



Great Plains
Manufacturing, Inc.

Seed Rate, Fertilizer Application and Small Seeds Rate Charts for 3000-3S Three-Section Folding Drill

The following pages are to assist in the proper setting of seeding and fertilizer application rates for the 3000-3S Three-Section Folding Drill. The rates indicated in the charts are approximate values. To assure the most accurate seeding rate it is recommended that the drill be calibrated for the desired seed at the time of planting.

Table of Contents

Seeding Adjustment	3
Seed Rate Sprocket Changes	3
Seed Rate Adjustment Handle	3
Feeder Cup Setting	3
Seed Rate Calibration	4
Seed Rate Charts (pounds per acre)	5
Seed Rate Charts (kilograms per hectare)	7
Fertilizer Adjustment	9
Fertilizer Rate Calibration	9
Fertilizer Meter Rate Charts	10
Sprockets, 6-Inch Rows	10
Density Conversion Chart	10
Small Seeds Attachment	11
Small Seeds Rate Chart (Imperial Measurement)	11
Small Seeds Rate Chart (Metric Measurement)	12

Seeding Adjustment

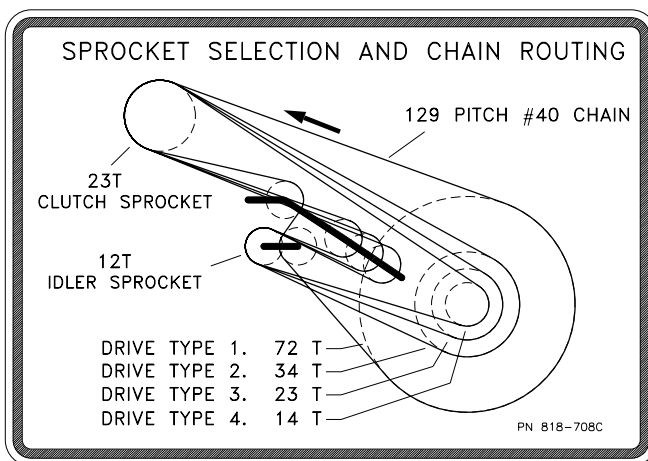
Seed Rate Sprocket Changes

The feeder cup drive system on your drill provides four different drive speeds and adjustable fluted feed cups to allow you to plant a wide variety of seeds and easily vary the seeding rate. All the seed rate charts for this drill are based on first selecting one of four available drive sprockets which are referred to as DRIVE TYPES. These sprockets, shown in Figure 3-1, are located on a 7/8 hex transfer shaft behind the drive clutch on each box section. The



Drive Type Sprocket Location
Figure 3-1 15559

drive types are easily changed by loosening the 12 tooth idler sprockets on the drive chain, removing the keeper pin on the hex shaft, and repositioning the sprockets so the desired drive type sprocket lines up with the clutch sprocket. Reroute the drive chain as shown in Figure 3-2 and on the drive type decal located on the drive support plate near the idler sprockets. Set the same drive type on all three drill sections.



Drive Type Sprockets and Chain Routing
Figure 3-2

NOTE: Be sure chain is installed with the chain connector link retainer towards the centerline and the clip opening (split end) faces the opposite way of the chain travel.

Drive Type	Sprocket	Ratio
1	72 Tooth	Slowest drive type
2	34 Tooth	2.12 faster than drive type 1
3	23 Tooth	3.13 faster than drive type 1
4	14 Tooth	5.14 faster than drive type 1

Seed Rate Adjustment Handle

Once the correct drive type is chosen according to the *Seed Rate Chart*, starting on page 5, position the seed rate adjustment handle for the desired rate in the chart. To adjust the seed rate handle as shown in Figure 3-3, loosen the wing nut on the bottom side of the handle and slide the handle until the indicator mark lines up with the desired cup setting. Retighten the wing nut to hold the lever in place. There is a seed rate adjustment handle for each drill section.



Seed Rate Adjustment Handle
Figure 3-3 15561

Feeder Cup Setting

The drill is equipped with a four-position feed cup door on each feeder cup, as shown in Figure 3-4. The highest handle position is for wheat and other small grain seeds. The second handle position down is for soybeans and other large grain seeds. Should excessive cracking occur to large seeds, drop the handle to the third position down. The wide open position will allow complete clean-out of the feed cup. MAKE SURE all handles are in the same position before drilling.

NOTE: Do not open the cup door to the wide open position with seed in the box unless complete cleanout is desired. The door may be difficult to close off once it is opened.



Feed Cup Door Adjustment
Figure 3-4

15555

Seed Rate Calibration

NOTE: Seeding rates will vary greatly with variations in sizes of the seeds. The seeding rates listed in this manual are based on average seed size. We recommend that you test and adjust your drill using the procedure below to help ensure an accurate seeding rate.

1. Jack up the wing gauge wheels and rotate them to see that the feed cups and drives are working properly and are free from foreign matter. The right wing gauge wheel drives the center section, but the drive does not engage unless the drill is completely unfolded.
2. Set the desired DRIVE TYPE from the rate chart by choosing the correct drive type sprocket from the four available 7/8" hex bore quick-change sprockets. Route the chain according to the decal and tighten the chain by sliding the 12 tooth idler sprockets in the slots. Make sure the DRIVE TYPE SPROCKET lines up with the CLUTCH SPROCKET so the drives run free and true. The wing sections require a blank sprocket between the shaft bearing and the DRIVE TYPE SPROCKET for the chain to align properly.
3. Set the seed rate adjustment handle to the desired chart setting. Make sure all the feed cup doors are in the desired position.
4. There are many factors which will affect seeding rates: seed treatment, weight of seed, size of seed, surface condition of seed, tire configuration, tire pressure and tire slippage. Minor adjustments will probably be needed to compensate for these factors.
5. The pounds-per-acre in the seed rate charts are based on the drill having 9.5L-15 6 PLY ribbed implement tires inflated to 32 psi. and 265/70B16 skid steer tires inflated to 70 psi. on the wing gauge wheels. Check your tires for proper inflation pressure.
6. The large differences in seed size and treatment can cause a wide variation in actual seeding rates. The seed rate charts on the following pages are based on average size seed. This may differ from the seed you are using. Use the seed rate charts as a guide. Set the pounds per acre desired for your row spacing and complete the following procedure to calibrate the drill for your specific seed.
 - a. Place several pounds of seed over three of the feed cups at the outboard drive end of the drill box.
 - b. Disconnect the seed tubes from these three disk openers.
 - c. Lower the opener frames to planting position in order to activate the clutch and raise the proper drive tire off the ground with a jack so it can be rotated by hand.
 - d. Place a container under the three seed tubes to gather the seed as it is metered.
 - e. Rotate the drive wheel until one acre has been tallied on the acremeter. This will be 175 rotations on the 30' drill. Be sure to check the three cups to make sure each cup has plenty of seed coming into it.
 - f. Weigh the seed which has been metered. Divide by three to get the ounces/pounds metered by each feed cup. Multiply by the number of openers on your drill to arrive at the total pounds-per-acre your drill would meter at that setting. If this figure is different than desired, set your feed cup adjustment handle accordingly.
 - g. You may want to repeat the calibration procedure if the results of your calibration vary greatly from the suggested settings contained in this manual.

