
Rotary Tillers:

Nichols Tillage Tools, Inc.
312 Hereford Ave.
Sterling, CO 80751
(303) 522-8676

Northwest-Tillers, Inc.
P.O. Box 10932
Yakima, WA 98909
(509) 575-1950

Sunflower Mfg. Co., Inc.
P.O. Box 566
Beloit, KS 67420
(913) 738-2261

Taylor/Pittsburgh Implements
P.O. Box 769
Athens, TN 37303
(615) 745-3110

Timm Enterprises, Ltd.
P.O. Box 157
Oakville, Ontario
Canada L6J 4Z5
(416) 878-4244

Utility Tool & Body Co., Inc.
P.O. Box 360
Clintonville, WI 54929
(715) 823-3167

Vandermolen Corp.
119 Dorsa Ave.
Livingston, NJ 07039
(201) 992-8506

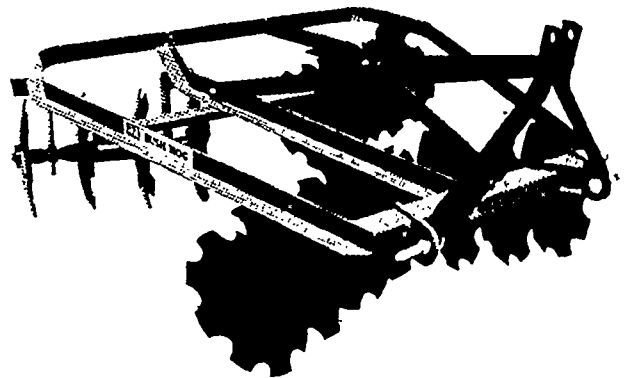
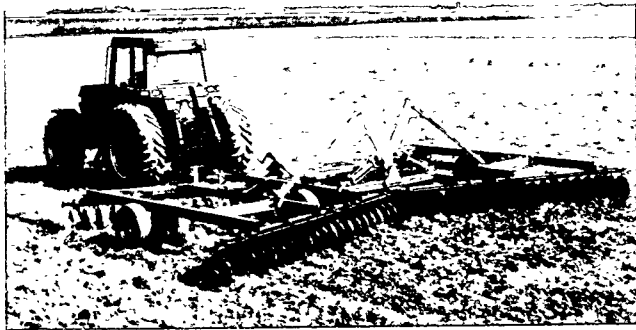
White Farm Equipment
123 W Sycamore St.
Coldwater, OH 45828
(419) 678-5311

Yard-Man Co.
P.O. Box 360940
5965 Crafton Rd.
Cleveland, OH 44136
(216) 273-3600

Yetter Mfg. Co., Inc.
P.O. Box 358
Colchester, IL 62326
(309) 776-4111

Discs

Discs are tractor-drawn secondary tillage implements that consist of a gang of round, concave metal discs that are spaced several inches apart and mounted on a bias. They are adjustable and have an effective operating depth of 8 inches. Discs are available for all categories of tractors and in widths from 6 to 35 feet.



Discs:

Agridisc & Implements Corp.
5502 NW 72nd Ave.
Miami, FL 33166
(305) 884-6100

Amco Mfg., Inc.
P.O. Box 1107
Yazoo City, MS 39194
(601) 746-4464

Athens Plow Co.
Athens, TN 37303
(615) 744-7569

Beaver Valley Supply
Atwood, KS 67730
(913) 626-3251

Brown Mfg. Corp.
P.O. Box 339
Rt 3
Highway 27 E
Ozark, AL 36360
(205) 795-6603

Callahan Implement Mfg., Inc.
107 - 11th Ave. N
Nampa, ID 83651
(208) 466-0871

J.I. Case
A Tenneco Co.
700 State St.
Racine, WI 53404
(414) 636-5399

Chapin Equipment Co.
202 Fulton St.
Fresno, CA 93721
(209) 233-7141

Conway Technologies Corp.
P.O. Box 350
McAllen, TX 78502
(512) 687-7500

Deere & Co.
John Deere Rd.
Moline, IL 61265
(309) 765-5678

Deutz-Allis Corp.
3883 Steve Reynolds Blvd.
Norcross, GA 30093
(404) 564-7100

Edwards Equipment Co.
4312 Main St.
Yakima, WA 98903
(509) 248-1770

Engineering Products Co.
P.O. Box 1510
Waukesha, WI 53187
(414) 785-0786

Ezee-On Mfg., Ltd.
Highway 16 W
Vegreville, Alberta
Canada 50B 4L0
(403) 632-2126

