate Selection 60
Determine Orifice Size 61
Fertilizer Relief Valve 62
Hydraulic Pump Fertilizer Rate 63
DICKEY-john® IntelliAg® WSMT2 63
Hydraulic Pump System Setup 63
Create One or More Materials 63
Assign Control Channel 64
Check/Set System Geometry 65
Perform a Valve Calibration 66
Set Hydraulic Fertilizer Rate 66
Ground Drive Fertilizer Rate 67
Appendix A - Seed Lubricants **69**
Seed Lubricants 69
Appendix B - Metric Charts **70**

© Copyright 2009, 2010, 2011, 2012, 2014, 2015, 2016, 2019. All rights Reserved

Great Plains Manufacturing, Inc. provides this publication “as is” without warranty of any kind, either expressed or implied. While every precaution has been taken in the preparation of this manual, Great Plains Manufacturing, Inc. assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. Great Plains Manufacturing, Inc. reserves the right to revise and improve its products as it sees fit. This publication describes the state of this product at the time of its publication, and may not reflect the product in the future.

Trademarks of Great Plains Manufacturing, Inc. include: AccuShot, Max-Chisel, Row-Pro, Singulator Plus, Short Disk, Swath Command, Terra-Tine, Ultra-Chisel, and X-Press.
Registered Trademarks of Great Plains Manufacturing, Inc. include: Air-Pro, Clear-Shot, Discovator, Great Plains, Land Pride, MeterCone, Nutri-Pro, Seed-Lok, Solid Stand, Terra-Guard, Turbo-Chisel, Turbo-Chopper, Turbo-Max, Turbo-Till, Ultra-Till, Whirlfilter, and Yield-Pro.
Brand and Product Names that appear and are owned by others are trademarks of their respective owners.

Printed in the United States of America

Disk Selection....70
Seed Spacing (Metric)....73
Meter Pressurization - Metric....75
Sprocket Indexing Charts - Metric....78
Furrow Check - Metric....81
Meter RPM Limit - Metric....82
Volumetric - Metric Charts....92

Introduction

This manual covers the following tasks for 60-foot three-section Yield-Pro® Planters equipped with Air-Pro® Seed Meters:

- setting and checking seed rate for singulated crops
- applying liquid fertilizer from optional tanks on-board the planter, or from a trailing cart.

This manual is your guide to planter adjustments for achieving specific seed population targets. It also includes information you may need to properly setup and adjust a separately provisioned fertilizer tank and pump system.

Although some setup/adjustment material herein is repeated from the Operator's Manual, you need to be thoroughly familiar with planter operations and adjustments before applying this Seed Rate Manual and its table data.

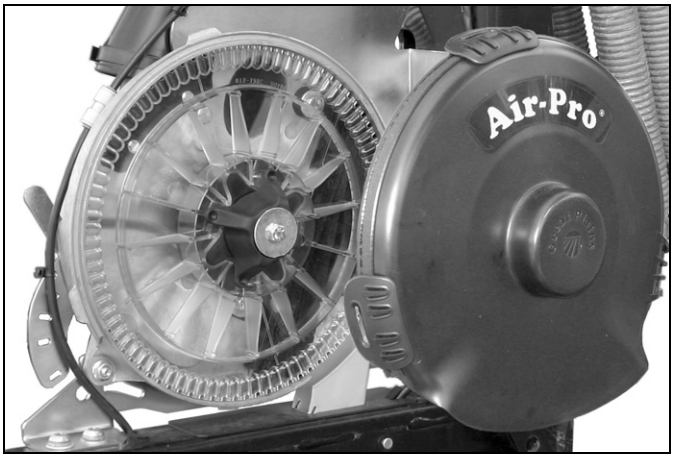


Figure 1 29626
Air-Pro® Seed Meter

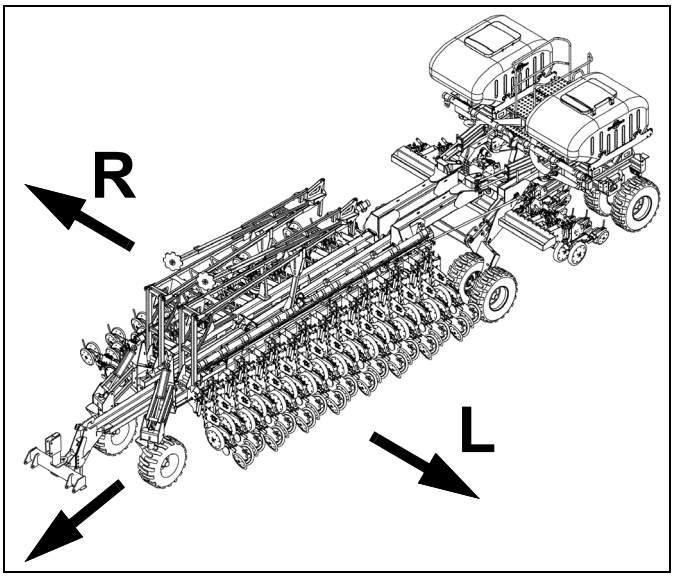


Figure 2 29711
Yield-Pro® Planter

Models Covered

YP2425A-2430	24 Row, 30 inch Spacing
YP2425A-2470	24 Row, 70 cm Spacing
YP2425A-3620	36 Row, 20 inch Spacing
YP2425A-4715	47 Row, 15 inch Spacing
YP2425A-48TR	48 Row (24 Twin), 30 inch Spacing

Document Family

401-626M 411-976M	Owner's Manual
401-626B	Seed Rate Charts
401-626P	Parts Manual
	DICKEY-john®IntelliAg® Manuals:
110011508	Planter/Drill Control, User Level 1
110011501	Planter/Drill Control, User Level 2&3
110011518	YP2425A-48TR Quick-Start Guide
110011519	YP2425A-4715 Quick-Start Guide
110011520	YP2425A-2430 Quick-Start Guide
110011521	YP2425A-3620 Quick-Start Guide
110011522	YP2425A/AF-2470 QSG

Rate Setting Overview

Setting Singulated Rate

There are five or six steps to obtaining the desired number of seeds per acre, depending on row configuration. This data applies to the Air-Pro® Meter when planting at one seed per disk cell.

1. For your crop, determine your intended population, in seeds/acre or seeds/hectare. If you know only the seed spacing or pounds/acre (kg/hectare), consult the charts on page 3 through page 5.
2. For your crop, population and desired field speed, verify the suitability and setup of your seed disk: See “**Air-Pro® Meter Disk Selection**” on page 6.
3. Set initial seed inlet shutter per seed rate chart. Set initial meter pressurization per page 10, 12.
4. *Sprocket index for staggered twin-row*
   Twin-row planters, with certain crops, get maximum benefit with precise seed spacing between adjacent rows. See “**Indexing Fine Adjustment**” on page 30.
5. *Set meter rate*
   This is done via the seed monitor. Once data about your planter is entered, you select the seed rate directly. Consult the manual for the seed monitor.
6. *Check planting rate*
   See “**Checking Planting Rate**” on page 13.

Setting Volumetric Rate

This summary applies to the Air-Pro® Seed Meter when planting more than one seed per disc cell.

1. For your crop, determine your intended population, in seeds/acre or seeds/hectare. If you know only the seed spacing or pounds/acre (kg/hectare), consult the charts on page 3 through page 5.
2. For your crop, population and desired field speed, verify the suitability and setup of your seed disk: See “**Air-Pro® Meter Disk Selection**” on page 6.
3. Check or install grain shield.
4. Set initial seed inlet shutter per seed rpm chart. Set initial meter pressurization per page 10, 12.
5. Calibrate - see page 46.
6. *Check planting rate*
   See “**Furrow Checking Rate**” on page 47.

Setting Fertilizer Rate

If your planter is equipped with one or both optional fertilizer manifold systems, it does not include the tank.

If the planter has a Type 2[a] (formerly referred to as a “starter”) manifold, it may rely on an off-planter pump, or may use one or two ground drive pumps on the planter.

See “**Fertilizer Rate**” on page 59 setup and adjustment information common to any type pump.

Rate is controlled by the pump. Consistent distribution requires using the correct size orifices in the manifolds (or constant back-pressure nozzles such as the VeriFlow nozzles available from Great Plains). If the orifice size is too large, flow may not be even across all rows. If the orifice size is too small, material may be dumped at the relief valve.

See “**Hydraulic Pump Fertilizer Rate**” on page 63 for system setup and operation with a Great Plains hydraulic pump on a trailing SML cart.

See “**Ground Drive Fertilizer Rate**” on page 67 for ground drive pump configuration.

If the planter has a Type 3[a] (formerly referred to as a “hi rate”) manifold, it relies on an off-planter pump, typically the pump on a Great Plains PFC1600 or PFC2000 tank cart.

Rate setting for the cart pump is found in the cart’s Operator Manual

a. Type 2 and Type 3 are described in the YP2425A Operator manual, under Setup topic “**Fertilizer Connections**”.

Population Reference Information

Seeds Per Unit

If only pounds/acre (kilograms/hectare) is known, obtain the population count by multiplying the weight by the “Kernels per pound” value from the seed container.

Example: Milo

Target rate:	4.5 pounds/acre
Seed density:	14500 seeds/pound
Population:	= Rate ∞ Density = 4.5 ∞ 14500, or: 65250 seeds/acre

Seed Spacing

If only seed spacing is known, use the tables on the next five pages to determine population.

Kernels Per Pound

80,000 Seed Bag Weight	Kernels per Pound	80,000 Seed Bag Weight	Kernels per Pound
67.5 lbs	1,185	45.0 lbs	1,778
65.0 lbs	1,231	42.5 lbs	1,882
62.5 lbs	1,280	40.0 lbs	2,000
60.0 lbs	1,333	37.5 lbs	2,133
57.5 lbs	1,391	35.0 lbs	2,286
55.0 lbs	1,455	32.5 lbs	2,462
52.5 lbs	1,524	30.0 lbs	2,667
50.0 lbs	1,600	27.5 lbs	2,909
47.5 lbs	1,684	25.0 lbs	3,200

29649

Spacing (U.S. Customary units, page 1 of 2)

Low Range

Seed Spacing Chart

U.S. Customary Units

Row Spacings										
	Twin Row					Single Row				
	20 in.	*30 in.*	*36 in.*	*38 in.*	*40 in.*					
Plant Population	**10 in. Rows**	**15 in. Rows**			**20 in. Rows**	**22 in. Rows**	**30 in. Rows**	**36 in. Rows**	**38 in. Rows**	**40 in. Rows**
(seeds/acre)	**Seed Spacing (inches)**									
14 000	44.8	29.9	24.9	23.6	22.4	20.4	14.9	12.4	11.8	11.2
15 000	41.8	27.9	23.2	22.0	20.9	19.0	13.9	11.6	11.0	10.5
16 000	39.2	26.1	21.8	20.6	19.6	17.8	13.1	10.9	10.3	9.8
17 000	36.9	24.6	20.5	19.4	18.4	16.8	12.3	10.2	9.7	9.2
18 000	34.8	23.2	19.4	18.3	17.4	15.8	11.6	9.7	9.2	8.7
19 000	33.0	22.0	18.3	17.4	16.5	15.0	11.0	9.2	8.7	8.3
20 000	31.4	20.9	17.4	16.5	15.7	14.3	10.5	8.7	8.3	7.8
21 000	29.9	19.9	16.6	15.7	14.9	13.6	10.0	8.3	7.9	7.5
22 000	28.5	19.0	15.8	15.0	14.3	13.0	9.5	7.9	7.5	7.1
23 000	27.3	18.2	15.2	14.4	13.6	12.4	9.1	7.6	7.2	6.8
24 000	26.1	17.4	14.5	13.8	13.1	11.9	8.7	7.3	6.9	6.5
25 000	25.1	16.7	13.9	13.2	12.5	11.4	8.4	7.0	6.6	6.3
26 000	24.1	16.1	13.4	12.7	12.1	11.0	8.0	6.7	6.3	6.0
27 000	23.2	15.5	12.9	12.2	11.6	10.6	7.7	6.5	6.1	5.8
28 000	22.4	14.9	12.4	11.8	11.2	10.2	7.5	6.2	5.9	5.6
29 000	21.6	14.4	12.0	11.4	10.8	9.8	7.2	6.0	5.7	5.4
30 000	20.9	13.9	11.6	11.0	10.5	9.5	7.0	5.8	5.5	5.2
31 000	20.2	13.5	11.2	10.6	10.1	9.2	6.7	5.6	5.3	5.1
32 000	19.6	13.1	10.9	10.3	9.8	8.9	6.5	5.4	5.2	4.9
33 000	19.0	12.7	10.6	10.0	9.5	8.6	6.3	5.3	5.0	4.8
34 000	18.4	12.3	10.2	9.7	9.2	8.4	6.1	5.1	4.9	4.6
35 000	17.9	11.9	10.0	9.4	9.0	8.1	6.0	5.0	4.7	4.5
36 000	17.4	11.6	9.7	9.2	8.7	7.9	5.8	4.8	4.6	4.4
37 000	17.0	11.3	9.4	8.9	8.5	7.7	5.7	4.7	4.5	4.2
38 000	16.5	11.0	9.2	8.7	8.3	7.5	5.5	4.6	4.3	4.1
39 000	16.1	10.7	8.9	8.5	8.0	7.3	5.4	4.5	4.2	4.0
40 000	15.7	10.5	8.7	8.3	7.8	7.1	5.2	4.4	4.1	3.9
41 000	15.3	10.2	8.5	8.1	7.6	7.0	5.1	4.2	4.0	3.8
42 000	14.9	10.0	8.3	7.9	7.5	6.8	5.0	4.1	3.9	3.7
43 000	14.6	9.7	8.1	7.7	7.3	6.6	4.9	4.1	3.8	3.6
44 000	14.3	9.5	7.9	7.5	7.1	6.5	4.8	4.0	3.8	3.6
45 000	13.9	9.3	7.7	7.3	7.0	6.3	4.6	3.9	3.7	3.5
46 000	13.6	9.1	7.6	7.2	6.8	6.2	4.5	3.8	3.6	3.4
47 000	13.3	8.9	7.4	7.0	6.7	6.1	4.4	3.7	3.5	3.3
48 000	13.1	8.7	7.3	6.9	6.5	5.9	4.4	3.6	3.4	3.3
49 000	12.8	8.5	7.1	6.7	6.4	5.8	4.3	3.6	3.4	3.2
50 000	12.5	8.4	7.0	6.6	6.3	5.7	4.2	3.5	3.3	3.1

32320A

Spacing (U.S. Customary units, page 2 of 2)

High Range

Seed Spacing Chart

U.S. Customary Units

Row Spacings										
	Twin Row					Single Row				
	20 in.	*30 in.*	*36 in.*	*38 in.*	*40 in.*					
Plant Population	**10 in. Rows**	**15 in. Rows**			**20 in. Rows**	**22 in. Rows**	**30 in. Rows**	**36 in. Rows**	**38 in. Rows**	**40 in. Rows**
(seeds/acre)	**Seed Spacing (inches)**									
50 000	12.5	8.4	7.0	6.6	6.3	5.7	4.2	3.5	3.3	3.1
55 000	11.4	7.6	6.3	6.0	5.7	5.2	3.8	3.2	3.0	2.9
60 000	10.5	7.0	5.8	5.5	5.2	4.8	3.5	2.9	2.8	2.6
65 000	9.7	6.4	5.4	5.1	4.8	4.4	3.2	2.7	2.5	2.4
70 000	9.0	6.0	5.0	4.7	4.5	4.1	3.0	2.5	2.4	2.2
75 000	8.4	5.6	4.6	4.4	4.2	3.8	2.8	2.3	2.2	2.1
80 000	7.8	5.2	4.4	4.1	3.9	3.6	2.6	2.2	2.1	2.0
85 000	7.4	4.9	4.1	3.9	3.7	3.4	2.5	2.0	1.9	1.8
90 000	7.0	4.6	3.9	3.7	3.5	3.2	2.3	1.9	1.8	1.7
95 000	6.6	4.4	3.7	3.5	3.3	3.0	2.2	1.8	1.7	1.7
100 000	6.3	4.2	3.5	3.3	3.1	2.9	2.1	1.7	1.7	1.6
105 000	6.0	4.0	3.3	3.1	3.0	2.7	2.0	1.7	1.6	1.5
110 000	5.7	3.8	3.2	3.0	2.9	2.6	1.9	1.6	1.5	1.4
115 000	5.5	3.6	3.0	2.9	2.7	2.5	1.8	1.5	1.4	1.4
120 000	5.2	3.5	2.9	2.8	2.6	2.4	1.7	1.5	1.4	1.3
125 000	5.0	3.3	2.8	2.6	2.5	2.3	1.7	1.4	1.3	1.3
130 000	4.8	3.2	2.7	2.5	2.4	2.2	1.6	1.3	1.3	1.2
135 000	4.6	3.1	2.6	2.4	2.3	2.1	1.5	1.3	1.2	1.2
140 000	4.5	3.0	2.5	2.4	2.2	2.0	1.5	1.2	1.2	1.1
145 000	4.3	2.9	2.4	2.3	2.2	2.0	1.4	1.2	1.1	1.1
150 000	4.2	2.8	2.3	2.2	2.1	1.9	1.4	1.2	1.1	1.0
155 000	4.0	2.7	2.2	2.1	2.0	1.8	1.3	1.1	1.1	1.0
160 000	3.9	2.6	2.2	2.1	2.0	1.8	1.3	1.1	1.0	1.0
165 000	3.8	2.5	2.1	2.0	1.9	1.7	1.3	1.1	1.0	1.0
170 000	3.7	2.5	2.0	1.9	1.8	1.7	1.2	1.0	1.0	0.9
175 000	3.6	2.4	2.0	1.9	1.8	1.6	1.2	1.0	0.9	0.9
180 000	3.5	2.3	1.9	1.8	1.7	1.6	1.2	1.0	0.9	0.9
185 000	3.4	2.3	1.9	1.8	1.7	1.5	1.1	0.9	0.9	0.8
190 000	3.3	2.2	1.8	1.7	1.7	1.5	1.1	0.9	0.9	0.8
195 000	3.2	2.1	1.8	1.7	1.6	1.5	1.1	0.9	0.8	0.8
200 000	3.1	2.1	1.7	1.7	1.6	1.4	1.0	0.9	0.8	0.8
225 000	2.8	1.9	1.5	1.5	1.4	1.3	0.9	0.8	0.7	0.7
250 000	2.5	1.7	1.4	1.3	1.3	1.1	0.8	0.7	0.7	0.6
275 000	2.3	1.5	1.3	1.2	1.1	1.0	0.8	0.6	0.6	0.6
300 000	2.1	1.4	1.2	1.1	1.0	1.0	0.7	0.6	0.6	0.5

32320B

Air-Pro® Meter Disk Selection

CORN
24 Cell Disk
817 - 794C Corn Round Large
837 - 126C Corn Round Med
817 - 795C Corn Round Small
817 - 836C Corn Flat Large

CORN
40 Cell Disk
817 - 796C Corn Round Large
837 - 127C Corn Round Med
817 - 797C Corn Round Small
817 - 838C Corn Flat Large

(Sweet Corn plants in Round Corn disks)

Seed Size Recommendations	*Seeds/lb*	*Unit Weight*	*Seeds/kg*
Corn Round Large	**1300 (or fewer)**	61.5 lb (or heavier)	**2865 (or fewer)**
Corn Round Med	**1300 to 2000**	61.5 to 40 pounds	**2865 to 4410**
Corn Round Small	**2000 (or more)**	40 pounds (or lighter)	**4410 (or more)**
Corn Flat Large	**1650 (or fewer)**	48.5 pounds (or heavier)	**3640 (or fewer)**
Corn Flat Small	**1650 (or more)**	48.5 pounds (or lighter)	**3640 (or more)**
ATTENTION: This Corn is planted with the Corn Round Small Disks!!!!!!			

	Seeds/acre @ 5.5 mph	*Seeds/ha @ 8.9 kph*	*Recommended*
40 in (101.6 cm) Rows	*Below 19 400* *Above 19 400*	*Below 52 500* *Above 52 500*	24 Cell Disk 40 Cell Disk
38 in (96.5 cm) Rows	*Below 20 500* *Above 20 500*	*Below 50 600* *Above 50 600*	24 Cell Disk 40 Cell Disk
36 in (91.4 cm) Rows	*Below 21 600* *Above 21 600*	*Below 53 400* *Above 53 400*	24 Cell Disk 40 Cell Disk
30 in (76.2 cm) Rows **75 cm Rows**	*Below 25 900* *Above 25 900*	*Below 64 000* *Above 64 000*	24 Cell Disk 40 Cell Disk
70 cm Rows	*Below 28 200* *Above 28 200*	*Below 69 700* *Above 69 700*	24 Cell Disk 40 Cell Disk
22 in (55.9 cm) Rows	*Below 35 300* *Above 35 300*	*Below 87 300* *Above 87 300*	24 Cell Disk 40 Cell Disk
Twin Row 40 in (101.6 cm) **20 in (50.8cm) Rows**	*Below 38 900* *Above 38 900*	*Below 96 100* *Above 96 100*	24 Cell Disk 40 Cell Disk
Twin Row 38 in (96.5 cm)	*Below 40 900* *Above 40 900*	*Below 101 000* *Above 101 000*	24 Cell Disk 40 Cell Disk
Twin Row 36 in (91.4cm)	*Below 43 200* *Above 43 200*	*Below 106 700* *Above 106 700*	24 Cell Disk 40 Cell Disk
Twin Row 30 in (76.2 cm) **15 in (38.1 cm Rows)**	*Below 51 800* *Above 51 800*	*Below 129 000* *Above 129 000*	24 Cell Disk 40 Cell Disk
Twin Row 70 cm	*Below 56 400* *Above 56 400*	*Below 139 400* *Above 139 400*	24 Cell Disk 40 Cell Disk
Twin Row 20 in (50.8 cm) **10 in (25.4 cm) Rows**	*Below 77 700* *Above 77 700*	*Below 192 100* *Above 192 100*	24 Cell Disk 40 Cell Disk

Medium Edible Bean
60 Cell Disk
837 - 065C
Seed Size Recommendations

1000 seeds per pound or more	**2200 seeds per kg or more**
(a smaller bean)	***(a smaller bean)***
This disk should plant medium peanuts.	
ATTENTION: This disk is for Hopper Style Planters only. Do not use with an Air Delivery type planter.	

68251A

Large Edible Bean

56 Cell Disk
817 - 967C
Seed Size Recommendations

1000 seeds per pound or fewer *(a larger bean)*	**2200 seeds per kg or fewer** *(a larger bean)*

This disk should plant medium peanuts.
ATTENTION: This disk is for Hopper Style Planters only. Do not use with an Air Delivery type planter.

CANOLA

150 Cell Disk 837 - 148C	Seed Size Recommendations	250 Cell Disk 817 - 991C

This disk should plant all seed sizes and row spacings for Canola & Mustard

Population @ 6 mph	Population @ 9.7 kph	Recommended
Below 125 000	*Below 200 000*	*150 Cell Disk*
Above 125 000	*Above 200 000*	*250 Cell Disk*

COTTON

60 Cell Disk
817 - 857C
Seed Size Recommendations

This disk should plant all seed sizes and row spacings for Cotton.

MILO / PELLETIZED SUGAR BEET

30 Cell Disk 837 - 057C	65 Cell Disk 817 - 849C	130 Cell Disk 817 - 800C

Seed Size Recommendations

These disks should plant all seed sizes of Milo, Pelletized Sugar Beets, and Tillage Radish

	Seeds/acre @ 6 mph	*Seeds/ha @ 9.7 kph*	*Recommended*
40 in (101.6 cm) Rows	*Below 48 300*	*Below 119 300*	30 Cell Disk
	Above 48 300	*Above 119 300*	65 Cell Disk
38 in (96.5 cm) Rows	*Below 50 800*	*Below 125 500*	30 Cell Disk
	Above 50 800	*Above 125 500*	65 Cell Disk
36 in (91.4 cm) Rows	*Below 53 600*	*Below 132 500*	30 Cell Disk
	Above 53 600	*Above 132 500*	65 Cell Disk
30 in (76.2 cm) Rows 75 cm Rows	*Below 64 300*	*Below 159 000*	30 Cell Disk
	Above 64 300	*Above 159 000*	65 Cell Disk
70 cm Rows	*Below 70 100*	*Below 173 100*	30 Cell Disk
	Above 70 100	*Above 173 100*	65 Cell Disk
22 in (55.9 cm) Rows	*Below 87 700*	*Below 216 800*	30 Cell Disk
	Above 87 700	*Above 216 800*	65 Cell Disk
Twin Row 40 in (101.6 cm) 20 in (50.8 cm) Rows	*Below 96 500*	*Below 238 500*	30 Cell Disk
	Above 96 500	*Above 238 500*	65 Cell Disk
Twin Row 30 in (76.2 cm) 15 in (38.1 cm) Rows	*Below 24 000*	*Below 58 000*	30 Cell Disk
	Below 128 700	*Below 318 000*	65 Cell Disk
	Above 128 700	*Above 318 000*	130 Cell Disk
Twin Row 70 cm 35 cm Rows	*Below 25 100*	*Below 62 000*	30 Cell Disk
	Below 140 100	*Below 346 200*	65 Cell Disk
	Above 140 100	*Above 346 200*	130 Cell Disk
Twin Row 20 in (50.8 cm) 10 in (25.4 cm) Rows	*Below 34 000*	*Below 84 000*	30 Cell Disk
	Below 193 000	*Below 477 000*	65 Cell Disk
	Above 193 000	*Above 477 000*	130 Cell Disk

68251B

SOYBEAN

84 Cell Disk | ***(Small Edible Beans)*** | **168 Cell Disk***

817 - 798C | **Seed Size Recommendations** | **403 - 551D**

These disks should plant all seed sizes of Soybeans.
Small edible beans (navy, black jack, black eye peas, etc) will plant with this disk also.

	Seeds/acre @ 6 mph	*Seeds/ha @ 9.7 kph*	*Recommended*
40 in (101.6 cm) Rows	*Below 76 900*	*Below 190 100*	84 Cell Disk
	Above 76 900	*Above 190 100*	168 Cell Disk
38 in (96.5 cm) Rows	*Below 81 000*	*Below 200 100*	84 Cell Disk
	Above 81 000	*Above 200 100*	168 Cell Disk
36 in (91.4 cm) Rows	*Below 85 500*	*Below 211 200*	84 Cell Disk
	Above 85 500	*Above 211 200*	168 Cell Disk
30 in (76.2 cm) Rows	*Below 102 500*	*Below 253 400*	84 Cell Disk
75 cm Rows	*Above 102 500*	*Above 253 400*	168 Cell Disk
70 cm Rows	*Below 111 600*	*Below 275 900*	84 Cell Disk
	Above 111 600	*Above 275 900*	168 Cell Disk
22 in (55.9 cm) Rows	*Below 139 800*	*Below 345 600*	84 Cell Disk
	Above 139 800	*Above 345 600*	168 Cell Disk
Twin Row 40 in (101.6 cm)	*Below 153 800*	*Below 380 100*	84 Cell Disk
20 in (50.8 cm) Rows	*Above 153 800*	*Above 380 100*	168 Cell Disk
Twin Row 38 in (96.5 cm)	*Below 161 900*	*Below 400 200*	84 Cell Disk
	Above 161 900	*Above 400 200*	168 Cell Disk
Twin Row 36 in (91.4 cm)	*Below 170 900*	*Below 422 400*	84 Cell Disk
	Above 170 900	*Above 422 400*	168 Cell Disk
Twin Row 30 in (76.2 cm)	*Below 205 100*	*Below 506 900*	84 Cell Disk
15in (38.1 cm) Rows	*Above 205 100*	*Above 506 900*	168 Cell Disk
Twin Row 70 cm	*Below 223 300*	*Below 551 800*	84 Cell Disk
35 cm Rows	*Above 223 300*	*Above 551 800*	168 Cell Disk
Twin Row 20 in (50.8 cm)	*Below 307 700*	*Below 760 300*	84 Cell Disk
10 in (25.4 cm) Rows	*Above 307 700*	*Above 760 300*	168 Cell Disk

*168 cell disc is not recommended for 60 ft wide planters

SUNFLOWER OIL SMALL / MEDIUM

60 CELL DISK — **837-234C SMALL**

Sunflower Oil Small	**6 500 - 8 500 Seeds per Pound**	**14 300 - 18 700 Seeds per Kilogram**

ATTENTION: This disk is for Hopper Style Planters only. Do not use with an Air Delivery type planter.

60 CELL DISK — **837-235C MEDIUM**

Sunflower Oil Medium	**4 500 - 6 500 Seeds per Pound**	**9 900 - 14 300 Seeds per Kilogram**

ATTENTION: This disk is for Hopper Style Planters only. Do not use with an Air Delivery type planter.

SUNFLOWER OIL LARGE / POPCORN

24 Cell Disk

817 - 851C

Seed Size Recommendations

Sunflower Oil Large	**Seeds/lb**	**Seeds/kg**	**Popcorn**
2's - most 3's	**4 500 (or fewer)**	**9 900 (or fewer)**	**This disk should plant all**
And a few of the larger 4's			**seed sizes of Popcorn.**

VIRGINIA PEANUTS
48 CELL DISK
403-959D

This disk should plant all seed sizes and row spacings for Virginia Peanuts.
ATTENTION: This disk is for Hopper Style Planters only. Do not use with an Air Delivery type planter.

GEORGIA PEANUTS
46 CELL DISK
837-137C

This disk should plant all seed sizes and row spacings for Georgia Peanuts.
ATTENTION: This disk is for Hopper Style Planters only. Do not use with an Air Delivery type planter.

Air Meter Blank Disk
817 - 841C

These disks are used in (Off Row Meters) when changing from 15 in to 30 in Rows.
Twin Row 30 in to 30 in Rows, (etc)
These disks are used in (Off Row Meters) when changing from 35 cm to 70 cm Rows, (etc)

Industrial Hemp

5 Cell Disk	30 Cell Disk
837-364C	837-386C

Seed Size Recommendations

This disk should plant all seed sizes and wide row spacings for Industrial Hemp.

Meter Pressurization

Refer to the Operator Manual for the procedure for fine tuning meter pressurization. Start with pressures from below and on page 12, which are based on crop, and for corn, seed shape and density.

Note: These are suggested initial (starting) pressures. Use the console to adjust them up or down per the procedure in the YP2425A Operator Manual.

Corn: Reading a Pressure Chart (below, next page)

1. Pick the chart based on seed shape (flat, round).
   Example: large round corn
2. Pick a line based on seed size (large, small).
   Example: the right line below
3. Find the seed density on the bottom scale.
   Example: 1260 seeds/pound
4. Read the suggested starting pressure on the left scale, where the line (example shown as dotted gray) intersects the density.
   Example: 3.4 inches of water

Initial seed inlet Shutter for corn is: 3

Initial Meter Pressurization: Canola, Cotton

1.5 inches of water (any seed density)
Initial seed inlet Shutter: canola (1.5), cotton (2)

Initial Meter Pressurization: Milo

1.5 inches of water (all disk, any seed density)
Initial seed inlet Shutter: 2

Initial Meter Pressurization: Soybeans

2.0 inches of water (84 cell disk, any seed density)
3.0 inches of water (*168 cell disk, any seed density, not recommended for 60 ft wide planters)
Initial seed inlet Shutter: 2

Initial Meter Pressurization: Sunflower

Disk: 817-851C SUNFLOWER OIL LARGE
8500 seeds/pound (or fewer):

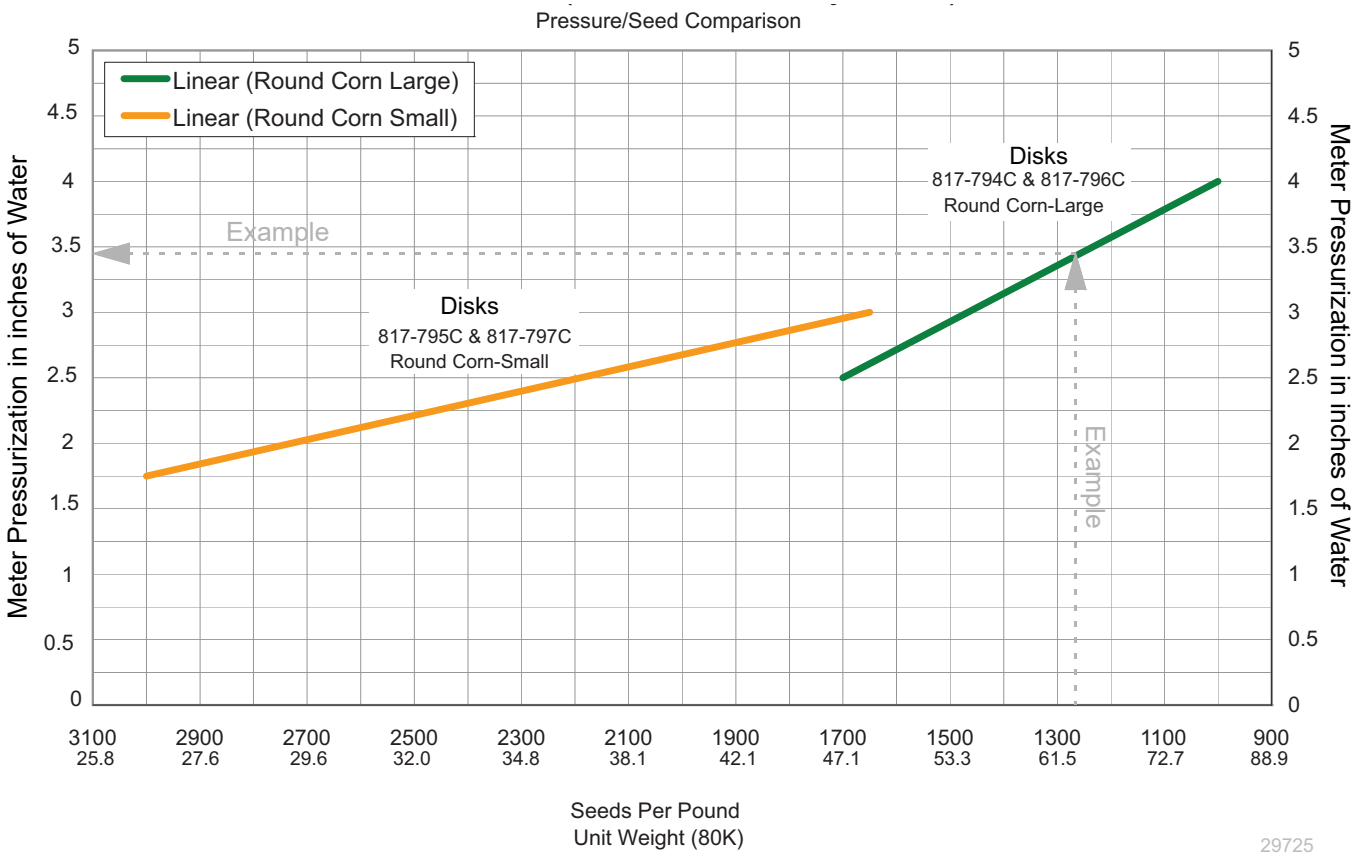
8500 - 7000 s/lb	1.25 inches of water
7000 - 5500 s/lb	1.75 inches of water
5500 s/lb and fewer	2.25 inches of water

Adjust pressure as needed for desired population.
Initial seed inlet Shutter: 2

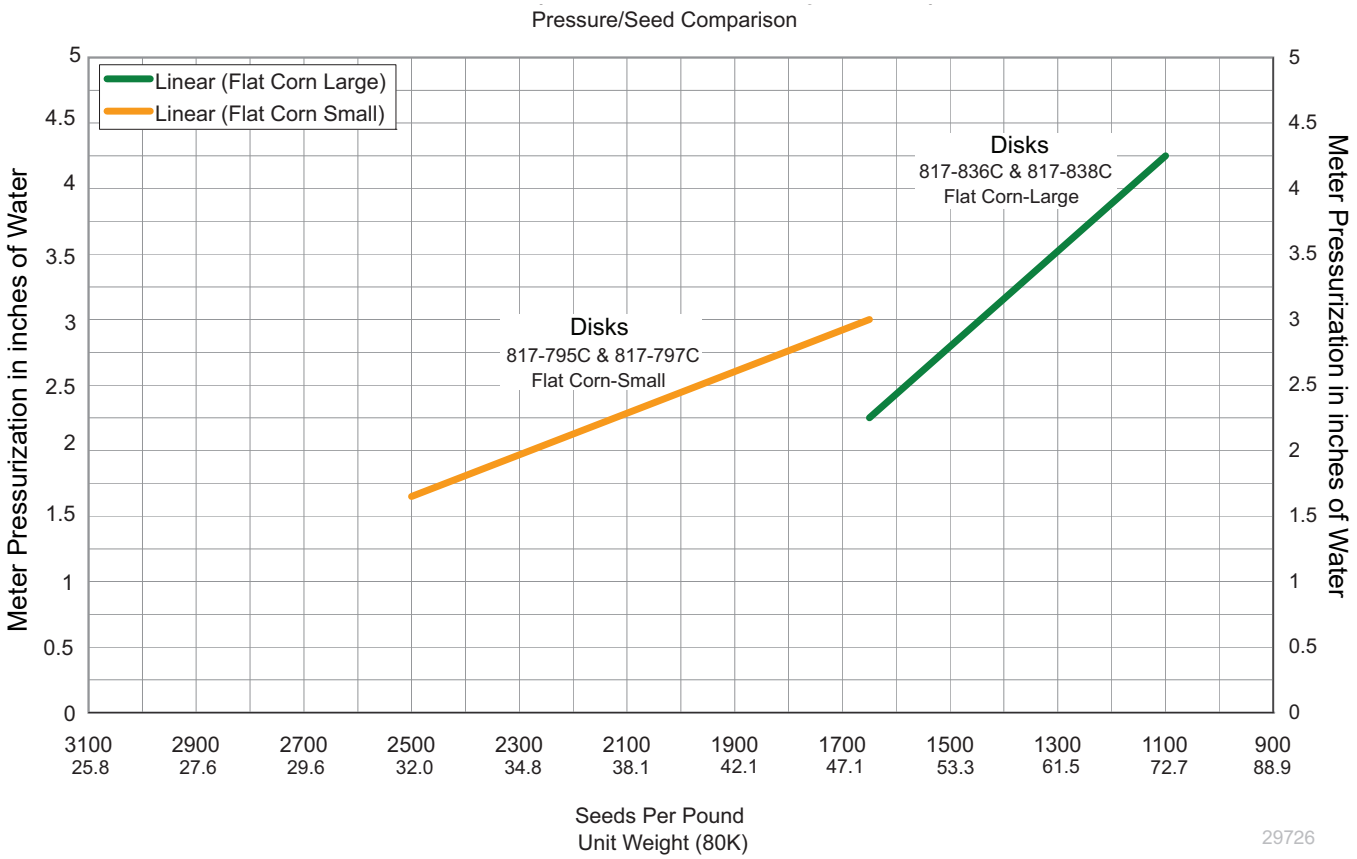
Initial Meter Pressurization: Volumetric

Refer to the charts beginning on page 58.