REMEMBER: Tire size, tire air pressure, and field conditions also affect seeding rates. When drilling, check the amount of seed you are using by noting acres drilled, amount of seed added to the drill, and level of seed in each drill box. If you suspect that you are drilling more or less than desired, you may need to adjust the seeding rates slightly to compensate for your field conditions.

Seed Rate Charts (pounds per acre)

Setting number	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100		
Alfalfa Drive Type 1 (Based on 60#/bu)	Spacing	6"	2	6	8	12	15	19	23	27	32	37	41	45	50	54	59	63	69	74	79	82	84
		7.5"	2	4	7	10	12	15	18	22	25	29	33	36	40	43	47	51	55	59	63	65	67
		10"	1	3	5	7	9	12	14	16	19	22	25	27	30	33	35	38	41	44	48	49	50
Barley Drive Type 1 (Based on 51#/bu)	Spacing	6"	2	5	8	11	14	18	22	26	30	35	39	43	48	53	57	62	66	69	73	73	74
		7.5"	2	4	6	9	12	15	18	21	24	28	31	35	38	42	46	49	52	55	58	59	59
		10"	1	3	5	6	9	11	13	16	18	21	23	26	29	32	34	37	39	42	44	44	44
Barley Drive Type 2 (Based on 51#/bu)	Spacing	6"	4	9	16	22	30	37	45	54	62	71	76	87	96	104	114	123	133	142	152	154	156
		7.5"	3	7	13	17	24	30	36	43	49	57	64	70	77	83	91	98	106	114	121	123	125
		10"	2	5	10	13	18	22	27	32	37	43	48	52	58	63	68	74	80	85	91	92	94
Barley Drive Type 4 (Based on 51#/bu)	Spacing	6"	9	21	39	53	73	90	110	131	151	174	194	213	234	255	278	300	325	348	371	377	382
		7.5"	7	17	31	42	58	72	88	105	121	139	155	170	188	204	222	240	260	279	297	301	306
		10"	5	13	23	32	44	54	66	79	91	104	117	128	141	153	167	180	195	209	222	226	230
Buck Wheat Drive Type 3 (Based on 48#/bu)	Spacing	6"	0	11	21	29	42	52	65	78	92	107	123	136	150	165	180	195	209	224	240	242	245
		7.5"	0	9	17	24	34	42	52	62	74	85	99	109	120	132	144	156	167	179	192	194	196
		10"	0	7	13	18	25	31	39	47	55	64	74	81	90	99	108	117	126	134	144	145	147
Canola or Rape Drive Type 1 (Based on 51#/bu)	Spacing	6"	0	4	8	11	14	18	21	25	29	32	36	39	43	47	51	54	59	63	68	69	71
		7.5"	0	3	6	9	11	14	17	20	23	26	29	32	34	37	40	43	47	50	54	55	57
		10"	0	2	5	6	9	11	13	15	17	19	22	24	26	28	30	33	35	38	41	42	43
Flax or Sudan Drive Type 1 (Based on 55#/bu)	Spacing	6"	0	4	8	12	16	20	24	28	33	37	42	46	50	54	59	65	70	76	82	83	85
		7.5"	0	3	7	9	13	16	19	23	26	30	34	37	40	44	47	52	56	61	66	67	68
		10"	0	2	5	7	10	12	15	17	20	22	25	27	30	33	35	39	42	45	49	50	51
Millet Drive Type 1 (Based on 60#/bu)	Spacing	6"	1	5	8	12	16	20	23	27	32	36	40	44	49	52	57	62	66	71	76	77	78
		7.5"	1	4	7	9	13	16	19	22	25	29	32	35	39	42	46	49	53	57	61	62	63
		10"	1	3	5	7	9	12	14	16	19	21	24	26	29	32	34	37	40	43	46	46	47
Milo Drive Type 1 (Based on 60#/bu)	Spacing	6"	0	5	9	13	18	23	28	34	39	45	52	57	63	69	75	81	87	92	98	100	102
		7.5"	0	4	7	10	14	18	22	27	31	36	41	45	50	55	60	65	69	73	78	80	82
		10"	0	3	5	8	11	14	17	20	23	27	31	34	38	41	45	49	52	55	59	60	61
Oats Drive Type 3 (Based on 37#/bu)	Spacing	6"	0	5	12	17	24	32	39	47	55	63	72	80	88	96	105	113	121	130	139	140	140
		7.5"	0	4	10	14	19	25	31	37	44	51	58	64	70	77	84	90	97	104	111	112	112
		10"	0	3	7	10	14	19	23	28	33	38	43	48	53	58	63	68	73	78	83	84	84
Peas Drive Type 3 (Based on 61#/bu)	Spacing	6"	0	0	19	34	52	69	84	102	119	137	154	169	186	202	218	235	251	266	281	283	284
		7.5"	0	0	15	27	42	55	67	82	95	110	123	136	149	161	175	188	201	213	225	226	227
		10"	0	0	11	20	31	41	50	61	71	82	93	102	112	121	131	141	151	160	169	170	171
Pinto Bean Drive Type 1 (Based on 61#/bu)	Spacing	6"	0	0	9	13	17	24	30	35	41	47	53	58	64	69	74	81	85	91	97	96	96
		7.5"	0	0	7	10	14	19	24	28	33	38	42	47	51	55	60	65	68	73	77	77	77
		10"	0	0	5	8	10	14	18	21	25	28	32	35	38	41	45	49	51	54	58	58	58