Ford New Holland, Inc.
500 Diller Ave.
New Holland, PA 17557
(717) 355-1121

Hesston Corp.
245 E North Ave.
Carol Stream, IL 60188
(312) 260-4490

Hester Plow Co., Inc.
P.O. Box 340
Lake City, FL 32056-0340
(904) 755-0960

Howse Implement Co., Inc.
P.O. Box 86
Laurel, MS 39441
(601) 428-0841

Hutch Master Products
P.O. Box 1030
Wahpeton, ND 58074
(701) 642-2621

Kello-Bilt Industries, Ltd.
P.O. Box 1119
Stettler, Alberta
Canada T0C 2L0
(403) 742-3663

Kewanee Farm Equipment Co.
1516 Burlington Ave.
Kewanee, IL 61443
(309) 852-2191

King Plow Co.
P.O. Box 93009
Atlanta, GA 30377
(404) 876-4476

Krause Plow Corp.
P.O. Box 2707
Hutchinson, KS 67504-2707
(316) 663-6161

Leinbach Machines Co.
P.O. Box 11786
Winston-Salem, NC 27116
(919) 924-4115

Discs:

Marvin Landplane
P.O. Box 1880
Woodland, CA 95695
(916) 662-2871

Massey-Ferguson, Inc.
1901 Bell Ave.
Des Moines, IA 50315
(515) 247-2011

McConnell Mfg. Co., Inc.
McConnell Ave.
Prattsburg, NY 14873
(607) 522-3701

Modern, Inc.
P.O. Box 790
Beaumont, TX 77704
(409) 833-2665

Narcan Farm Equipment, Ltd.
P.O. Box 1237
Cambridge, Ontario
Canada N1R 6C9
(519) 623-8261

Nicholls Farm Equipment
Rt. 3
Wainfleet, Ontario
Canada L05 1V0
(416) 732-2000

Portable Elevator Division
920 E Grove St.
Bloomington, IL 61701
(309) 329-1235

Prime Mfg. Co., Inc.
P.O. Box 433
Poplarville, MS 39470
(601) 795-4553

Rite Way Mfg. Co., Ltd.
P.O. Box 3344
Regina, Saskatchewan
Canada S4P 3H1
(306) 543-6777

Rome Industries
P.O. Box 48
Cedartown, GA 30125
(404) 748-4450

Steiger Tractor, Inc.
P.O. Box 6006
Fargo, ND 58108
(701) 293-4714

Summers Mfg. Co.
338 Railway Ave.
Maddock, ND 58348
(701) 438-2855

Sunflower Mfg. Co., Inc.
P.O. Box 566
Beloit, KS 67420
(913) 738-2261

Taylor/Pittsburgh Implements
P.O. Box 769
Athens, TN 37303
(615) 745-3110

Timm Enterprises, Ltd.
P.O. Box 157
Oakville, Ontario
Canada L6UJ 4Z5
(416) 878-4244

Tractor Implement Supply Co.
232 Lothenback Ave.
St. Paul, MN 55118
(612) 455-6682

The Vassar Co.
P.O. Box 609
207 N Main
Perkins, OK 74059
(405) 547-2454

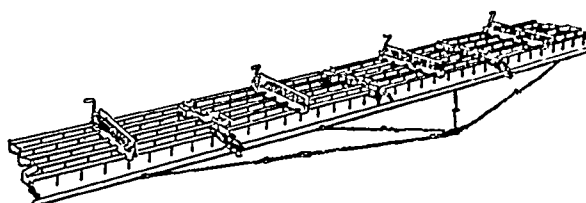
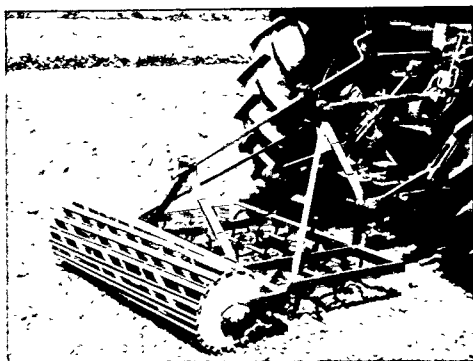
White Farm Equipment
123 W Sycamore St.
Coldwater, OH 45828
(419) 678-5311