Initial Meter Pressurization: Round Corn



Initial Meter Pressurization: Flat Corn



Checking Planting Rate

NOTICE

The rate charts are estimations of maximum seed rates. Actual results will vary based on conditions and machine maintenance. Maintain your machine regularly for optimum performance.

Singulated seed charts are based on cleaned and sized seed singulated with the recommended disk. Extreme seed size variations and foreign material can affect the planting rate.

Any material difference between chart and field rates implies a mechanical malfunction, a planter setup error or extremely worn planter components. You can verify your setup and planter performance by measuring seed placement and spacing over a relatively short distance.

The columns to the right provide example data for a rate check, in U.S. customary units and a similar example metric units.

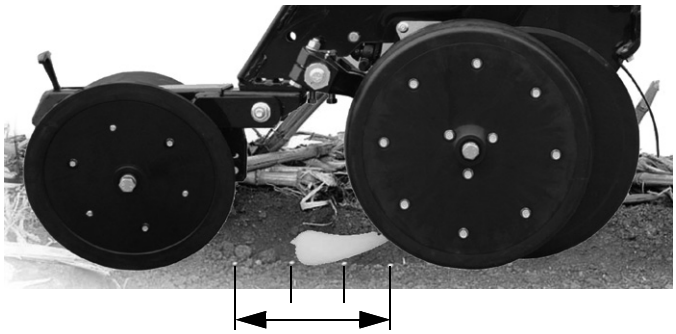


Figure 3 29247
Furrow Check

US Example:	Metric Example:
Planter: YP2425A-2430	Planter: YP2425A-2470
Crop: Soybeans	Crop: Soybeans
Density: 3000 seeds/lb	Density: 6614 seeds/kg
Seed Disk: 817-798C	Seed Disk: 817-798C
Target Population: 123,000 seeds/acre	Target Population: 438 000 seeds/hectare
Maximum Planting Speed: 5 mph	Maximum Planting Speed: 5 kph
Chart Seed Spacing: 1.7 inches	Chart Seed Spacing: 3.2 cm

Rate check data is from sheet “Check” in:
`/files/manual/docs/gp/401-626m/charts/ods/yp24a.ods`

Checking Singulated Rates

1. Determine the sample distance to check. Find your row spacing in the table at right.
2. Note the number of rows to sample. Adjust the planting depth to a shallow setting on one or two outside rows (per table). Tie up the press wheel arms with wire or bungee to prevent furrow closure.
3. For populations above 100 000 seeds/acre, use a sample size of 1/1000th acre.

   For populations below 100 000 seeds/acre, use a sample size of 1/200th acre.
4. Configure the planter for the chart rate, either using the chart settings for sprockets, or, with hydraulic drive, selecting the rate on the seed monitor.

Rows to Sample		Length of Sample Run	
Row Spacing*	Row Count	1/1000th Acre	1/200th Acre
7.5in Single	4	17ft 5in	
8in Single	4	16ft 4in	
9.5in Single	4	13ft 9in	
10in Single	2	26ft 2in	
15in Single	2	17ft 5in	87ft 1in
20in Single	1	26ft 2in	130ft 8in
22in Single	1	23ft 9in	118ft 10in
30in Single	1	17ft 5in	87ft 1in
36in Single	1	14ft 6in	72ft 7in
38in Single	1	13ft 9in	68ft 9in
40in Single	1	13ft 1in	65ft 4in
30in Twin	1 pair	17ft 5in	87ft 1in
36in Twin	1 pair	14ft 6in	72ft 7in
38in Twin	1 pair	13ft 9in	68ft 9in
40in Twin	1 pair	13ft 1in	65ft 4in

* Not all spacings may be offered on implements covered by this manual. 31442

5. Plant at the desired planting speed for slightly more than the computed sample run length.
6. Measure off the sample distance, balanced in between where seeding started and stopped.
7. Count the number of seeds over the distance measured. Also note the consistency of the seed spacing.
8. Compute the rate for a full acre or hectare.

   For a 1/1000th sample, multiply the counted seeds by 1000.

   For a 1/200th sample, multiply the counted seeds by 200.
9. If the field and chart rates vary by more than a few percent, re-check planter setup, including meter disk or cell count, air system, hydraulic drive setup, chain slack, etc. If seed spacing is irregular, this suggests a seed delivery problem, and not a rate setup problem.
10. While planting, pay attention to the seed monitor. In addition to confirming the single-row furrow check, it will also provide field rate data on all the other rows, and alert you to any irregularities or stoppages.

USc Example:	Metric Example:
Sample size: 1/1000th ac Plant for approximately: 25 feet Measure the central: 17 feet 5 inches	Sample size: 1/200th ha Plant for approximately: 20 meters Measure the central: 14.29 meters

USc Example:	Metric Example:
Seeds counted: 121 Computed for full acre: 121 ∞ 1000 = 121,000 This differs from chart by: 1.8%	Seeds counted: 300 Computed for full hectare: 300 ∞ 1000 = 300,000 This differs from chart by: 0.6%

Planting Rate

Singulated planting employs the seed monitor in "PLANTER CONTROL" mode.

Hydraulic Drive Meter Rate

Hydraulic drive meter rate is set directly on the seed monitor in the tractor. Consult the monitor manual for detailed instructions, which may vary slightly over time with firmware updates to the monitor system.

Enter/update your planter configuration (width/row-count, single-row/twin, disk cell count, etc.). Once entered, specify the population directly in seeds/acre or seeds/ha.

Enter meter RPM limits for your disk (pages 16-24).

Note: For consistent results, and least meter wear, do not exceed the recommended ground speed.

For step 1 through step 4, any needed data not provided in this manual can be found in one or more of:
DICKEY-john® Quick Start Guide
Planter Operator Manual
Refer to the DICKEY-john® IntelliAg® Planter/Drill Control Operator's Manual for details on setup item.

Note: The monitor must be in User Level 2 to change some of these parameters.

1. For a crop not previously planted with this planter, create a "Material Name" for the crop. Selecting a named material is a required step in later screens.
2. Verify, and as needed setup or update the "Material" record for the singulated seed to be planted.

   The table at right lists the parameters that need to be reviewed or set. <angle bracket> values are your choice/preference when not from meter rpm chart.
3. Verify, and as necessary setup or update the "Channel" assigned to the planter's hydraulic drive. If the monitor resets to defaults, Gear Ratio may be incorrect.

   Count rows individually for "# Seed Rows". A twin pair (if both openers are in use) counts as 2 rows. "Channel Width" is swath.
4. In the Material Library screen, makes sure that the Material (SOYBEANS in our example) is assigned to the Channel (CH 1 in our example) which controls the planter's hydraulic drive.
5. Perform a Valve Calibration for the control channel.
6. Switch the seed monitor from Setup/Configuration mode to Operate mode. Load seed. Move the planter to the field.
7.

Material	Data Required
Material Name	<crop name, such as "SOYBEANS">
Channel	"CH 1"
Type	"PLANTER CONTROL"
Preset Method	"Disabled" unless populations vary
Target Rate	<your election>
Max Rate	<110% of Target> is suggested
Min Rate	<90% of Target> is suggested
Inc/Dec	"1.0%" is suggested
Seeds Per Rev	<seed disk cell count>
Disc Low Limit	<rpm from seed rate chart>
Disc High Limit	<rpm from seed rate chart>
High Pop Alarm	<"20%"> is suggested
Low Pop Alarm	<"20%"> is suggested
Prod Level Alarm	0

Channel	Data Required
CHANNEL 1	(must be channel specified above)
Type	"PLANTER CONTROL"
Material Name	(must be material name specified above)
Control Mode	Auto
Drive Type	PWM 1
Drive Freq.	100 Hz
Input Filter	50%

Meter RPM Limit Charts

Meter RPM Limits: Corn 24 Cell

(*All rates are based on laboratory testing; actual field results will vary)

Air-Pro® Meter RPM Limits

CORN

24 Cell Disk

Initial Seed Inlet Shutter Setting: 3

817-794C Round Corn Large
817-795C Round Corn Small
817-836C Flat Corn Large

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in		**4.0**	**71 280**	**23 760**
15in Rows		**4.5**	**63 360**	**21 120**
Max	Min	**5.0**	**57 024**	**19 008**
rpm	rpm	**5.5**	**51 840**	**17 280**
30	**10**	**6.0**	**47 520**	**15 840**
		6.5	**43 865**	**14 622**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows		**4.0**	**48 600**	**16 200**
Max	Min	**4.5**	**43 200**	**14 400**
rpm	rpm	**5.0**	**38 880**	**12 960**
30	**10**	**5.5**	**35 345**	**11 782**
		6.0	**32 400**	**10 800**
		6.5	**29 908**	**9 969**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 36in		**4.0**	**59 400**	**19 800**
Max	Min	**4.5**	**52 800**	**17 600**
rpm	rpm	**5.0**	**47 520**	**15 840**
30	**10**	**5.5**	**43 200**	**14 400**
		6.0	**39 600**	**13 200**
		6.5	**36 554**	**12 185**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
30in Rows		**4.0**	**35 640**	**11 880**
Max	Min	**4.5**	**31 680**	**10 560**
rpm	rpm	**5.0**	**28 512**	**9 504**
30	**10**	**5.5**	**25 920**	**8 640**
		6.0	**23 760**	**7 920**
		6.5	**21 932**	**7 311**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 38in		**4.0**	**56 274**	**18 758**
Max	Min	**4.5**	**50 021**	**16 674**
rpm	rpm	**5.0**	**45 019**	**15 006**
30	**10**	**5.5**	**40 926**	**13 642**
		6.0	**37 516**	**12 505**
		6.5	**34 630**	**11 543**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
36in Rows		**4.0**	**29 700**	**9 900**
Max	Min	**4.5**	**26 400**	**8 800**
rpm	rpm	**5.0**	**23 760**	**7 920**
30	**10**	**5.5**	**21 600**	**7 200**
		6.0	**19 800**	**6 600**
		6.5	**18 277**	**6 092**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 40in		**4.0**	**53 460**	**17 820**
20in Rows		**4.5**	**47 520**	**15 840**
Max	Min	**5.0**	**42 768**	**14 256**
rpm	rpm	**5.5**	**38 880**	**12 960**
30	**10**	**6.0**	**35 640**	**11 880**
		6.5	**32 898**	**10 966**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
38in Rows		**4.0**	**28 137**	**9 379**
Max	Min	**4.5**	**25 011**	**8 337**
rpm	rpm	**5.0**	**22 509**	**7 503**
30	**10**	**5.5**	**20 463**	**6 821**
		6.0	**18 758**	**6 253**
		6.5	**17 315**	**5 772**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
40in Rows		**4.0**	**26 730**	**8 910**
Max	Min	**4.5**	**23 760**	**7 920**
rpm	rpm	**5.0**	**21 384**	**7 128**
30	**10**	**5.5**	**19 440**	**6 480**
		6.0	**17 820**	**5 940**
		6.5	**16 449**	**5 483**

29652A

Meter RPM Limits: Corn 40 Cell

Air-Pro® Meter RPM Limits

CORN

40 Cell Disk

Initial Seed Inlet Shutter Setting: 3

817-796C Round Corn Large
817-797C Round Corn Small
817-838C Flat Corn Large

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in	4.0	118 800	39 600
15in Rows	4.5	105 600	35 200
Max Min	5.0	95 040	31 680
rpm rpm	5.5	86 400	28 800
30 10	6.0	79 200	26 400
	6.5	73 108	24 369

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows	4.0	81 000	27 000
Max Min	4.5	72 000	24 000
rpm rpm	5.0	64 800	21 600
30 10	5.5	58 909	19 636
	6.0	54 000	18 000
	6.5	49 846	16 615

Twin Row 36in	4.0	99 000	33 000
Max Min	4.5	88 000	29 333
rpm rpm	5.0	79 200	26 400
30 10	5.5	72 000	24 000
	6.0	66 000	22 000
	6.5	60 923	20 308

30in Rows	4.0	59 400	19 800
Max Min	4.5	52 800	17 600
rpm rpm	5.0	47 520	15 840
30 10	5.5	43 200	14 400
	6.0	39 600	13 200
	6.5	36 554	12 185

Twin Row 38in	4.0	93 789	31 263
Max Min	4.5	83 368	27 789
rpm rpm	5.0	75 032	25 011
30 10	5.5	68 211	22 737
	6.0	62 526	20 842
	6.5	57 717	19 239

36in Rows	4.0	49 500	16 500
Max Min	4.5	44 000	14 667
rpm rpm	5.0	39 600	13 200
30 10	5.5	36 000	12 000
	6.0	33 000	11 000
	6.5	30 462	10 154

Twin Row 40in	4.0	89 100	29 700
20in Rows	4.5	79 200	26 400
Max Min	5.0	71 280	23 760
rpm rpm	5.5	64 800	21 600
30 10	6.0	59 400	19 800
	6.5	54 831	18 277

38in Rows	4.0	46 895	15 632
Max Min	4.5	41 684	13 895
rpm rpm	5.0	37 516	12 505
30 10	5.5	34 105	11 368
	6.0	31 263	10 421
	6.5	28 858	9 619

40in Rows	4.0	44 550	14 850
Max Min	4.5	39 600	13 200
rpm rpm	5.0	35 640	11 880
30 10	5.5	32 400	10 800
	6.0	29 700	9 900
	6.5	27 415	9 138

29652B

Meter RPM Limits: Cotton 60 Cell

Air-Pro® Meter RPM Limits

COTTON

60 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-857C Cotton

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in	**4.0**	**190 080**	**29 700**
15in Rows	**4.5**	**168 960**	**26 400**
Max Min	**5.0**	**152 064**	**23 760**
rpm rpm	**5.5**	**138 240**	**21 600**
30 10	**6.0**	**126 720**	**19 800**
	6.5	**116 972**	**18 277**

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows	**4.0**	**129 600**	**20 250**
Max Min	**4.5**	**115 200**	**18 000**
rpm rpm	**5.0**	**103 680**	**16 200**
30 10	**5.5**	**94 255**	**14 727**
	6.0	**86 400**	**13 500**
	6.5	**79 754**	**12 462**

Twin Row 36in	**4.0**	**158 400**	**24 750**
Max Min	**4.5**	**140 800**	**22 000**
rpm rpm	**5.0**	**126 720**	**19 800**
30 10	**5.5**	**115 200**	**18 000**
	6.0	**105 600**	**16 500**
	6.5	**97 477**	**15 231**

30in Rows	**4.0**	**95 040**	**14 850**
Max Min	**4.5**	**84 480**	**13 200**
rpm rpm	**5.0**	**76 032**	**11 880**
30 10	**5.5**	**69 120**	**10 800**
	6.0	**63 360**	**9 900**
	6.5	**58 486**	**9 138**

Twin Row 38in	**4.0**	**150 063**	**23 447**
Max Min	**4.5**	**133 389**	**20 842**
rpm rpm	**5.0**	**120 051**	**18 758**
30 10	**5.5**	**109 137**	**17 053**
	6.0	**100 042**	**15 632**
	6.5	**92 347**	**14 429**

36in Rows	**4.0**	**79 200**	**12 375**
Max Min	**4.5**	**70 400**	**11 000**
rpm rpm	**5.0**	**63 360**	**9 900**
30 10	**5.5**	**57 600**	**9 000**
	6.0	**52 800**	**8 250**
	6.5	**48 738**	**7 615**

Twin Row 40in	**4.0**	**142 560**	**22 275**
20in Rows	**4.5**	**126 720**	**19 800**
Max Min	**5.0**	**114 048**	**17 820**
rpm rpm	**5.5**	**103 680**	**16 200**
30 10	**6.0**	**95 040**	**14 850**
	6.5	**87 729**	**13 708**

38in Rows	**4.0**	**75 032**	**11 724**
Max Min	**4.5**	**66 695**	**10 421**
rpm rpm	**5.0**	**60 025**	**9 379**
30 10	**5.5**	**54 568**	**8 526**
	6.0	**50 021**	**7 816**
	6.5	**46 173**	**7 215**

40in Rows	**4.0**	**71 280**	**11 138**
Max Min	**4.5**	**63 360**	**9 900**
rpm rpm	**5.0**	**57 024**	**8 910**
30 10	**5.5**	**51 840**	**8 100**
	6.0	**47 520**	**7 425**
	6.5	**43 865**	**6 854**

29652C

Meter RPM Limits: Milo 30 Cell

Air-Pro® Meter RPM Limits
MILO
30 Cell Disk

837-057C Milo

Initial Seed Inlet Shutter Setting: 2

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
10in Rows		**4.0**	**133 650**	**22 275**
Max	Min	**4.5**	**118 800**	**19 800**
rpm	rpm	**5.0**	**106 920**	**17 820**
30	**5**	**5.5**	**97 200**	**16 200**
		6.0	**89 100**	**14 850**
		6.5	**82 246**	**13 708**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows		**4.0**	**60 750**	**10 125**
Max	Min	**4.5**	**54 000**	**9 000**
rpm	rpm	**5.0**	**48 600**	**8 100**
30	**5**	**5.5**	**44 182**	**7 364**
		6.0	**40 500**	**6 750**
		6.5	**37 385**	**6 231**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in		**4.0**	**89 100**	**14 850**
15in Rows		**4.5**	**79 200**	**13 200**
Max	Min	**5.0**	**71 280**	**11 880**
rpm	rpm	**5.5**	**64 800**	**10 800**
30	**5**	**6.0**	**59 400**	**9 900**
		6.5	**54 831**	**9 138**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
30in Rows		**4.0**	**44 550**	**07 425**
Max	Min	**4.5**	**39 600**	**06 600**
rpm	rpm	**5.0**	**35 640**	**5 940**
30	**5**	**5.5**	**32 400**	**5 400**
		6.0	**29 700**	**4 950**
		6.5	**27 415**	**4 569**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 36in		**4.0**	**74 250**	**12 375**
Max	Min	**4.5**	**66 000**	**11 000**
rpm	rpm	**5.0**	**59 400**	**9 900**
30	**5**	**5.5**	**54 000**	**9 000**
		6.0	**49 500**	**8 250**
		6.5	**45 692**	**7 615**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
36in Rows		**4.0**	**37 125**	**6 188**
Max	Min	**4.5**	**33 000**	**5 500**
rpm	rpm	**5.0**	**29 700**	**4 950**
30	**5**	**5.5**	**27 000**	**4 500**
		6.0	**24 750**	**4 125**
		6.5	**22 846**	**3 808**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 38in		**4.0**	**70 342**	**11 724**
Max	Min	**4.5**	**62 526**	**10 421**
rpm	rpm	**5.0**	**56 274**	**9 379**
30	**5**	**5.5**	**51 158**	**8 526**
		6.0	**46 895**	**7 816**
		6.5	**43 287**	**7 215**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
38in Rows		**4.0**	**35 171**	**5 862**
Max	Min	**4.5**	**31 263**	**5 211**
rpm	rpm	**5.0**	**28 137**	**4 689**
30	**5**	**5.5**	**25 579**	**4 263**
		6.0	**23 447**	**3 908**
		6.5	**21 644**	**3 607**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 40in		**4.0**	**66 825**	**11 138**
20in Rows		**4.5**	**59 400**	**9 900**
Max	Min	**5.0**	**53 460**	**8 910**
rpm	rpm	**5.5**	**48 600**	**8 100**
30	**5**	**6.0**	**44 550**	**7 425**
		6.5	**41 123**	**6 854**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
40in Rows		**4.0**	**33 413**	**5 569**
Max	Min	**4.5**	**29 700**	**4 950**
rpm	rpm	**5.0**	**26 730**	**4 455**
30	**5**	**5.5**	**24 300**	**4 050**
		6.0	**22 275**	**3 713**
		6.5	**20 562**	**3 427**

36426R

Meter RPM Limits: Milo 65 Cell

Air-Pro® Meter RPM Limits

MILO

65 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-849C Milo

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
10in Rows	4.0	289 575	48 263
Max rpm **30** / Min rpm **5**	4.5	257 400	42 900
	5.0	231 660	38 610
	5.5	210 600	35 100
	6.0	193 050	32 175
	6.5	178 200	29 700

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows	4.0	131 625	21 938
Max rpm **30** / Min rpm **5**	4.5	117 000	19 500
	5.0	105 300	17 550
	5.5	95 727	15 955
	6.0	87 750	14 625
	6.5	81 000	13 500

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in	4.0	193 050	32 175
15in Rows	4.5	171 600	28 600
Max rpm **30** / Min rpm **5**	5.0	154 440	25 740
	5.5	140 400	23 400
	6.0	128 700	21 450
	6.5	118 800	19 800

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
30in Rows	4.0	96 525	16 088
Max rpm **30** / Min rpm **5**	4.5	85 800	14 300
	5.0	77 220	12 870
	5.5	70 200	11 700
	6.0	64 350	10 725
	6.5	59 400	9 900

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 36in	4.0	160 875	26 813
Max rpm **30** / Min rpm **5**	4.5	143 000	23 833
	5.0	128 700	21 450
	5.5	117 000	19 500
	6.0	107 250	17 875
	6.5	99 000	16 500

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
36in Rows	4.0	80 438	13 406
Max rpm **30** / Min rpm **5**	4.5	71 500	11 917
	5.0	64 350	10 725
	5.5	58 500	9 750
	6.0	53 625	8 938
	6.5	49 500	8 250

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 38in	4.0	152 408	25 401
Max rpm **30** / Min rpm **5**	4.5	135 474	22 579
	5.0	121 926	20 321
	5.5	110 842	18 474
	6.0	101 605	16 934
	6.5	93 789	15 632

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
38in Rows	4.0	76 204	12 701
Max rpm **30** / Min rpm **5**	4.5	67 737	11 289
	5.0	60 963	10 161
	5.5	55 421	9 237
	6.0	50 803	8 467
	6.5	46 895	7 816

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 40in	4.0	144 788	24 131
20in Rows	4.5	128 700	21 450
Max rpm **30** / Min rpm **5**	5.0	115 830	19 305
	5.5	105 300	17 550
	6.0	96 525	16 088
	6.5	89 100	14 850

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
40in Rows	4.0	72 394	12 066
Max rpm **30** / Min rpm **5**	4.5	64 350	10 725
	5.0	57 915	9 653
	5.5	52 650	8 775
	6.0	48 263	8 044
	6.5	44 550	7 425

29652D

Meter RPM Limits: Milo 130 Cell

Air-Pro® Meter RPM Limits

MILO

130 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-800C Milo

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
10in Rows		4.0	579 150	96 525
Max	Min	4.5	514 800	85 800
rpm	rpm	5.0	463 320	77 220
30	5	5.5	421 200	70 200
		6.0	386 100	64 350
		6.5	356 400	59 400

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows		4.0	263 250	43 875
Max	Min	4.5	234 000	39 000
rpm	rpm	5.0	210 600	35 100
30	5	5.5	191 455	31 909
		6.0	175 500	29 250
		6.5	162 000	27 000

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in		4.0	386 100	64 350
15in Rows		4.5	343 200	57 200
Max	Min	5.0	308 880	51 480
rpm	rpm	5.5	280 800	46 800
30	5	6.0	257 400	42 900
		6.5	237 600	39 600

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
30in Rows		4.0	193 050	32 175
Max	Min	4.5	171 600	28 600
rpm	rpm	5.0	154 440	25 740
30	5	5.5	140 400	23 400
		6.0	128 700	21 450
		6.5	118 800	19 800

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 36in		4.0	321 750	53 625
Max	Min	4.5	286 000	47 667
rpm	rpm	5.0	257 400	42 900
30	5	5.5	234 000	39 000
		6.0	214 500	35 750
		6.5	198 000	33 000

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
36in Rows		4.0	160 875	26 813
Max	Min	4.5	143 000	23 833
rpm	rpm	5.0	128 700	21 450
30	5	5.5	117 000	19 500
		6.0	107 250	17 875
		6.5	99 000	16 500

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 38in		4.0	304 816	50 803
Max	Min	4.5	270 947	45 158
rpm	rpm	5.0	243 853	40 642
30	5	5.5	221 684	36 947
		6.0	203 211	33 868
		6.5	187 579	31 263

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
38in Rows		4.0	152 408	25 401
Max	Min	4.5	135 474	22 579
rpm	rpm	5.0	121 926	20 321
30	5	5.5	110 842	18 474
		6.0	101 605	16 934
		6.5	93 789	15 632

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 40in		4.0	289 575	48 263
20in Rows		4.5	257 400	42 900
Max	Min	5.0	231 660	38 610
rpm	rpm	5.5	210 600	35 100
30	5	6.0	193 050	32 175
		6.5	178 200	29 700

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
40in Rows		4.0	144 788	24 131
Max	Min	4.5	128 700	21 450
rpm	rpm	5.0	115 830	19 305
30	5	5.5	105 300	17 550
		6.0	96 525	16 088
		6.5	89 100	14 850

29652E

Meter RPM Limits: Soybeans 84 Cell

Air-Pro® Meter RPM Limits

SOYBEAN

84 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-798C Soybean

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
10in Rows		**4.0**	**461 538**	**62 370**
Max	Min	**4.5**	**410 256**	**55 440**
rpm	rpm	**5.0**	**369 230**	**49 896**
37	**5**	**5.5**	**335 664**	**45 360**
		6.0	**307 692**	**41 580**
		6.5	**284 023**	**38 382**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows		**4.0**	**209 790**	**28 350**
Max	Min	**4.5**	**186 480**	**25 200**
rpm	rpm	**5.0**	**167 832**	**22 680**
37	**5**	**5.5**	**152 575**	**20 618**
		6.0	**139 860**	**18 900**
		6.5	**129 102**	**17 446**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in		**4.0**	**307 692**	**41 580**
15in Rows		**4.5**	**273 504**	**36 960**
Max	Min	**5.0**	**246 154**	**33 264**
rpm	rpm	**5.5**	**223 776**	**30 240**
37	**5**	**6.0**	**205 128**	**27 720**
		6.5	**189 349**	**25 588**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
30in Rows		**4.0**	**153 846**	**20 790**
Max	Min	**4.5**	**136 752**	**18 480**
rpm	rpm	**5.0**	**123 077**	**16 632**
37	**5**	**5.5**	**111 888**	**15 120**
		6.0	**102 564**	**13 860**
		6.5	**94 674**	**12 794**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 36in		**4.0**	**256 410**	**34 650**
Max	Min	**4.5**	**227 920**	**30 800**
rpm	rpm	**5.0**	**205 128**	**27 720**
37	**5**	**5.5**	**186 480**	**25 200**
		6.0	**170 940**	**23 100**
		6.5	**157 791**	**21 323**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
36in Rows		**4.0**	**128 205**	**17 325**
Max	Min	**4.5**	**113 960**	**15 400**
rpm	rpm	**5.0**	**102 564**	**13 860**
37	**5**	**5.5**	**93 240**	**12 600**
		6.0	**85 470**	**11 550**
		6.5	**78 895**	**10 662**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 38in		**4.0**	**242 915**	**32 826**
Max	Min	**4.5**	**215 924**	**29 179**
rpm	rpm	**5.0**	**194 332**	**26 261**
37	**5**	**5.5**	**176 665**	**23 874**
		6.0	**161 943**	**21 884**
		6.5	**149 486**	**20 201**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
38in Rows		**4.0**	**121 457**	**16 413**
Max	Min	**4.5**	**107 962**	**14 589**
rpm	rpm	**5.0**	**97 166**	**13 131**
37	**5**	**5.5**	**88 333**	**11 937**
		6.0	**80 972**	**10 942**
		6.5	**74 743**	**10 100**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 40in		**4.0**	**230 769**	**31 185**
20in Rows		**4.5**	**205 128**	**27 720**
Max	Min	**5.0**	**184 615**	**24 948**
rpm	rpm	**5.5**	**167 832**	**22 680**
37	**5**	**6.0**	**153 846**	**20 790**
		6.5	**142 012**	**19 191**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
40in Rows		**4.0**	**115 385**	**15 593**
Max	Min	**4.5**	**102 564**	**13 860**
rpm	rpm	**5.0**	**92 308**	**12 474**
37	**5**	**5.5**	**83 916**	**11 340**
		6.0	**76 923**	**10 395**
		6.5	**71 006**	**9 595**

29652F

Meter RPM Limits: Soybeans 168 Cell

Air-Pro® Meter RPM Limits

SOYBEAN

168 Cell Disk

Initial Seed Inlet Shutter Setting: 2

403-551D Soybean

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
10in Rows		**4.0**	**923 076**	**124 740**
Max	Min	**4.5**	**820 512**	**110 880**
rpm	rpm	**5.0**	**738 461**	**99 792**
37	**5**	**5.5**	**671 328**	**90 720**
		6.0	**615 384**	**83 160**
		6.5	**568 047**	**76 763**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows		**4.0**	**419 580**	**56 700**
Max	Min	**4.5**	**372 960**	**50 400**
rpm	rpm	**5.0**	**335 664**	**45 360**
37	**5**	**5.5**	**305 149**	**41 236**
		6.0	**279 720**	**37 800**
		6.5	**258 203**	**34 892**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in		**4.0**	**615 384**	**83 160**
15in Rows		**4.5**	**547 008**	**73 920**
Max	Min	**5.0**	**492 307**	**66 528**
rpm	rpm	**5.5**	**447 552**	**60 480**
37	**5**	**6.0**	**410 256**	**55 440**
		6.5	**378 698**	**51 175**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
30in Rows		**4.0**	**307 692**	**41 580**
Max	Min	**4.5**	**273 504**	**36 960**
rpm	rpm	**5.0**	**246 154**	**33 264**
37	**5**	**5.5**	**223 776**	**30 240**
		6.0	**205 128**	**27 720**
		6.5	**189 349**	**25 588**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 36in		**4.0**	**512 820**	**69 300**
Max	Min	**4.5**	**455 840**	**61 600**
rpm	rpm	**5.0**	**410 256**	**55 440**
37	**5**	**5.5**	**372 960**	**50 400**
		6.0	**341 880**	**46 200**
		6.5	**315 582**	**42 646**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
36in Rows		**4.0**	**256 410**	**34 650**
Max	Min	**4.5**	**227 920**	**30 800**
rpm	rpm	**5.0**	**205 128**	**27 720**
37	**5**	**5.5**	**186 480**	**25 200**
		6.0	**170 940**	**23 100**
		6.5	**157 791**	**21 323**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 38in		**4.0**	**485 829**	**65 653**
Max	Min	**4.5**	**431 848**	**58 358**
rpm	rpm	**5.0**	**388 664**	**52 522**
37	**5**	**5.5**	**353 331**	**47 747**
		6.0	**323 886**	**43 768**
		6.5	**298 972**	**40 402**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
38in Rows		**4.0**	**242 915**	**32 826**
Max	Min	**4.5**	**215 924**	**29 179**
rpm	rpm	**5.0**	**194 332**	**26 261**
37	**5**	**5.5**	**176 665**	**23 874**
		6.0	**161 943**	**21 884**
		6.5	**149 486**	**20 201**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 40in		**4.0**	**461 538**	**62 370**
20in Rows		**4.5**	**410 256**	**55 440**
Max	Min	**5.0**	**369 230**	**49 896**
rpm	rpm	**5.5**	**335 664**	**45 360**
37	**5**	**6.0**	**307 692**	**41 580**
		6.5	**284 023**	**38 382**

		Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
40in Rows		**4.0**	**230 769**	**31 185**
Max	Min	**4.5**	**205 128**	**27 720**
rpm	rpm	**5.0**	**184 615**	**24 948**
37	**5**	**5.5**	**167 832**	**22 680**
		6.0	**153 846**	**20 790**
		6.5	**142 012**	**19 191**

29652G

Meter RPM Limits: Sunflower 24 Cell

Air-Pro® Meter RPM Limits

SUNFLOWER OIL LARGE

24 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-851C Sunflower Oil Large
8500 seeds/lb (or fewer)

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
Twin Row 30in	**4.0**	**71 280**	**23 760**
15in Rows	**4.5**	**63 360**	**21 120**
Max Min	**5.0**	**57 024**	**19 008**
rpm rpm	**5.5**	**51 840**	**17 280**
30 10	**6.0**	**47 520**	**15 840**
	6.5	**43 865**	**14 622**

	Planting Speed (mph)	Maximum Population (seeds/acre)	Minimum Population (seeds/acre)
22in Rows	**4.0**	**48 600**	**16 200**
Max Min	**4.5**	**43 200**	**14 400**
rpm rpm	**5.0**	**38 880**	**12 960**
30 10	**5.5**	**35 345**	**11 782**
	6.0	**32 400**	**10 800**
	6.5	**29 908**	**9 969**

Twin Row 36in	**4.0**	**59 400**	**19 800**
Max Min	**4.5**	**52 800**	**17 600**
rpm rpm	**5.0**	**47 520**	**15 840**
30 10	**5.5**	**43 200**	**14 400**
	6.0	**39 600**	**13 200**
	6.5	**36 554**	**12 185**

30in Rows	**4.0**	**35 640**	**11 880**
Max Min	**4.5**	**31 680**	**10 560**
rpm rpm	**5.0**	**28 512**	**9 504**
30 10	**5.5**	**25 920**	**8 640**
	6.0	**23 760**	**7 920**
	6.5	**21 932**	**7 311**

Twin Row 38in	**4.0**	**56 274**	**18 758**
Max Min	**4.5**	**50 021**	**16 674**
rpm rpm	**5.0**	**45 019**	**15 006**
30 10	**5.5**	**40 926**	**13 642**
	6.0	**37 516**	**12 505**
	6.5	**34 630**	**11 543**

36in Rows	**4.0**	**29 700**	**9 900**
Max Min	**4.5**	**26 400**	**8 800**
rpm rpm	**5.0**	**23 760**	**7 920**
30 10	**5.5**	**21 600**	**7 200**
	6.0	**19 800**	**6 600**
	6.5	**18 277**	**6 092**

Twin Row 40in	**4.0**	**53 460**	**17 820**
20in Rows	**4.5**	**47 520**	**15 840**
Max Min	**5.0**	**42 768**	**14 256**
rpm rpm	**5.5**	**38 880**	**12 960**
30 10	**6.0**	**35 640**	**11 880**
	6.5	**32 898**	**10 966**

38in Rows	**4.0**	**28 137**	**9 379**
Max Min	**4.5**	**25 011**	**8 337**
rpm rpm	**5.0**	**22 509**	**7 503**
30 10	**5.5**	**20 463**	**6 821**
	6.0	**18 758**	**6 253**
	6.5	**17 315**	**5 772**

40in Rows	**4.0**	**26 730**	**8 910**
Max Min	**4.5**	**23 760**	**7 920**
rpm rpm	**5.0**	**21 384**	**7 128**
30 10	**5.5**	**19 440**	**6 480**
	6.0	**17 820**	**5 940**
	6.5	**16 449**	**5 483**

29652H

Meter RPM Limits: Hemp 5 Cell

Air-Pro® Meter RPM Limits

INDUSTRIAL HEMP

5 Cell Disk

Initial Seed Inlet Shutter Setting: 2

837-364C IND HEMP

	Planting Speed		Maximum Population seeds per		Minimum Population seeds per	
	mph	kph	acre	hectare	acre	hectare
Twin Row 30in 15in Rows Max rpm 45 Min rpm 10	4.0	6.4	22 275	55 042	04 950	12 231
	4.5	7.2	19 800	48 926	04 400	10 872
	5.0	8.0	17 820	44 033	03 960	09 785
	5.5	8.9	16 200	40 030	03 600	08 896
	6.0	9.7	14 850	36 694	03 300	08 154
	6.5	10.5	13 708	33 872	03 046	07 527
Twin Row 36in Max rpm 45 Min rpm 10	4.0	6.4	18 563	45 868	04 125	10 193
	4.5	7.2	16 500	40 772	03 667	09 060
	5.0	8.0	14 850	36 694	03 300	08 154
	5.5	8.9	13 500	33 359	03 000	07 413
	6.0	9.7	12 375	30 579	02 750	06 795
	6.5	10.5	11 423	28 226	02 538	06 273
Twin Row 38in Max rpm 45 Min rpm 10	4.0	6.4	17 586	43 454	03 908	09 656
	4.5	7.2	15 632	38 626	03 474	08 583
	5.0	8.0	14 068	34 763	03 126	07 725
	5.5	8.9	12 789	31 603	02 842	07 023
	6.0	9.7	11 724	28 969	02 605	06 438
	6.5	10.5	10 822	26 741	02 405	05 942
Twin Row 40in 20in Rows Max rpm 45 Min rpm 10	4.0	6.4	16 706	41 281	03 713	09 174
	4.5	7.2	14 850	36 694	03 300	08 154
	5.0	8.0	13 365	33 025	02 970	07 339
	5.5	8.9	12 150	30 023	02 700	06 672
	6.0	9.7	11 138	27 521	02 475	06 116
	6.5	10.5	10 281	25 404	02 285	05 645
22in Rows Max rpm 45 Min rpm 10	4.0	6.4	15 188	37 528	03 375	08 340
	4.5	7.2	13 500	33 359	03 000	07 413
	5.0	8.0	12 150	30 023	02 700	06 672
	5.5	8.9	11 045	27 293	02 455	06 065
	6.0	9.7	10 125	25 019	02 250	05 560
	6.5	10.5	09 346	23 094	02 077	05 132

	Planting Speed		Maximum Population seeds per		Minimum Population seeds per	
	mph	kph	acre	hectare	acre	hectare
70cm Rows Max rpm 45 Min rpm 10	4.0	6.4	12 124	29 958	02 694	06 657
	4.5	7.2	10 777	26 630	02 395	05 918
	5.0	8.0	09 699	23 967	02 155	05 326
	5.5	8.9	08 817	21 788	01 959	04 842
	6.0	9.7	08 083	19 972	01 796	04 438
	6.5	10.5	07 461	18 436	01 658	04 097
30in Rows Max rpm 45 Min rpm 10	4.0	6.4	11 138	27 521	02 475	06 116
	4.5	7.2	09 900	24 463	02 200	05 436
	5.0	8.0	08 910	22 017	01 980	04 893
	5.5	8.9	08 100	20 015	01 800	04 448
	6.0	9.7	07 425	18 347	01 650	04 077
	6.5	10.5	06 854	16 936	01 523	03 764
36in Rows Max rpm 45 Min rpm 10	4.0	6.4	09 281	22 934	02 063	05 096
	4.5	7.2	08 250	20 386	01 833	04 530
	5.0	8.0	07 425	18 347	01 650	04 077
	5.5	8.9	06 750	16 679	01 500	03 707
	6.0	9.7	06 188	15 289	01 375	03 398
	6.5	10.5	05 712	14 113	01 269	03 136
38in Rows Max rpm 45 Min rpm 10	4.0	6.4	08 793	21 727	01 954	04 828
	4.5	7.2	07 816	19 313	01 737	04 292
	5.0	8.0	07 034	17 382	01 563	03 863
	5.5	8.9	06 395	15 801	01 421	03 511
	6.0	9.7	05 862	14 485	01 303	03 219
	6.5	10.5	05 411	13 370	01 202	02 971
40in Rows Max rpm 45 Min rpm 10	4.0	6.4	08 353	20 641	01 856	04 587
	4.5	7.2	07 425	18 347	01 650	04 077
	5.0	8.0	06 683	16 512	01 485	03 669
	5.5	8.9	06 075	15 011	01 350	03 336
	6.0	9.7	05 569	13 760	01 238	03 058
	6.5	10.5	05 140	12 702	01 142	02 823

Meter RPM Limits: Hemp 30 Cell

Air-Pro® Meter RPM Limits
INDUSTRIAL HEMP
30 Cell Disk

Initial Seed Inlet Shutter Setting: 2

837-386C IND HEMP

	Planting Speed		Maximum Population seeds per		Minimum Population seeds per	
	mph	kph	acre	hectare	acre	hectare
Twin Row 30in 15in Rows	4.0	6.4	118 800	293 555	29 700	73 389
	4.5	7.2	105 600	260 938	26 400	65 234
Max rpm **40** Min rpm **10**	5.0	8.0	95 040	234 844	23 760	58 711
	5.5	8.9	86 400	213 494	21 600	53 374
	6.0	9.7	79 200	195 703	19 800	48 926
	6.5	10.5	73 108	180 649	18 277	45 162
Twin Row 36in	4.0	6.4	99 000	244 629	24 750	61 157
	4.5	7.2	88 000	217 448	22 000	54 362
Max rpm **40** Min rpm **10**	5.0	8.0	79 200	195 703	19 800	48 926
	5.5	8.9	72 000	177 912	18 000	44 478
	6.0	9.7	66 000	163 086	16 500	40 772
	6.5	10.5	60 923	150 541	15 231	37 635
Twin Row 38in	4.0	6.4	93 789	231 754	23 447	57 938
	4.5	7.2	83 368	206 003	20 842	51 501
Max rpm **40** Min rpm **10**	5.0	8.0	75 032	185 403	18 758	46 351
	5.5	8.9	68 211	168 548	17 053	42 137
	6.0	9.7	62 526	154 503	15 632	38 626
	6.5	10.5	57 717	142 618	14 429	35 654
Twin Row 40in 20in Rows	4.0	6.4	89 100	220 166	22 275	55 042
	4.5	7.2	79 200	195 703	19 800	48 926
Max rpm **40** Min rpm **10**	5.0	8.0	71 280	176 133	17 820	44 033
	5.5	8.9	64 800	160 121	16 200	40 030
	6.0	9.7	59 400	146 777	14 850	36 694
	6.5	10.5	54 831	135 487	13 708	33 872
22in Rows	4.0	6.4	81 000	200 151	20 250	50 038
	4.5	7.2	72 000	177 912	18 000	44 478
Max rpm **40** Min rpm **10**	5.0	8.0	64 800	160 121	16 200	40 030
	5.5	8.9	58 909	145 564	14 727	36 391
	6.0	9.7	54 000	133 434	13 500	33 359
	6.5	10.5	49 846	123 170	12 462	30 792

	Planting Speed		Maximum Population seeds per		Minimum Population seeds per	
	mph	kph	acre	hectare	acre	hectare
30in Rows	4.0	6.4	59 400	146 777	14 850	36 694
	4.5	7.2	52 800	130 469	13 200	32 617
Max rpm **40** Min rpm **10**	5.0	8.0	47 520	117 422	11 880	29 355
	5.5	8.9	43 200	106 747	10 800	26 687
	6.0	9.7	39 600	97 852	09 900	24 463
	6.5	10.5	36 554	90 325	09 138	22 581
36in Rows	4.0	6.4	49 500	122 315	12 375	30 579
	4.5	7.2	44 000	108 724	11 000	27 181
Max rpm **40** Min rpm **10**	5.0	8.0	39 600	97 852	09 900	24 463
	5.5	8.9	36 000	88 956	09 000	22 239
	6.0	9.7	33 000	81 543	08 250	20 386
	6.5	10.5	30 462	75 270	07 615	18 818
38in Rows	4.0	6.4	46 895	115 877	11 724	28 969
	4.5	7.2	41 684	103 002	10 421	25 750
Max rpm **40** Min rpm **10**	5.0	8.0	37 516	92 702	09 379	23 175
	5.5	8.9	34 105	84 274	08 526	21 069
	6.0	9.7	31 263	77 251	07 816	19 313
	6.5	10.5	28 858	71 309	07 215	17 827
40in Rows	4.0	6.4	44 550	110 083	11 138	27 521
	4.5	7.2	39 600	97 852	09 900	24 463
Max rpm **40** Min rpm **10**	5.0	8.0	35 640	88 066	08 910	22 017
	5.5	8.9	32 400	80 060	08 100	20 015
	6.0	9.7	29 700	73 389	07 425	18 347
	6.5	10.5	27 415	67 743	06 854	16 936
60in Rows	4.0	6.4	29 700	73 389	07 425	18 347
	4.5	7.2	26 400	65 234	06 600	16 309
Max rpm **40** Min rpm **10**	5.0	8.0	23 760	58 711	05 940	14 678
	5.5	8.9	21 600	53 374	05 400	13 343
	6.0	9.7	19 800	48 926	04 950	12 231
	6.5	10.5	18 277	45 162	04 569	11 291

Sprocket Indexing (Stagger)

If you are planting:
• with a seed disc having 24 cells or less,
• twin-row crops,
• at seed populations below 45,000 seeds/ac (111 000 seeds/ha),
you can synchronize each pair of adjacent meters in a twin row so that you achieve the maximum seed-to-seed spacing between the units of the pair.

If the initial indexing does not provide equal spacing, see "**Indexing Fine Adjustment**" on page 30.

If you are planting:
- single-row,
- or with seed discs or 25 cells or more,
- or a volumetric crop,
- or twin row with seed spacings below $9^{1}/_{4}$ inch (23.5 cm),
this section of the manual, and the sprocket indexing charts, do *not* apply to your operations.

Due to limitations on the number of sprocket teeth and wheel cell count, it may not be possible to obtain perfect stagger. Charts and fine adjustment provide the optimal available stagger.

Air-Pro® Meter Stagger Timing Chart — **Twin Row 30in**

Page 1 of 2

Set front meter to tooth "1".
Set rear meter to indicated Initial tooth number.
Advance or Retard to adjust - see instructions in Seed Rate Manual.

		These Columns are for Fine Adjustment Only			
Population	Initial Rear	20% Rear Seed Drop Adjust		40% Rear Seed Drop Adjust	
Seeds/Acre	Tooth Number	Retard	Advance	Retard	Advance
17000	7	3	4	6	16
17500	19	10	16	13	16
18000	19	10	16	13	16
18500	3	7	19	10	16
19000	4	6	19	9	12
19500	4	1	15	17	12
20000	18	11	15	14	12
20500	8	2	15	5	8
21000	8	5	11	5	8
21500	14	15	11	18	8
22000	14	15	11	18	4
22500	12	9	7	1	4
23000	10	19	7	3	4
23500	10	19	7	3	4
24000	16	13	3	10	19
24500	6	13	3	10	19
25000	6	4	3	7	19
25500	1	17	18	14	15
26000	2	17	18	14	15
26500	2	8	18	11	15
27000	5	5	18	18	11
27500	5	2	14	18	11
28000	17	12	14	15	11
28500	9	1	14	3	7
29000	9	6	10	3	7
29500	13	16	10	19	7
30000	13	16	10	19	3
30500	13	10	6	7	3
31000	9	10	6	4	3

29715A

Thumbnail view. Actual charts begin on page 31.

CAUTION

Crushing Hazard:
Install transport locks. Do not rely on hydraulics to hold the planter at raised. This adjustment takes some time.

Indexing Preparation

Tools required:

- $^{7}/_{8}$ inch (23 mm) open end wrench
- $^{3}/_{8}$ inch socket wrench, or

any socket wrench with $^{3}/_{8}$ in. (9.5 mm) square drive

- 812-391C timing tool (located under walkboard)

1. Find (in page 31-27) the sprocket indexing chart for your row spacing, cell count and desired seed population. Note the "**Initial Rear Tooth Number**" value in the second column.
2. Raise the planter.
   Chain geometry changes slightly when lowered. The indexing charts account for this change, and assume the planter is raised. Also, raising the planter disengages the drive clutches, allowing you to turn the drive shaft with a hand tool.
3. Clean out meters. Leave seed discs out.
   See Operator Manual for procedure.

Basic Indexing

Refer to Figure 5 (which depicts tooth 1 slightly ahead of the index rib at 2:00)

4. Use drive shaft to set front row unit to index 1.

   Observe the meter drive sprocket at a front (short mount) row unit on each wing. Use the wrench, from the rear of the shaft, to rotate the shaft forward (wrench up and forward).

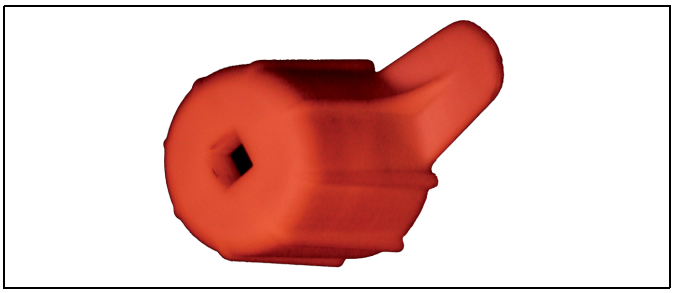


Figure 4 31445
812-391C Timing Tool

Note: The 812-391C tool was introduced in late 2010. Check latest Parts manual for storage mount hardware part numbers.

Note: Sprocket indexing is possible with seed present and discs installed, but if so, you must perform step 9 (chain taut check) by rotating the drive shaft forward to remove slack. Reverse meter rotation, with seed present, is not recommended.

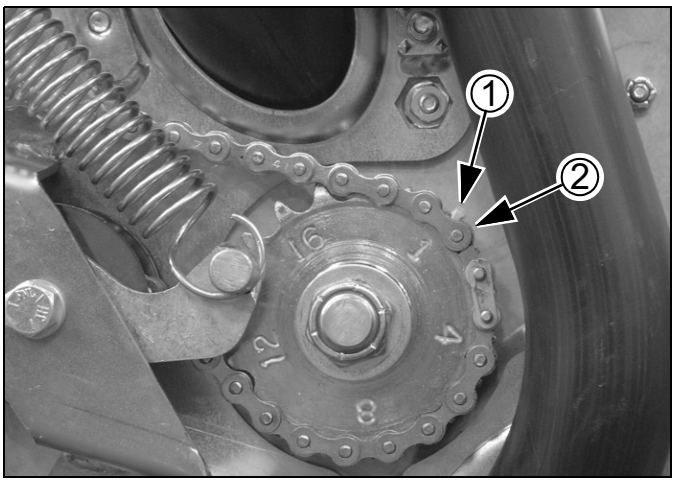


Figure 5 29630
Sprocket Indexing Reference

NOTICE

Equipment Damage Risk:
Do not apply significant force to meter disk, or drive hub may

Note: Without Swath Command™: In the future, finding front sprockets out of sync on a wing suggests idler/spring problems, and/or worn chain. Row drive systems must be in reliable working order for effective sprocket indexing.

Stop rotation when the tip of the tooth stamped “1” ① is aligned with a rib ② cast into the meter housing. In general, the 2:00 rib is the easiest to use, as it is visible from the side and from behind the meter.

5. Check front sprocket synchronization.

   Inspect all meter drive sprockets on front row units. Check that all springs are taut, and no chains have slack. All sprockets should be at “1”. If not, use step 6 through step 10 to set them to 1. Although front sprockets machine-wide may be at 1 after this check, sprockets do not remain in sync wing-to-wing, due to clutch operation.

   With Swath Command™, front sprockets are not synchronized planter-wide. With row clutches, each front sprocket must be checked when timing the mating rear sprocket of the row pair. The front row can be advanced by manually turning the tandem sprocket forward until the front sprocket is at 1. Then set the rear sprocket. Check that the front sprocket has not moved.

Refer to Figure 6

6. At the rear (long mount) row unit of each pair, note which sprocket tooth is at the index mark ②. If the sprocket is already at the chart value, skip to step 12. Otherwise, complete step 7 through step 10 for that row.

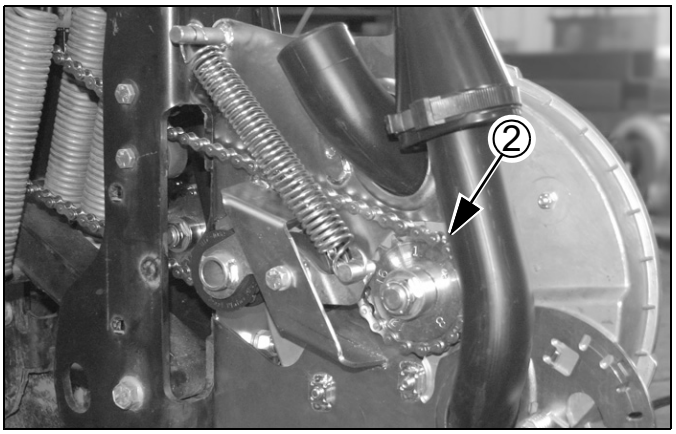


Figure 6 29628
Sprocket Index Check

Refer to Figure 7

7. Place the timing tool ③ over the meter shaft. Attach a $^{3}/_{8}$ inch (10 mm) socket wrench to aid in rotation.

   Sweep the tool[a] tooth under the chain, rotating in the direction opposite of that desired for sprocket adjustment.

   Each clockwise rotation of the timing tool advances the sprocket by one tooth.

   Each counter-clockwise rotation of the timing tool retards the sprocket by one tooth.

8. Advance or retard the sprocket until the desired tooth number is at the index mark. Hold the sprocket stationary, and re-mount the chain, making sure the chain is taut in the top loop.
9. Rotate meter shaft backward, or rotate wing drive shaft forward to tension chain. Re-check that front row sprocket is still at “1”.
10. Check the position of the rear row sprocket. The tooth tip at, or just ahead of the index mark must be the tooth called for by the chart. If not, release spring and re-mount chain.
11. Repeat step 4 through step 10 for each row pair.
12. Re-install seed discs and meter covers. No particular disc orientation is required during seed disc installation. The disc is symmetrical about all four seat lobes.

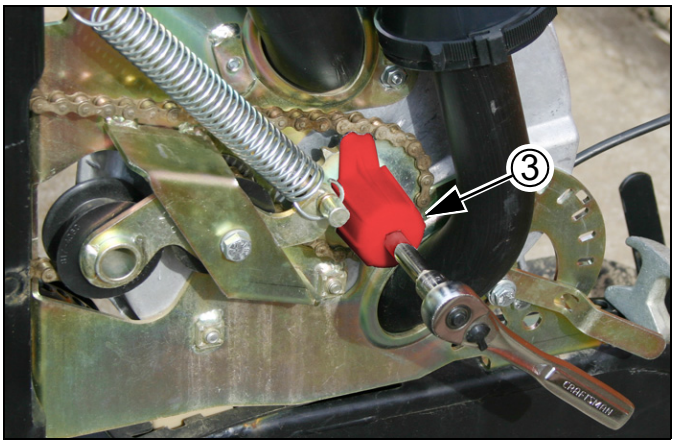


Figure 7 31444
Adjusting Sprocket Index

a. If the timing tool is not available, remove the idler tensioning spring to adjust the sprocket position. Rotate meter shaft backward (if meter empty, otherwise forward one full rotation), and re-check indexing with normal tension on chain.

Indexing Fine Adjustment

If, after indexing, the twin-row side-to-side seed stagger is substantially imbalanced, it is possible to make small adjustments that may correct it. Imbalance can occur over time as row unit chains wear and stretch.

The Indexing charts on page 31 and 32 provide columns for alternate rear row sprocket alignments. These settings move the placement of the rear seed drop. The amount of movement is given as a percentage (±20% or ±40%) of the in-row seed spacing.

Refer to Figure 8

Adjustments are made only to the rear row timing.

- Advancing the timing (dropping the seed sooner, moves the seed position back).
- Retarding the timing moves the seed position forward.

If an adjustment is made, test it on one row pair before adjusting the entire planter.

Indexing Adjustment Steps

1. Make sure the current front sprocket index is 1, and the current rear sprocket index number matches the “Initial” number in the indexing chart for the population being planted.
2. Measure the actual stagger at the rear row seeds.
3. Determine by how many inches (or cm) the rear seed placement needs to move in order to be centered between the front seed placements.
4. Determine the percent of seed spacing, and whether advance or retard, required to adjust the rear seed drop to the desired spot.
5. In the tables (thumbnail view of one shown at right), find the new rear sprocket tooth setting for the percent retard or advance desired.

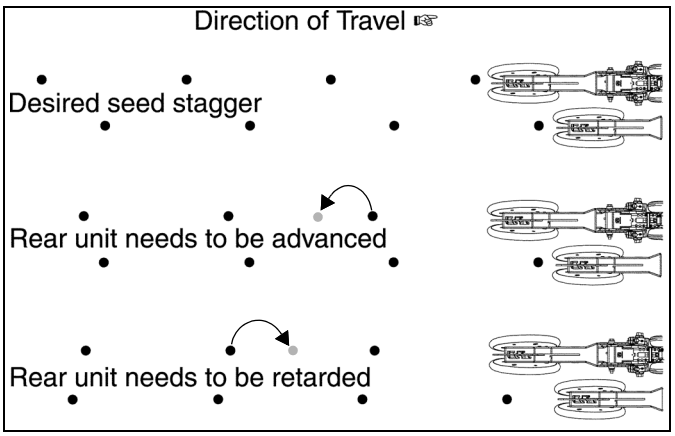


Figure 8 29717
40% Rear Timing Adjustments

Example:
The front sprocket is “1”. At a target population of 31,500 seeds/ac, the rear sprocket is at tooth “17”.
At this population, spacing in a single row is:
13.3 inches
The rear row seeds would be ideally at:
6.6 inches
ahead or behind the front row seeds.
We find that the rear seeds are being placed:
1.5 inches behind the front seeds.
We need to move the rear seeds back another 5.1 in.
A 40% advance is 5.3 inches at this seed spacing.

Advance or Retard to adjust - see instructions in Seed Rate Manual.

		These Columns are for Fine Adjustment Only			
Population	Initial Rear	20% Rear Seed Drop Adjust		40% Rear Seed Drop Adjust	
Seeds/Acre	Tooth Number	Retard	Advance	Retard	Advance
31000	9	10	6	4	3
31500	17	14	1	4	18
32000	17	14	2	11	18
32500	5	14	2	8	18
33000	5	18	5	8	14

Example:
Moving the rear sprocket from tooth 17 to tooth 18 provides a 40% advance.

Sprocket Indexing Charts

30 inch Twin Row Sprocket Indexing

Note: This is NOT a seed rate chart.
This is a chart for staggering seed spacing between rows of a twin-row planter.

NOTICE

Verify sprocket tooth position with the top length of chain taut.

Air-Pro® Meter Stagger Timing Chart (U.S. customary units) — Twin Row 30 inch

Set front meter to tooth "1".
Set rear meter to indicated Initial tooth number.
Advance or Retard to adjust - see instructions in Seed Rate Manual.

		These Columns are for Fine Adjustment Only			
Population	Initial Rear	20% Rear Seed Drop Adjust		40% Rear Seed Drop Adjust	
Seeds/Acre	Tooth Number	Retard	Advance	Retard	Advance
17000	7	3	4	6	16
17500	19	10	16	13	16
18000	19	10	16	13	16
18500	3	7	19	10	16
19000	4	6	19	9	12
19500	4	1	15	17	12
20000	18	11	15	14	12
20500	8	2	15	5	8
21000	8	5	11	5	8
21500	14	15	11	18	8
22000	14	15	11	18	4
22500	12	9	7	1	4
23000	10	19	7	3	4
23500	10	19	7	3	4
24000	16	13	3	10	19
24500	6	13	3	10	19
25000	6	4	3	7	19
25500	1	17	18	14	15
26000	2	17	18	14	15
26500	2	8	18	11	15
27000	5	5	18	18	11
27500	5	2	14	18	11
28000	17	12	14	15	11
28500	9	1	14	3	7
29000	9	6	10	3	7
29500	13	16	10	19	7
30000	13	16	10	19	3
30500	13	10	6	7	3
31000	9	10	6	4	3

36076A

30 inch Twin Row Sprocket Indexing

Note: This is NOT a seed rate chart.
This is a chart for staggering seed spacing between rows of a twin-row planter.

NOTICE

Verify sprocket tooth position with the top length of chain taut.

Air-Pro® Meter Stagger Timing Chart (U.S. customary units) — Twin Row 30 inch

Set front meter to tooth "1".
Set rear meter to indicated Initial tooth number.
Advance or Retard to adjust - see instructions in Seed Rate Manual.

		These Columns are for Fine Adjustment Only			
Population	Initial Rear	20% Rear Seed Drop Adjust		40% Rear Seed Drop Adjust	
Seeds/Acre	Tooth Number	Retard	Advance	Retard	Advance
31500	17	14	1	4	18
32000	17	14	2	11	18
32500	5	14	2	8	18
33000	5	18	5	8	14
33500	2	18	17	15	14
34000	1	18	17	12	14
34500	1	3	9	12	14
35000	6	3	9	19	10
35500	6	3	13	19	10
36000	10	7	13	16	10
36500	10	7	13	4	6
37000	10	7	9	4	6
37500	14	11	17	4	1
38000	14	11	17	8	2
38500	14	11	5	8	2
39000	18	11	2	8	5
39500	18	15	2	12	17
40000	18	15	1	12	17
40500	3	15	1	12	9
41000	3	19	6	16	9
41500	3	19	6	16	13
42000	7	19	10	16	13
42500	7	4	10	16	13
43000	7	4	10	16	9
43500	11	4	14	16	17
44000	11	8	14	16	17
44500	11	8	14	16	5
45000	15	8	18	16	2
45500	15	12	18	16	2

36076B

30 inch Twin Row Sprocket Indexing

Note: This is NOT a seed rate chart.
This is a chart for staggering seed spacing between rows of a twin-row planter.

NOTICE

Verify sprocket tooth position with the top length of chain taut.

Air-Pro® Meter Stagger Timing Chart (U.S. customary units) — Twin Row 30 inch

Set front meter to tooth "1".
Set rear meter to indicated Initial tooth number.
Advance or Retard to adjust - see instructions in Seed Rate Manual.

		These Columns are for Fine Adjustment Only			
Population Seeds/Acre	Initial Rear Tooth Number	20% Rear Seed Drop Adjust		40% Rear Seed Drop Adjust	
		Retard	Advance	Retard	Advance
46000	15	12	18	16	1
46500	15	12	3	16	1
47000	19	16	3	16	6
47500	19	16	3	16	6
48000	19	16	7	16	10
48500	4	16	7	16	10
49000	4	16	7	16	10
49500	4	16	11	16	14
50000	8	16	11	16	14
50500	8	16	11	16	14
51000	8	16	15	16	18
51500	12	16	15	16	18
52000	12	16	15	16	18
52500	12	16	15	16	3
53000	16	16	19	16	3
53500	16	16	19	16	3
54000	16	16	19	16	7
54500	16	16	4	16	7
55000	16	16	4	16	7
55500	16	16	4	16	11
56000	16	16	8	16	11
56500	16	16	8	16	11
57000	16	16	8	16	15
57500	16	16	12	16	15
58000	16	16	12	16	15
58500	16	16	12	16	15
59000	16	16	16	16	19
59500	16	16	16	16	19
60000	16	16	16	16	19

36076C

Canola Seeding

General Information

Refer to Figure 9

These instructions explain how to plant with the Air-Pro® 250 cell canola seed disk ①. This disk is suitable for canola and mustard (not pelletized).

Although this disk reliably singulates these very small seeds, this class of seeds is too small to be reliably detected and counted with currently available seed tube sensors. This situation presently requires a special seed monitor setup: singulated with blockage detection.

Related Documents

These are the current seed monitor manuals relied upon for the user interface instructions in this section:

DICKEY-john® IntelliAg®

110011508	PDC User Level 1 (ver. 2.4)
110011501	PDC User Levels 2&3 (ver. 2.4)

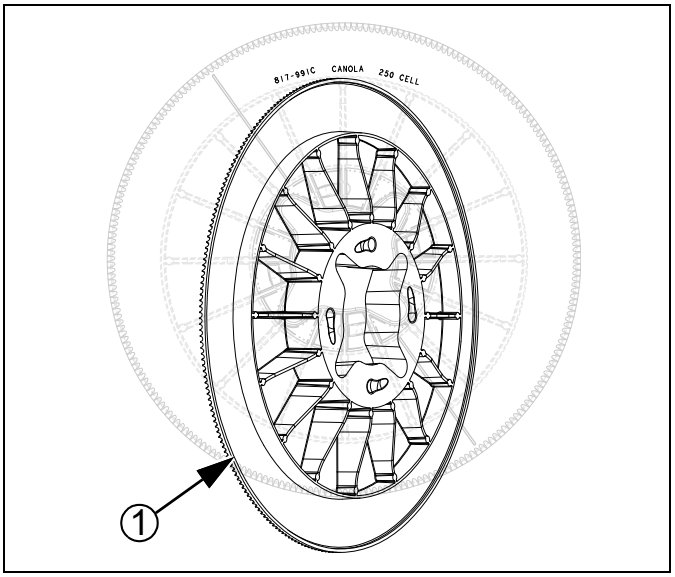


Figure 9 36067
817-991C Canola Seed Disk

Pre-Requisites

Yield-Pro® planters manufactured in November 2013 and later have Air-Pro® seed meters and seed tubes that are compatible with the 817-991C canola disk. A planter manufactured earlier may be updated with a 403-684A update kit. See page 42 for installation.

To determine if your planter is canola-compatible, inspect any row unit seed tube. If the seed tube color is dark translucent red, it is compatible. If the tube color is opaque buckskin (tan), the row units require an update.

Ground Drive charts are provided for row spacings of:
inch: 15, 20, 30, 30 twin and 36 twin
cm: 38.1, 50.8, 76.2, 76.2 twin and 91.4
If you are planning to run at any other row spacing (such as 70 cm single row), you will need to calculate your own drive sprocket pairings.

The canola disk is compatible with Air-Pro® rice meters.

If the planter has been used for volumetric seeding, the grain shield may be left in place. A grain shield is not required for planting with the canola disk.