Setting number		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
Rice Short Grain Drive Type 3 (Based on 43#/bu)	Spacing	6"	3	11	18	28	38	46	56	64	73	84	96	107	117	128	139	148	167	165	174	174	174
		7.5"	2	9	14	23	31	37	44	51	59	67	77	85	94	102	111	118	125	132	139	139	139
		10"	2	7	11	17	23	27	33	38	44	50	57	64	70	77	83	89	94	99	105	105	105
Rice Short Grain Drive Type 4 (Based on 43#/bu)	Spacing	6"	5	18	29	46	63	74	91	104	120	137	156	174	191	209	226	241	255	269	284	284	284
		7.5"	4	14	24	37	50	60	72	83	96	109	125	139	153	167	181	193	204	215	227	227	227
		10"	3	11	18	28	38	45	54	62	72	82	94	105	115	125	136	145	153	162	170	170	170
Rice Long Grain Drive Type 3 (Based on 47#/bu)	Spacing	6"	0	0	13	22	32	42	53	61	71	81	90	98	107	116	125	135	144	153	161	167	173
		7.5"	0	0	11	17	25	34	42	49	57	65	72	79	85	92	100	108	116	123	129	134	138
		10"	0	0	8	13	19	25	32	37	42	49	54	59	64	69	75	81	87	92	97	100	104
Rice Long Grain Drive Type 4 (Based on 47#/bu)	Spacing	6"	0	0	22	35	52	68	86	100	115	132	146	160	174	188	204	220	235	250	263	273	282
		7.5"	0	0	17	28	41	55	69	80	92	105	117	128	139	151	163	176	188	200	210	218	226
		10"	0	0	13	21	31	41	52	60	69	79	88	96	104	113	123	132	141	150	158	164	169
Rye Drive Type 1 (Based on 57#/bu)	Spacing	6"	0	3	8	13	19	24	28	35	41	47	53	58	63	68	74	81	87	94	101	102	102
		7.5"	0	2	6	10	15	19	22	28	33	38	42	46	50	55	59	64	69	75	81	81	82
		10"	0	2	5	8	11	14	17	21	24	28	32	35	38	41	44	48	52	56	61	61	61
Soybeans Drive Type 1 (Based on 58#/bu)	Spacing	6"	0	3	8	13	19	23	29	34	39	45	49	55	61	66	71	77	82	87	93	93	93
		7.5"	0	2	6	11	15	19	23	27	31	36	40	44	49	53	57	62	65	70	74	74	75
		10"	0	2	5	8	12	14	17	20	24	27	30	33	37	40	43	46	49	52	56	56	56
Soybeans Drive Type 2 (Based on 58#/bu)	Spacing	6"	0	6	16	27	40	48	59	69	80	92	102	114	125	136	147	158	167	179	190	191	192
		7.5"	0	5	13	22	32	38	47	55	64	73	81	91	100	109	118	127	134	143	152	153	153
		10"	0	4	10	16	24	29	35	42	48	55	61	68	75	82	88	95	101	107	115	115	115
Soybeans Drive Type 3 (Based on 58#/bu)	Spacing	6"	0	12	23	40	60	71	89	101	116	131	148	164	181	196	214	228	248	265	284	284	284
		7.5"	0	9	18	32	48	57	71	81	93	105	119	131	145	157	171	182	199	212	227	227	227
		10"	0	7	14	24	36	42	53	61	70	79	89	98	108	118	128	137	149	159	170	170	170
Soybeans Drive Type 4 (Based on 58#/bu)	Spacing	6"	0	19	37	66	97	115	145	165	190	214	241	267	295	320	348	371	405	433	463	463	464
		7.5"	0	15	29	53	78	92	116	132	152	171	193	214	236	256	279	297	324	346	370	371	371
		10"	0	11	22	40	58	69	87	99	114	128	145	160	177	192	209	223	243	260	278	278	278
Sun flowers Drive Type 1 (Based on 28#/bu)	Spacing	6"	0	0	2	4	6	8	11	13	15	18	20	23	25	27	30	32	34	36	38	39	41
		7.5"	0	0	2	3	5	7	9	10	12	14	16	18	20	22	24	26	27	29	31	32	33
		10"	0	0	1	3	4	5	6	8	9	11	12	14	15	16	18	19	20	22	23	24	24
Wheat Drive Type 2 (Based on 64#/bu)	Spacing	6"	0	13	22	30	40	50	57	70	80	91	105	115	127	140	152	164	177	190	203	205	206
		7.5"	0	10	18	24	32	40	46	56	64	73	84	92	102	112	122	131	142	152	162	164	165
		10"	0	8	13	18	24	30	34	42	48	55	63	69	76	84	91	99	106	114	122	123	124
Wheat Drive Type 3 (Based on 64#/bu)	Spacing	6"	0	16	31	45	60	74	88	104	120	137	153	168	186	202	220	240	256	274	290	297	299
		7.5"	0	13	25	36	48	59	70	83	96	109	123	134	149	162	176	192	205	219	232	237	239
		10"	0	10	18	27	36	45	53	62	72	82	92	101	111	121	132	144	154	164	174	178	179
WheatGrass Drive Type 1 (Based on 23#/bu)	Spacing	6"	0	1	2	3	4	5	6	7	8	10	11	12	13	14	15	17	18	19	19	21	21
		7.5"	0	1	2	2	3	4	5	6	7	8	9	10	11	11	12	13	14	15	15	17	17
		10"	0	1	1	2	3	3	4	4	5	6	7	7	8	9	9	10	11	12	11	13	13

Seed Rate Charts (kilograms per hectare)