Wil-Rich
P.O. Box 1030
Wahpeton, ND 58074
(701) 642-2621

Wishek Steel Mfg., Inc.
P.O. Box 185
Wishek, ND 58495
(701) 452-2449

Harrows

Harrows are tractor-drawn secondary tillage implements that break up clods and smooth the soil. They are available in a variety of widths. There are basically three types of harrows: the "spring-tooth," with curved tines; the "spike tooth" with rigid teeth; and the "flexible" that contours to the ground. Harrows can be mounted with other implements for a variety of different effects. For example, they can be mounted behind discs to break up clods before they harden. Some harrows have rubber tire carriers for road travel and many have long sections that can be folded for transport.



Harrows:

ACI Sales & Service
P.O. Drawer Z
Filer, ID 83328
(208) 326-4305

Alloway Mfg. & Dist. Co.
P.O. Box 2825
Fargo, ND 58108
(701) 282-7014

Baker, The Tillage Co.
625 Linden
Alva, OK 73717
(405) 327-0234

Bigham Brothers, Inc.
P.O. Box 3338
Lubbock, TX 79452
(806) 765-8201

Blanchard Co.
P.O. Box 1607
Minot, ND 58702
(701) 852-1924

Brillion Iron Works, Inc.
200 Park Ave.
Brillion, WI 54110
(414) 756-2121

J.I. Case
A Tenneco Co.
700 State St.
Racine, WI 53404
(414) 636-5399

Corsicana Grader & Machine Co.
P.O. Box 1699
Corsicana, TX 75110
(214) 872-1241

CrustBuster/Speed King Inc.
P.O. Box 1438
Fort Dodge Rd.
Dodge City, KS 67801
(316) 227-7106

Deere & Co.
John Deere Rd.
Moline, IL 61265
(309) 765-5678

Degelman Industries, Inc.
P.O. Box 490
Minot, ND 58701
(701) 852-1876

Deutz-Allis Corp.
3883 Steve Reynolds Blvd.
Norcross, GA 30093
(404) 564-7100

DMI, Inc.
P.O. Box 65
Goodfield, IL 61742
(309) 965-2233

ED-KA Mfg. Co.
P.O. Box 37
Garfield, WA 99130
(509) 635-1521

Farm King Allied, Inc.
P.O. Box 1003
Winnipeg, Manitoba
Canada R3C 2W5
(204) 661-8711

Farnam Equipment
P.O. Box 34820
Phoenix, AZ 85067
(602) 285-1660

Fast Track Harrow
72188 Cosmic Dr.
Temecula, CA 92390
(714) 676-6749

Flexi-Coil, Ltd.
P.O. Box 1928
Saskatoon, Saskatchewan
Canada S7K 3S5
(306) 934-3500

Forrest City Machine Works, Inc.
P.O. Box 984
Forrest City, AR 72335-0984
(501) 633-1514

Fuerst Brothers, Inc.
P.O. Box 427
Gibson City, IL 60936
(217) 784-4266

Harriston Industries, Inc.
P.O. Box 378
Minot, ND 58261
(701) 248-3286

Hinniker Co.
P.O. Box 3407
Mankato, MN 56002
(507) 625-6621

Howse Implement Co., Inc.
P.O. Box 86
Laurel, MS 39441
(601) 428-0841

Harrows:

Kasco Mfg. Co., Inc.
P.O. Box 393
Rt. 3
Shelbyville, IN 46176
(317) 398-7973

Kent Mfg. Co., Inc.
P.O. Box 126
Tipton, KS 67485
(913) 373-4145

King Plow Co.
P.O. Box 93009
Atlanta, GA 30377
(404) 876-4476

Knowles Mfg. Co.
P.O. Box 97
Glenbeulah, WI 53023
(414) 526-3241

Jack Kovar Sales Co.
1329 3rd Ave. S
Anoka, MN 55303
(612) 421-4047

Leinbach Machinery Co.
P.O. Box 11786
Winston-Salem, NC 27116
(919) 924-4115

Lorenz Mfg. Co.
P.O. Box 127
Benson, MN 56215
(612) 843-3210

McConnell Mfg. Co., Inc.
McConnell Ave.
Prattsburg, NY 14873
(607) 522-3701

McFarlane Mfg. Co., Inc.
P.O. Box 577
1259 S Water St.
Sauk City, WI 53583
(608) 643-3321

