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Cooperative Extension Service

Michigan Energy Conservation Program for Agriculture and Forestry

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CONSERVATION TILLAGE DRILLS AVAILABLE IN MICHIGAN

by

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Direct drilling is a method of planting a close seeded crop into a narrow slit or slot in a previously untilled soil. Direct drilling is similar to **no-tillage**, but does not imply continuous no-tillage. Research on direct drilling suggests that it is a viable option for most close seeded crops in Michigan under a wide variety of production systems and management practices. These include small grains, soybeans, dry beans, alfalfa and other grasses and forages. Direct drilling is **NOT** a technology for improving yields, although its use may

result in improved farm profitability. Direct drilling is rather an alternative establishment method that can help conserve time, energy, labor and soil resources.

There are several factors to be considered before purchasing conservation drill equipment. Direct drilling requires a grain drill especially equipped for planting in untilled soil and through crop residues. Therefore, you will need to consider the crops to be planted, fertilizer needs, soil type, crop residue, coulters available, types of openers, press wheels, and drill weight to determine which drill will best fit your needs. In addition to the technical factors and field considerations, one needs to look at drill availability, dealer support, maintenance, and costs.

This fact sheet presents a table summary of some of the conservation drills and drill components available in Michigan. Machinery considerations for drill components and performance have been provided in Extension Bulletin E-2258 **Drills and Drill Components for Conservation Tillage in Michigan**. Other bulletins in this series on direct drilling will soon be available, including those dealing with drill calibration, fertility and weed control in direct drilled crops, and direct drilling for the production of soybeans, wheat, spring seeded small grains, and alfalfa.

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Drill Manufacturers and Available Components

	Haybuster Mfg., Inc.	Vermeer Mfg.	Holland Equip., Ltd.	Great Plains Mfg. (end wheel drill)	Great Plains Mfg. (center pivot drill)
Drill Width:	10.5' & 14'	10' & 14'	6', 8', 10' & 12'	7' & 10'	12', 14', 15' & 20'
Row Spacing:	7"	7" & 10"	multiples of 6	7", 7.5", 8" & 10"	7", 7.5", 8" & 10"
Hitch:	pull	pull	mounted, pull	pull	pull
Types of cutting coulters:	double disk, offset	NA	NA	fluted, ripple, bubble	fluted, ripple, bubble
Coulters caddy option:	no	no	yes	no	yes
Type of furrow opener:	double disk, offset	double disk	inverted tee	double disk	double disk
Fertilizer capacity:	1100 lbs 1400 lbs	1200 lbs	80 lbs/ft	79 lbs/ft	60 lbs/ft
Fertilizer placement:	in-row, side-band	in-row	in-row	in-row	in-row
Press wheel options: Arrangement:	sing. vert. 1-2" dual ang. 1-2"	sing. vert. 1-2" dual ang. 1-2"	NA	sing. vert. 1-3" dual ang. 1-2"	sing. vert. 1-3" dual ang. 1-2"
Type:	steel, rubber	steel, rubber	NA	rubber	rubber
Seed hopper capability:	legume, grass	legume, grass	legume, grass	legume, grass	legume, grass
Hopper capacity:	28 bu/10' 36 bu/14'	15 bu	6,8,10 & 12 bu (1 bu/ft)	0.16 bu/ft 1.5 bu/ft	0.16 bu/ft 1 bu/ft
Drill weights: Shipping (lbs):	4,200 (10') 5,700 (14')	3,850	1,078 (8') 1,188 (10')	3,800 (7') 4,500 (10')	505 lbs/ft (7')
Ballast Potential:	500 lbs	500 lbs	NA	1,600 lbs	2,000 plus lbs width dependent
Drill attachments:	depth bands, acre counter, steep terrain hitch, hitches to 40'	ballast barrels	acre meter, 3" spacing	harrow, weights & wt. bar, depth bands, press wheels, seed-lok	weights, line harrow, depth bands, press wheels, seed lok
<div style="border: 1px solid black; padding: 5px; display: inline-block;"> NA = Not Applicable NI = No Information </div>					