Setting number	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
Alfalfa Drive Type 1 (Based on .77 kg/L)	Spacing 15.24cm	0	7	10	13	17	21	26	30	35	40	46	51	56	62	67	72	77	82	87	91	95
	Spacing 19.05cm	0	5	8	10	14	27	20	24	28	32	37	41	45	49	54	58	62	66	69	73	76
	Spacing 25.40cm	0	4	6	8	10	13	15	18	21	24	27	31	34	37	40	43	46	49	52	55	57
Barley Drive Type 1 (Based on .66 kg/L)	Spacing 15.24cm	0	7	9	12	16	20	24	29	34	39	45	50	55	60	65	70	74	77	80	82	83
	Spacing 19.05cm	0	5	7	10	12	16	19	23	27	31	36	40	44	48	52	56	59	62	64	66	67
	Spacing 25.40cm	0	4	5	7	9	12	14	17	20	24	27	30	33	36	39	42	44	46	48	49	50
Barley Drive Type 2 (Based on .66 kg/L)	Spacing 15.24cm	0	14	19	25	32	40	50	60	70	81	92	103	114	124	134	143	151	158	164	169	172
	Spacing 19.05cm	0	11	15	20	26	32	40	48	56	65	73	82	91	99	107	114	121	127	131	135	127
	Spacing 25.40cm	0	8	11	15	19	24	30	36	42	49	55	62	68	74	80	86	91	95	99	101	103
Barley Drive Type 4 (Based on .66 kg/L)	Spacing 15.24cm	0	32	45	61	80	100	122	145	169	194	219	245	270	295	319	343	365	385	404	420	434
	Spacing 19.05cm	0	26	36	49	64	80	97	116	135	155	175	196	216	236	256	274	292	308	323	336	347
	Spacing 25.40cm	0	19	27	37	48	60	73	87	101	116	132	147	162	177	192	206	219	231	242	252	261
Buck Wheat Drive Type 3 (Based on .62 kg/L)	Spacing 15.24cm	0	21	26	34	44	56	71	86	103	121	140	158	177	195	212	228	243	256	267	276	282
	Spacing 19.05cm	0	17	21	27	35	45	56	69	83	97	112	127	141	156	170	183	195	205	214	221	225
	Spacing 25.40cm	0	13	16	20	26	34	42	52	62	73	84	95	106	117	127	137	146	154	160	165	169
Canola or Rape Drive Type 1 (Based on .66 kg/L)	Spacing 15.24cm	0	6	9	12	16	19	23	27	32	36	40	45	49	53	58	62	66	70	74	77	81
	Spacing 19.05cm	0	5	7	10	13	16	19	22	25	29	32	36	39	43	46	50	53	56	59	62	65
	Spacing 25.40cm	0	4	5	7	9	12	14	16	19	22	24	27	29	32	35	37	40	42	44	46	48
Flax or Sudan Drive Type 1 (Based on .71 kg/L)	Spacing 15.24cm	0	7	10	13	17	22	27	31	37	42	47	53	58	64	69	74	79	84	89	93	97
	Spacing 19.05cm	0	5	8	11	14	17	21	25	29	34	38	42	47	51	55	59	63	67	71	74	77
	Spacing 25.40cm	0	4	6	8	10	13	16	19	22	25	28	32	35	38	41	45	48	50	53	56	58
Millet Drive Type 1 (Based on .77 kg/L)	Spacing 15.24cm	0	6	9	13	17	21	26	30	35	40	46	51	56	61	66	70	75	79	83	86	89
	Spacing 19.05cm	0	5	8	10	13	17	21	24	28	32	36	41	45	49	53	56	60	63	66	69	71
	Spacing 25.40cm	0	4	6	8	10	13	15	18	21	24	27	30	33	36	39	42	45	47	50	52	53
Milo Drive Type 1 (Based on 60#/bu)	Spacing 15.24cm	0	7	10	14	19	25	31	37	44	51	58	65	72	79	85	92	97	103	108	112	115
	Spacing 19.05cm	0	5	8	12	16	20	25	30	35	41	46	52	57	63	68	73	78	82	86	89	92
	Spacing 25.40cm	0	4	6	9	12	15	19	22	26	31	35	39	43	47	51	55	58	62	65	67	69
Oats Drive Type 3 (Based on .48 kg/L)	Spacing 15.24cm	0	10	14	20	26	34	42	52	61	71	82	92	102	112	121	130	138	145	151	156	159
	Spacing 19.05cm	0	8	11	16	21	27	34	41	49	57	65	73	82	89	97	104	110	116	121	124	127
	Spacing 25.40cm	0	6	9	12	16	20	25	31	37	43	49	55	61	67	73	78	83	87	91	93	95
Peas Drive Type 3 (Based on .79 kg/L)	Spacing 15.24cm	0	9	23	39	56	74	93	113	133	154	175	195	215	234	251	268	283	296	307	316	322
	Spacing 19.05cm	0	8	19	31	44	59	74	90	107	123	140	156	172	187	201	214	226	237	246	253	258
	Spacing 25.40cm	0	6	14	23	33	44	56	68	80	92	105	117	129	140	151	161	170	178	184	190	193
Pinto Bean Drive Type 1 (Based on .79 kg/L)	Spacing 15.24cm	0	6	10	14	20	26	32	39	46	53	60	67	74	80	87	92	97	102	105	108	109
	Spacing 19.05cm	0	5	8	12	16	21	26	31	37	42	48	54	59	64	69	74	78	81	84	86	87
	Spacing 25.40cm	0	4	6	9	12	15	19	23	27	32	36	40	44	48	52	55	58	61	63	65	66