Prepare Meters

See the planter Operator manual for details on these steps.

1. Remove rain covers on all rows.
2. Perform a clean-out of the planter seed system, from hoppers to meter brushes.
3. Remove and save the presently installed seed disks.
4. Install the 817-991C canola disks.
5. Install the rain covers.
6. Set the seed inlet shutters to the recommended values in the canola rpm limits chart (page 41). This is typically setting 1.5 ($1^{1}/_{2}$, the notch between “I” and “II”). On early meters (that lack half steps on the shutter) set the handle between “I” and “II”.
7. Set meter pressurization to 1.5 inches of water. See Operator manual for adjustment details.

Loading Seed

Use ample Ezee Glide Plus seed lubricant with small seeds such as canola and mustard. One cup (240 ml) per 30 pound (13.6 kg) bag is a minimum starting value. Mix the seed lubricant early during the seed loading and mix well. Use more lubricant in extremely dry conditions.

Configure Monitor
DICKEY-john® IntelliAg® WSMT2
for All Software Versions

Note: This setup requires User Level 2 access on the AI100 or AI120 seed monitor, which is password-protected.

Material Setup

Refer to Figure 10

1. Navigate to the Control Setup and then the Material Setup screen .
2. Select an available default “MATRL” to redefine as canola, or select an existing named material to rename.

   In the example screen at right, “MATRL 9” was selected, and “Canola” typed in at the next step.

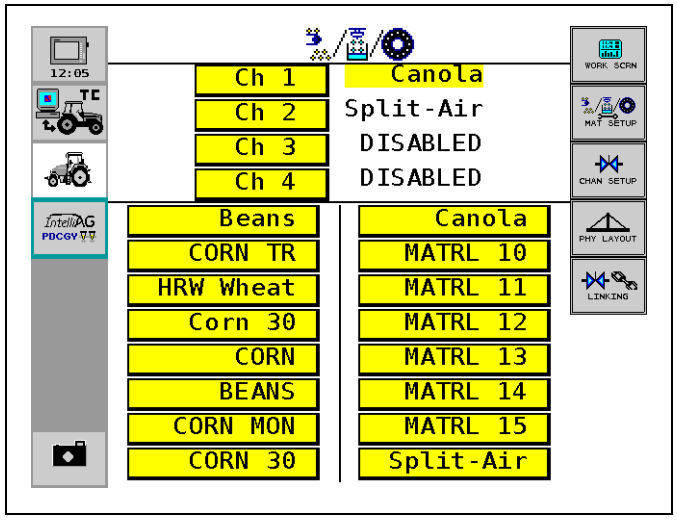


Figure 10
Control Setup
36070

Material Setup: Hydraulic Drive

Refer to Figure 11

3. Touch the material name to edit it to Canola. The population ranges and rpm limits are given by the chart below.

Type	must be PLANTER CONTROL for hydraulic drive
Preset	<user preference>
Target Rate	<user preference>
Max/Min Rates	<user preference>
Inc/Dec	<user preference>
Seeds per Rev	must be 250 for 817-991C disk
Disc Low Limit	5
Disc High Limit	25
Prod Level Alarm	<user preference>

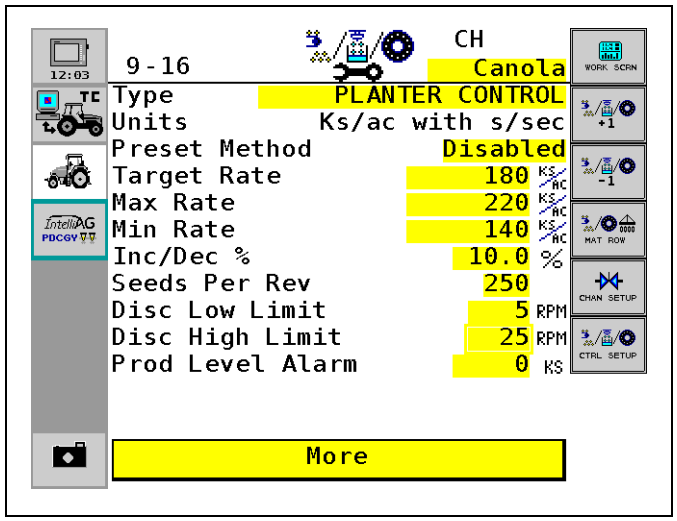


Figure 11
Material Setup, Hydraulic Drive
36073

4. Touch [More] for next screen.

Refer to Figure 12

High / Low Pop Alarm	<user preference>, but ignored due to blockage setup later
PATTERN	EVERY ROW ON ------
Row Fail Rate	2/ 1 s/sec

Continue at “**Channel Setup: Hydraulic Drive**” on page 36.

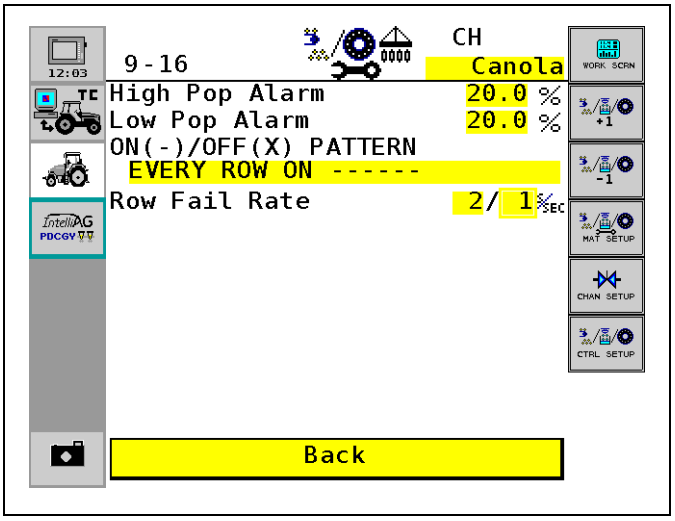


Figure 12 36074
Material Setup, Hydraulic Drive

Channel Setup: Hydraulic Drive

5. Touch Channel Setup .

Refer to Figure 12(for a YP2524A-48TR)

Type	must be PLANTER CONTROL for hydraulic drive
Material Name	the Canola name just set up
Control Mode	Auto
Drive Freq.	100 Hz
Input Filter	50 %
Gear Ratio	1.900
Sensor Constant	360 Pul/Rev
# Seed Rows	<specific to planter model and active row pattern>
PreCharge	0.0 Sec

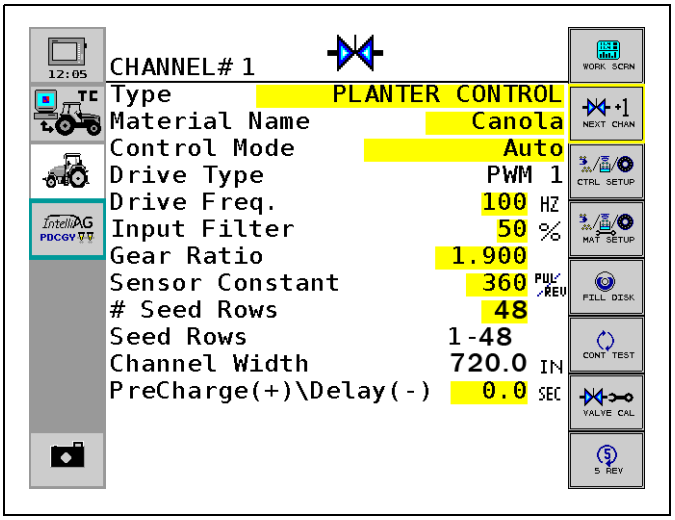


Figure 13 36484
Channel Setup, Hydraulic Drive

Row Monitor Setup

6. Touch Work Screen > Next Page > Row Monitor > Row I/O

Refer to Figure 12(for a YP2425A-48TR)

ROW WIDTH	<specific to planter model and active row pattern>
AUTO UPDATE	normally Enabled
IMP WIDTH	<calculated if Enabled>
ON/OFF PTN	EVERY ROW ON
POP/BLOCK PTN	EVERY ROW BLOCKAGE

The system is now configured for planting with the canola disk.

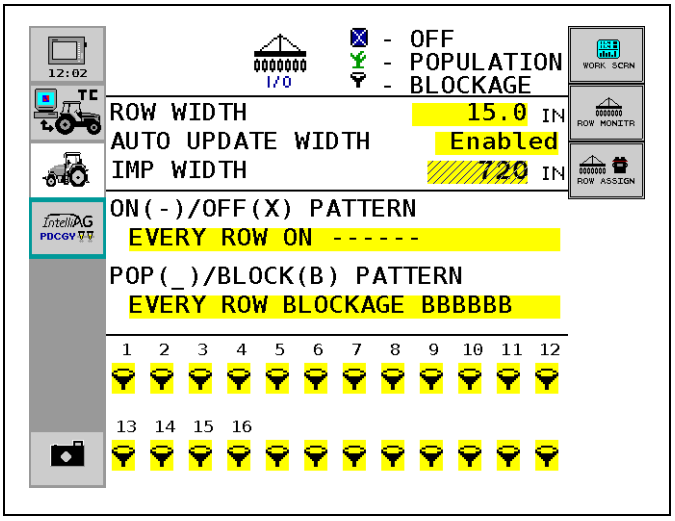


Figure 14
Row I/O Setup, Canola

DICKEY-john® IntelliAg® WSMT3

for Software Version 6.13

Note: This setup requires User Level 2 access on the AI100 or AI120 seed monitor, which is password-protected.

Material Setup

Refer to Figure 10

1. From the Home screen, navigate to the Materials screen.
2. Select a Config profile (default is Config1). Then select an available default “MATRL” to redefine as canola, or select an existing named material to rename.

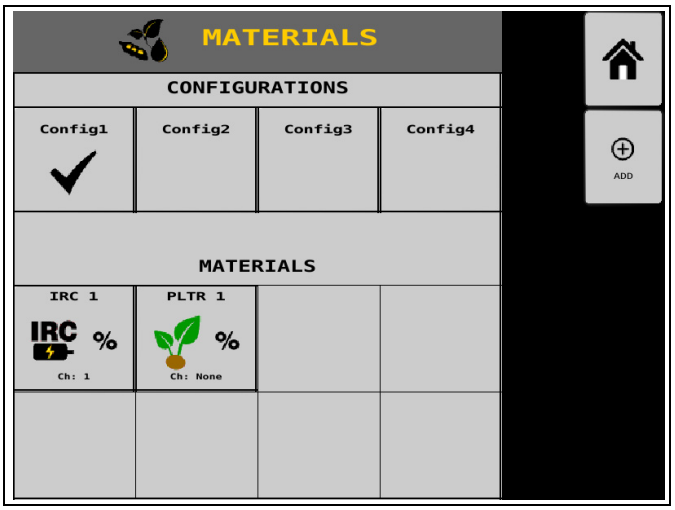


Figure 15
Materials Screen

Material Setup: Hydraulic Drive

Refer to Figure 11

3. Touch the material name to edit it to Canola. The population ranges and rpm limits are given by the chart below. Tap the arrow key to proceed to additional screens to fill out any remaining fields.

Type	must be PLANTER CONTROL for hydraulic drive
Units	<user preference>
Preset	<user preference>
Target Rate	<user preference>
Max/Min Rates	<user preference>
Inc/Dec	<user preference>
Seeds per Rev	must be 250 for 817-991C disk
Disc Low Limit	5
Disc High Limit	25
Prod Level Alarm	<user preference>
High / Low Pop Alarm	<user preference>, but ignored due to blockage setup later
PATTERN	EVERY ROW ON ------
Row Fail Rate	2/ 1 s/sec

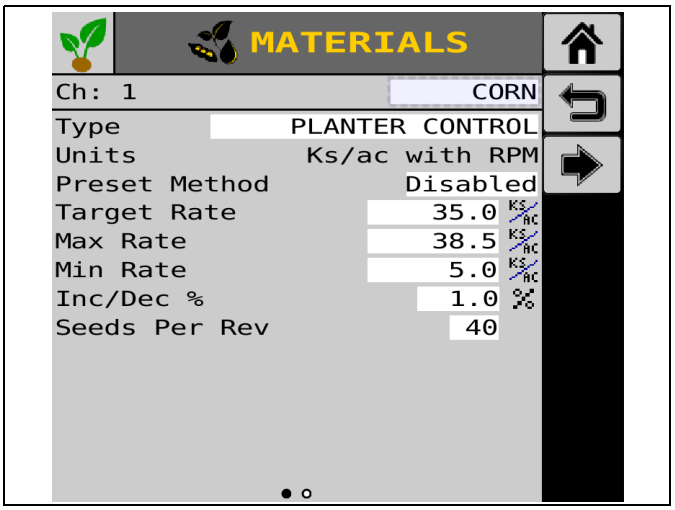


Figure 16
Material Setup Screen

36073

Controls Setup: Hydraulic Drive

4. From the Home screen, tap the Controls softkey and input the data as shown below.

Type	must be PLANTER CONTROL for hydraulic drive
Material Name	the Canola name just set up
Control Mode	Auto
Drive Freq.	100 Hz
Input Filter	50 %
Gear Ratio	1.900
Sensor Constant	360 Pul/Rev
# Seed Rows	<specific to planter model and active row pattern>
PreCharge	0.0 Sec

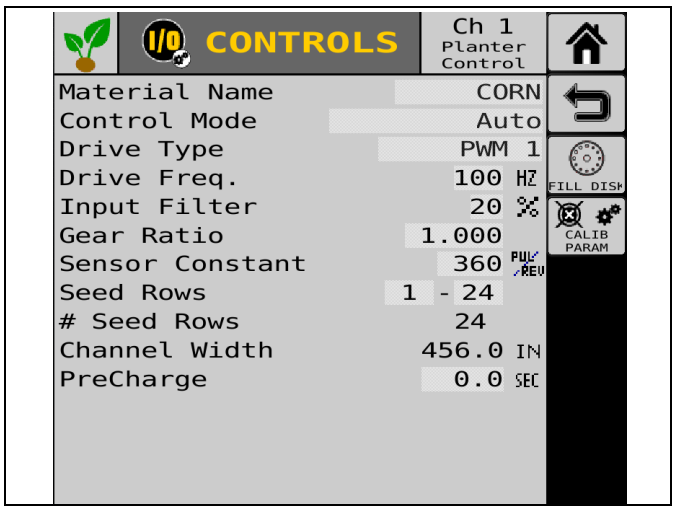


Figure 17
Controls Setup

Air-Pro® Meter RPM Limits: 150 Cell Canola

Air-Pro® Meter RPM Limits

CANOLA

150 Cell Disk

Initial Seed Inlet Shutter Setting: 1.5

837-148C Canola

	Planting Speed		Maximum Population seeds per		Minimum Population seeds per	
	mph	kph	acre	hectare	acre	hectare
Twin Row 30in 15in Rows Max rpm **30** Min rpm **10**	4.0	6.4	371 250	917 359	74 250	183 472
	4.5	7.2	330 000	815 430	66 000	163 086
	5.0	8.0	297 000	733 887	59 400	146 777
	5.5	8.9	270 000	667 170	54 000	133 434
	6.0	9.7	247 500	611 573	49 500	122 315
	6.5	10.5	228 462	564 528	45 692	112 906
Twin Row 36in Max rpm **30** Min rpm **10**	4.0	6.4	309 375	764 466	61 875	152 893
	4.5	7.2	275 000	679 525	55 000	135 905
	5.0	8.0	247 500	611 573	49 500	122 315
	5.5	8.9	225 000	555 975	45 000	111 195
	6.0	9.7	206 250	509 644	41 250	101 929
	6.5	10.5	190 385	470 440	38 077	94 088
Twin Row 38in Max rpm **30** Min rpm **10**	4.0	6.4	293 092	724 231	58 618	144 846
	4.5	7.2	260 526	643 761	52 105	128 752
	5.0	8.0	234 474	579 384	46 895	115 877
	5.5	8.9	213 158	526 713	42 632	105 343
	6.0	9.7	195 395	482 820	39 079	96 564
	6.5	10.5	180 364	445 680	36 073	89 136
Twin Row 40in 20in Rows Max rpm **30** Min rpm **10**	4.0	6.4	278 438	688 019	55 688	137 604
	4.5	7.2	247 500	611 573	49 500	122 315
	5.0	8.0	222 750	550 415	44 550	110 083
	5.5	8.9	202 500	500 378	40 500	100 076
	6.0	9.7	185 625	458 679	37 125	91 736
	6.5	10.5	171 346	423 396	34 269	84 679
22in Rows Max rpm **30** Min rpm **10**	4.0	6.4	253 125	625 472	50 625	125 094
	4.5	7.2	225 000	555 975	45 000	111 195
	5.0	8.0	202 500	500 378	40 500	100 076
	5.5	8.9	184 091	454 889	36 818	90 978
	6.0	9.7	168 750	416 981	33 750	83 396
	6.5	10.5	155 769	384 906	31 154	76 981

	Planting Speed		Maximum Population seeds per		Minimum Population seeds per	
	mph	kph	acre	hectare	acre	hectare
70cm Rows Max rpm **30** Min rpm **10**	4.0	6.4	202 066	499 304	40 413	99 861
	4.5	7.2	179 614	443 826	35 923	88 765
	5.0	8.0	161 653	399 444	32 331	79 889
	5.5	8.9	146 957	363 131	29 391	72 626
	6.0	9.7	134 710	332 870	26 942	66 574
	6.5	10.5	124 348	307 264	24 870	61 453
30in Rows Max rpm **30** Min rpm **10**	4.0	6.4	185 625	458 679	37 125	91 736
	4.5	7.2	165 000	407 715	33 000	81 543
	5.0	8.0	148 500	366 944	29 700	73 389
	5.5	8.9	135 000	333 585	27 000	66 717
	6.0	9.7	123 750	305 786	24 750	61 157
	6.5	10.5	114 231	282 264	22 846	56 453
36in Rows Max rpm **30** Min rpm **10**	4.0	6.4	154 688	382 233	30 938	76 447
	4.5	7.2	137 500	339 763	27 500	67 953
	5.0	8.0	123 750	305 786	24 750	61 157
	5.5	8.9	112 500	277 988	22 500	55 598
	6.0	9.7	103 125	254 822	20 625	50 964
	6.5	10.5	95 192	235 220	19 038	47 044
38in Rows Max rpm **30** Min rpm **10**	4.0	6.4	146 546	362 115	29 309	72 423
	4.5	7.2	130 263	321 880	26 053	64 376
	5.0	8.0	117 237	289 692	23 447	57 938
	5.5	8.9	106 579	263 357	21 316	52 671
	6.0	9.7	97 697	241 410	19 539	48 282
	6.5	10.5	90 182	222 840	18 036	44 568
40in Rows Max rpm **30** Min rpm **10**	4.0	6.4	139 219	344 010	27 844	68 802
	4.5	7.2	123 750	305 786	24 750	61 157
	5.0	8.0	111 375	275 208	22 275	55 042
	5.5	8.9	101 250	250 189	20 250	50 038
	6.0	9.7	92 813	229 340	18 563	45 868
	6.5	10.5	85 673	211 698	17 135	42 340

36049U

Air-Pro® Meter RPM Limits: 250 Cell Canola

Air-Pro® Meter RPM Limits
CANOLA
250 Cell Disk

Seed Inlet Shutter Setting: 1.5

817-991C CANOLA 250 Cell

Meter Pressure: 1.5 inch of water

Max. rpm	Min rpm		Planting Speed (mph)	Maximum Population per Acre	Minimum Population per Acre
25	5	10 in. Rows	4	928 125	185 625
			4.5	825 000	165 000
			5	742 500	148 500
			5.5	675 000	135 000
			6	618 750	123 750
25	5	Twin Row 30 in. 15 in. Rows	4	618 750	123 750
			4.5	550 000	110 000
			5	495 000	99 000
			5.5	450 000	90 000
			6	412 500	82 500
25	5	Twin Row 36 in.	4	515 625	103 125
			4.5	458 333	91 667
			5	412 500	82 500
			5.5	375 000	75 000
			6	343 750	68 750
25	5	20 in. Rows	4	464 063	92 813
			4.5	412 500	82 500
			5	371 250	74 250
			5.5	337 500	67 500
			6	309 375	61 875
25	5	22 in. Rows	4	421 875	84 375
			4.5	375 000	75 000
			5	337 500	67 500
			5.5	306 818	61 364
			6	281 250	56 250
25	5	30 in. Rows	4	309 375	61 875
			4.5	275 000	55 000
			5	247 500	49 500
			5.5	225 000	45 000
			6	206 250	41 250

36049H

Canola Field Update

If the inspection performed per "**Pre-Requisites**" on page 34 indicates that your planter requires an update, order one of the following kits per row:

Description	Part Number
AIR PRO METER CANOLA FIELD KIT	403-684A

Note: The kit includes one 817-991C canola seed disk.

Tools Required

- soft lint-free cloth and non-abrasive window cleaner
- 100% clear silicone sealant
- basic hand tools
- current parts manual (401-626P) for parts ID

See Operator manual for details on steps 1-3, 5 and 19.

1. Move planter to an area with adequate light, and a clear surface for recovery of any dropped parts. Perform a seed meter clean-out.
2. For access to center rows, raise and fold planter.
3. Remove rain covers and seed disks from all rows.

Perform remaining steps one row at a time, so that you have unmodified and fully modified rows to compare to. Starting with the right-most row may be the easiest. On twin-row, locking up left rows of pairs may ease access.

Update Brushes

Refer to Figure 18
(which depicts the row with rain cover and seed disk removed, and for clarity, the right gauge wheel and opener disc removed. It is not necessary to remove the gauge wheel and disc for this update)

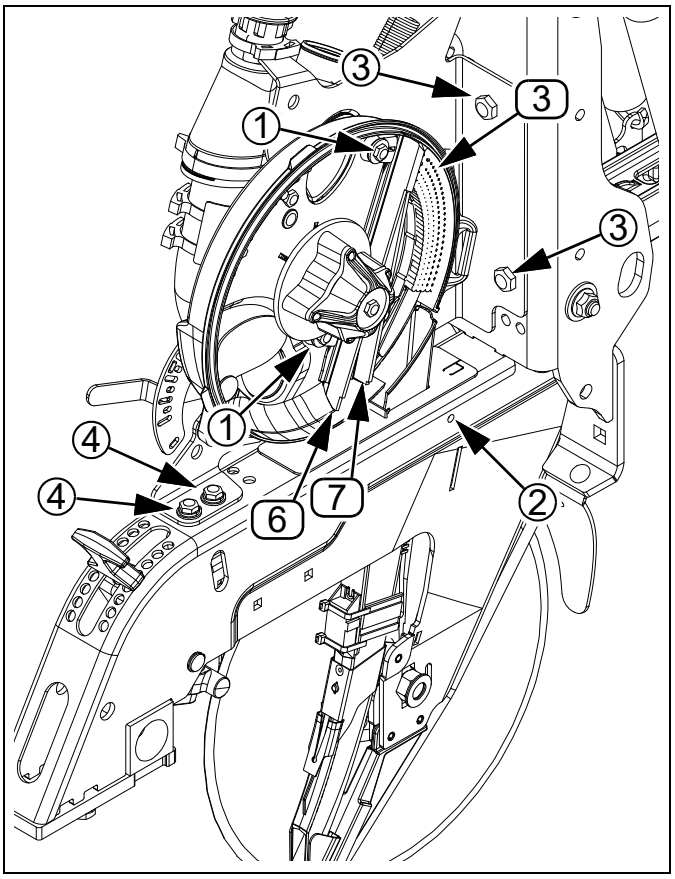


Figure 18 36068
Canola Field Update: Brushes

4. Rotate two brush holder snaps ① securing the brush holder for the long strip [6] and short strip [7] brushes, and the drop [3] brush. Remove and discard[a] the old brushes. Save the brush holder. Clean out brush slots in meter housing.
5. Select one each new:
   [3] 817-789C BRUSH, SEED DROP
   [6] 891-118C BRUSH, STRIP, LONG
   [7] 891-119C BRUSH, STRIP, SHORT
   Install strip brushes in holder. Install holder and drop brush in meter. Ensure strip brushes are seated low in housing. Secure with snaps and bolts.

Loosen Meter

6. Remove the clevis pin ② that secures the seed tube [4] to the opener shank. This pin is itself secured by a cotter on the left side (not shown). Save both pins.

Note: It is not necessary to disconnect the meter chain, hoses or any sense line tubing.

7. Remove and save two forward bolts ③ and the forward rear bolt ④ securing meter mount to opener shank. Loosen the aft rear bolt. Move meter mount to left and rear.

a. Older brushes do not reliably meter with the canola disk. Older brushes cannot be visually distinguished from newer brushes.

Update Seed Tube

Refer to Figure 19

8. Remove and save the seed tube gasket ⑤.

Note: If the planter has Row-Pro™ servo down-pressure, several rows have an extra cable from load cell to harness that routes through the gasket. It is not possible to completely remove the gasket on these rows. Slide the gasket up out of the way.

9. Pull the old seed tube [4] up and out of the opener shank. Be careful to not damage the extra cable on rows with Row-Pro™ load cells. The seed sensor ⑥ and its cable, and seed tube hook clip ⑦ will come out with the seed tube.
10. Note how the sensor is aligned on the tube. Cut the cable ties [2] securing the seed sensor to the seed tube. Remove and save the sensor components. Remove and save the seed tube hook clip ⑦. Discard[a] the seed tube.
11. Select one new:
    [4] 817-827C SEED TUBE AIRMETER 25 SER
    and two new:
    [2] 800-244C CABLE TIE .19X15 PANDU BT4S-C0

Refer to Figure 20

12. Clean and dry the face ⑧ of the sensor receiver. This may require carefully removing existing silicone sealant. Clean and dry the front face of the sensor locating ring ⑧ on the new tube.
13. Apply a generous dab of clear silicone sealant to the front (outside) face ⑧ of the sensor locating ring. Avoid introducing any air bubbles.
14. Re-attach the saved seed sensor to the new seed tube. Secure with new ties.
15. Snap the saved seed tube hook clip on the new seed tube. Verify that the rear center hole in the clip is over the alignment stud on the seed tube (not shown).
16. Insert the new seed tube assembly into the shank. Take care not to snag any Row-Pro™ load cell cable present. Note that a lower hook on the seed tube hook clip needs to engage a pin ⑨. Secure seed tube with clevis pin ② and cotter.
17. Re-install the saved seed tube gasket.
18. Swing meter assembly back into position. Secure with four bolts ③ and ④.
19. Install next used seed disk. Re-install rain cover.

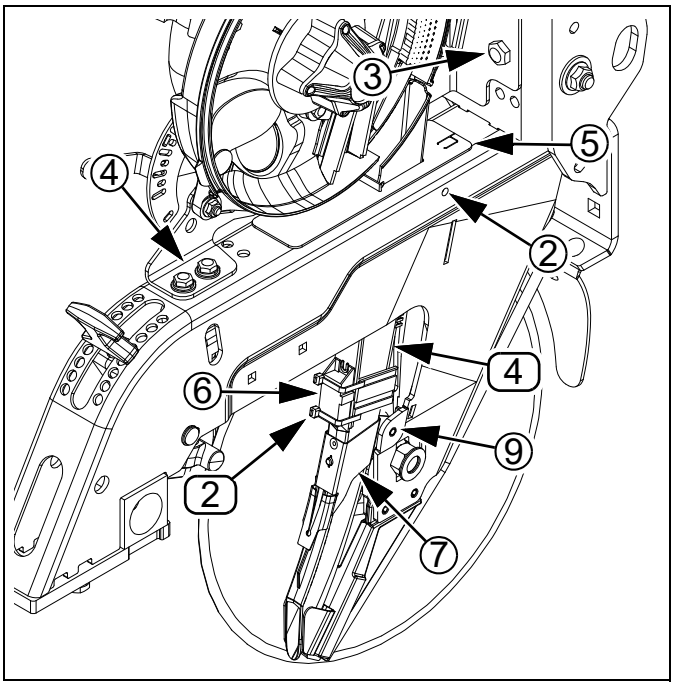


Figure 19 36068
Canola Field Update: Seed Tube

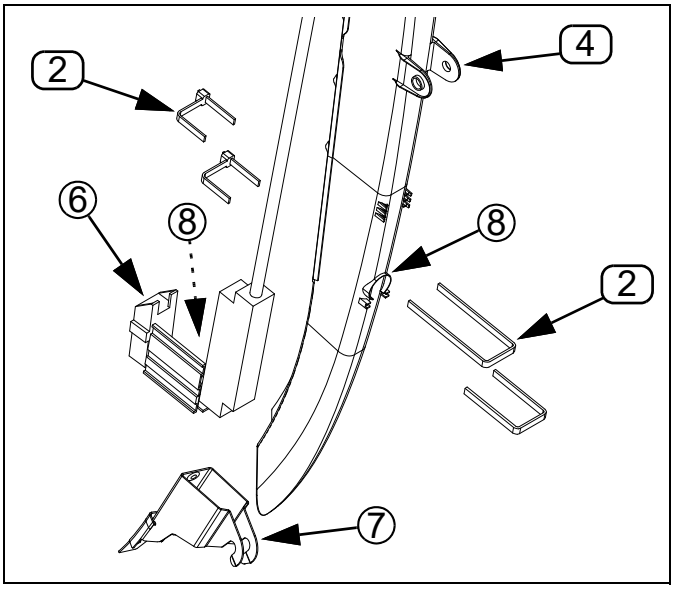


Figure 20 36080
Canola Field Update: Sensor

a. Older seed tubes do not support detection (including blockage detection) of very small seeds.

Volumetric Seeding

General Information

Refer to Figure 21

These instructions explain how to operate and calibrate the Air-Pro® No. 1 84 cell volumetric seed disc ①.

NOTICE

Rice Requires a Special Hardened Meter:
Great Plains offers planter models YP3025AR-3610 and YP4025AR-4810 for planting rice. In these planters, the Air-Pro® meter housing has a special coating that resists wear from rice. Rice planting can wear out a standard Air-Pro® meter housing within one season; an abuse not covered by warranty. A rice meter, however, may be used with any crop.

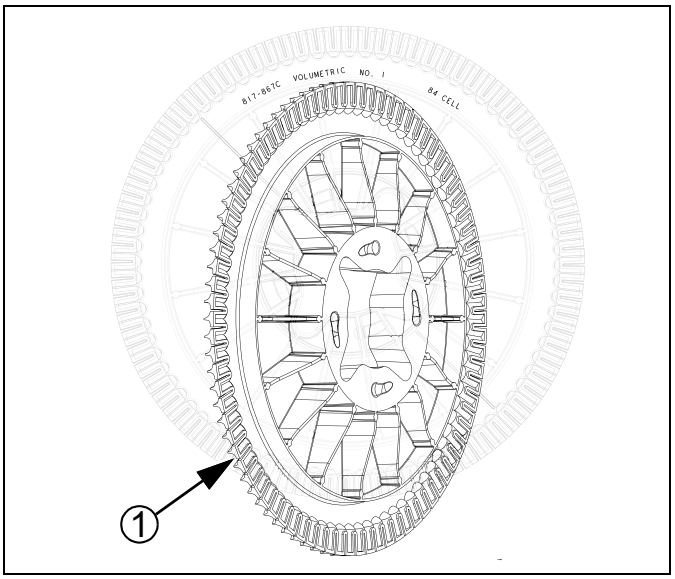


Figure 21 31551
Volumetric Seed Disc

Related Documents

These are the current seed monitor manuals relied upon for the user interface instructions in this document:

DICKEY-john® IntelliAg®

110011508 PDC User Level 1 (ver. 2.4)

110011501 PDC User Levels 2&3 (ver. 2.4)

Clean-Out Meters

CAUTION

Possible Chemical Hazard:
Avoid contact with seed treatment residues inside meters and on removed meter discs. Wear gloves unless all recent planting involved untreated seeds. Consult the MSDS[a] for any treated seeds recently planted. See planter Operator manual for brush cleaning instructions.

1. Perform a meter clean-out per the instructions in your planter Operator manual.
2. Remove and store the current seed discs. Perform a brush inspection and cleaning as necessary.
3. Continue at “**Install Discs / Set Shutters**” on page 45.

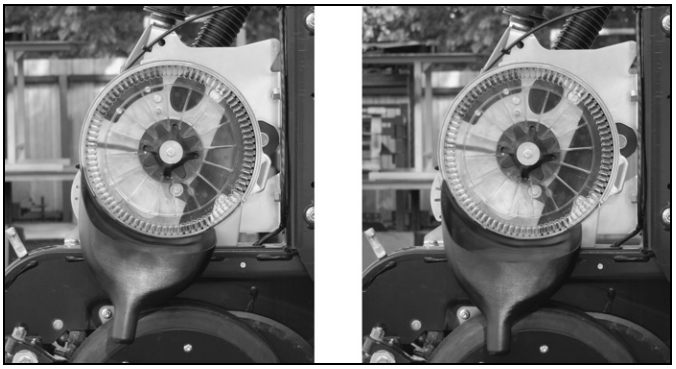


Figure 22 29612
Engage Clean-Out Funnel

a. Material Safety Data Sheet

Grain Shield

To order the grain shield use the following Great Plains part number:
403-596A VOLUMETRIC METER GRAIN SHIELD

When planting with the volumetric disk, a very small percentage of grain may be lost out the opening at the back of the seed tube. If the amount of loss is more than you desire the grain shield can be installed to stop this.

Note: It is highly recommended that the grain shield be removed from the meter when going back to larger singulated seed.

Refer to Figure 23

To install:

4. Remove the strip and block brush assembly. Save the washer for reuse in step 6.
5. Remove the $^{5}/_{16}$ inch hex-headed bolt and discard, it is replaced with the $^{5}/_{16}$ inch button head cap screw.
6. Position the grain shield ② and reinstall with the $^{5}/_{16}$ inch button head cap screw ③ and saved washer.
7. Re-install the strip and block brush assembly.

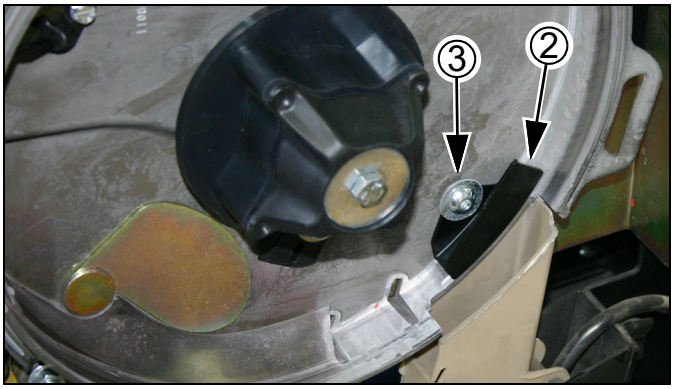


Figure 23 31552B
Grain Shield Installed

Install Discs / Set Shutters

8. Install the 817-867C volumetric discs as you would any other seed disc. See Operator manual for details.

Refer to Figure 24

9. Set the seed inlet shutter ④ on each meter. See the rate charts for your crop for suggested initial values.

   See the planter Operator manual for instructions on setting the inlet shutter.