Drill Manufacturers and Available Components

John Deere	Tye Company Pasture Pleaser	Tye Company Series V Drills	Marlee Inc.	Bush Hog/ Lilliston	Yetter Mfg. (coultter cart)
10' & 15'	7', 10', 14' & 15'	10', 14', 15', 20' & 27'	7', 10', 12', 14' 20', 27', 30' & 30' folding	7.5' & 10.5'	15' & 20'
7.5"/15" & 10"/20"	7", 8" & 10"	6"/7", 7.5", 8" & 10"	6 2/3", 7", 7.5", 8", 10" & up to 40"	7"	7", 7.5", 8" & 10"
pull	pull, mounted	pull	pull, mounted	pull	NI
smooth	fluted, ripple, bubble	fluted, ripple, bubble	fluted, ripple, bubble, smooth, notched	smooth	ripple, bubble, 1" wavy
no	NA	yes	yes	NA	NI
double disk	double disk	double disk	double disk, offset	double disk	NA
162 lb/ft	75 lb/ft	75 lb/ft	75 lb/ft	NA	NI
in-row	in-row, side band	in-row, side band	in-row, side band	NA	double bar attachment
NI	sing. vert. 1-2" dual ang. 1-2" 4 X 12 DC	sing. vert. 1-2" dual ang. 1-2" 4 X 12 DC	sing. vert. 1-2" dual ang. 1-2" 4 X 12 DC 4 X 16 DC	sing. vert.	NA
NI	rubber	rubber	rubber, cast iron	rubber	NI
legume, grass	legume, grass	legume, grass	legume, grass	legume seed	NA
NI	1.7 & 2.0 bu/ft	2.4 bu/ft	2.4 bu/ft	3 bu/ft	NA
6,580 (10') 8,660 (15')	2,500 (7') 3,000 (10') 4,500 (14') 5,200 (15')	5,000 (10') 6,500 (14') 7,000 (15') 9,000 (20') 12,000 (27')	4,398 (7'), 7,042 (10') 7,858 (12'), 8,705 (14') 8,945 & 11,358 (15') 14,776 (27') 16,098 (30')	4,450 - 9,670 5,500 - 9,690	(cart weights) 3,800 - 4,800
1,000 lbs	up to 300 lbs/row	up to 300 lbs/row	300 lbs/row	9,670 - 8,290 lbs 9,690 - 10,000 lbs	NI
front seed, gang lock-up	legume, dry fert., native grass harrow, weight bracket, agitator	depth bands, row markers, legume dry fertilizer, native grass harrow, weight bracket, agitator	weights, coulters, tine harrow, markers, depth control bands, offset opener, notched opener, agitator, acre meter, native grass seeder, folding hitch, caddy hitch, lift assist, press wheels, end transport assembly	weights, foam marker bracket, weight brackets, agitator, grass seeder	double bar attachment roller-tine pkg. for secondary till (S-tine roller), cart can pull ripper or chisel plow

NA = Not Applicable
NI = No Information

PARTICIPATING COMPANIES

Bush Hog/Lilliston
P. O. Box 1039
Selma, AL 36702-1039
(205) 872-6261

Great Plains Mfg., Inc.
P. O. Box 218
Assaria, KA 67416
(913) 667-4755

Haybuster Mfg., Inc.
P. O. Box 1950
Jamestown, ND 58401
(701) 252-4601

Holland Equipment, Ltd.
20 Phoebe St.
Norwich, Ontario NOJ1P0
CANADA
(519) 863-3414

John Deere
701 Georgeville Rd.
Columbus, OH 43228

Marliss Supply Co. Inc.
P. O. Box 9370
Jonesboro, AK 72403
(501) 932-7550

Vermeer Mfg.
P. O. Box 200
Pella, IA 50219
(515) 628-3141

The Tye Company
Box 218
Lockney, TX 79241
(806) 652-3367

Yetter Mfg.
Colchester, IL 62326-0358
(309) 776-4111

RELATED MATERIALS:

Harrigan, T.M., F.J. Pierce, and R.L King. 1990. **Drills and Drill Components for Conservation Tillage in Michigan**, Michigan State University Cooperative Extension Service Bulletin E-2258.

Pierce, F.J. and R.L King. 1989. **Direct Drilling of Close Seeded Crops**, Conservation Tillage Fact Sheet, Michigan State University Cooperative Extension Service.

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Inclusion of any drill does not indicate endorsement by Michigan State University or the authors, and exclusion of any conservation tillage drill available in Michigan is unintentional.

We invite other drill manufacturers to send information to Dr. F.J. Pierce, Crop & Soil Science Dept., Michigan State University, East Lansing, MI 48824 for possible inclusion in future revisions of this publication.

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