Setting number	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100		
Rice Short Grain Drive Type 3 (Based on .55 kg/L)	Spacing	15.24cm	0	16	22	31	40	50	61	73	85	98	110	122	135	146	157	167	176	184	190	195	198
		19.05cm	0	13	18	24	32	40	49	58	68	78	88	98	108	117	126	134	141	147	152	156	158
		25.40cm	0	9	13	18	24	30	37	44	51	59	66	73	81	88	94	100	106	110	114	117	119
Rice Short Grain Drive Type 4 (Based on .55 kg/L)	Spacing	15.24cm	0	26	37	50	65	82	100	119	139	159	179	200	219	238	256	272	287	300	310	318	323
		19.05cm	0	20	29	40	52	65	80	95	111	127	144	160	176	191	205	218	230	240	248	254	258
		25.40cm	0	15	22	30	39	49	60	71	83	95	108	120	132	143	154	163	172	180	186	191	194
Rice Long Grain Drive Type 3 (Based on .61 kg/L)	Spacing	15.24cm	0	4	15	25	36	47	58	69	80	90	101	112	122	132	142	152	161	170	179	187	195
		19.05cm	0	3	12	20	29	38	46	55	64	72	81	89	98	106	114	122	129	136	143	150	156
		25.40cm	0	3	9	15	22	28	35	41	48	54	61	67	73	79	85	91	97	102	107	112	117
Rice Long Grain Drive Type 4 (Based on .61 kg/L)	Spacing	15.24cm	0	7	24	41	59	77	94	112	130	147	165	182	199	216	232	248	263	277	291	305	317
		19.05cm	0	6	19	33	47	61	75	90	104	118	132	146	159	173	186	198	210	222	233	244	254
		25.40cm	0	4	14	25	35	46	57	67	78	88	99	109	119	129	139	149	158	166	175	183	190
Rye Drive Type 1 (Based on .74 kg/L)	Spacing	15.24cm	0	5	10	14	20	25	32	38	45	52	59	66	73	80	87	93	99	104	109	113	116
		19.05cm	0	4	8	11	16	20	25	31	36	42	47	53	59	64	69	74	79	83	87	90	93
		25.40cm	0	3	6	9	12	15	19	23	27	31	35	40	44	48	52	56	59	63	65	68	70
Soybeans Drive Type 1 (Based on .75 kg/L)	Spacing	15.24cm	0	6	10	15	20	26	31	38	44	51	57	64	70	76	82	87	92	97	101	104	106
		19.05cm	0	5	8	12	16	20	25	30	35	40	46	51	56	61	65	70	74	77	80	83	85
		25.40cm	0	3	6	9	12	15	19	23	26	30	34	38	42	46	49	52	55	58	60	62	64
Soybeans Drive Type 2 (Based on .75 kg/L)	Spacing	15.24cm	0	12	20	30	41	52	65	77	91	104	117	131	144	156	168	179	190	199	207	213	218
		19.05cm	0	10	16	24	33	42	52	62	72	83	94	104	115	125	134	143	152	159	165	171	175
		25.40cm	0	7	12	18	25	31	39	46	54	62	70	78	86	94	101	108	114	119	124	128	131
Soybeans Drive Type 3 (Based on .75 kg/L)	Spacing	15.24cm	0	15	30	45	61	78	96	115	133	152	171	190	209	227	244	261	276	291	304	316	326
		19.05cm	0	12	24	36	49	63	77	92	107	122	137	152	167	181	195	209	221	233	243	253	261
		25.40cm	0	9	18	27	37	47	58	69	80	91	103	114	125	136	146	156	166	174	182	189	196
Soybeans Drive Type 4 (Based on .75 kg/L)	Spacing	15.24cm	0	25	48	73	100	128	157	187	218	248	279	310	340	370	398	425	451	474	496	515	531
		19.05cm	0	20	39	59	80	102	126	150	174	199	223	248	272	296	318	340	360	379	397	412	425
		25.40cm	0	15	29	44	60	77	94	112	131	149	168	186	204	222	239	255	270	285	297	309	319
Sun flowers Drive Type 1 (Based on .36 kg/L)	Spacing	15.24cm	0	0	2	5	7	9	12	14	17	20	23	26	28	31	34	36	38	41	42	44	46
		19.05cm	0	0	2	4	5	7	9	12	14	16	18	20	23	25	27	29	31	32	34	35	37
		25.40cm	0	0	1	3	4	6	7	9	10	12	14	15	17	19	20	22	23	24	25	27	27
Wheat Drive Type 2 (Based on .83 kg/L)	Spacing	15.24cm	0	21	26	33	42	52	64	76	90	104	118	133	147	161	175	188	200	211	220	228	234
		19.05cm	0	17	21	27	34	42	51	61	72	83	95	106	118	129	140	150	160	169	176	183	187
		25.40cm	0	13	16	20	25	31	38	46	54	62	71	80	88	97	105	113	120	127	132	137	141
Wheat Drive Type 3 (Based on .83 kg/L)	Spacing	15.24cm	0	26	37	49	63	79	97	115	135	154	175	195	215	235	254	272	289	304	318	329	339
		19.05cm	0	21	29	39	51	64	77	92	108	124	140	156	172	188	203	217	231	243	254	263	271
		25.40cm	0	16	22	30	38	48	58	69	81	93	105	117	129	141	152	163	173	182	191	198	203
WheatGrass Drive Type 1 (Based on .30 kg/L)	Spacing	15.24cm	0	1	2	3	5	6	7	8	10	11	12	13	15	16	17	18	19	20	21	22	23
		19.05cm	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	16	17	18	19
		25.40cm	0	1	1	2	3	3	4	5	6	6	7	8	9	10	10	11	12	12	13	13	14

Fertilizer Adjustment

The 3000F-3S has chain drives powered off the gauge wheels to meter fertilizer. Adjust the application rate by changing the drive sprockets.

Fertilizer application rates will vary with fertilizer type, density and particle size. Relative humidity and field conditions can also affect application rates. Initially set the rate according to the charts, then calibrate the drill to your material as described under *Fertilizer Rate Calibration* on this page.

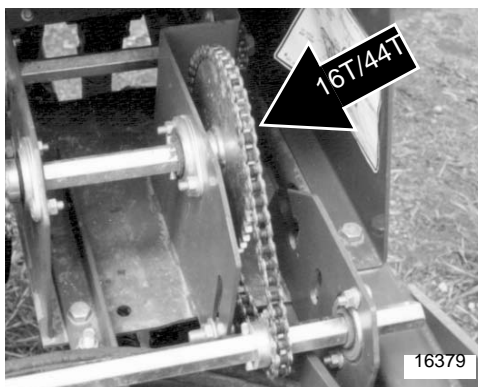
Fertilizer metering is controlled by separate sprocket sets on each drill box. After setting and calibrating the metering rate for one drill box, install the same sprockets on the remaining drill boxes.

1. Refer to the fertilizer rate charts on the next page to find sprocket sizes for your drill and desired meter rate.

IMPORTANT: The fertilizer meter rate charts are for granular fertilizer with a density of 65 pounds per cubic foot. If you are applying fertilizer with a different density, use the density conversion chart on the next page.

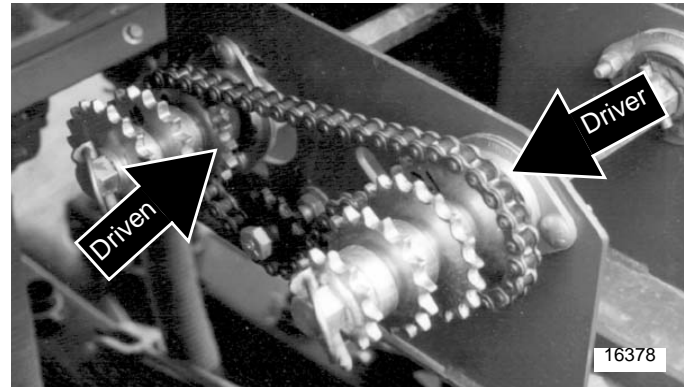
2. To switch between high and low range, loosen and slide the idler sprocket out of the chain shown in Figure 3-4. Remove the lynch pin from the end of the shaft and install correct sprocket.
 - For high range, install the 16-tooth sprocket and shorten the chain by removing a 16-pitch strand.
 - For low range, install the 44-tooth sprocket and lengthen the chain by reinstalling the 16-pitch strand.

Move idler sprocket back into place. Chain should have 1/4-in. slack.



Hi/Low Range Sprocket
Figure 3-4

3. To change the driver/driven ratio, refer to Figure 3-5. Loosen and slide idler sprockets out of the chain. Remove the lynch pins from the shafts. Place the correct sprockets on the shafts. Store sprockets not used. Reinstall chain and slide idlers back into place. Chain should have 1/4-in. slack.