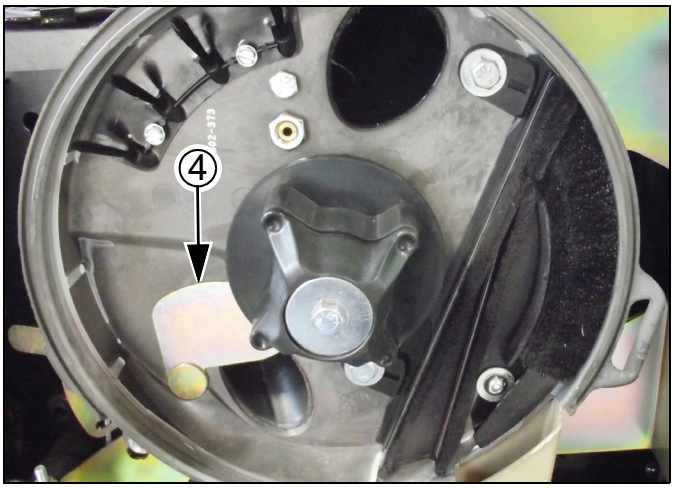


Figure 24 31555B
Grain Shield, Brushes, Installed

Take Note of Meter Pressure

Due to delivery of multiple seeds per disc cell, a volumetric crop requires a specific value of disc pressurization.

Initial Meter Pressurization: Wheat

2.0 inches of water Hard Red Winter (HRW)
2.5 inches of water Soft Red Winter (SRW)

Note: Do not operate below 2.0 inches of water

10. Note the suggested initial meter pressure. Have this value at hand in the tractor cab.

Calibrate

Calibration is essential for accurate populations:

- Seed monitors cannot accurately count individual seeds in volumetric planting, both due to the small seed size, and due to multiple seeds per cell being often detected as one seed.
- Ground drive charts are only approximate, and only for the seed variety and conditions used to develop the chart.
- Your own rate records may also be approximate. The same seed variety planted at a different date can require a rate adjustment due to different seed density, different weather, different field speed, etc.

11. Calibrate your seed rate.

    For hydraulic drive planters, use the “Calibration” feature of the seed monitor.

    For ground drive (or hydraulic drive) planters, rely on a “seeds per row foot” furrow check, the next topic.

NOTICE

Population Risk:
Volumetric planting based strictly on ground drive charts is likely to be inaccurate. Volumetric planting based on seed monitor seed counts is certain to be inaccurate.
***Calibrate**. Check your actual rate by weight or by furrow count. Check your seed consumption when refilling.*

Furrow Checking Rate

a. Configure the planter for the approximate rate, based on the charts.

b. Set the meter pressure to the chart value.

c. Prime the meters. See your planter Operator manual for the steps.

d. Plant for a short distance, just until the air delivery system is stabilized, and the meters are all delivering seed.

e. Select one or more rows to sample.

f. Set the planting depth to shallow for the sample row(s). Set the press wheels to minimum force. Use a wire to tie up the press wheel assembly.

g. Resume planting for a short distance.

h. Use a sampled row length[a] of one foot. Count the seeds.

i. Find the nearest “Seeds per Row Foot” in the table for your row spacing.

j. Look up the Population, or “Pounds per acre”.

Row Spacing Inches	Seeds per Row Foot	Population Seeds/Acre	*Pounds per acre*		
			at 12500 s/lb	*at 15000 s/lb*	*at 17500 s/lb*
9.5 inch Rows	**45**	**2 500 000**	***200***	***167***	***143***
	41	**2 250 000**	***180***	***150***	***129***
	36	**2 000 000**	***160***	***133***	***114***
	32	**1 750 000**	***140***	***117***	***100***
	27	**1 500 000**	***120***	***100***	***86***
	23	**1 250 000**	***100***	***83***	***71***
	18	**1 000 000**	***80***	***67***	***57***
	14	**750 000**	***60***	***50***	***43***
One Row of Twin Row 20 inch or 10 inch Rows	**48**	**2 500 000**	***200***	***167***	***143***
	43	**2 250 000**	***180***	***150***	***129***
	38	**2 000 000**	***160***	***133***	***114***
	33	**1 750 000**	***140***	***117***	***100***
	29	**1 500 000**	***120***	***100***	***86***
	24	**1 250 000**	***100***	***83***	***71***
	19	**1 000 000**	***80***	***67***	***57***
	14	**750 000**	***60***	***50***	***43***
One Row of Twin Row 30 inch or 15 inch Rows	**72**	**2 500 000**	***200***	***167***	***143***
	65	**2 250 000**	***180***	***150***	***129***
	57	**2 000 000**	***160***	***133***	***114***
	50	**1 750 000**	***140***	***117***	***100***
	43	**1 500 000**	***120***	***100***	***86***
	36	**1 250 000**	***100***	***83***	***71***
	29	**1 000 000**	***80***	***67***	***57***
	22	**750 000**	***60***	***50***	***43***

a. You can interpolate rows for more precise rate results. Doubling or tripling the sample length improves accuracy.

Volumetric Monitor Setup

In volumetric planting, the seed monitor operates basically as a blockage detector. Any seed drop rate information is only approximate.

In volumetric planting, the seed monitor is operated in:
“GRAN SEED CONTROL” (hydraulic drive) or
“GRAN SEED MONITOR” (ground drive).
This is a change from the:
“PLANTER CONTROL” (hydraulic drive) and
“MONITOR ONLY” (ground drive)
modes used for singulated crops.

DICKEY-john® IntelliAg® Lvl 2 Access DICKEY-john® IntelliAg® WSMT2

for All Software Versions

The planter needs to be hitched to the tractor in which the DICKEY-john® virtual terminal (VT) is installed.

1. Power up the seed monitor (usually via tractor ignition). Clear or resolve any alarms. The system is in User Level 1.
2. Change monitor to User Level 2. See PDC manual, or consult with dealer for procedure.

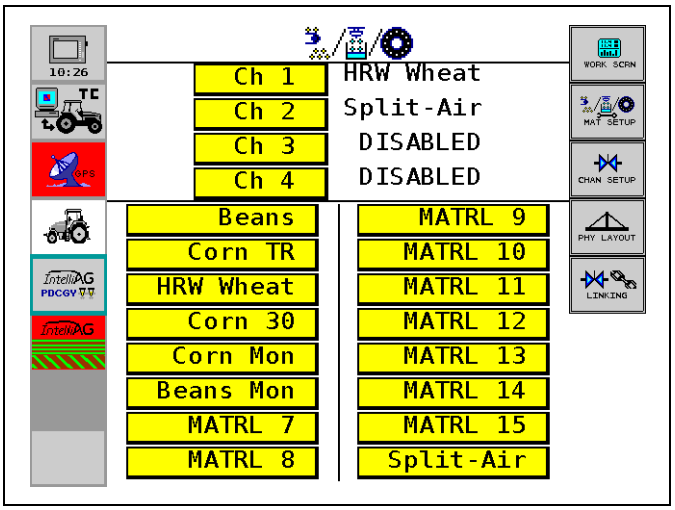


Figure 25
Typical Control Setup Screen
31649a

3. At the monitor main menu, press the Row Monitor softkey, then push the Row I/O soft key. Change the POP/Block pattern to “Every Row Blockage.”

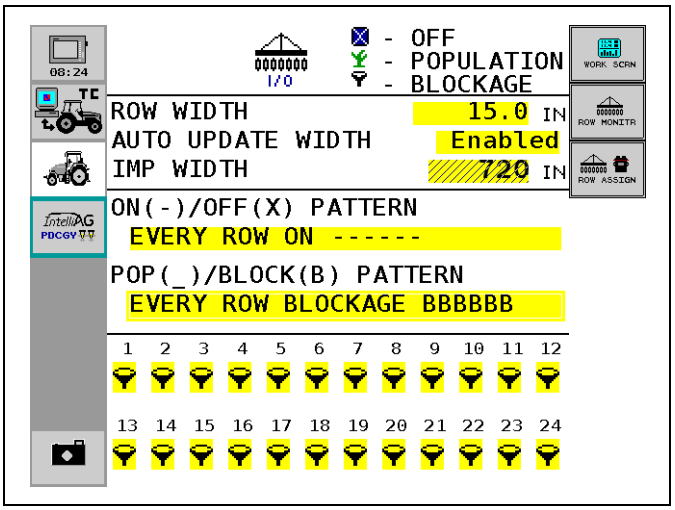


Figure 26
Every Row Blockage Screen
36486

DICKEY-john® IntelliAg® WSMT3

for Software Version 6.13

The planter needs to be hitched to the tractor in which the DICKEY-john® virtual terminal (VT) is installed.

1. Power up the seed monitor (usually via tractor ignition). Clear or resolve any alarms. The system is in User Level 1.
2. Navigate to the Version screen, then tap the Password softkey and change monitor to User Level 2 . See Planter Drill Control manual, or consult with dealer for procedure.

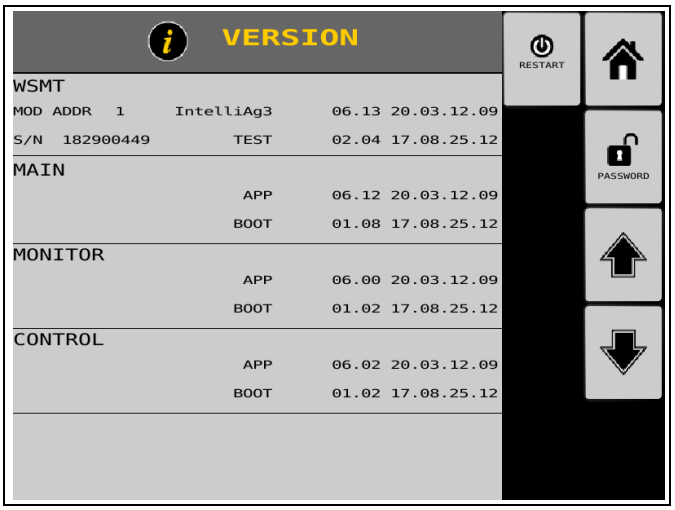


Figure 27
Version Screen

Material Setup

Add at least one volumetric seed to the monitor's Material Library. Settings for volumetric have crucial differences from settings for singulated seeds (and are also different from ground drive volumetric).

15 different materials can be configured for use as planter controls, or granular seed controls. Reference the System Configuration section in the PDC manual for additional information.

Material Setup

Setup Item	Value or Default	Comments
Matrl Label	<your choice>	Material Name can be customized to accurately define the material's type. Creating a name allows for quick identification at the Control Setup screen.
Type	GRAN SEED CONTROL	Material Type must match Control Type. This means not singulated.
Units	Lb/ac with lb/hr	Displays pounds per acre with pounds per hour
Preset Method	Disabled	Use incremental rate changes. If enabled, you need to define up to 10 preset target rates.
Density	60.0 lb/bu	Enter this value provided by the seed supplier.
Spreader Constant	<ignore>	This number is developed automatically during calibration.
Low Shaft RPM	12	From hydraulic rate chart
High Shaft RPM	45	From hydraulic rate chart
Prod Level Alarm	0	Computed level at which monitor thinks seed has run out
Seeds per Pound	15,000	Enter this value provided by the seed supplier.

DICKEY-john® IntelliAg® WSMT2

for All Software Versions

1. At the monitor main menu, press the Control Setup softkey.
2. Select and press a button associated with an undefined or unused material. For example, “MATRL 7” could be renamed to “Wheat SRW”.
3. Enter the desired or specified values from the table on page 50.

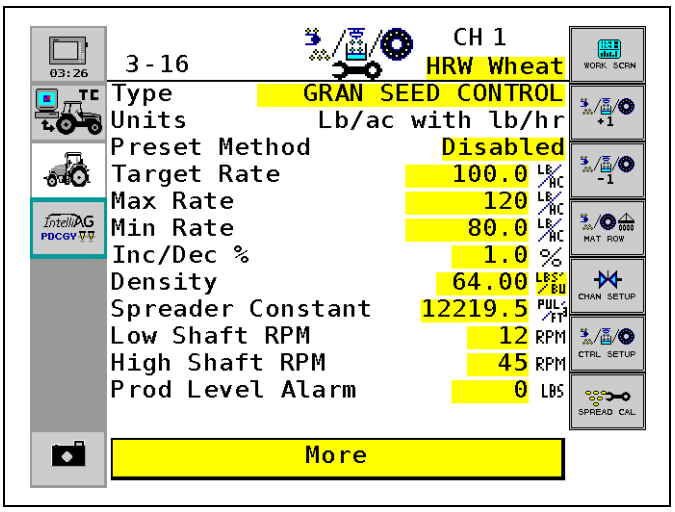


Figure 28
Material Setup Screen #1

31649c

4. Press the softkey to return to the Control Setup menu. Set up any additional seeds as desired.

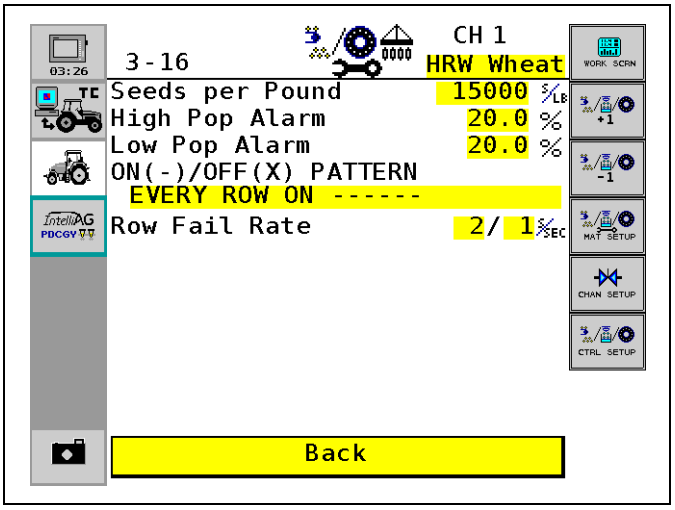


Figure 29
Material Setup Screen #2

31649d

5. Press the Channel Setup softkey.
6. Select Channel 1.
7. Change the channel to “GRAN SEED CONTROL”
8. When switching from planter control to granular seed control, the Gear Ratio will default to 1. Reset this value to 1.9. # Seed Rows will default to 0. Reset to number of active rows.
9. At the Channel Setup screen, press the Valve Calibration softkey.

   Follow the on-screen instructions to run a valve calibration.

Note: This is not the same as Spreader Constant calibration (step 22). Valve Cal ***MUST BE*** done any time the monitor is switched into Granular Seed Control mode.

10. When the calibration is complete, press the Channel Setup softkey to return to the Channel Setup screen.
11. Press the Control Setup softkey.
12. Press the material labelled “SPLIT AIR”.
13. Reset the target rate to the meter pressure suggested by the Hydraulic Rate Charts on page 58 (typically 2.0 or 2.5 inches of water pressure).
14. Press the Work Screen softkey to return to the main work menu.

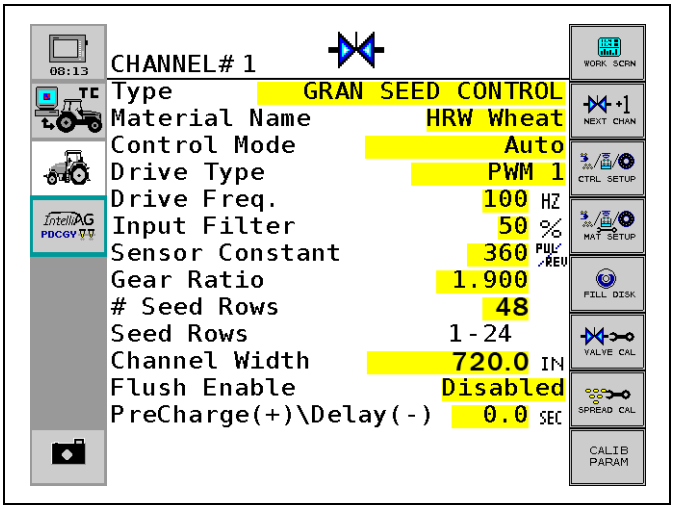


Figure 30 36487
Channel Setup Screen

Channel Setup

Setup Item	Value or Default	Comments
Type	GRAN SEED CONTROL	This means not singulated, and monitor controls rate. This Type must match the Type of any material metered this way.
Material Name	<list>	Displays a choice of GRAN SEED CONTROL materials from Material Library
Control Mode	Auto	
Drive Type	PWM 1	
Drive Frequency	100 Hz	
Input Filter	50%	
Gear Ratio	1.9	See the DICKEY-john® Quick Start Guide for your planter model and row spacing.
Sensor Constant	360	

You need a light weight container for each row sampled, and a scale that is accurate at the expected sample weight. Great Plains recommends using enough rows and/or revolutions to generate a sample of about 10 pounds (4.5 kg), ideally:

- Use at least two rows.
- Use no fewer than 5 meter revolutions.

15. Set the seed inlet shutters to 2 (see planter Operator manual for details).
16. Select the section and rows to be sampled.
17. Use the clutches[a] to disconnect the other sections of the planter.
18. Raise the planter, and install the lift cylinder transport locks. Leave tractor hydraulic system active.
19. Bring the hydraulic fan up to planting speed (see planter Operator manual for details).
20. Press the Fill Disk softkey and then the Row Fill softkey. This diverts all split air to seed delivery. Remain in this mode until no more seed is flowing to meters. Press the Work Screen softkey to return to the main Work menu.
21. Press the Control Setup softkey and then the Channel Setup softkey.
22. Press the Spreader Calibration softkey.
23. Engage the hydraulic drive circuit.
24. Press the Fill Disk softkey. This turns the meters one revolution to fill the disc cells.
25. Determine the meter revolutions needed. The following equation gives the number of meter revolutions needed to meter 10 pounds. The tables on page 58 provides approximate pounds (and kg) per revolution of each wheel and seed.

$$\#MeterRevs = \frac{10}{RowsSampled \times PoundsPerRev}$$

26. Configure the seed monitor for the planter and crop (material). If the seed density is not known, use 1 lb/cu-ft or 1 lb/bu.
27. Consult the rate chart for the crop (page 58). Note the allowed Meter RPM range for the intended seed wheel and planting speed.
28. Place a collection bucket under each test meter's seed tube.
29. In the Spreader Constant Calibration screen, enter the "# Meter Revs" and press the Start softkey.

For Example

4 containers each weighing: 8 oz.

8 oz x 4 = 32 oz

ContainerWeight at step 30 on page 54 is: 2 lbs

CAUTION

Moving Chain Hazard:

Shafts turn and chains move as soon as the [Start] softkey is pressed on the seed monitor. Set up collection containers so that they may be unattended. Keep all persons clear of the planter while calibrating.

For example: planter: model with 15 inch rows
crop: Hard Red Winter wheat

PoundsPerRev: 0.04

RowsSampled: 4

10 ≥ (4 ∞ 0.04) = 62.5

Enter 63 for "# Meter Revs" at step 29.

For example: target population: 110 lbs/ac
desired speed: 5 mph

METER RPM 12 rpm minimum, 45 rpm maximum

a. If the planter is equipped with Swath Command™, disable all but the tested rows.

30. Weigh the containers plus seed (*GrossWeight*). Subtract the empty container weights to obtain the net weight.

$$NetWeight = GrossWeight - ContainerWeight$$

31. The seed monitor assumes that all rows were tested. If you tested fewer (commonly the case), scale the sample size to planter-wide:

$$AmountDispensed = \frac{NetWeight \times RowCount}{RowsSampled}$$

32. Enter the Amount Dispensed.
The seed monitor computes a new Spreader Constant.

Note: If the net weight of the metered sampled was dramatically different than expected, run another calibration to validate or revise the new spreader constant.

For example:
ContainerWeight: 2 lbs
GrossWeight: 12.88 lbs

12.88 - 2 = 10.88

NetWeight: 10.88 lbs

For example:
NetWeight: 10.88 lbs
RowCount: 31
RowsSampled: 4

(10.88 ∞ 31) ≥ 4 = 84.34 lbs

AmountDispensed: 84.34

Calibrate Speed Sensor

1. Perform a Ground Speed Calibration procedure.
2. Refer to "**Furrow Checking Rate**" on page 47 to verify seed rates.

DICKEY-john® IntelliAg® WSMT3

for Software Version 6.13

1. From the Home screen, tap on the Materials softkey.
2. Select and press a button associated with an undefined or unused material. For example, “MATRL 7” could be renamed to “Wheat SRW”.
3. Enter the desired or specified values from the table on page 50. For Machines with IRC, set the material type and channel to IRC.
4. Set up any additional seeds as desired.

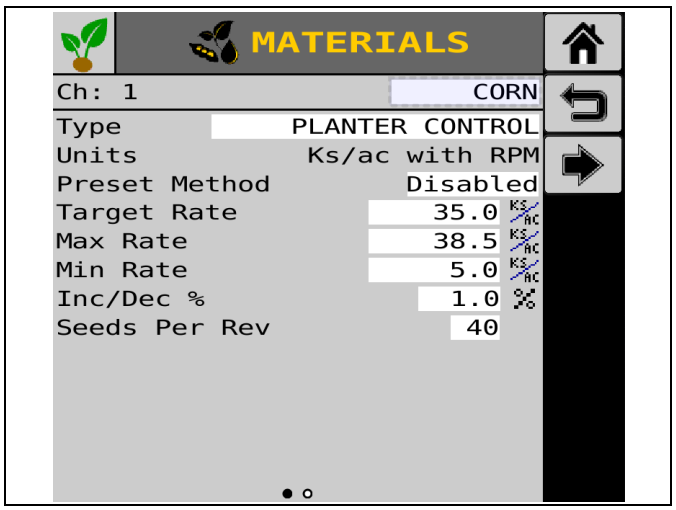


Figure 31
Material Setup Screen
36073

5. Press the Controls Setup softkey.
6. Select the new or pre-existing channel you want to setup.
7. Change the channel to “GRAN SEED CONTROL”
8. When switching from planter control to granular seed control, the Gear Ratio will default to 1. Reset this value to 1.9. # Seed Rows will default to 0. Reset to number of active rows.
9. At the Channel Setup screen, press the Calibration softkey.

   Follow the on-screen instructions to run a valve calibration.

Note: This is not the same as Spreader Constant calibration (step 22). Valve Cal ***MUST BE*** done any time the monitor is switched into Granular Seed Control mode.

10. When the calibration is complete, press the Return softkey to return to the Controls Setup screen.
11. Press the Controls Setup softkey.
12. Press the material labelled “SPLIT AIR”.

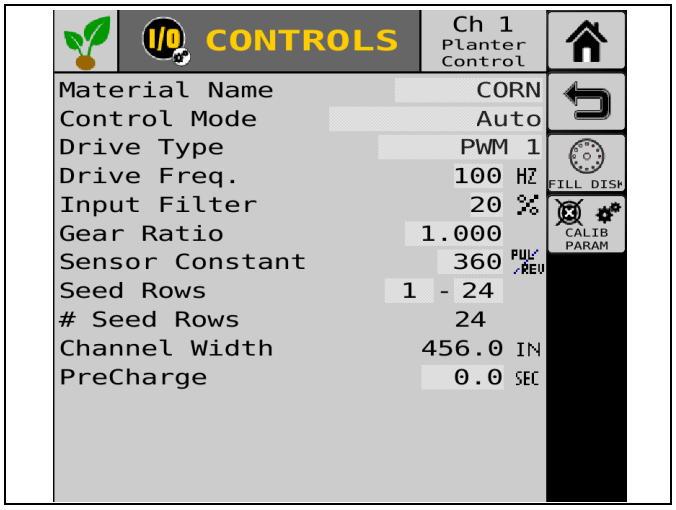


Figure 32
Controls Setup

13. Reset the target rate to the meter pressure suggested by the Hydraulic Rate Charts on page 58 (typically 2.0 or 2.5 inches of water pressure).
14. Press the Work Screen softkey to return to the main work menu.

You need a light weight container for each row sampled, and a scale that is accurate at the expected sample weight. Great Plains recommends using enough rows and/or revolutions to generate a sample of about 10 pounds (4.5 kg), ideally:

For Example	
4 containers each weighing:	8 oz.
8 oz x 4 = 32 oz	
ContainerWeight at step 30 on page 54 is:	2 lbs

- Use at least two rows.
- Use no fewer than 5 meter revolutions.

CAUTION

Moving Chain Hazard:
Shafts turn and chains move as soon as the [Start] softkey is pressed on the seed monitor. Set up collection containers so that they may be unattended. Keep all persons clear of the planter while calibrating.

15. Set the seed inlet shutters to 2 (see planter Operator manual for details).
16. Select the section and rows to be sampled.
17. Use the clutches to disconnect the other sections of the planter.
18. Raise the planter, and install the lift cylinder transport locks. Leave tractor hydraulic system active.
19. Bring the hydraulic fan up to planting speed (see planter Operator manual for details).
20. Press the Fill Disk softkey and then the Row Fill softkey. This diverts all split air to seed delivery. Remain in this mode until no more seed is flowing to meters. Press the Work Screen softkey to return to the main Work menu.
21. Press the Control Setup softkey and then the Channel Setup softkey.
22. Press the Spreader Calibration softkey.
23. Engage the hydraulic drive circuit.
24. Press the Fill Disk softkey. This turns the meters one revolution to fill the disc cells.

Channel Setup

Setup Item	Value or Default	Comments
Type	GRAN SEED CONTROL	This means not singulated, and monitor controls rate. This Type must match the Type of any material metered this way.
Material Name	<list>	Displays a choice of GRAN SEED CONTROL materials from Material Library
Control Mode	Auto	
Drive Type	PWM 1	
Drive Frequency	100 Hz	
Input Filter	50%	
Gear Ratio	1.9	See the DICKEY-john® Quick Start Guide for your planter model and row spacing.
Sensor Constant	360	

25. Determine the meter revolutions needed. The following equation gives the number of meter revolutions needed to meter 10 pounds. The tables on page 58 provides approximate pounds (and kg) per revolution of each wheel and seed.

$$\#MeterRevs = \frac{10}{RowsSampled \times PoundsPerRev}$$

26. Configure the seed monitor for the planter and crop (material). If the seed density is not known, use 1 lb/cu-ft or 1 lb/bu.
27. Consult the rate chart for the crop (page 58). Note the allowed Meter RPM range for the intended seed wheel and planting speed.
28. Place a collection bucket under each test meter's seed tube.
29. In the Spreader Constant Calibration screen, enter the "# Meter Revs" and press the Start softkey.
30. Weigh the containers plus seed (*GrossWeight*). Subtract the empty container weights to obtain the net weight.

$$NetWeight = GrossWeight - ContainerWeight$$

31. The seed monitor assumes that all rows were tested. If you tested fewer (commonly the case), scale the sample size to planter-wide:

$$AmountDispensed = \frac{NetWeight \times RowCount}{RowsSampled}$$

32. Enter the Amount Dispensed. The seed monitor computes a new Spreader Constant.

Note: If the net weight of the metered sampled was dramatically different than expected, run another calibration to validate or revise the new spreader constant.

Calibrate Speed Sensor

1. Perform a Ground Speed Calibration procedure.
2. Refer to "**Furrow Checking Rate**" on page 47 to verify seed rates.

IRC Setup

For machines with IRC, you can adjust the IRC settings by navigating from the Home screen to Controls. Then select your IRC Control Channel to customize your settings.

Use the provided chart for adjusting your IRC.

For example: planter: model with 15 inch rows
crop: Hard Red Winter wheat

PoundsPerRev: 0.04

RowsSampled: 4

10 ≥ (4 ∞ 0.04) = 62.5

Enter 63 for "# Meter Revs" at step 29.

For example: target population: 110 lbs/ac
desired speed: 5 mph

METER RPM 12 rpm minimum, 45 rpm maximum

For example: *ContainerWeight:* 2 lbs
GrossWeight: 12.88 lbs

12.88 - 2 = 10.88

NetWeight: 10.88 lbs

For example: *NetWeight:* 10.88 lbs
RowCount: 31
RowsSampled: 4

(10.88 ∞ 31) ≥ 4 = 84.34 lbs

AmountDispensed: 84.34

IRC Channel Setup

Setup Item	Value or Default	Comments
Material Name	IRC	
Gear Ratio	<preset>	
PreCharge	<user preference>	Adjusts the speed at which the machine operates before IRC is active.
# of Rows	<preset>	Total number of rows assigned to IRC
Row Assignment	<user preference>	Displays the first and last seed rows assigned to IRC

Meter RPM Limits: Volumetric

Air-Pro® Meter RPM Limits
WHEAT
84 Cell Disk

817-867C VOLUMETRIC No.1

Seed Inlet Shutter Setting: 2

(Hard Red Winter)

seeds/lb: 14347
lb/bu: 61.3

Max. rpm	Min rpm	Pounds per rev.
45	12	0.045

Meter Pressure: 2 inches of water

	Planting Speed (mph)	Maximum Pounds per Acre	Minimum Pounds per Acre
10in Rows	4	299	80
	5	239	64
	6	199	53
	7	171	46
	8	149	40
Twin Row 30in 15in Rows	4	199	53
	5	159	43
	6	133	35
	7	114	30
	8	100	27

(Soft Red Winter)

seeds/lb: 14192
lb/bu: 56.3

Max. rpm	Min rpm	Pounds per rev.
45	12	0.050

Meter Pressure: 2.5 inches of water

	Planting Speed (mph)	Maximum Pounds per Acre	Minimum Pounds per Acre
10in Rows	4	332	89
	5	266	71
	6	221	59
	7	190	51
	8	166	44
Twin Row 30in 15in Rows	4	221	59
	5	177	47
	6	148	39
	7	127	34
	8	111	30

32326A

Fertilizer Rate

The YP2425A planter optionally includes one or two fertilizer manifolds, supplied by off-planter tanks, typically trailing tanks offered by Great Plains. Pumping is provided by an optional hydraulic pump on a trailing SML cart, optional ground-drive pumps on each wing, or are user-provisioned.

These instructions cover use of the Great Plains hydraulic pump and a GP SML cart, and GP ground drive pumps and a passive nurse tank cart.

Fertilizer rate is independent of seed rate. Fertilizer rates are set by the pump systems. Hydraulic pump rate is set on the seed monitor console. Ground drive pump rate is set at the pump.

Common Setup Information

This information applies to both pump systems.

Manifold systems include orifice plates at each row unit drop line. Each fertilizer system normally includes a pressure relief valve and strainer. These components affect consistency of flow across all rows.

Adjust the relief valve(s) per the YP2425A Operator's Manual and/or tank Operator's Manual.

Strainer

Refer to Figure 33

A Banjo brand strainer is supplied with the hydraulic and ground drive fertilizer pumps. It is plumbed before the pump. The standard 80 mesh screen ① should be suitable for most applications. Other screen sizes are available from Banjo Corporation.

If changing screen sizes, keep in mind the following.

- A smaller mesh (100) will keep very small manifold orifice plates from plugging so often. However, the screen will have to be cleaned more often.
- A larger mesh (50) or (30) will pass more material but should only be considered when using large manifold orifice plates.
- A plugged or partially plugged screen will starve the pump resulting in a reduced application rate.
- Mesh sizes: (Smallest) 100, 80, 50, 30 (Largest)

Note: Great Plains recommends checking with your local Agronomist as soil conditions vary. Soil conditions in your area may need lesser or greater amounts of fertilizer than represented in these charts. Do not exceed 12 gallons/ac (112 liters/Ha) in any case.

DANGER

Agricultural Chemical Hazard:
Wear protective gloves when changing screens. Consult material manufacturer or supplier documents for proper handling and steps to take if skin contact occurs.

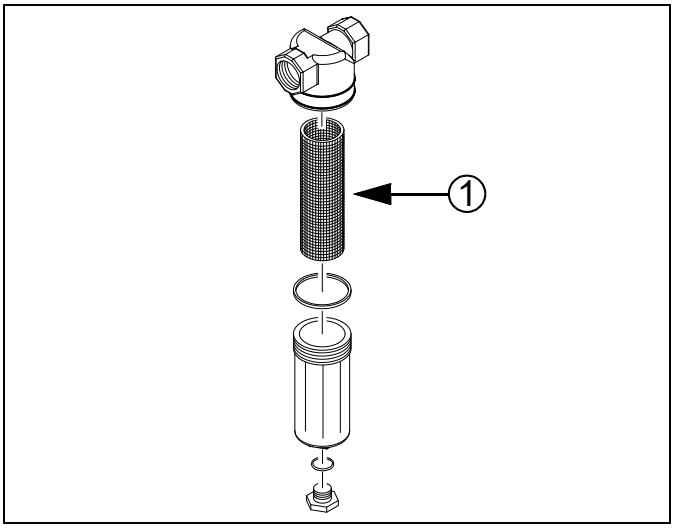


Figure 33 18418
Strainer

Orifice Plate Selection

If using VeriFlow nozzles, continue at
"**Hydraulic Pump Fertilizer Rate**" on page 63 or
"**Ground Drive Fertilizer Rate**" on page 67.

Refer to Figure 34

Orifice plates ① at each drop line nozzle provide back-pressure that balances flow in the manifolds, assuring that each row obtains the same flow rate. Plates are provided with the system(s) in three sizes. Additional sizes are available.

In general, the orifice ① needs to be small enough to create a minimum pressure in the manifold but large enough to prevent the manifold pressure from exceeding the maximum:
15 psi min., 15-40 optimal, 65 psi max.

Using an orifice size too large can result in unequal flow at rows. Using a size too small can cause excess back-pressure resulting in material dumping at the relief valve.

⚠ DANGER

Agricultural Chemical Hazard:
Wear protective gloves when changing orifice plates. Consult material manufacturer or supplier documents for proper handling and steps to take if skin contact occurs.

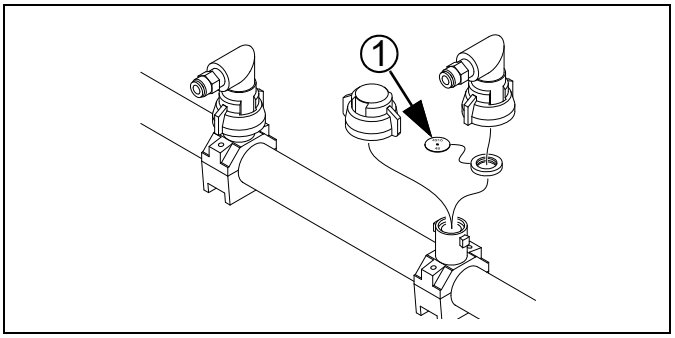


Figure 34 29984
Fertilizer Orifice Plate

Orifice Size	Part Number	Port Diameter	Port Area
20	832-052C	0.020 in	0.20 mm²
28*	832-056C	0.028 in	0.40 mm²
34*	832-053C	0.034 in	0.59 mm²
48*	832-054C	0.048 in	1.17 mm²
59	832-057C	0.059 in	1.76 mm²
80	832-055C	0.080 in	3.24 mm²
98	832-059C	0.098 in	4.87 mm²

* Sizes standard in many fertilizer bundles. 29993
Check your accessories before ordering.