My-D Han-D Mfg., Inc.
Rt. 1, W McArtor
Dodge City, KS 67801
(316) 225-0263

Noble
P.O. Box 1030
Wahpeton, ND 58074
(701) 642-2621

Northwest-Tillers, Inc.
P.O. Box 10932
Yakima, WA 98909
(509) 575-1950

Pepin Farm Implements
P.O. Box 158
610 Pine St.
Pepin, WI 54759
(715) 442-2111

Portable Elevator Div.
920 E Grove St.
Bloomington, IL 62701
(309) 829-1235

Rears Mfg. Co.
2140 Prairie Rd.
Eugene, OR 97402
(503) 688-1002

Remlinger Mfg. Co., Inc.
P.O. Box 299
Kalida, OH 45853
(419) 532-3647

Rome Industries
P.O. Box 48
Cedartown, GA 30125
(404) 748-4450

Speed King Mfg. Co., Inc.
P.O. Box 1438
Dodge City, KS 67801
(316) 227-7106

Sprayrite Mfg. Co.
P.O. Box 3289
West Helena, AR 72390
(501) 572-6737

Steelcraft, Inc.
P.O. Box 1284
505 - 30th Ave. NW
Miami, OK 74355
(918) 542-4466

Stocker & Son, Inc.
P.O. Box 749
Bayport, NY 11705
(516) 472-1881

Sunflower Mfg. Co., Inc.
P.O. Box 566
Beloit, KS 67420
(913) 738-2261

Taylor/Pittsburgh Implements
P.O. Box 769
Athens, TN 37303
(615) 745-3110

TEMCO H-M Parts Co.
P.O. Box 40210
Memphis, TN 38174-0210
(901) 274-1158

Timm Enterprises, Ltd.
P.O. Box 157
Oakville, Ontario
Canada L6J 4Z5
(416) 878-4244

Traver Sales Corp.
84636 Highway 25
Folsom, LA 70437
(504) 796-3286

Tri-Ag Corp.
555 N Tenth
Logan, UT 84321
(801) 753-1950

Unverferth Mfg. Co., Inc.
P.O. Box 357
Star Rt. 224
Kalida, OH 45853
(419) 532-3121

W&A Mfg., Co.
P.O. Box 5238
Pine Bluff, AR 71611
(501) 534-7420

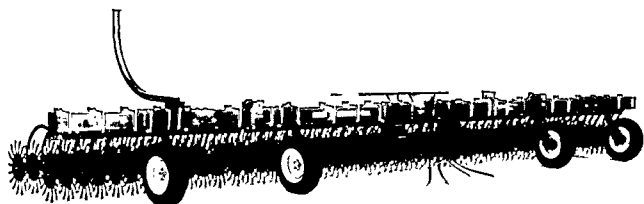
Western Mfg. Co., Inc.
P.O. Box 55
Bottineau, ND 58318
(701) 228-3757

Wil-Rich
P.O. Box 1030
Wahpeton, ND 58074
(701) 642-2621

White Farm Equipment
123 W Sycamore St.
Coldwater, OH 45828
(419) 678-5311

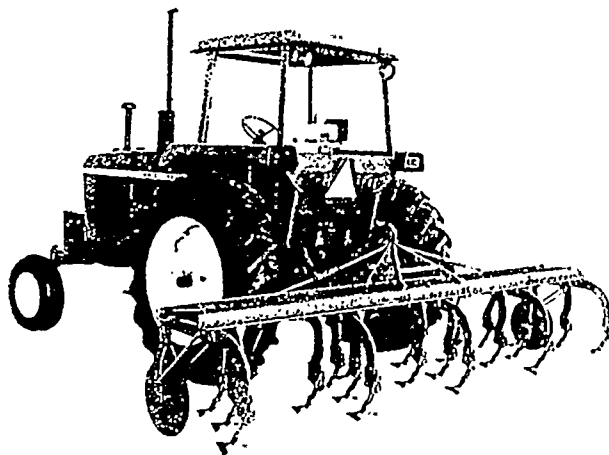
Cultivators

Cultivators are used for seedbed preparation, weed control, stubble-mulch tillage, summer fallow, and roughing fields to increase moisture absorption and to control wind and water erosion. Chisel plows are included, however, they are of heavier construction, designed for deeper operation, and are used for primary tillage. Versatility is often increased by adding various attachments such as fertilizers, sprayers, harrows, or seeders to cultivators.