Driver/Driven Sprockets
Figure 3-5

NOTE: The driver and driven sprockets must be next to the shaft bearings. Use the end of the shafts to store sprockets not used.

Fertilizer Rate Calibration

The charts on the next page are based on fertilizer with average particle size and a density of 65 pounds per cubic foot. Differences in particle size, density and shape can cause wide variations in actual metering rates. Tire pressure and field conditions can also affect metering rates. After setting the rate as described under *Fertilizer Adjustment*, complete the following procedure to calibrate your drill.

1. Raise the drill with the tractor hydraulics so the gauge wheels are off the ground. Rotate the gauge wheels to see that the metering system is working properly and free from foreign material.
2. Check that your gauge-wheel tires are 9.5L x 15 and properly inflated. Refer to *Tire Inflation Chart*, "Appendix," in the operator's manual. Place several pounds of fertilizer over three fertilizer feed cups on the outside end of the drill box. Pull the fertilizer tubes off of these three disk openers.
3. Place a container under the three tubes to gather metered fertilizer.
4. Turn the gauge wheel 175 rotations until one acre has been tallied on the acremeter. Check that the three feed cups have plenty of fertilizer coming into them.
5. Weigh the metered material. Divide by three. Multiply by the number of openers on your drill to determine total pounds-per-acre metered. If this figure is different than desired, reset sprockets accordingly.

NOTE: You may want to repeat the calibration procedure if your results vary greatly from the meter rate chart.

6. When satisfied with the metering rate, install the same range, driver and driven sprockets on each drill box.
7. When drilling, check the rate by noting acres drilled, amount of fertilizer added to drill and level of material in drill box. If you are applying more or less than desired, adjust the metering rate slightly to compensate for field conditions.

Fertilizer Meter Rate Charts

Based on 65 pounds-per-cubic-foot density

Meter Rate kg per ha	Meter Rate lb. per acre	Sprockets, 6-Inch Rows		
		Range	Driver	Driven
47	42	Low	12 T	21 T
50	44	Low	12 T	20 T
53	47	Low	12 T	19 T
55	49	Low	12 T	18 T
59	52	Low	12 T	17 T
62	55	Low	12 T	16 T
68	60	Low	17 T	21 T
71	63	Low	17 T	20 T
74	66	Low	17 T	19 T
79	70	Low	20 T	21 T
88	78	Low	21 T	20 T
92	82	Low	21 T	19 T
97	86	Low	21 T	18 T
103	91	Low	21 T	17 T
109	97	Low	21 T	16 T
118	105	Low	17 T	12 T
125	111	Low	18 T	12 T
131	116	High	12 T	21 T
132	117	Low	19 T	12 T
137	122	High	12 T	20 T
139	123	Low	20 T	12 T
144	128	High	12 T	19 T
146	130	Low	21 T	12 T
152	135	High	12 T	18 T
161	143	High	12 T	17 T
185	164	High	17 T	21 T
194	172	High	17 T	20 T
204	181	High	17 T	19 T
217	193	High	20 T	21 T
240	213	High	21 T	20 T
252	224	High	21 T	19 T
266	236	High	21 T	18 T
282	250	High	21 T	17 T
323	287	High	17 T	12 T
341	303	High	18 T	12 T
361	320	High	19 T	12 T
380	337	High	20 T	12 T
398	353	High	21 T	12 T

Meter Rate kg per ha	Meter Rate lb. per acre	Sprockets, 7 1/2-Inch Rows		
		Range	Driver	Driven
38	34	Low	12 T	21 T
41	36	Low	12 T	20 T
42	37	Low	12 T	19 T
44	39	Low	12 T	18 T
47	42	Low	12 T	17 T
50	44	Low	12 T	16 T
54	48	Low	17 T	21 T
56	50	Low	17 T	20 T
60	53	Low	17 T	19 T
63	56	Low	20 T	21 T
70	62	Low	21 T	20 T
73	65	Low	21 T	19 T
78	69	Low	21 T	18 T
82	73	Low	21 T	17 T
88	78	Low	21 T	16 T
95	84	Low	17 T	12 T
100	89	Low	18 T	12 T
105	93	High	12 T	21 T
106	94	Low	19 T	12 T
109	97	High	12 T	20 T
110	98	Low	20 T	12 T
116	103	Low	21 T	12 T
116	103	High	12 T	19 T
122	108	High	12 T	18 T
130	115	High	12 T	17 T
148	131	High	17 T	21 T
155	138	High	17 T	20 T
163	145	High	17 T	19 T
174	154	High	20 T	21 T
192	170	High	21 T	20 T
202	179	High	21 T	19 T
213	189	High	21 T	18 T
225	200	High	21 T	17 T
259	230	High	17 T	12 T
274	243	High	18 T	12 T
288	256	High	19 T	12 T
303	269	High	20 T	12 T
319	283	High	21 T	12 T

Meter Rate kg per ha	Meter Rate lb per acre	Sprockets, 10-Inch Rows		
		Range	Driver	Driven
28	25	Low	12 T	21 T
30	27	Low	12 T	20 T
32	28	Low	12 T	19 T
34	30	Low	12 T	18 T
35	31	Low	12 T	17 T
37	33	Low	12 T	16 T
41	36	Low	17 T	21 T
43	38	Low	17 T	20 T
45	40	Low	17 T	19 T
47	42	Low	20 T	21 T
53	47	Low	21 T	20 T
55	49	Low	21 T	19 T
59	52	Low	21 T	18 T
62	55	Low	21 T	17 T
65	58	Low	21 T	16 T
71	63	Low	17 T	12 T
74	66	Low	18 T	12 T
79	70	Low	19 T	12 T
79	70	High	12 T	21 T
82	73	High	12 T	20 T
83	74	Low	20 T	12 T
87	77	High	12 T	19 T
88	78	Low	21 T	12 T
91	81	High	12 T	18 T
97	86	High	12 T	17 T
112	99	High	17 T	21 T
116	103	High	17 T	20 T
123	109	High	17 T	19 T
131	116	High	20 T	21 T
144	128	High	21 T	20 T
151	134	High	21 T	19 T
160	142	High	21 T	18 T
169	150	High	21 T	17 T
194	172	High	17 T	12 T
205	182	High	18 T	12 T
216	192	High	19 T	12 T
228	202	High	20 T	12 T
239	212	High	21 T	12 T

Density Conversion Chart

The fertilizer meter rate charts are based on fertilizer with a density of 65 pounds per cubic foot. If you are applying fertilizer of a different density, use the following table to convert the application rate.