Determine Orifice Size

The chart below shows rate ranges for each Great Plains orifice size and row spacing. You may need to change to the next higher or lower orifice for a different fertilizer solution density and/or a different ground speed.

To reduce orifice plugging and pump wear, use the largest orifice practical for your fertilizer application rate.

NOTICE

Material Loss/Equipment Damage Risk:
Set application rate at pump using pump drive chart., not by orifice size. Orifice size is only used to create 15-65 PSI back pressure to provide even flow between rows. An orifice size too small causes material loss at relief valve. A size too large can cause application imbalance across the planter.

Orifice Plate Size	20	28*	34*	48*	59	80	98
	Recommended Rate Range in Gallons per Acre. Range is 15 - 40 PSI						
Nozzle Spacing	(Values based on: 5.0 mph, 10.7 lbs/gallon Fertilizer solution density)						
6 inch single	5.6 - 9.1	11 - 17	16 - 26	31 - 50	46 - 76	85 - 139	134 - 219
7.5 inch single	4.5 - 7.3	8.4 - 14	13 - 21	25 - 40	37 - 61	68 - 111	107 - 175
8 inch single	4.2 - 6.8	7.9 - 13	12 - 19	23 - 38	35 - 57	64 - 104	101 - 164
9.5 inch single	3.5 - 5.8	6.6 - 11	10 - 16	19 - 32	29 - 48	54 - 88	85 - 138
10 inch single	3.4 - 5.5	6.3 - 10	9.5 - 15	18 - 30	28 - 46	51 - 83	80 - 131
13.8in (35cm, 70TR)	2.4 - 4.0	4.6 - 7.5	6.9 - 11	13 - 22	20 - 33	37 - 61	58 - 95
14.8in (38cm, 75TR)	2.3 - 3.7	4.3 - 7.0	6.4 - 10	12 - 20	19 - 31	35 - 56	55 - 89
15in single (30TR)	2.2 - 3.6	4.2 - 6.9	6.3 - 10	12 - 20	19 - 30	34 - 56	54 - 88
18in (36in Twin Row)	1.9 - 3.0	3.5 - 5.7	5.3 - 8.6	10 - 17	15 - 25	28 - 46	45 - 73
19in (38in Twin Row)	1.8 - 2.9	3.3 - 5.4	5.0 - 8.1	9.7 - 16	15 - 24	27 - 44	42 - 69
20 inch single	1.7 - 2.7	3.2 - 5.2	4.7 - 7.7	9.2 - 15	14 - 23	26 - 42	40 - 66
27.6in (70cm single)	1.2 - 2.0	2.3 - 3.7	3.4 - 5.6	6.7 - 11	10 - 17	19 - 30	29 - 48
29.5in (75cm single)	1.1 - 1.9	2.1 - 3.5	3.2 - 5.2	6.2 - 10	9 - 15	17 - 28	27 - 45
30 inch single	1.1 - 1.8	2.1 - 3.4	3.2 - 5.2	6.1 - 10	9.3 - 15	17 - 28	27 - 44
36 inch single	0.9 - 1.5	1.8 - 2.9	2.6 - 4.3	5.1 - 8.4	7.7 - 13	14 - 23	22 - 37
38 inch single	0.9 - 1.4	1.7 - 2.7	2.5 - 4.1	4.8 - 7.9	7.3 - 12	13 - 22	21 - 35
40 inch single	0.8 - 1.4	1.6 - 2.6	2.4 - 3.9	4.6 - 7.5	7.0 - 11	13 - 21	20 - 33

* These sizes standard in most Great Plains fertilizer systems.

31014

Fertilizer Relief Valve

Refer to Figure 35

When a “Type 2” fertilizer system is installed, a relief valve ① and pressure gauge ② are mounted at the hydraulic pump on the SML cart, or at each ground drive pump. The relief valve protects the manifold, lines and fittings from excessive pressure. Any product that dumps over the relief valve will discharge from the dump line ③ in relative safety.

To set relief valve:

1. Unlock plastic jam nut ④ from relief valve knob.
2. Unscrew knob ⑤ clockwise (looking down) until it loses contact with internal spring.
3. Screw knob ⑤ counterclockwise two turns. Start at this setting.
4. Observe manifold gauge ② and watch for relief valve dump line ③ discharge while operating in the field.
5. If valve is dumping product and gauge reads under 65 psi, stop tractor and turn knob ⑤ clockwise $^{1}/_{4}$ turn. Continue operating at normal field speed. Repeat this step as needed until no product is discharged from relief valve dump line ③.
6. If the pressure gauge reads above 65 psi, change to a larger orifice. Go to step 2 and repeat.

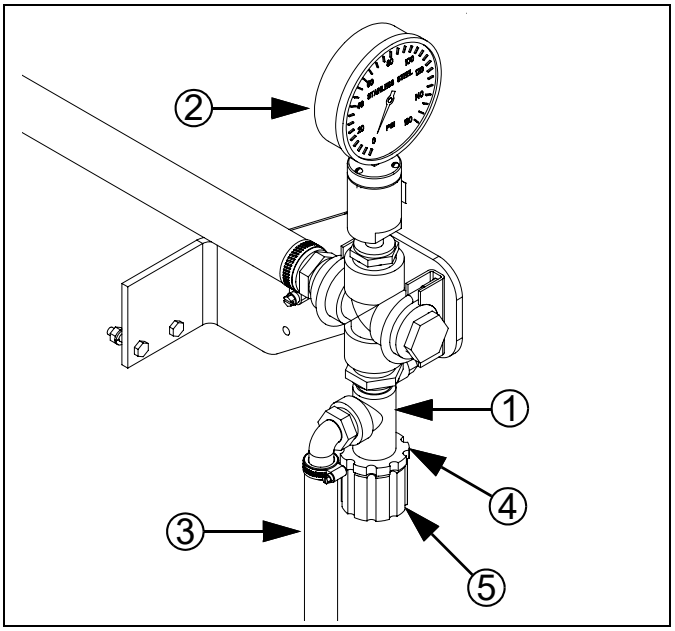


Figure 35 25164
Fertilizer Relief Valve

Hydraulic Pump Fertilizer Rate DICKEY-john® IntelliAg® WSMT2

for All Software Versions

Hydraulic Pump System Setup

If the system is already configured, continue at “**Set Hydraulic Fertilizer Rate**” on page 66.

As delivered, the fertilizer system is not configured in the seed monitor. Before setting rate for the first time:

- Create at least one Material.
- Assign a Control Channel to the pump.
- Verify the Channel settings.
- Perform a Valve Calibration.

Power Up Fully Connected System

1. Hitch the planter (and SML cart if used) to the tractor. Load about 20 gallons of water. Move to a location suitable for running water through the booms.
2. Connect the seed monitor to be used to the planter. Configuration is not possible unless the console is connected to the planter WSMT and all CANbus modules are present. Turn the system on.
3. Configure the monitor for User Level 2. This requires a password. Consult the DICKEY-john® Planter/Drill Control manual for details.

Create One or More Materials

Refer to Figure 36

4. Navigate to the Control Setup Screen. Touch a [MATRL #] screen button to configure an undefined material, for example [MATRL 15] (or touch an unused existing material).

Refer to Figure 37

5. Give the material a unique name (in the screen at right, the name is “10-34-0”).

   Assign a Type of “LIQUID FLOW CONTROL”.

   Assign a Product Class of “Fertilizer”.

   Set targets and limits as desired.

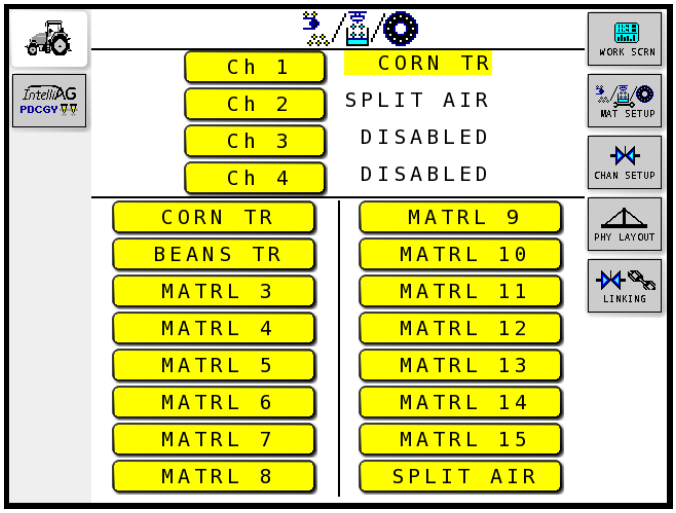


Figure 36 36429
Control Setup Screen

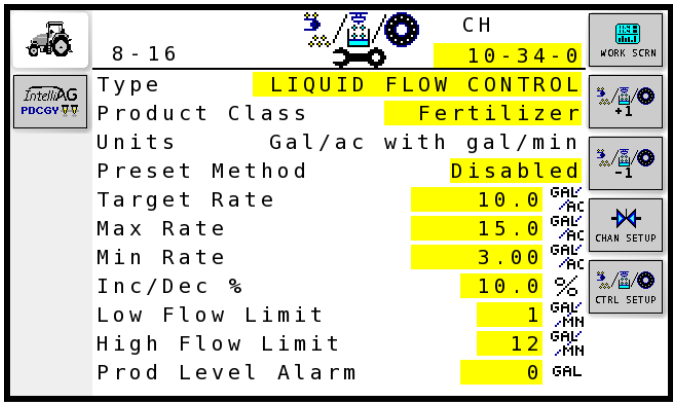


Figure 37 36431
Material Library Screen

Assign Control Channel

Refer to Figure 38

6. Navigate to the Material Setup Screen. For a new system, [CH 3] (Channel 3) is not assigned and displays “DISABLED”.
7. Touch the [CH 3] screen button, or the Chan Setup softkey (and use the Next Chan softkey to display the screen for CHANNEL# 3), initially “Disabled”.

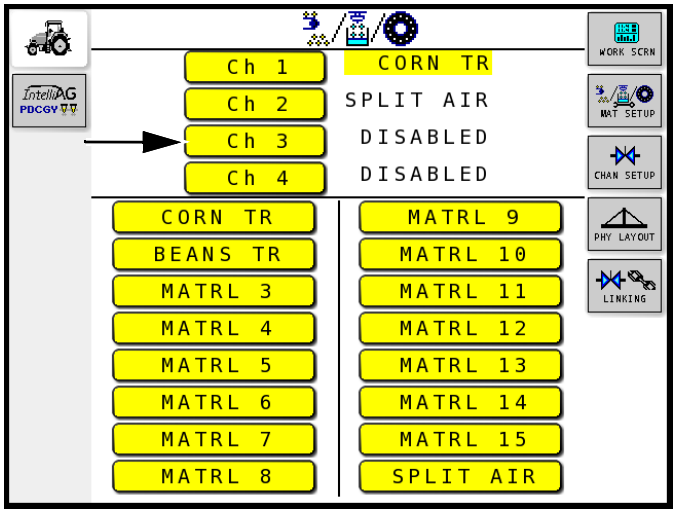


Figure 38 36429
Material Setup Screen

Refer to Figure 39

8. Touch the [Disabled] field or CTRL SETUP to assign the Channel.

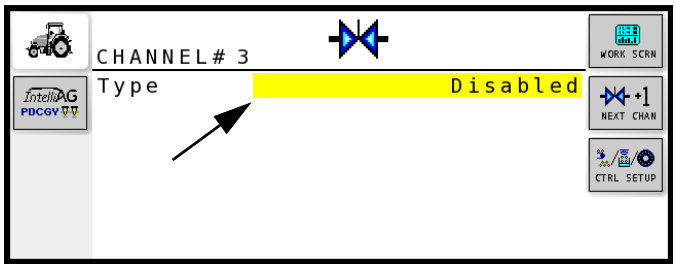


Figure 39 36430
Channel 3 Selected

Refer to Figure 40

9. Assign a Type of LIQUID FLOW CONTROL
10. Assign any suitable defined Material Name.
11. For K-Factor, read the Pulses per 10 Gallons from the tag on the flow meter near the pump. Divide by 10. Enter that number.
12. Assign the remaining fields as shown at right.

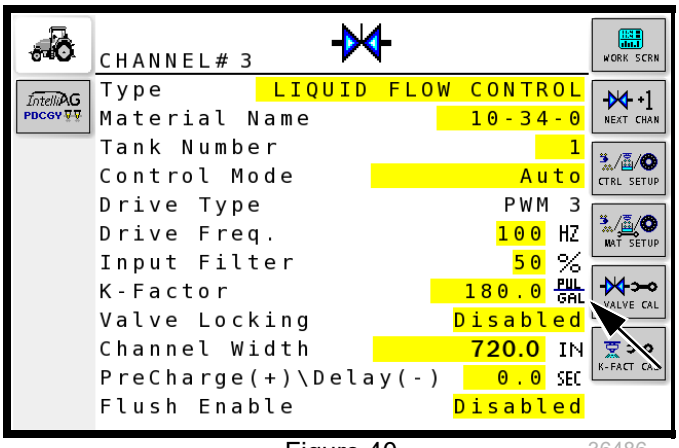


Figure 40 36486
Configure Channel 3

Check/Set System Geometry

Refer to Figure 36 on page 63

13. From the Control Setup screen, press the Link Offset softkey.

Refer to Figure 41

14. Set the Ch 3 XIN and YIN values as shown at right. Press the PHY CHECK softkey.

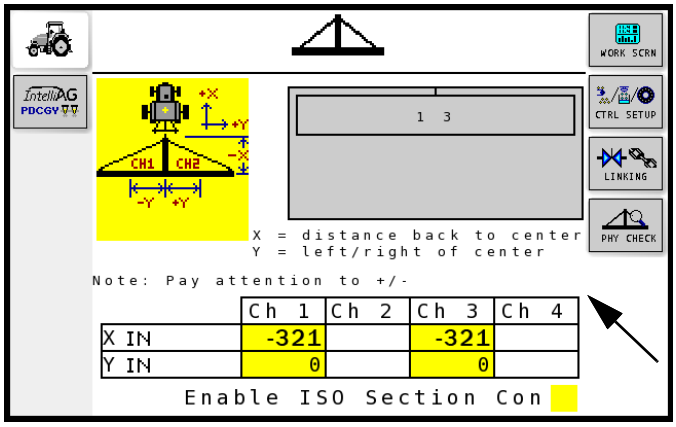


Figure 41
Basic IntelliAg® Geometry
36489

Refer to Figure 42

15. Verify that the orientation of the stick implement is behind the tractor, and that both Channel 1 and 3 have the same geometry.

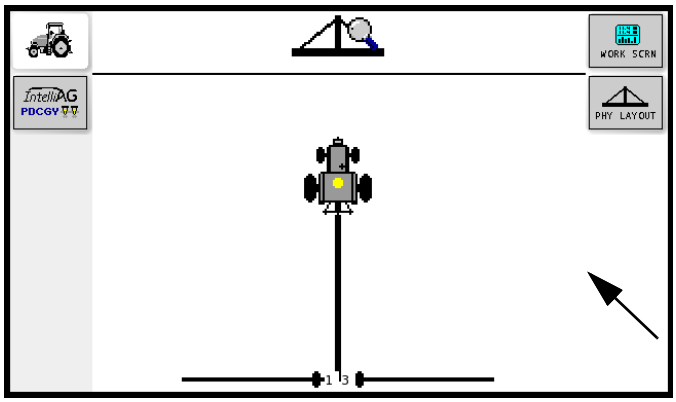


Figure 42
Basic Geometry Check
36435

If the monitor console is not an AI120, continue at "**Perform a Valve Calibration**" on page 66.

Refer to Figure 43

16. Navigate to Implement > Geometry
Check that [E] is 263.00 and [A] is 480.00.

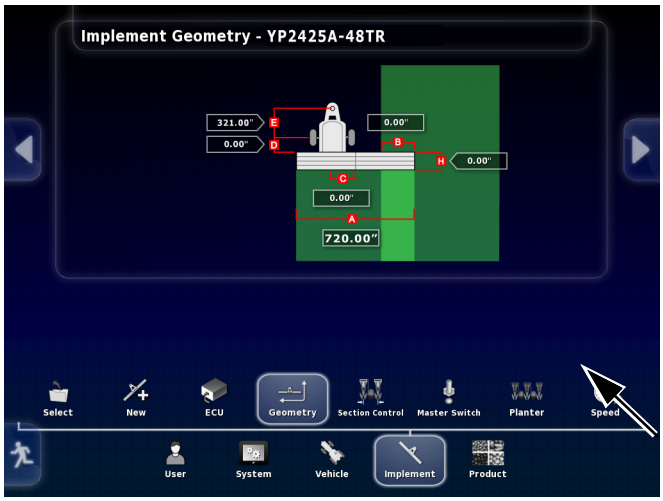


Figure 43
AI120 Geometry Check
36490

Perform a Valve Calibration

Raise the planter for these steps, to avoid fouling rows with mud.

17. Configure the liquid fertilizer system valves for field operations. See Planter Operator manual for details.
18. Set tractor brakes. Put transmission in Park. Start engine.
19. Engage the circuit for the hydraulic drives. Run tractor engine at field rpms until hydraulic fluid is at field operator temperature.

Refer to Figure 40 on page 64

20. Turn the IntelliAg® Master switch ON.
21. On the seed monitor console, press the VALVE CAL softkey.

Refer to Figure 44

22. Press the START softkey. Wait approximately one minute.

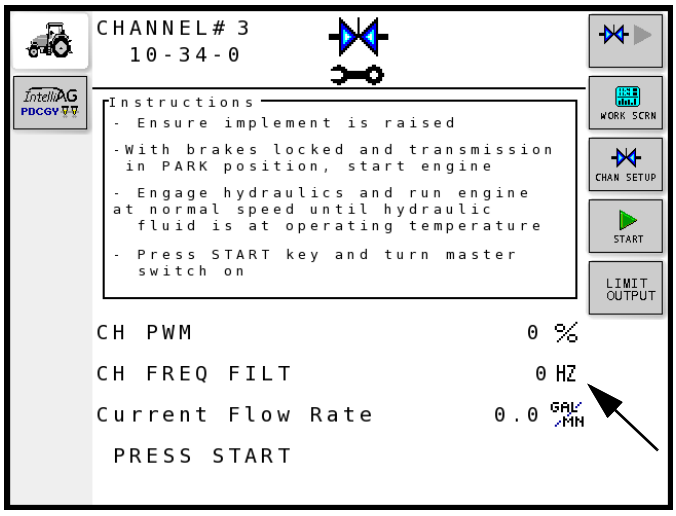


Figure 44 36433
Pump Valve Calibration

Set Hydraulic Fertilizer Rate

With the control channel set up, at least one material set up and selected for the channel, the default/initial rate for fertilizer is the Target Rate defined for that material.

In this example, the material is named “10-34-0”.

Refer to Figure 45

The field rate ① is displayed on the main Work Screen, and may be adjusted via the Inc/Dec softkeys ②.

The hydraulic fertilizer system may be enabled or disabled entirely using the Channel On/Off softkey ③, or by disabling the Channel in the main Channel Setup screen (Figure 39 on page 64).

If the reported rate is low in the field, or there are low rate alarms, check the relief valve setup at the pump. See the Planter Operator manual for details.

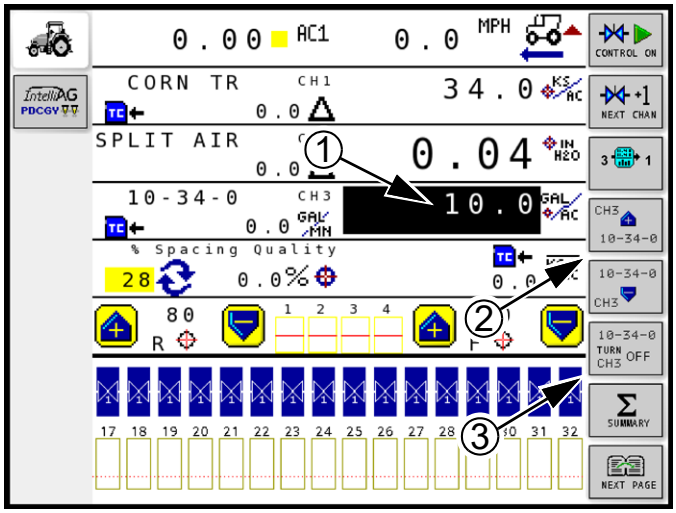


Figure 45 36438
Fertilizer Rate on Work Screen

Ground Drive Fertilizer Rate

One or two JohnBlue ground drive pumps customarily supply a Type 2 boom on the planter.

JohnBlue Pump Rate

Refer to Figure 46 and Figure 47

One piston pump ① generally suffices for “starter” application rates. Two piston pumps may be required for higher rates.

Coarse rate is set by a single “driving” sprocket ② on the ground drive assembly. Fine rate is set on a dial (setting hub) ③ at the pump, using a tool supplied with the pump.

Rate settings may be established in any of three ways:

- the table on the next page,
- the slide chart provided with the pump, or;
- a calculator on the JohnBlue internet web site (www.cds-johnblue.com)

1. Check plumbing setup. See “**Setting Relief Valve**” and “**Strainer**” in the Operator Manual.
2. Determine Driving sprocket (15T or 47T) required from table, slide chart or web calculator. If this sprocket is already installed on driven shaft, skip to step 7. Otherwise, to change sprocket, continue with step 3.
3. Remove knob ④ and guard ⑤. Loosen idler ⑥, and remove chain ⑦ from lower jackshaft ②.
4. Select the new sprocket from the storage shaft ⑧. Remove the pins, and exchange sprockets. Store the previous sprocket on the storage shaft.
5. Remount the chain ⑦. Re-engage idler ⑥, tightening so that the longest span of the chain has $^{1}/_{4}$ inch (6 mm) slack.
6. Remount guard ⑤ and secure with knob ④.

Refer to Figure 47

7. Using the box-wrench end of the JohnBlue 115681-01 tool, loosen the setting pointer nut ⑨.
8. Use the other end of the tool to rotate the dial ③ to the setting determined by table, slide chart or web.
9. Re-tighten pointer nut.

NOTICE

Material Loss/Equipment Damage Risks:
Operate only with material loaded, or disconnect chain or remove sprocket if not intending to apply material. Contact wheel and chain system operate whenever the planter is lowered and in motion. If planting without fertilizing, the pump must not be allowed to run dry.

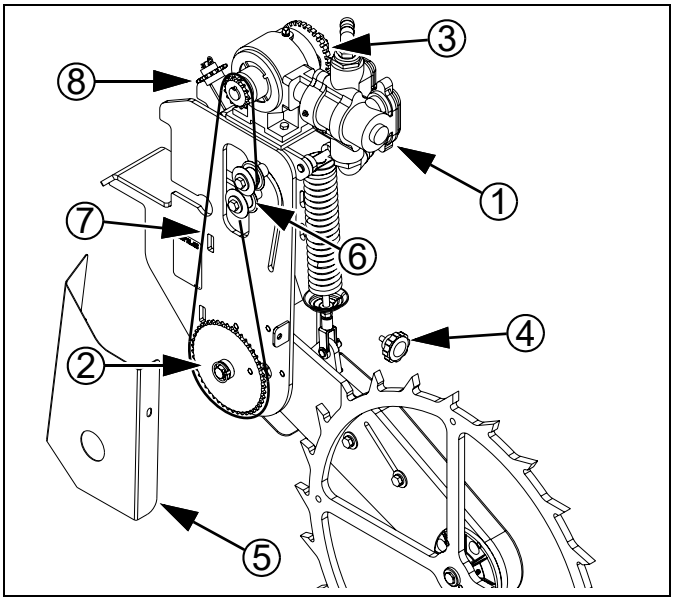


Figure 46 28416
John Blue Pump

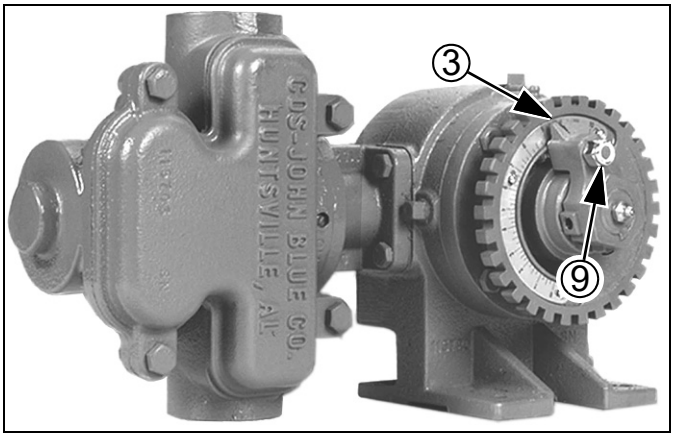


Figure 47 26155
Pump Dial

JohnBlue Fertilizer Rates

This table is in U.S. customary units, and is based on a 720 inch swath, covering most YP2425A models. For metric, use the internet calculator.

For model YP2425A-4715, which has a 705 inch swath, use the slide chart or internet calculator for more precise rate setting.

Gallons per Acre	Single Pump		Dual Pump	
	Driving Sprocket		Driving Sprocket	
	15	47	15	47
	Dial Setting		Dial Setting	
2	3.2			
3	4.8		2.4	
4	6.5	2.1	3.2	
5	8.1	2.6	4.0	
6	9.7	3.1	4.8	
7		3.6	5.7	
8		4.1	6.5	2.1
9		4.6	7.3	2.3
10		5.2	8.1	2.6
11		5.7	8.9	2.8
12		6.2	9.7	3.1
13		6.7		3.4
14		7.2		3.6
15		7.7		3.9
16		8.3		4.1
17		8.8		4.4
18		9.3		4.6
19		9.8		4.9
20				5.2
21				5.4
22				5.7
23				5.9
24				6.2
25				6.4
26				6.7
27				7.0
28				7.2
29				7.5
30				7.7

29777

NOTICE

Equipment Damage Risk:
Plant at or below 8 mph with the 47T Driving sprocket installed. The pump is rated for 450 rpm maximum, which is exceeded at and above 9 mph.

JohnBlue Reference Data

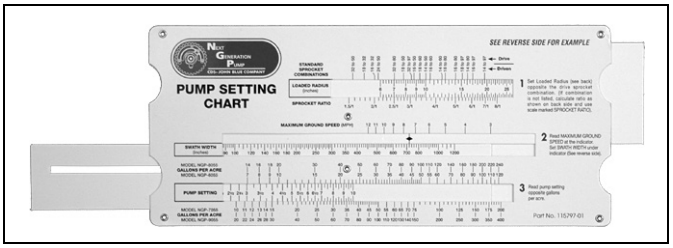


Figure 48 26156
JohnBlue Slide Chart

Use the data below with the JohnBlue 115797-01 slide chart or with the JohnBlue internet calculator.

(When ordering this slide chart use the envelope number 115698-91).

Pump Type	(•) Piston Pump NGP-6050 Series	
Data Preference	(•) English Units	
Application Rate	<user-specified>	
Drive System	(•) Ground Drive Loaded Radius: 17.55in	
Swath Width (use 1/2 of these values for a two-pump manifold)	YP2425A-2430: YP2425A-3620: YP2425A-4715: YP2425A-48TR:	720in 720in 705in 720in
Drive (Required): (Optional): (Optional): (Optional):	25 15 or 47 — —	**Driven** (Required): (Optional): (Optional): (Optional):	15 15 — —
Sprocket Ratio (for slide chart)	Driving 15T: Driving 47T:	1.67 5.22
Ground Speed	5 mph[a]	

a Gallons per acre is independent of speed between 2 mph and 8 mph. See advisory below.

Appendix A - Seed Lubricants

Seed Lubricants

To maximize performance of Great Plains metering systems, it is imperative to use “Ezee Glide Plus” or Bayer Seed Fluency Agent.

Ezee Glide Plus Talc+Graphite Mix

821-069C bucket, 5 gallon (19 liter)

29248

Ezee Glide Plus Lubricant
“Ezee Glide Plus”is suitable for all seeds, especially treated or inoculated seed, except where talc and graphite mixes are prohibited. *Thorough mixing of seed and added lubricant is required.*

Recommended usage:

For clean seeds other than milo, cotton, and sunflowers sprinkle one cup of Ezee Glide Plus Talc per 4 bushels or units (170 ml per 100 liters) of seed.

For milo, cotton, and sunflowers double the application to one cup (or more) per 2 bushels or units (335 ml per 100 liters) of seed.

For canola or mustard, 1 cup (240 ml) per 30 pound (13.6 kg) bag is a minimum starting value. Mix the seed lubricant early during the seed loading. Use more lubricant in extremely dry conditions.

Adjust this rate as necessary so all seeds become coated while avoiding an accumulation of lubricant in the bottom of the hopper.

For seed with excessive treatment, or for humid planting environments, increase the rate as needed for smooth meter operation.

CAUTION

Irritation and Chronic Exposure Hazard:
Wear gloves. DO NOT use hands or any part of your body to mix seed lubricant. Wear a respirator when transferring and mixing. Avoid breathing lubricant dust. Not an acute hazard. May cause mechanical eye or skin irritation in high concentrations. As with all mineral spills, minimize dusting during clean-up. Prolonged inhalation may cause lung injury. Product can become slippery when wet.

Bayer Seed Fluency Agent

821-074C Fluency Powder, case quantity

821-075C Fluency Powder, single 4.4 pound bucket

This agent is required by regulation for certain crops in certain regions (such as corn and soybean in Canada). It is an alternative to Ezee Glide Plus in other locales, for large seeds. It is not recommended for smaller seeds such as canola and milo.

36369

Refer to the booklet affixed to the bucket for recommended usage. Do not exceed those recommendations, as excess amounts adversely affect accurate metering.

CAUTION

Dust and Explosion Hazard:
Avoid exposure to dust when mixing this powder into seed. Avoid creating dust in any confined space with ignition sources present, as specific concentrations can be explosive. Consult the instruction booklet and MSDS for further cautions.

Appendix B - Metric Charts

Disk Selection

Disk Selection - Corn (metric)

CORN
24 Cell Disk
817 - 794C Corn Round Large
817 - 795C Corn Round Small
817 - 836C Corn Flat Large

CORN
40 Cell Disk
817 - 796C Corn Round Large
817 - 797C Corn Round Small
817 - 838C Corn Flat Large

(Sweet Corn plants in Round Corn disks)

Seed Size Recommendations.

Corn Round Large	**Seeds per Kilogram 3750 (or fewer)**
Corn Round Small	**Seeds per Kilogram 3640 (or more)**
Corn Flat Large	**Seeds per Kilogram 3640 (or fewer)**
Corn Flat Small	**Seeds per Kilogram 3640 (or more)**

ATTENTION: This Corn is planted with the Corn Round Small Disks!!!!!!

		(Recommended)
101.6cm Rows	*Below 48 000 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 48 000 seeds/ha @ 8.9 km/h	40 Cell Disk
96.5cm Rows	*Below 50 600 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 50 600 seeds/ha @ 8.9 km/h	40 Cell Disk
91.4cm Rows	*Below 53 400 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 53 400 seeds/ha @ 8.9 km/h	40 Cell Disk
76.2cm Rows	*Below 64 000 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 64 000 seeds/ha @ 8.9 km/h	40 Cell Disk
70cm Rows	*Below 69 700 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 69 700 seeds/ha @ 8.9 km/h	40 Cell Disk
55.9cm Rows	*Below 87 300 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 87 300 seeds/ha @ 8.9 km/h	40 Cell Disk
Twin Row 101.6cm 50.8cm Rows	*Below 96 100 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 96 100 seeds/ha @ 8.9 km/h	40 Cell Disk
Twin Row 96.5cm	*Below 101 100 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 101 100 seeds/ha @ 8.9 km/h	40 Cell Disk
Twin Row 91.4cm	*Below 106 700 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 106 700 seeds/ha @ 8.9 km/h	40 Cell Disk
Twin Row 76.2cm 38.1cm Rows	*Below 129 000 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 129 000 seeds/ha @ 8.9 km/h	40 Cell Disk
Twin Row 70cm 35cm Rows	*Below 139 400 seeds/ha @ 8.9 km/h*	24 Cell Disk
	Above 139 400 seeds/ha @ 8.9 km/h	40 Cell Disk

CANOLA
250 Cell Disk
817 - 991C

Seed Size Recommendations.

This disk should plant all seed sizes and row spacings for Canola & Mustard.

COTTON
60 Cell Disk
817 - 857C

Seed Size Recommendations.

This disk should plant all seed sizes and row spacings for Cotton.

36426W

Disc Selection - Milo, Sugar Beet and Soybean (metric)

MILO / PELLETIZED SUGAR BEET

30 Cell Disk 837 - 057C | **65 Cell Disk 817 - 849C** | **130 Cell Disk 817 - 800C**

Seed Size Recommendations.

These disks should plant all seed sizes of Milo, Pelletized Sugar Beets & Tillage Radish

		(Recommended)
101.6cm Rows	*Below 119 300 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 119 300 seeds/ha @ 9.7 km/h	130 Cell Disk
96.5cm Rows	*Below 125 500 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 125 500 seeds/ha @ 9.7 km/h	130 Cell Disk
91.4cm Rows	*Below 132 500 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 132 500 seeds/ha @ 9.7 km/h	130 Cell Disk
76.2cm Rows	*Below 159 000 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 159 000 seeds/ha @ 9.7 km/h	130 Cell Disk
70cm Rows	*Below 173 100 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 173 100 seeds/ha @ 9.7 km/h	130 Cell Disk
55.9cm Rows	*Below 216 800 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 216 800 seeds/ha @ 9.7 km/h	130 Cell Disk
Twin Row 101.6cm 50.8cm Rows	*Below 238 500 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 238 500 seeds/ha @ 9.7 km/h	130 Cell Disk
Twin Row 96.5cm	*Below 251 100 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 251 100 seeds/ha @ 9.7 km/h	130 Cell Disk
Twin Row 91.4cm	*Below 265 000 seeds/ha @ 9.7 km/h*	65 Cell Disk
	Above 265 000 seeds/ha @ 9.7 km/h	130 Cell Disk
Twin Row 76.2cm 38.1cm Rows	*Below 58 000 seeds/ha @ 9.7 km/h*	30 Cell Disk
	Below 318 000 seeds/ha @ 9.7 km/h	65 Cell Disk
	Above 318 000 seeds/ha @ 9.7 km/h	130 Cell Disk
Twin Row 70cm 35cm Rows	*Below 62 000 seeds/ha @ 9.7 km/h*	30 Cell Disk
	Below 346 200 seeds/ha @ 9.7 km/h	65 Cell Disk
	Above 346 200 seeds/ha @ 9.7 km/h	130 Cell Disk

84 Cell Disk 817 - 798C | **SOYBEAN** | **168 Cell Disk 403 - 551D**

Seed Size Recommendations.