Density	45.00	50.00	55.00	60.00	65.00	70.00	75.00	80.00
Conversion Factor	1.45	1.30	1.20	1.10	1.00	0.93	0.87	0.81

Example: Your fertilizer has a density of 75 pounds per cubic foot, and you want to apply 100 pounds per acre. Multiply the desired application rate by the conversion factor.

$$100 \times 0.87 = 87$$

Adjust drill to the setting closest to 87 pounds per acre.

Small Seeds Attachment

To set and calibrate the seeding rate on the optional small seeds attachment, follow these steps.

1. Set the seed-rate handle on the small seeds attachment as indicated by the *Small Seeds Rate Chart*, this page. The seed-rate handle for the small seeds attachment is shown in .
2. Calibrate the small seeds attachment to your material by following the steps under *Check Seeding Rate*, page 4.

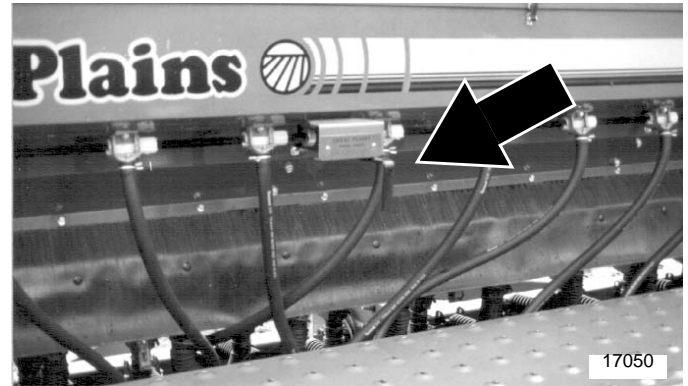


Figure 3-6
Small Seeds Rate Handle

Small Seeds Rate Chart (Imperial Measurement)

Setting Number	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
Kentucky Blue Grass, Fescue, Annual Rye Grass	6"	0	.2	1.2	1.9	2.7	3.3	4.1	4.6	5.2	5.8	6.3	6.8	7.3	7.8	8.3	8.8	9.2	9.7	10.0	10.5
	7.5"	0	.2	.9	1.5	2.2	2.7	3.3	3.7	4.2	4.6	5.1	5.5	5.9	6.3	6.7	7.0	7.4	7.7	8.1	8.4
	10"	0	.1	.7	1.1	1.6	2.0	2.4	2.7	3.1	3.4	3.7	4.0	4.3	4.6	4.9	5.2	5.4	5.7	5.9	6.2
Ladino Clover, Canary Grass, Timothy, Canola	6"	0	1.1	2.1	3.3	4.7	6.1	7.6	9.2	10.7	12.2	13.8	15.5	17.0	18.5	20.3	21.7	23.4	25.4	27.3	29.2
	7.5"	0	.9	1.6	2.6	3.9	4.9	6.1	7.4	8.6	9.8	11.1	12.5	13.7	14.9	16.3	17.6	18.8	20.4	21.9	23.5
	10"	0	.6	1.5	1.9	2.5	3.6	4.5	5.4	6.3	7.2	8.1	9.1	10.0	10.9	12.0	12.9	13.8	14.9	16.1	17.2
Bermuda, Red Top, Unhulled Lespedeza, Ser-cia, Sand & Weeping Love Grass	6"	0	.7	1.1	1.7	2.6	3.3	4.1	5.0	5.9	6.6	7.2	7.8	8.4	9.0	9.5	10.2	10.9	11.6	12.2	12.9
	7.5"	0	.5	.9	1.4	2.1	2.6	3.3	4.0	4.7	5.3	5.8	6.3	6.7	7.2	7.6	8.2	8.8	9.3	9.8	10.4
	10"	0	.4	.6	1.0	1.5	1.9	2.4	3.0	3.5	3.9	4.2	4.6	4.9	5.3	5.6	6.0	6.4	6.8	7.2	7.6
Red & Sweet Clover, Lespedeza Hulled	6"	0	1.5	3.4	5.2	7.1	9.0	11.3	13.2	15.3	17.0	19.0	20.8	22.5	24.5	26.4	28.3	30.1	32.1	33.8	35.6
	7.5"	0	1.2	2.7	4.2	5.7	7.2	9.1	10.6	12.3	13.7	15.3	16.7	18.1	19.7	21.2	22.7	24.2	25.8	27.2	28.6
	10"	0	.9	2.0	3.1	4.2	5.3	6.7	7.8	9.0	10.0	11.2	12.2	13.3	14.4	15.6	16.6	17.8	18.9	19.9	20.9
Bird's-foot Tre-foil, Sudan	6"	0	1.7	3.3	5.2	6.8	8.7	10.7	12.7	14.7	16.8	19.2	21.2	23.4	25.6	28.0	29.9	32.1	34.2	36.3	38.4
	7.5"	0	1.4	2.6	4.2	5.4	7.0	8.6	10.2	11.9	13.5	15.4	17.0	18.8	20.5	22.5	24.0	25.8	27.6	29.1	30.9
	10"	0	1.0	1.9	3.1	4.0	5.1	6.3	7.5	8.6	9.9	11.3	12.5	13.8	15.1	16.5	17.6	18.9	20.2	21.4	22.7
Orchard Grass	6"	0	0	.3	.7	.9	1.3	1.5	2.0	2.4	2.8	3.3	3.5	3.9	4.4	4.8	5.0	5.5	5.7	6.1	6.3
	7.5"	0	0	.2	.5	.7	1.1	1.2	1.6	1.9	2.3	2.6	2.8	3.2	3.5	3.9	4.0	4.4	4.6	4.9	5.1
	10"	0	0	.1	.4	.5	.8	.9	1.2	1.4	1.7	1.9	2.1	2.3	2.6	2.8	3.0	3.2	3.3	3.6	3.7
Millet, Reed Canary	6"	.4	1.4	2.4	3.5	4.4	5.5	6.5	7.5	8.5	9.5	10.5	11.5	12.5	13.6	14.6	15.6	16.6	17.6	18.5	19.0
	7.5"	.3	1.2	2.0	2.8	3.6	4.4	5.2	6.0	6.8	7.6	8.4	9.3	10.1	10.9	11.7	12.5	13.3	14.1	14.9	15.1
	10"	.3	.8	1.4	2.0	2.6	3.2	3.8	4.4	5.0	5.6	6.2	6.8	7.4	8.0	8.6	9.2	9.8	10.4	10.9	11.5
Alfalfa, Red Alsike, Crimson Clover	6"	0	2.2	3.5	4.8	6.0	7.5	8.7	9.8	11.2	12.5	13.8	15.1	16.4	17.5	18.6	20.2	21.4	22.9	24.0	25.2
	7.5"	0	1.8	2.8	3.9	4.8	6.0	7.0	7.9	9.0	10.0	11.1	12.1	13.2	14.0	15.3	16.2	17.2	18.3	19.3	20.3
	10"	0	1.3	2.1	2.8	3.5	4.4	5.1	5.8	6.6	7.4	8.1	8.9	9.7	10.3	11.2	11.9	12.6	13.4	14.2	14.9

Small Seeds Rate Chart (Metric Measurement)

Setting Number		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Kentucky Blue Grass, Fescue, Annual Rye Grass	Row Spacing 15.24cm	0.0	0.2	1.4	2.1	3.0	3.7	4.6	5.2	5.9	6.5	7.1	7.7	8.2	8.8	9.4	9.9	10.4	10.9	11.3	11.8
	19.05cm	0.0	0.2	1.0	1.7	2.5	3.0	3.7	4.2	4.7	5.2	5.7	6.2	6.6	7.1	7.5	7.9	8.3	8.7	9.1	9.5
	25.40cm	0.0	0.1	0.8	1.2	1.8	2.3	2.7	3.0	3.5	3.8	4.2	4.5	4.8	5.2	5.5	5.9	6.1	6.4	6.6	7.0
Ladino Clover, Canary Grass, Timothy, Canola	Row Spacing 15.24cm	0.0	1.2	2.4	3.7	5.3	6.9	8.6	10.4	12.1	13.7	15.5	17.5	19.2	20.7	22.9	24.5	26.4	28.6	30.8	32.9
	19.05cm	0.0	1.0	1.8	2.9	4.4	5.5	6.9	8.3	9.7	11.0	12.5	14.1	15.4	16.8	18.4	19.8	21.2	23.0	24.7	26.5
	25.40cm	0.0	0.7	1.7	2.1	2.8	4.1	5.1	6.1	7.1	8.1	9.1	10.3	11.3	12.3	13.5	14.5	15.5	16.8	18.1	19.4
Bermuda, Red Top, Unhulled Lespedeza, Ser-cia, Sand & Weeping Love Grass	Row Spacing 15.24cm	0.0	0.8	1.2	1.9	2.9	3.7	4.6	5.6	6.6	7.4	8.1	8.8	9.5	10.1	10.7	11.5	12.3	13.1	13.7	14.5
	19.05cm	0.0	0.6	1.0	1.6	2.4	2.9	3.7	4.5	5.3	6.0	6.5	7.1	7.5	8.1	8.6	9.2	9.9	10.5	11.0	11.7
	25.40cm	0.0	0.5	0.7	1.1	1.7	2.1	2.7	3.4	3.9	4.4	4.7	5.2	5.5	6.0	6.3	6.8	7.2	7.7	8.1	8.6
Red & Sweet Clover, Lespe-deza Hulled	Row Spacing 15.24cm	0.0	1.7	3.8	5.9	8.0	10.1	12.7	14.9	17.2	19.2	21.4	23.4	25.4	27.6	29.7	31.9	33.9	36.2	38.1	40.1
	19.05cm	0.0	1.4	3.0	4.7	6.4	8.1	10.3	11.9	13.9	15.4	17.2	18.8	20.4	22.2	23.9	25.6	27.3	29.1	30.6	32.2
	25.40cm	0.0	1.0	2.3	3.5	4.7	6.0	7.5	8.8	10.1	11.3	12.6	13.7	15.0	16.2	17.6	18.7	20.1	21.3	22.4	23.6
Bird's-foot Tre-foil, Sudan	Row Spacing 15.24cm	0.0	1.9	3.7	5.9	7.7	9.8	12.1	14.3	16.6	18.9	21.6	23.9	26.4	28.8	31.6	33.7	36.2	38.5	40.9	43.3
	19.05cm	0.0	1.6	2.9	4.7	6.1	7.9	9.7	11.5	13.4	15.2	17.4	19.2	21.2	23.1	25.4	27.0	29.1	31.1	32.8	34.8
	25.40cm	0.0	1.1	2.1	3.5	4.5	5.7	7.1	8.5	9.7	11.2	12.7	14.1	15.5	17.0	18.6	19.8	21.3	22.8	24.1	25.6
Orchard Grass	Row Spacing 15.24cm	0.0	0.0	0.3	0.8	1.0	1.5	1.7	2.3	2.7	3.2	3.7	3.9	4.4	5.0	5.4	5.6	6.2	6.4	6.9	7.1
	19.05cm	0.0	0.0	0.2	0.6	0.8	1.2	1.4	1.8	2.1	2.6	2.9	3.2	3.6	3.9	4.4	4.5	5.0	5.2	5.5	5.7
	25.40cm	0.0	0.0	0.1	0.5	0.6	0.9	1.0	1.4	1.6	1.9	2.1	2.4	2.6	2.9	3.2	3.4	3.6	3.7	4.1	4.2
Millet, Reed Canary	Row Spacing 15.24cm	0.5	1.6	2.7	3.9	5.0	6.2	7.3	8.5	9.6	10.7	11.8	13.0	14.1	15.3	16.5	17.6	18.7	19.8	20.8	21.4
	19.05cm	0.3	1.4	2.3	3.2	4.1	5.0	5.9	6.8	7.7	8.6	9.5	10.5	11.4	12.3	13.2	14.1	15.0	15.9	16.8	17.0
	25.40cm	0.3	0.9	1.6	2.3	2.9	3.6	4.3	5.0	5.6	6.3	7.0	7.7	8.3	9.0	9.7	10.4	11.0	11.7	12.3	13.0
Alfalfa, Red Alsike, Crimson Clover	Row Spacing 15.24cm	0.0	2.5	3.9	5.4	6.8	8.5	9.8	11.0	12.6	14.1	15.5	17.0	18.5	19.7	21.0	22.8	24.1	25.8	27.0	28.4
	19.05cm	0.0	2.0	3.2	4.4	5.4	6.8	7.9	8.9	10.1	11.3	12.5	13.6	14.9	15.8	17.2	18.3	19.4	20.6	21.7	22.9
	25.40cm	0.0	1.5	2.4	3.2	3.9	5.0	5.7	6.5	7.4	8.3	9.1	10.0	10.9	11.6	12.6	13.4	14.2	15.1	16.0	16.8