These disks should plant all seed sizes of Soybeans.
Small edible beans (navy, black jack, black eye peas, etc) will plant with this disk also.

		(Recommended)
101.6cm Rows	*Below 190 100 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 190 100 seeds/ha @ 9.7 km/h	168 Cell Disk
96.5cm Rows	*Below 200 100 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 200 100 seeds/ha @ 9.7 km/h	168 Cell Disk
91.4cm Rows	*Below 211 200 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 211 200 seeds/ha @ 9.7 km/h	168 Cell Disk
76.2cm Rows	*Below 253 400 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 253 400 seeds/ha @ 9.7 km/h	168 Cell Disk
70cm Rows	*Below 275 900 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 275 900 seeds/ha @ 9.7 km/h	168 Cell Disk
55.9cm Rows	*Below 345 600 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 345 600 seeds/ha @ 9.7 km/h	168 Cell Disk
Twin Row 101.6cm 50.8cm Rows	*Below 380 100 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 380 100 seeds/ha @ 9.7 km/h	168 Cell Disk
Twin Row 96.5cm	*Below 400 200 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 400 200 seeds/ha @ 9.7 km/h	168 Cell Disk
Twin Row 91.4cm	*Below 422 400 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 422 400 seeds/ha @ 9.7 km/h	168 Cell Disk
Twin Row 76.2cm 38.1cm Rows	*Below 506 900 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 506 900 seeds/ha @ 9.7 km/h	168 Cell Disk
Twin Row 70cm 35cm Rows	*Below 551 800 seeds/ha @ 9.7 km/h*	84 Cell Disk
	Above 551 800 seeds/ha @ 9.7 km/h	168 Cell Disk

36426X

Disc Selection - Sunflower, Volumetric, Blank

SUNFLOWER OIL LARGE / POPCORN
24 Cell Disk
817 - 851C

Seed Size Recommendations.

Sunflower Oil Large	Sunflower Seeds per Kilogram	Popcorn
2's - most 3's And a few of the larger 4's	18700 (or fewer)	This disk should plant all seed sizes of Popcorn.

Volumetric No.1 84 Cell Disk
817 - 867C

Available for:

Wheat
Rice
Rice takes a special hardened meter.
Only available on 2525A on 24.1cm rows, and YP30AR or YP40AR on 25.4cm rows.

Air Meter Blank Disk
817 - 841C

These disks are used in (Off Row Meters) when changing from 35cm to 70cm Rows. (etc)

36426Y

Seed Spacing (Metric)

Seed Spacing - Metric (Low Range)

Plant Population (seeds/ha)	Row Spacings											
		Twin Row 70cm	*Twin Row 76.2cm*	*Twin Row 91.4cm*	*Twin Row 96.5cm*	*Twin Row 101.6cm*						
	25.4cm Rows	35cm Rows	38.1cm Rows			50.8cm Rows	55.9cm Rows	70cm Rows	76.2cm Rows	91.4cm Rows	96.5cm Rows	101.6cm Rows
	Seed Spacing (cm)											
34 594	113.8	82.6	75.9	63.2	59.9	56.9	51.7	41.3	37.9	31.6	29.9	28.5
37 064	106.2	77.1	70.8	59.0	55.9	53.1	48.3	38.5	35.4	29.5	28.0	26.6
39 535	99.6	72.3	66.4	55.3	52.4	49.8	45.3	36.1	33.2	27.7	26.2	24.9
42 006	93.7	68.0	62.5	52.1	49.3	46.9	42.6	34.0	31.2	26.0	24.7	23.4
44 477	88.5	64.2	59.0	49.2	46.6	44.3	40.2	32.1	29.5	24.6	23.3	22.1
46 948	83.9	60.9	55.9	46.6	44.1	41.9	38.1	30.4	28.0	23.3	22.1	21.0
49 419	79.7	57.8	53.1	44.3	41.9	39.8	36.2	28.9	26.6	22.1	21.0	19.9
51 890	75.9	55.1	50.6	42.1	39.9	37.9	34.5	27.5	25.3	21.1	20.0	19.0
54 361	72.4	52.6	48.3	40.2	38.1	36.2	32.9	26.3	24.1	20.1	19.1	18.1
56 832	69.3	50.3	46.2	38.5	36.5	34.6	31.5	25.1	23.1	19.2	18.2	17.3
59 303	66.4	48.2	44.3	36.9	34.9	33.2	30.2	24.1	22.1	18.4	17.5	16.6
61 774	63.7	46.2	42.5	35.4	33.5	31.9	29.0	23.1	21.2	17.7	16.8	15.9
64 245	61.3	44.5	40.9	34.0	32.3	30.6	27.9	22.2	20.4	17.0	16.1	15.3
66 716	59.0	42.8	39.3	32.8	31.1	29.5	26.8	21.4	19.7	16.4	15.5	14.8
69 187	56.9	41.3	37.9	31.6	29.9	28.5	25.9	20.6	19.0	15.8	15.0	14.2
71 658	54.9	39.9	36.6	30.5	28.9	27.5	25.0	19.9	18.3	15.3	14.5	13.7
74 129	53.1	38.5	35.4	29.5	28.0	26.6	24.1	19.3	17.7	14.8	14.0	13.3
76 600	51.4	37.3	34.3	28.6	27.1	25.7	23.4	18.6	17.1	14.3	13.5	12.8
79 071	49.8	36.1	33.2	27.7	26.2	24.9	22.6	18.1	16.6	13.8	13.1	12.4
81 542	48.3	35.0	32.2	26.8	25.4	24.1	21.9	17.5	16.1	13.4	12.7	12.1
84 013	46.9	34.0	31.2	26.0	24.7	23.4	21.3	17.0	15.6	13.0	12.3	11.7
86 484	45.5	33.0	30.3	25.3	24.0	22.8	20.7	16.5	15.2	12.6	12.0	11.4
88 955	44.3	32.1	29.5	24.6	23.3	22.1	20.1	16.1	14.8	12.3	11.6	11.1
91 426	43.1	31.2	28.7	23.9	22.7	21.5	19.6	15.6	14.4	12.0	11.3	10.8
93 897	41.9	30.4	28.0	23.3	22.1	21.0	19.1	15.2	14.0	11.6	11.0	10.5
96 368	40.9	29.6	27.2	22.7	21.5	20.4	18.6	14.8	13.6	11.3	10.8	10.2
98 839	39.8	28.9	26.6	22.1	21.0	19.9	18.1	14.5	13.3	11.1	10.5	10.0
101 310	38.9	28.2	25.9	21.6	20.5	19.4	17.7	14.1	13.0	10.8	10.2	9.7
103 781	37.9	27.5	25.3	21.1	20.0	19.0	17.2	13.8	12.6	10.5	10.0	9.5
106 252	37.1	26.9	24.7	20.6	19.5	18.5	16.8	13.4	12.4	10.3	9.8	9.3
108 723	36.2	26.3	24.1	20.1	19.1	18.1	16.5	13.1	12.1	10.1	9.5	9.1
111 193	35.4	25.7	23.6	19.7	18.6	17.7	16.1	12.8	11.8	9.8	9.3	8.9
113 664	34.6	25.1	23.1	19.2	18.2	17.3	15.7	12.6	11.5	9.6	9.1	8.7
116 135	33.9	24.6	22.6	18.8	17.8	16.9	15.4	12.3	11.3	9.4	8.9	8.5
118 606	33.2	24.1	22.1	18.4	17.5	16.6	15.1	12.0	11.1	9.2	8.7	8.3
121 077	32.5	23.6	21.7	18.1	17.1	16.3	14.8	11.8	10.8	9.0	8.6	8.1
123 548	31.9	23.1	21.2	17.7	16.8	15.9	14.5	11.6	10.6	8.9	8.4	8.0

32321A

Seed Spacing - Metric (High Range)

Plant Population (seeds/ha)	Row Spacings											
	25.4cm Rows	*Twin Row 70cm* 35cm Rows	*Twin Row 76.2cm* 38.1cm Rows	*Twin Row 91.4cm*	*Twin Row 96.5cm*	*Twin Row 101.6cm* 50.8cm Rows	55.9cm Rows	70cm Rows	76.2cm Rows	91.4cm Rows	96.5cm Rows	101.6cm Rows
	Seed Spacing (cm)											
123 548	31.9	23.1	21.2	17.7	16.8	15.9	14.5	11.6	10.6	8.9	8.4	8.0
135 903	29.0	21.0	19.3	16.1	15.2	14.5	13.2	10.5	9.7	8.0	7.6	7.2
148 258	26.6	19.3	17.7	14.8	14.0	13.3	12.1	9.6	8.9	7.4	7.0	6.6
160 613	24.5	17.8	16.3	13.6	12.9	12.3	11.1	8.9	8.2	6.8	6.5	6.1
172 968	22.8	16.5	15.2	12.6	12.0	11.4	10.3	8.3	7.6	6.3	6.0	5.7
185 322	21.2	15.4	14.2	11.8	11.2	10.6	9.7	7.7	7.1	5.9	5.6	5.3
197 677	19.9	14.5	13.3	11.1	10.5	10.0	9.1	7.2	6.6	5.5	5.2	5.0
210 032	18.7	13.6	12.5	10.4	9.9	9.4	8.5	6.8	6.2	5.2	4.9	4.7
222 387	17.7	12.8	11.8	9.8	9.3	8.9	8.0	6.4	5.9	4.9	4.7	4.4
234 742	16.8	12.2	11.2	9.3	8.8	8.4	7.6	6.1	5.6	4.7	4.4	4.2
247 097	15.9	11.6	10.6	8.9	8.4	8.0	7.2	5.8	5.3	4.4	4.2	4.0
259 451	15.2	11.0	10.1	8.4	8.0	7.6	6.9	5.5	5.1	4.2	4.0	3.8
271 806	14.5	10.5	9.7	8.0	7.6	7.2	6.6	5.3	4.8	4.0	3.8	3.6
284 161	13.9	10.1	9.2	7.7	7.3	6.9	6.3	5.0	4.6	3.8	3.6	3.5
296 516	13.3	9.6	8.9	7.4	7.0	6.6	6.0	4.8	4.4	3.7	3.5	3.3
308 871	12.7	9.2	8.5	7.1	6.7	6.4	5.8	4.6	4.2	3.5	3.4	3.2
321 226	12.3	8.9	8.2	6.8	6.5	6.1	5.6	4.4	4.1	3.4	3.2	3.1
333 580	11.8	8.6	7.9	6.6	6.2	5.9	5.4	4.3	3.9	3.3	3.1	3.0
345 935	11.4	8.3	7.6	6.3	6.0	5.7	5.2	4.1	3.8	3.2	3.0	2.8
358 290	11.0	8.0	7.3	6.1	5.8	5.5	5.0	4.0	3.7	3.1	2.9	2.7
370 645	10.6	7.7	7.1	5.9	5.6	5.3	4.8	3.9	3.5	3.0	2.8	2.7
383 000	10.3	7.5	6.9	5.7	5.4	5.1	4.7	3.7	3.4	2.9	2.7	2.6
395 355	10.0	7.2	6.6	5.5	5.2	5.0	4.5	3.6	3.3	2.8	2.6	2.5
407 709	9.7	7.0	6.4	5.4	5.1	4.8	4.4	3.5	3.2	2.7	2.5	2.4
420 064	9.4	6.8	6.2	5.2	4.9	4.7	4.3	3.4	3.1	2.6	2.5	2.3
432 419	9.1	6.6	6.1	5.1	4.8	4.6	4.1	3.3	3.0	2.5	2.4	2.3
444 774	8.9	6.4	5.9	4.9	4.7	4.4	4.0	3.2	3.0	2.5	2.3	2.2
457 129	8.6	6.2	5.7	4.8	4.5	4.3	3.9	3.1	2.9	2.4	2.3	2.2
469 484	8.4	6.1	5.6	4.7	4.4	4.2	3.8	3.0	2.8	2.3	2.2	2.1
481 838	8.2	5.9	5.4	4.5	4.3	4.1	3.7	3.0	2.7	2.3	2.2	2.0
494 193	8.0	5.8	5.3	4.4	4.2	4.0	3.6	2.9	2.7	2.2	2.1	2.0
555 967	7.1	5.1	4.7	3.9	3.7	3.5	3.2	2.6	2.4	2.0	1.9	1.8
617 742	6.4	4.6	4.2	3.5	3.4	3.2	2.9	2.3	2.1	1.8	1.7	1.6
679 516	5.8	4.2	3.9	3.2	3.0	2.9	2.6	2.1	1.9	1.6	1.5	1.4
741 290	5.3	3.9	3.5	3.0	2.8	2.7	2.4	1.9	1.8	1.5	1.4	1.3

32321B

Meter Pressurization - Metric

Meter pressurization in U.S. customary units begins on page 10. Refer to the Operator Manual for the procedure for fine tuning meter pressurization.

Start with pressures from below and on page 12, which are based on crop, and for corn, seed shape and density.

Note: These are suggested initial (starting) pressures. Use the seed monitor console to adjust them up or down per the YP2425A Operator Manual.

Corn: Reading a Pressure Chart (below, next page)

1. Pick the chart based on seed shape (flat, round).
   Example: large round corn
2. Pick a line based on seed size (large, small).
   Example: the right line below
3. Find the seed density on the bottom scale.
   Example: 2800 seeds/kg
4. Read the suggested starting pressure on the left scale, where the line (example shown as dotted gray) intersects the density.
   Example: 3.4 inches of water

Initial seed inlet Shutter for corn is: 3

Initial Meter Pressurization: Canola, Cotton

1.5 inches of water (any seed density)
Initial seed inlet Shutter: canola (1.5), cotton (2)

Initial Meter Pressurization: Milo

1.5 inches of water (all disk, any seed density)
Initial seed inlet Shutter: 2

Initial Meter Pressurization: Soybeans

2.0 inches of water (84 cell disk, any seed density)
3.0 inches of water (168 cell disk, any seed density)
Initial seed inlet Shutter: 2

Initial Meter Pressurization: Sunflower

Disk: 817-851C SUNFLOWER OIL LARGE
18700 seeds/kg (or fewer):

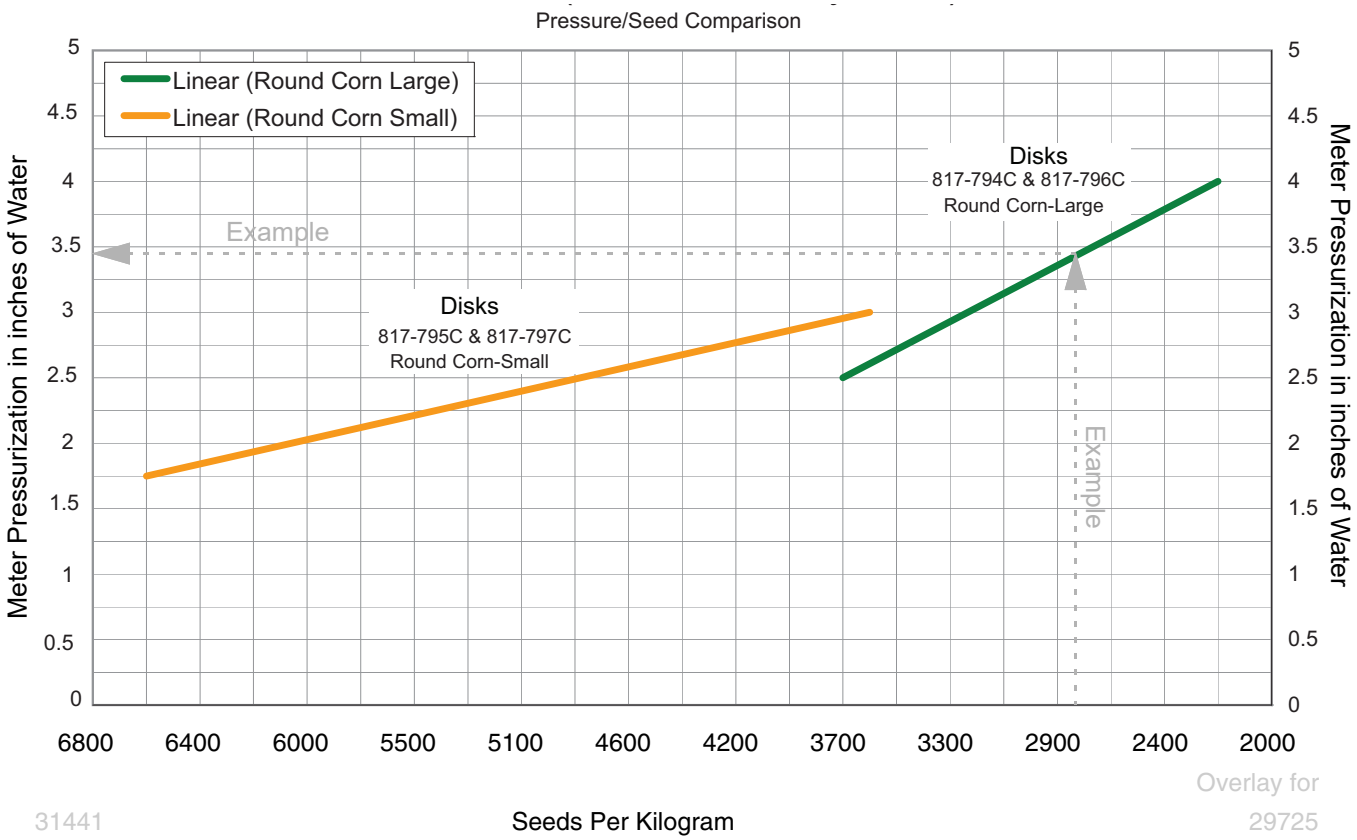
18700 - 15400 s/kg	1.25 inches of water
15400 - 12100 s/kg	1.75 inches of water
12100 s/kg and fewer	2.25 inches of water

Adjust pressure as needed for desired population.
Initial seed inlet Shutter: 2

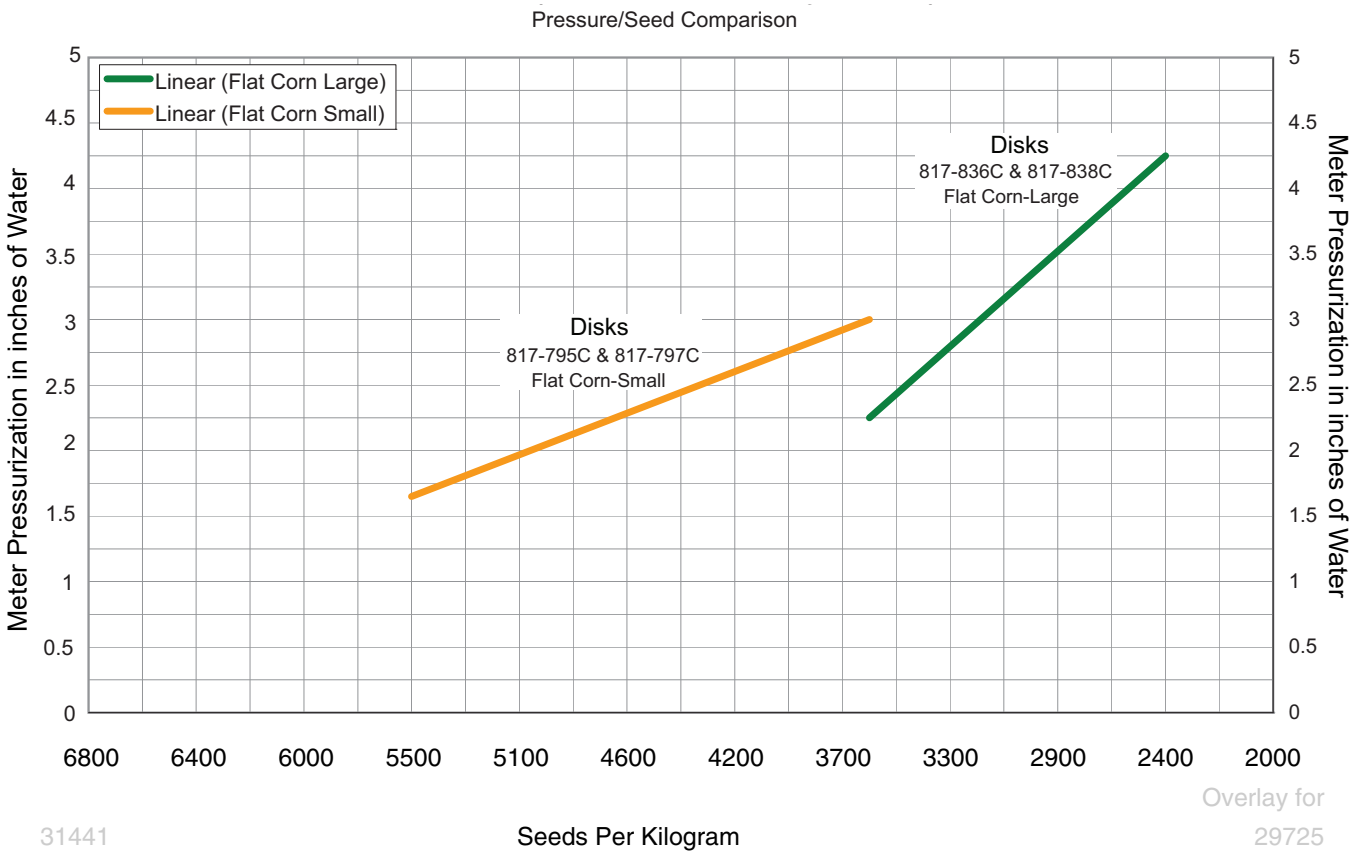
Initial Meter Pressurization: Volumetric

Refer to the charts beginning on page 58.

Initial Meter Pressurization: Round Corn



Initial Meter Pressurization: Flat Corn



Sprocket Indexing Charts - Metric

Metric Twin Row Sprocket Indexing

Note: This is NOT a seed rate chart.
This is a chart for staggering seed spacing between rows of a twin-row planter.

NOTICE

Verify sprocket tooth position with the top length of chain taut.

Air-Pro® Meter Stagger Timing Chart (metric) **Twin Row 76.2 cm (30 inch)**

Set front meter to tooth "1".
Set rear meter to indicated Initial tooth number.
Advance or Retard to adjust - see instructions in Seed Rate Manual.

		These Columns are for Fine Adjustment Only			
Population	Initial Rear	20% Rear Seed Drop Adjust		40% Rear Seed Drop Adjust	
Seeds/Ha	Tooth Number	Retard	Advance	Retard	Advance
42008	7	3	4	6	16
43243	19	10	16	13	16
44479	19	10	16	13	16
45714	3	7	19	10	16
46950	4	6	19	9	12
48185	4	1	15	17	12
49421	18	11	15	14	12
50656	8	2	15	5	8
51892	8	5	11	5	8
53127	14	15	11	18	8
54363	14	15	11	18	4
55598	12	9	7	1	4
56834	10	19	7	3	4
58070	10	19	7	3	4
59305	16	13	3	10	19
60541	6	13	3	10	19
61776	6	4	3	7	19
63012	1	17	18	14	15
64247	2	17	18	14	15
65483	2	8	18	11	15
66718	5	5	18	18	11
67954	5	2	14	18	11
69189	17	12	14	15	11
70425	9	1	14	3	7
71660	9	6	10	3	7
72896	13	16	10	19	7
74131	13	16	10	19	3
75367	13	10	6	7	3
76602	9	10	6	4	3

36076N

Metric Twin Row Sprocket Indexing (cont.)

Note: This is NOT a seed rate chart.
This is a chart for staggering seed spacing between rows of a twin-row planter.

NOTICE

Verify sprocket tooth position with the top length of chain taut.

Air-Pro® Meter Stagger Timing Chart (metric) **Twin Row 76.2 cm (30 inch)**

Set front meter to tooth "1".
Set rear meter to indicated Initial tooth number.
Advance or Retard to adjust - see instructions in Seed Rate Manual.

		These Columns are for Fine Adjustment Only			
Population Seeds/Ha	Initial Rear Tooth Number	20% Rear Seed Drop Adjust Retard	20% Rear Seed Drop Adjust Advance	40% Rear Seed Drop Adjust Retard	40% Rear Seed Drop Adjust Advance
77838	17	14	1	4	18
79073	17	14	2	11	18
80309	5	14	2	8	18
81544	5	18	5	8	14
82780	2	18	17	15	14
84015	1	18	17	12	14
85251	1	3	9	12	14
86487	6	3	9	19	10
87722	6	3	13	19	10
88958	10	7	13	16	10
90193	10	7	13	4	6
91429	10	7	9	4	6
92664	14	11	17	4	1
93900	14	11	17	8	2
95135	14	11	5	8	2
96371	18	11	2	8	5
97606	18	15	2	12	17
98842	18	15	1	12	17
100077	3	15	1	12	9
101313	3	19	6	16	9
102548	3	19	6	16	13
103784	7	19	10	16	13
105019	7	4	10	16	13
106255	7	4	10	16	9
107490	11	4	14	16	17
108726	11	8	14	16	17
109961	11	8	14	16	5
111197	15	8	18	16	2
112432	15	12	18	16	2

Metric Twin Row Sprocket Indexing (cont.)

Note: This is NOT a seed rate chart.
This is a chart for staggering seed spacing between rows of a twin-row planter.

NOTICE

Verify sprocket tooth position with the top length of chain taut.

Air-Pro® Meter Stagger Timing Chart (metric) **Twin Row 76.2 cm (30 inch)**

Set front meter to tooth “1”. Page 3 of 3
Set rear meter to indicated Initial tooth number.
Advance or Retard to adjust - see instructions in Seed Rate Manual.

		These Columns are for Fine Adjustment Only			
Population Seeds/Ha	Initial Rear Tooth Number	20% Rear Seed Drop Adjust Retard	20% Rear Seed Drop Adjust Advance	40% Rear Seed Drop Adjust Retard	40% Rear Seed Drop Adjust Advance
113668	15	12	18	16	1
114904	15	12	3	16	1
116139	19	16	3	16	6
117375	19	16	3	16	6
118610	19	16	7	16	10
119846	4	16	7	16	10
121081	4	16	7	16	10
122317	4	16	11	16	14
123552	8	16	11	16	14
124788	8	16	11	16	14
126023	8	16	15	16	18
127259	12	16	15	16	18
128494	12	16	15	16	18
129730	12	16	15	16	3
130965	16	16	19	16	3
132201	16	16	19	16	3
133436	16	16	19	16	7
134672	16	16	4	16	7
135907	16	16	4	16	7
137143	16	16	4	16	11
138378	16	16	8	16	11
139614	16	16	8	16	11
140850	16	16	8	16	15
142085	16	16	12	16	15
143321	16	16	12	16	15
144556	16	16	12	16	15
145792	16	16	16	16	19
147027	16	16	16	16	19
148263	16	16	16	16	19

360760

Furrow Check - Metric

For furrow sample lengths in U.S. customary units, see page 13.

Rows to Sample Row Spacing*	Row Count	Length of Sample 1/1000th Hectare
19.1 cm (7.5in Single)	4	13.12 m
20.3 cm (8in Single)	4	12.30 m
24.1 cm (9.5in Single)	4	10.36 m
25.4 cm (10in Single)	2	19.69 m
35 cm Single	2	14.29 m
38.1 cm (15in Single)	2	13.12 m
50.8 cm (20in Single)	1	19.69 m
55.9 cm (22in Single)	1	17.90 m
70 cm Single	1	14.29 m
75 cm Single	1	13.33 m
76.2 cm (30in Single)	1	13.12 m
91.4 cm (36in Single)	1	10.94 m
96.5 cm (38in Single)	1	10.36 m
101.6 cm (40in Single)	1	9.84 m
70 cm Twin	1 pair	7.14 m
75 cm Twin	1 pair	6.67 m
76.2 cm (30in Twin)	1 pair	6.56 m
91.4 cm (36in Twin)	1 pair	5.47 m
96.5 cm (38in Twin)	1 pair	5.18 m
101.6 cm (40in Twin)	1 pair	4.92 m

* Not all spacings may be offered on implements covered by this manual.

31982

Meter RPM Limit - Metric

Air-Pro® Meter RPM Limits
CORN
24 Cell Disk

Initial Seed Inlet Shutter Setting: 3

817-794C Round Corn Large
817-795C Round Corn Small
817-836C Flat Corn Large

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 70cm		**6.4**	**191 731**	**63 910**
35cm Rows		**7.2**	**170 428**	**56 809**
Max	Min	**8.0**	**153 385**	**51 128**
rpm	rpm	**8.9**	**139 441**	**46 480**
30	**10**	**9.7**	**127 821**	**42 607**
		10.5	**117 988**	**39 329**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		**6.4**	**120 089**	**40 030**
Max	Min	**7.2**	**106 746**	**35 582**
rpm	rpm	**8.0**	**96 071**	**32 024**
30	**10**	**8.9**	**87 337**	**29 112**
		9.7	**80 059**	**26 686**
		10.5	**73 901**	**24 634**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 76.2cm		**6.4**	**176 130**	**58 710**
38.1cm Rows		**7.2**	**156 560**	**52 187**
Max	Min	**8.0**	**140 904**	**46 968**
rpm	rpm	**8.9**	**128 095**	**42 698**
30	**10**	**9.7**	**117 420**	**39 140**
		10.5	**108 388**	**36 129**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
70cm Rows		**6.4**	**95 865**	**31 955**
Max	Min	**7.2**	**85 214**	**28 405**
rpm	rpm	**8.0**	**76 692**	**25 564**
30	**10**	**8.9**	**69 720**	**23 240**
		9.7	**63 910**	**21 303**
		10.5	**58 994**	**19 665**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 91.4cm		**6.4**	**146 775**	**48 925**
Max	Min	**7.2**	**130 467**	**43 489**
rpm	rpm	**8.0**	**117 420**	**39 140**
30	**10**	**8.9**	**106 746**	**35 582**
		9.7	**97 850**	**32 617**
		10.5	**90 323**	**30 108**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
76.2cm Rows		**6.4**	**88 065**	**29 355**
Max	Min	**7.2**	**78 280**	**26 093**
rpm	rpm	**8.0**	**70 452**	**23 484**
30	**10**	**8.9**	**64 047**	**21 349**
		9.7	**58 710**	**19 570**
		10.5	**54 194**	**18 065**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 96.5cm		**6.4**	**139 050**	**46 350**
Max	Min	**7.2**	**123 600**	**41 200**
rpm	rpm	**8.0**	**111 240**	**37 080**
30	**10**	**8.9**	**101 128**	**33 709**
		9.7	**92 700**	**30 900**
		10.5	**85 569**	**28 523**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
91.4cm Rows		**6.4**	**73 388**	**24 463**
Max	Min	**7.2**	**65 234**	**21 745**
rpm	rpm	**8.0**	**58 710**	**19 570**
30	**10**	**8.9**	**53 373**	**17 791**
		9.7	**48 925**	**16 308**
		10.5	**45 162**	**15 054**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 101.6cm		**6.4**	**132 098**	**44 033**
50.8cm Rows		**7.2**	**117 420**	**39 140**
Max	Min	**8.0**	**105 678**	**35 226**
rpm	rpm	**8.9**	**96 071**	**32 024**
30	**10**	**9.7**	**88 065**	**29 355**
		10.5	**81 291**	**27 097**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
96.5cm Rows		**6.4**	**69 525**	**23 175**
Max	Min	**7.2**	**61 800**	**20 600**
rpm	rpm	**8.0**	**55 620**	**18 540**
30	**10**	**8.9**	**50 564**	**16 855**
		9.7	**46 350**	**15 450**
		10.5	**42 785**	**14 262**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
101.6cm Rows		**6.4**	**66 049**	**22 016**
Max	Min	**7.2**	**58 710**	**19 570**
rpm	rpm	**8.0**	**52 839**	**17 613**
30	**10**	**8.9**	**48 036**	**16 012**
		9.7	**44 033**	**14 678**
		10.5	**40 645**	**13 548**

29662A

Air-Pro® Meter RPM Limits

CORN

40 Cell Disk

Initial Seed Inlet Shutter Setting: 3

817-796C Round Corn Large
817-797C Round Corn Small
817-838C Flat Corn Large

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 70cm		**6.4**	**319 552**	**106 517**
35cm Rows		**7.2**	**284 046**	**94 682**
Max	Min	**8.0**	**255 641**	**85 214**
rpm	rpm	**8.9**	**232 401**	**77 467**
30	**10**	**9.7**	**213 034**	**71 011**
		10.5	**196 647**	**65 549**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		**6.4**	**200 148**	**66 716**
Max	Min	**7.2**	**177 910**	**59 303**
rpm	rpm	**8.0**	**160 119**	**53 373**
30	**10**	**8.9**	**145 562**	**48 521**
		9.7	**133 432**	**44 477**
		10.5	**123 168**	**41 056**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 76.2cm		**6.4**	**293 551**	**97 850**
38.1cm Rows		**7.2**	**260 934**	**86 978**
Max	Min	**8.0**	**234 841**	**78 280**
rpm	rpm	**8.9**	**213 491**	**71 164**
30	**10**	**9.7**	**195 701**	**65 234**
		10.5	**180 647**	**60 216**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
70cm Rows		**6.4**	**159 776**	**53 259**
Max	Min	**7.2**	**142 023**	**47 341**
rpm	rpm	**8.0**	**127 821**	**42 607**
30	**10**	**8.9**	**116 201**	**38 734**
		9.7	**106 517**	**35 506**
		10.5	**98 324**	**32 775**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 91.4cm		**6.4**	**244 626**	**81 542**
Max	Min	**7.2**	**217 445**	**72 482**
rpm	rpm	**8.0**	**195 701**	**65 234**
30	**10**	**8.9**	**177 910**	**59 303**
		9.7	**163 084**	**54 361**
		10.5	**150 539**	**50 180**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
76.2cm Rows		**6.4**	**146 775**	**48 925**
Max	Min	**7.2**	**130 467**	**43 489**
rpm	rpm	**8.0**	**117 420**	**39 140**
30	**10**	**8.9**	**106 746**	**35 582**
		9.7	**97 850**	**32 617**
		10.5	**90 323**	**30 108**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 96.5cm		**6.4**	**231 751**	**77 250**
Max	Min	**7.2**	**206 001**	**68 667**
rpm	rpm	**8.0**	**185 400**	**61 800**
30	**10**	**8.9**	**168 546**	**56 182**
		9.7	**154 500**	**51 500**
		10.5	**142 616**	**47 539**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
91.4cm Rows		**6.4**	**122 313**	**40 771**
Max	Min	**7.2**	**108 723**	**36 241**
rpm	rpm	**8.0**	**97 850**	**32 617**
30	**10**	**8.9**	**88 955**	**29 652**
		9.7	**81 542**	**27 181**
		10.5	**75 269**	**25 090**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 101.6cm		**6.4**	**220 163**	**73 388**
50.8cm Rows		**7.2**	**195 701**	**65 234**
Max	Min	**8.0**	**176 130**	**58 710**
rpm	rpm	**8.9**	**160 119**	**53 373**
30	**10**	**9.7**	**146 775**	**48 925**
		10.5	**135 485**	**45 162**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
96.5cm Rows		**6.4**	**115 875**	**38 625**
Max	Min	**7.2**	**103 000**	**34 333**
rpm	rpm	**8.0**	**92 700**	**30 900**
30	**10**	**8.9**	**84 273**	**28 091**
		9.7	**77 250**	**25 750**
		10.5	**71 308**	**23 769**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
101.6cm Rows		**6.4**	**110 082**	**36 694**
Max	Min	**7.2**	**97 850**	**32 617**
rpm	rpm	**8.0**	**88 065**	**29 355**
30	**10**	**8.9**	**80 059**	**26 686**
		9.7	**73 388**	**24 463**
		10.5	**67 742**	**22 581**

29662B

Air-Pro® Meter RPM Limits

COTTON

60 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-857C Cotton

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 70cm		**6.4**	**511 283**	**79 888**
35cm Rows		**7.2**	**454 473**	**71 011**
Max	Min	**8.0**	**409 026**	**63 910**
rpm	rpm	**8.9**	**371 842**	**58 100**
32	**5**	**9.7**	**340 855**	**53 259**
		10.5	**314 635**	**49 162**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		**6.4**	**320 237**	**50 037**
Max	Min	**7.2**	**284 655**	**44 477**
rpm	rpm	**8.0**	**256 190**	**40 030**
32	**5**	**8.9**	**232 900**	**36 391**
		9.7	**213 491**	**33 358**
		10.5	**197 069**	**30 792**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 76.2cm		**6.4**	**469 681**	**73 388**
38.1cm Rows		**7.2**	**417 494**	**65 234**
Max	Min	**8.0**	**375 745**	**58 710**
rpm	rpm	**8.9**	**341 586**	**53 373**
32	**5**	**9.7**	**313 121**	**48 925**
		10.5	**289 035**	**45 162**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
70cm Rows		**6.4**	**255 641**	**39 944**
Max	Min	**7.2**	**227 237**	**35 506**
rpm	rpm	**8.0**	**204 513**	**31 955**
32	**5**	**8.9**	**185 921**	**29 050**
		9.7	**170 428**	**26 629**
		10.5	**157 318**	**24 581**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 91.4cm		**6.4**	**391 401**	**61 156**
Max	Min	**7.2**	**347 912**	**54 361**
rpm	rpm	**8.0**	**313 121**	**48 925**
32	**5**	**8.9**	**284 655**	**44 477**
		9.7	**260 934**	**40 771**
		10.5	**240 862**	**37 635**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
76.2cm Rows		**6.4**	**234 841**	**36 694**
Max	Min	**7.2**	**208 747**	**32 617**
rpm	rpm	**8.0**	**187 872**	**29 355**
32	**5**	**8.9**	**170 793**	**26 686**
		9.7	**156 560**	**24 463**
		10.5	**144 517**	**22 581**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 96.5cm		**6.4**	**370 801**	**57 938**
Max	Min	**7.2**	**329 601**	**51 500**
rpm	rpm	**8.0**	**296 641**	**46 350**
32	**5**	**8.9**	**269 673**	**42 136**
		9.7	**247 201**	**38 625**
		10.5	**228 185**	**35 654**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
91.4cm Rows		**6.4**	**195 701**	**30 578**
Max	Min	**7.2**	**173 956**	**27 181**
rpm	rpm	**8.0**	**156 560**	**24 463**
32	**5**	**8.9**	**142 328**	**22 239**
		9.7	**130 467**	**20 385**
		10.5	**120 431**	**18 817**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 101.6cm		**6.4**	**352 261**	**55 041**
50.8cm Rows		**7.2**	**313 121**	**48 925**
Max	Min	**8.0**	**281 809**	**44 033**
rpm	rpm	**8.9**	**256 190**	**40 030**
32	**5**	**9.7**	**234 841**	**36 694**
		10.5	**216 776**	**33 871**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
96.5cm Rows		**6.4**	**185 400**	**28 969**
Max	Min	**7.2**	**164 800**	**25 750**
rpm	rpm	**8.0**	**148 320**	**23 175**
32	**5**	**8.9**	**134 837**	**21 068**
		9.7	**123 600**	**19 313**
		10.5	**114 093**	**17 827**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
101.6cm Rows		**6.4**	**176 130**	**27 520**
Max	Min	**7.2**	**156 560**	**24 463**
rpm	rpm	**8.0**	**140 904**	**22 016**
32	**5**	**8.9**	**128 095**	**20 015**
		9.7	**117 420**	**18 347**
		10.5	**108 388**	**16 936**

29662C

Air-Pro® Meter RPM Limits

MILO

30 Cell Disk

Initial Seed Inlet Shutter Setting: 2

837-057C Milo

		Planting Speed (km/h)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
25.4cm Rows		**6.4**	**330 245**	**55 041**
Max	Min	**7.2**	**293 551**	**48 925**
rpm	rpm	**8.0**	**264 196**	**44 033**
30	**5**	**8.9**	**240 178**	**40 030**
		9.7	**220 163**	**36 694**
		10.5	**203 227**	**33 871**
Twin Row 70cm		**6.4**	**239 664**	**39 944**
35cm Rows		**7.2**	**213 034**	**35 506**
Max	Min	**8.0**	**191 731**	**31 955**
rpm	rpm	**8.9**	**174 301**	**29 050**
30	**5**	**9.7**	**159 776**	**26 629**
		10.5	**147 485**	**24 581**
Twin Row 76.2cm		**6.4**	**220 163**	**36 694**
38.1cm Rows		**7.2**	**195 701**	**32 617**
Max	Min	**8.0**	**176 130**	**29 355**
rpm	rpm	**8.9**	**160 119**	**26 686**
30	**5**	**9.7**	**146 775**	**24 463**
		10.5	**135 485**	**22 581**
Twin Row 91.4cm		**6.4**	**183 469**	**30 578**
Max	Min	**7.2**	**163 084**	**27 181**
rpm	rpm	**8.0**	**146 775**	**24 463**
30	**5**	**8.9**	**133 432**	**22 239**
		9.7	**122 313**	**20 385**
		10.5	**112 904**	**18 817**
Twin Row 96.5cm		**6.4**	**173 813**	**28 969**
Max	Min	**7.2**	**154 500**	**25 750**
rpm	rpm	**8.0**	**139 050**	**23 175**
30	**5**	**8.9**	**126 409**	**21 068**
		9.7	**115 875**	**19 313**
		10.5	**106 962**	**17 827**
Twin Row 101.6cm		**6.4**	**165 122**	**27 520**
50.8cm Rows		**7.2**	**146 775**	**24 463**
Max	Min	**8.0**	**132 098**	**22 016**
rpm	rpm	**8.9**	**120 089**	**20 015**
30	**5**	**9.7**	**110 082**	**18 347**
		10.5	**101 614**	**16 936**

		Planting Speed (km/h)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		**6.4**	**150 111**	**25 019**
Max	Min	**7.2**	**133 432**	**22 239**
rpm	rpm	**8.0**	**120 089**	**20 015**
30	**5**	**8.9**	**109 172**	**18 195**
		9.7	**100 074**	**16 679**
		10.5	**92 376**	**15 396**
70cm Rows		**6.4**	**119 832**	**19 972**
Max	Min	**7.2**	**106 517**	**17 753**
rpm	rpm	**8.0**	**95 865**	**15 978**
30	**5**	**8.9**	**87 150**	**14 525**
		9.7	**79 888**	**13 315**
		10.5	**73 743**	**12 290**
76.2cm Rows		**6.4**	**110 082**	**18 347**
Max	Min	**7.2**	**97 850**	**16 308**
rpm	rpm	**8.0**	**88 065**	**14 678**
30	**5**	**8.9**	**80 059**	**13 343**
		9.7	**73 388**	**12 231**
		10.5	**67 742**	**11 290**
91.4cm Rows		**6.4**	**91 735**	**15 289**
Max	Min	**7.2**	**81 542**	**13 590**
rpm	rpm	**8.0**	**73 388**	**12 231**
30	**5**	**8.9**	**66 716**	**11 119**
		9.7	**61 156**	**10 193**
		10.5	**56 452**	**9 409**
96.5cm Rows		**6.4**	**86 906**	**14 484**
Max	Min	**7.2**	**77 250**	**12 875**
rpm	rpm	**8.0**	**69 525**	**11 588**
30	**5**	**8.9**	**63 205**	**10 534**
		9.7	**57 938**	**9 656**
		10.5	**53 481**	**8 913**
101.6cm Rows		**6.4**	**82 561**	**13 760**
Max	Min	**7.2**	**73 388**	**12 231**
rpm	rpm	**8.0**	**66 049**	**11 008**
30	**5**	**8.9**	**60 044**	**10 007**
		9.7	**55 041**	**9 173**
		10.5	**50 807**	**8 468**

36426S

Air-Pro® Meter RPM Limits
MILO
65 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-849C Milo

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
25.4cm Rows		**6.4**	**715 530**	**119 255**
Max	Min	**7.2**	**636 027**	**106 004**
rpm	rpm	**8.0**	**572 424**	**95 404**
30	**5**	**8.9**	**520 385**	**86 731**
		9.7	**477 020**	**79 503**
		10.5	**440 326**	**73 388**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		**6.4**	**325 241**	**54 207**
Max	Min	**7.2**	**289 103**	**48 184**
rpm	rpm	**8.0**	**260 193**	**43 365**
30	**5**	**8.9**	**236 539**	**39 423**
		9.7	**216 827**	**36 138**
		10.5	**200 148**	**33 358**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 70cm		**6.4**	**519 271**	**86 545**
35cm Rows		**7.2**	**461 575**	**76 929**
Max	Min	**8.0**	**415 417**	**69 236**
rpm	rpm	**8.9**	**377 652**	**62 942**
30	**5**	**9.7**	**346 181**	**57 697**
		10.5	**319 552**	**53 259**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
70cm Rows		**6.4**	**259 636**	**43 273**
Max	Min	**7.2**	**230 787**	**38 465**
rpm	rpm	**8.0**	**207 709**	**34 618**
30	**5**	**8.9**	**188 826**	**31 471**
		9.7	**173 090**	**28 848**
		10.5	**159 776**	**26 629**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 76.2cm		**6.4**	**477 020**	**79 503**
38.1cm Rows		**7.2**	**424 018**	**70 670**
Max	Min	**8.0**	**381 616**	**63 603**
rpm	rpm	**8.9**	**346 924**	**57 821**
30	**5**	**9.7**	**318 013**	**53 002**
		10.5	**293 551**	**48 925**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
76.2cm Rows		**6.4**	**238 510**	**39 752**
Max	Min	**7.2**	**212 009**	**35 335**
rpm	rpm	**8.0**	**190 808**	**31 801**
30	**5**	**8.9**	**173 462**	**28 910**
		9.7	**159 007**	**26 501**
		10.5	**146 775**	**24 463**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 91.4cm		**6.4**	**397 517**	**66 253**
Max	Min	**7.2**	**353 348**	**58 891**
rpm	rpm	**8.0**	**318 013**	**53 002**
30	**5**	**8.9**	**289 103**	**48 184**
		9.7	**265 011**	**44 169**
		10.5	**244 626**	**40 771**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
91.4cm Rows		**6.4**	**198 758**	**33 126**
Max	Min	**7.2**	**176 674**	**29 446**
rpm	rpm	**8.0**	**159 007**	**26 501**
30	**5**	**8.9**	**144 552**	**24 092**
		9.7	**132 506**	**22 084**
		10.5	**122 313**	**20 385**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 96.5cm		**6.4**	**376 595**	**62 766**
Max	Min	**7.2**	**334 751**	**55 792**
rpm	rpm	**8.0**	**301 276**	**50 213**
30	**5**	**8.9**	**273 887**	**45 648**
		9.7	**251 063**	**41 844**
		10.5	**231 751**	**38 625**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
96.5cm Rows		**6.4**	**188 297**	**31 383**
Max	Min	**7.2**	**167 375**	**27 896**
rpm	rpm	**8.0**	**150 638**	**25 106**
30	**5**	**8.9**	**136 944**	**22 824**
		9.7	**125 532**	**20 922**
		10.5	**115 875**	**19 313**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 101.6cm		**6.4**	**357 765**	**59 628**
50.8cm Rows		**7.2**	**318 013**	**53 002**
Max	Min	**8.0**	**286 212**	**47 702**
rpm	rpm	**8.9**	**260 193**	**43 365**
30	**5**	**9.7**	**238 510**	**39 752**
		10.5	**220 163**	**36 694**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
101.6cm Rows		**6.4**	**178 883**	**29 814**
Max	Min	**7.2**	**159 007**	**26 501**
rpm	rpm	**8.0**	**143 106**	**23 851**
30	**5**	**8.9**	**130 096**	**21 683**
		9.7	**119 255**	**19 876**
		10.5	**110 082**	**18 347**

29662D

Air-Pro® Meter RPM Limits

MILO

130 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-800C Milo

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
25.4cm Rows		**6.4**	**1 431 060**	**238 510**
Max	Min	**7.2**	**1 272 053**	**212 009**
rpm	rpm	**8.0**	**1 144 848**	**190 808**
30	**5**	**8.9**	**1 040 771**	**173 462**
		9.7	**954 040**	**159 007**
		10.5	**880 652**	**146 775**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		**6.4**	**650 482**	**108 414**
Max	Min	**7.2**	**578 206**	**96 368**
rpm	rpm	**8.0**	**520 385**	**86 731**
30	**5**	**8.9**	**473 078**	**78 846**
		9.7	**433 655**	**72 276**
		10.5	**400 297**	**66 716**

Twin Row 70cm		**6.4**	**1 038 543**	**173 090**
35cm Rows		**7.2**	**923 149**	**153 858**
Max	Min	**8.0**	**830 834**	**138 472**
rpm	rpm	**8.9**	**755 304**	**125 884**
30	**5**	**9.7**	**692 362**	**115 394**
		10.5	**639 103**	**106 517**

70cm Rows		**6.4**	**519 271**	**86 545**
Max	Min	**7.2**	**461 575**	**76 929**
rpm	rpm	**8.0**	**415 417**	**69 236**
30	**5**	**8.9**	**377 652**	**62 942**
		9.7	**346 181**	**57 697**
		10.5	**319 552**	**53 259**

Twin Row 76.2cm		**6.4**	**954 040**	**159 007**
38.1cm Rows		**7.2**	**848 036**	**141 339**
Max	Min	**8.0**	**763 232**	**127 205**
rpm	rpm	**8.9**	**693 847**	**115 641**
30	**5**	**9.7**	**636 027**	**106 004**
		10.5	**587 102**	**97 850**

76.2cm Rows		**6.4**	**477 020**	**79 503**
Max	Min	**7.2**	**424 018**	**70 670**
rpm	rpm	**8.0**	**381 616**	**63 603**
30	**5**	**8.9**	**346 924**	**57 821**
		9.7	**318 013**	**53 002**
		10.5	**293 551**	**48 925**

Twin Row 91.4cm		**6.4**	**795 033**	**132 506**
Max	Min	**7.2**	**706 696**	**117 783**
rpm	rpm	**8.0**	**636 027**	**106 004**
30	**5**	**8.9**	**578 206**	**96 368**
		9.7	**530 022**	**88 337**
		10.5	**489 251**	**81 542**

91.4cm Rows		**6.4**	**397 517**	**66 253**
Max	Min	**7.2**	**353 348**	**58 891**
rpm	rpm	**8.0**	**318 013**	**53 002**
30	**5**	**8.9**	**289 103**	**48 184**
		9.7	**265 011**	**44 169**
		10.5	**244 626**	**40 771**

Twin Row 96.5cm		**6.4**	**753 189**	**125 532**
Max	Min	**7.2**	**669 502**	**111 584**
rpm	rpm	**8.0**	**602 552**	**100 425**
30	**5**	**8.9**	**547 774**	**91 296**
		9.7	**502 126**	**83 688**
		10.5	**463 501**	**77 250**

96.5cm Rows		**6.4**	**376 595**	**62 766**
Max	Min	**7.2**	**334 751**	**55 792**
rpm	rpm	**8.0**	**301 276**	**50 213**
30	**5**	**8.9**	**273 887**	**45 648**
		9.7	**251 063**	**41 844**
		10.5	**231 751**	**38 625**

Twin Row 101.6cm		**6.4**	**715 530**	**119 255**
50.8cm Rows		**7.2**	**636 027**	**106 004**
Max	Min	**8.0**	**572 424**	**95 404**
rpm	rpm	**8.9**	**520 385**	**86 731**
30	**5**	**9.7**	**477 020**	**79 503**
		10.5	**440 326**	**73 388**

101.6cm Rows		**6.4**	**357 765**	**59 628**
Max	Min	**7.2**	**318 013**	**53 002**
rpm	rpm	**8.0**	**286 212**	**47 702**
30	**5**	**8.9**	**260 193**	**43 365**
		9.7	**238 510**	**39 752**
		10.5	**220 163**	**36 694**

29662E

Air-Pro® Meter RPM Limits

SOYBEAN

84 Cell Disk

Initial Seed Inlet Shutter Setting: 2

817-798C Soybean

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
25.4cm Rows		**6.4**	**1 140 445**	**154 114**
Max	Min	**7.2**	**1 013 729**	**136 990**
rpm	rpm	**8.0**	**912 356**	**123 291**
37	**5**	**8.9**	**829 414**	**112 083**
		9.7	**760 297**	**102 743**
		10.5	**701 812**	**94 839**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		**6.4**	**518 384**	**70 052**
Max	Min	**7.2**	**460 786**	**62 268**
rpm	rpm	**8.0**	**414 707**	**56 042**
37	**5**	**8.9**	**377 007**	**50 947**
		9.7	**345 589**	**46 701**
		10.5	**319 006**	**43 109**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 70cm		**6.4**	**827 639**	**111 843**
35cm Rows		**7.2**	**735 679**	**99 416**
Max	Min	**8.0**	**662 111**	**89 474**
rpm	rpm	**8.9**	**601 919**	**81 340**
37	**5**	**9.7**	**551 759**	**74 562**
		10.5	**509 316**	**68 827**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
70cm Rows		**6.4**	**413 819**	**55 922**
Max	Min	**7.2**	**367 839**	**49 708**
rpm	rpm	**8.0**	**331 055**	**44 737**
37	**5**	**8.9**	**300 960**	**40 670**
		9.7	**275 880**	**37 281**
		10.5	**254 658**	**34 413**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 76.2cm		**6.4**	**760 297**	**102 743**
38.1cm Rows		**7.2**	**675 819**	**91 327**
Max	Min	**8.0**	**608 237**	**82 194**
rpm	rpm	**8.9**	**552 943**	**74 722**
37	**5**	**9.7**	**506 864**	**68 495**
		10.5	**467 875**	**63 226**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
76.2cm Rows		**6.4**	**380 148**	**51 371**
Max	Min	**7.2**	**337 910**	**45 663**
rpm	rpm	**8.0**	**304 119**	**41 097**
37	**5**	**8.9**	**276 471**	**37 361**
		9.7	**253 432**	**34 248**
		10.5	**233 937**	**31 613**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 91.4cm		**6.4**	**633 580**	**85 619**
Max	Min	**7.2**	**563 183**	**76 106**
rpm	rpm	**8.0**	**506 864**	**68 495**
37	**5**	**8.9**	**460 786**	**62 268**
		9.7	**422 387**	**57 079**
		10.5	**389 896**	**52 689**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
91.4cm Rows		**6.4**	**316 790**	**42 809**
Max	Min	**7.2**	**281 591**	**38 053**
rpm	rpm	**8.0**	**253 432**	**34 248**
37	**5**	**8.9**	**230 393**	**31 134**
		9.7	**211 193**	**28 540**
		10.5	**194 948**	**26 344**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 96.5cm		**6.4**	**600 234**	**81 113**
Max	Min	**7.2**	**533 541**	**72 100**
rpm	rpm	**8.0**	**480 187**	**64 890**
37	**5**	**8.9**	**436 534**	**58 991**
		9.7	**400 156**	**54 075**
		10.5	**369 375**	**49 916**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
96.5cm Rows		**6.4**	**300 117**	**40 556**
Max	Min	**7.2**	**266 771**	**36 050**
rpm	rpm	**8.0**	**240 094**	**32 445**
37	**5**	**8.9**	**218 267**	**29 496**
		9.7	**200 078**	**27 038**
		10.5	**184 687**	**24 958**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
Twin Row 101.6cm		**6.4**	**570 222**	**77 057**
50.8cm Rows		**7.2**	**506 864**	**68 495**
Max	Min	**8.0**	**456 178**	**61 646**
rpm	rpm	**8.9**	**414 707**	**56 042**
37	**5**	**9.7**	**380 148**	**51 371**
		10.5	**350 906**	**47 420**

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
101.6cm Rows		**6.4**	**285 111**	**38 529**
Max	Min	**7.2**	**253 432**	**34 248**
rpm	rpm	**8.0**	**228 089**	**30 823**
37	**5**	**8.9**	**207 354**	**28 021**
		9.7	**190 074**	**25 686**
		10.5	**175 453**	**23 710**

29662F

Air-Pro® Meter RPM Limits
SOYBEAN
168 Cell Disk

Initial Seed Inlet Shutter Setting: 2

403-551D Soybean

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
25.4cm Rows		6.4	2 280 890	308 228
Max	Min	7.2	2 027 457	273 981
rpm	rpm	8.0	1 824 712	246 583
37	5	8.9	1 658 829	224 166
		9.7	1 520 593	205 486
		10.5	1 403 624	189 679

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		6.4	1 036 768	140 104
Max	Min	7.2	921 572	124 537
rpm	rpm	8.0	829 414	112 083
37	5	8.9	754 013	101 894
		9.7	691 179	93 403
		10.5	638 011	86 218

Twin Row 70cm		6.4	1 655 277	223 686
35cm Rows		7.2	1 471 358	198 832
Max	Min	8.0	1 324 222	178 949
rpm	rpm	8.9	1 203 838	162 681
37	5	9.7	1 103 518	149 124
		10.5	1 018 632	137 653

70cm Rows		6.4	827 639	111 843
Max	Min	7.2	735 679	99 416
rpm	rpm	8.0	662 111	89 474
37	5	8.9	601 919	81 340
		9.7	551 759	74 562
		10.5	509 316	68 827

Twin Row 76.2cm		6.4	1 520 593	205 486
38.1cm Rows		7.2	1 351 638	182 654
Max	Min	8.0	1 216 474	164 388
rpm	rpm	8.9	1 105 886	149 444
37	5	9.7	1 013 729	136 990
		10.5	935 750	126 453

76.2cm Rows		6.4	760 297	102 743
Max	Min	7.2	675 819	91 327
rpm	rpm	8.0	608 237	82 194
37	5	8.9	552 943	74 722
		9.7	506 864	68 495
		10.5	467 875	63 226

Twin Row 91.4cm		6.4	1 267 161	171 238
Max	Min	7.2	1 126 365	152 212
rpm	rpm	8.0	1 013 729	136 990
37	5	8.9	921 572	124 537
		9.7	844 774	114 159
		10.5	779 791	105 377

91.4cm Rows		6.4	633 580	85 619
Max	Min	7.2	563 183	76 106
rpm	rpm	8.0	506 864	68 495
37	5	8.9	460 786	62 268
		9.7	422 387	57 079
		10.5	389 896	52 689

Twin Row 96.5cm		6.4	1 200 468	162 225
Max	Min	7.2	1 067 083	144 200
rpm	rpm	8.0	960 375	129 780
37	5	8.9	873 068	117 982
		9.7	800 312	108 150
		10.5	738 750	99 831

96.5cm Rows		6.4	600 234	81 113
Max	Min	7.2	533 541	72 100
rpm	rpm	8.0	480 187	64 890
37	5	8.9	436 534	58 991
		9.7	400 156	54 075
		10.5	369 375	49 916

Twin Row 101.6cm		6.4	1 140 445	154 114
50.8cm Rows		7.2	1 013 729	136 990
Max	Min	8.0	912 356	123 291
rpm	rpm	8.9	829 414	112 083
37	5	9.7	760 297	102 743
		10.5	701 812	94 839

101.6cm Rows		6.4	570 222	77 057
Max	Min	7.2	506 864	68 495
rpm	rpm	8.0	456 178	61 646
37	5	8.9	414 707	56 042
		9.7	380 148	51 371
		10.5	350 906	47 420

29662G

Air-Pro® Meter RPM Limits
SOYBEAN
168 Cell Disk

Initial Seed Inlet Shutter Setting: 2

403-551D Soybean

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
25.4cm Rows		6.4	2 280 890	308 228
Max	Min	7.2	2 027 457	273 981
rpm	rpm	8.0	1 824 712	246 583
37	5	8.9	1 658 829	224 166
		9.7	1 520 593	205 486
		10.5	1 403 624	189 679

		Planting Speed (kph)	Maximum Population (seeds/ha)	Minimum Population (seeds/ha)
55.9cm Rows		6.4	1 036 768	140 104
Max	Min	7.2	921 572	124 537
rpm	rpm	8.0	829 414	112 083
37	5	8.9	754 013	101 894
		9.7	691 179	93 403
		10.5	638 011	86 218

Twin Row 70cm		6.4	1 655 277	223 686
35cm Rows		7.2	1 471 358	198 832
Max	Min	8.0	1 324 222	178 949
rpm	rpm	8.9	1 203 838	162 681
37	5	9.7	1 103 518	149 124
		10.5	1 018 632	137 653

70cm Rows		6.4	827 639	111 843
Max	Min	7.2	735 679	99 416
rpm	rpm	8.0	662 111	89 474
37	5	8.9	601 919	81 340
		9.7	551 759	74 562
		10.5	509 316	68 827

Twin Row 76.2cm		6.4	1 520 593	205 486
38.1cm Rows		7.2	1 351 638	182 654
Max	Min	8.0	1 216 474	164 388
rpm	rpm	8.9	1 105 886	149 444
37	5	9.7	1 013 729	136 990
		10.5	935 750	126 453

76.2cm Rows		6.4	760 297	102 743
Max	Min	7.2	675 819	91 327
rpm	rpm	8.0	608 237	82 194
37	5	8.9	552 943	74 722
		9.7	506 864	68 495
		10.5	467 875	63 226

Twin Row 91.4cm		6.4	1 267 161	171 238
Max	Min	7.2	1 126 365	152 212
rpm	rpm	8.0	1 013 729	136 990
37	5	8.9	921 572	124 537
		9.7	844 774	114 159
		10.5	779 791	105 377

91.4cm Rows		6.4	633 580	85 619
Max	Min	7.2	563 183	76 106
rpm	rpm	8.0	506 864	68 495
37	5	8.9	460 786	62 268
		9.7	422 387	57 079
		10.5	389 896	52 689

Twin Row 96.5cm		6.4	1 200 468	162 225
Max	Min	7.2	1 067 083	144 200
rpm	rpm	8.0	960 375	129 780
37	5	8.9	873 068	117 982
		9.7	800 312	108 150
		10.5	738 750	99 831

96.5cm Rows		6.4	600 234	81 113
Max	Min	7.2	533 541	72 100
rpm	rpm	8.0	480 187	64 890
37	5	8.9	436 534	58 991
		9.7	400 156	54 075
		10.5	369 375	49 916

Twin Row 101.6cm		6.4	1 140 445	154 114
50.8cm Rows		7.2	1 013 729	136 990
Max	Min	8.0	912 356	123 291
rpm	rpm	8.9	829 414	112 083
37	5	9.7	760 297	102 743
		10.5	701 812	94 839

101.6cm Rows		6.4	570 222	77 057
Max	Min	7.2	506 864	68 495
rpm	rpm	8.0	456 178	61 646
37	5	8.9	414 707	56 042
		9.7	380 148	51 371
		10.5	350 906	47 420

29662G

Air-Pro® Meter RPM Limits
CANOLA
250 Cell Disk

Seed Inlet Shutter Setting: 1.5

817-991C CANOLA 250 Cell

Meter Pressure: 1.5 inch of water

Max. rpm	Min rpm		Planting Speed (mph)	Maximum Population per Acre	Minimum Population per Acre
25	5	10 in. Rows	4	928 125	185 625
			4.5	825 000	165 000
			5	742 500	148 500
			5.5	675 000	135 000
			6	618 750	123 750
25	5	Twin Row 30 in. 15 in. Rows	4	618 750	123 750
			4.5	550 000	110 000
			5	495 000	99 000
			5.5	450 000	90 000
			6	412 500	82 500
25	5	Twin Row 36 in.	4	515 625	103 125
			4.5	458 333	91 667
			5	412 500	82 500
			5.5	375 000	75 000
			6	343 750	68 750
25	5	20 in. Rows	4	464 063	92 813
			4.5	412 500	82 500
			5	371 250	74 250
			5.5	337 500	67 500
			6	309 375	61 875
25	5	22 in. Rows	4	421 875	84 375
			4.5	375 000	75 000
			5	337 500	67 500
			5.5	306 818	61 364
			6	281 250	56 250
25	5	30 in. Rows	4	309 375	61 875
			4.5	275 000	55 000
			5	247 500	49 500
			5.5	225 000	45 000
			6	206 250	41 250

36049J

Volumetric - Metric Charts

Volumetric Furrow Checking Rate - Metric

a. Configure the planter for the approximate rate, based on the charts.

b. Set the meter pressure to the chart value.

c. Prime the meters. See your planter Operator manual for the steps.

d. Plant for a short distance, just until the air delivery system is stabilized, and the meters are all delivering seed.

e. Select one or more rows to sample.

For volumetric operating instructions see “**Volumetric Seeding**” on page 44.

f. Set the planting depth to shallow for the sample row(s). Set the press wheels to minimum force. Use a wire to tie up the press wheel assembly.

g. Resume planting for a short distance.

h. Use a sampled row length[a] of one meter. Count the seeds.

i. Find the nearest “Seeds per Row Meter” in the table for your row spacing.

j. Look up the Population, or “Kilograms per hectare”.

Row Spacing Centimeters	Seeds per Row Meter	Population Seeds/Hectare	*Kilograms per Hectare*		
			at 27560 s/kg	*at 33070 s/kg*	*at 38580 s/kg*
24.1 cm Rows	**149**	**6 177 500**	*224*	*187*	*160*
	134	**5 559 750**	*202*	*168*	*144*
	119	**4 942 000**	*179*	*149*	*128*
	104	**4 324 250**	*157*	*131*	*112*
	89	**3 706 500**	*135*	*112*	*96*
	75	**3 088 750**	*112*	*93*	*80*
	60	**2 471 000**	*90*	*75*	*64*
	45	**1 853 250**	*67*	*56*	*48*
25.4 cm Rows	**157**	**6 177 500**	*224*	*187*	*160*
	141	**5 559 750**	*202*	*168*	*144*
	126	**4 942 000**	*179*	*149*	*128*
	110	**4 324 250**	*157*	*131*	*112*
	94	**3 706 500**	*135*	*112*	*96*
	78	**3 088 750**	*112*	*93*	*80*
	63	**2 471 000**	*90*	*75*	*64*
	47	**1 853 250**	*67*	*56*	*48*
One Row of Twin Row 70 cm or 35 cm Rows	**216**	**6 177 500**	*224*	*187*	*160*
	195	**5 559 750**	*202*	*168*	*144*
	173	**4 942 000**	*179*	*149*	*128*
	151	**4 324 250**	*157*	*131*	*112*
	130	**3 706 500**	*135*	*112*	*96*
	108	**3 088 750**	*112*	*93*	*80*
	86	**2 471 000**	*90*	*75*	*64*
	65	**1 853 250**	*67*	*56*	*48*
One Row of Twin Row 76.2 cm or 38.1 cm Rows	**235**	**6 177 500**	*224*	*187*	*160*
	212	**5 559 750**	*202*	*168*	*144*
	188	**4 942 000**	*179*	*149*	*128*
	165	**4 324 250**	*157*	*131*	*112*
	141	**3 706 500**	*135*	*112*	*96*
	118	**3 088 750**	*112*	*93*	*80*
	94	**2 471 000**	*90*	*75*	*64*
	71	**1 853 250**	*67*	*56*	*48*

32325B

a. You can interpolate rows for more precise rate results. Doubling or tripling the sample length improves accuracy.

Volumetric Meter RPM Limits - Metric

Air-Pro® Meter RPM Limits
WHEAT
84 Cell Disk

817-867C VOLUMETRIC No.1

Seed Inlet Shutter Setting: 2

(Hard Red Winter)

seeds/kg: 31629
kg / liter: 0.7877

Meter Pressure: 2 inches of water

Max. rpm	Min rpm	Kilograms per rev.		Planting Speed (kph)	Maximum Kilograms per Hectare	Minimum Kilograms per Hectare
			25.4cm Rows	6.4	335	89
				8.0	268	71
45	12	0.020		9.7	223	60
				11.3	191	51
				12.9	168	45
Max. rpm	Min rpm	Kilograms per rev.	**Twin Row 70cm 35cm Rows**			
				6.4	243	65
				8.0	195	52
45	12	0.020		9.7	162	43
				11.3	139	37
				12.9	122	32
Max. rpm	Min rpm	Kilograms per rev.	**Twin Row 76.2cm 38.1cm Rows**			
				6.4	223	60
				8.0	179	48
45	12	0.020		9.7	149	40
				11.3	128	34
				12.9	112	30

(Soft Red Winter)

seeds/kg: 31288
kg / liter: 0.7235

Meter Pressure: 2.5 inches of water

Max. rpm	Min rpm	Kilograms per rev.		Planting Speed (kph)	Maximum Kilograms per Hectare	Minimum Kilograms per Hectare
			25.4cm Rows	6.4	372	99
				8.0	298	79
45	12	0.023		9.7	248	66
				11.3	213	57
				12.9	186	50
Max. rpm	Min rpm	Kilograms per rev.	**Twin Row 70cm 35cm Rows**			
				6.4	270	72
				8.0	216	58
45	12	0.023		9.7	180	48
				11.3	154	41
				12.9	135	36
Max. rpm	Min rpm	Kilograms per rev.	**Twin Row 76.2cm 38.1cm Rows**			
				6.4	248	66
				8.0	199	53
45	12	0.023		9.7	165	44
				11.3	142	38
				12.9	124	33

32326B

Table of Contents

Table of Contents

Great Plains Manufacturing, Inc.
Corporate Office: P.O. Box 5060
Salina, Kansas 67402-5060 USA