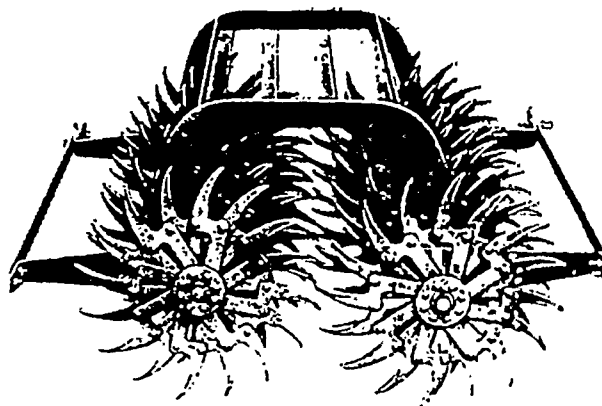
Chisel Plow

A chisel plow is a tractor-drawn implement that breaks up the soil or subsoil. It may be used for primary or secondary tillage, depending on the model. Chisel plowing increases water and root penetration in some soil conditions. Chisel models are available for soil penetration from 4 to 30 inches deep and in widths ranging from 6 to 40 feet for all categories of tractors.



Rotary Hoe

A rotary hoe is a tractor-drawn secondary tillage or cultivation implement. It may be used to weed new seedbeds or to break up crusty surface soil. It consists of tandem multi-teeth wheels that penetrate the soil to a maximum depth of 2 inches. Rotary hoes are available in widths from 4 to 20 feet for all categories of tractors.



Cultivators:

Ace Supply, Inc.
P.O. Box 1098
Caldwell, ID 83606-1098
(208) 459-0731

Alloway Mfg. & Distributors Co.
P.O. Box 2825
Fargo, ND 58108
(701) 282-7014

BEFCO, Inc.
P.O. Box 6036
Rocky Mount, NC 27801
(919) 977-9920

Bigham Brothers, Inc.
P.O. Box 3338
Lubbock, TX 79452
(806) 765-8201

Brillion Iron Works, Inc.
200 Park Ave.
Brillion, WI 54110
(414) 756-2121

Brown Mfg. Corp.
P.O. Box 339
Rt. 3
Highway 27 E
Ozark, AL 36360
(205) 795-6603

Bryan Co.
Salinas Farm Implements
P.O. Box 1196
Salinas, CA 93902
(408) 754-6674

Buckeye Tractor Co.
P.O. Box 123
Columbus Grove, OH 45830
(419) 659-2162

Bush Hog Div.
Allied Products Corp.
P.O. Box 1039
Selma, AL 36702-1039
(205) 872-6261

J.I. Case
A Tenneco Co.
700 State St.
Racine, WI 53404
(414) 636-5399

Deere & Co.
John Deere Rd.
Moline, IL 61265
(309) 765-5678

Deutz-Allis Corp.
3883 Steve Reynolds Blvd.
Norcross, GA 30093
(404) 564-7100

Dickey Machine Works
P.O. Box 5610
Pine Bluff, AR 71611
(501) 536-1300

Eversman, Inc.
P.O. Box 390336
Denver, CO 80239
(303) 371-0333

Farmhand, Inc.
P.O. Box 1500
Excelsior, MN 55331
(612) 474-1941

Fleischer Mfg., Inc.
P.O. Box 848
Columbus, NE 68602-0848
(402) 564-3244

Ford New Holland, Inc.
500 Diller Ave.
New Holland, PA 17557
(717) 355-1121

Graham-Hoeme
P.O. Box 3779
Amarillo, TX 79106
(214) 475-0405

The Green Hoe Co., Inc.
W Main Rd.
Portland, NY 14769
(716) 792-9433

Harriston Industries, Inc.
P.O. Box 378
Minot, ND 58261
(701) 248-3286

Hesston Corp.
245 E North Ave.
Carol Stream, IL 60188
(312) 260-4490

Hiniker Co.
P.O. Box 3407
Mankato, MN 56002
(507) 624-6621

C.C. Kelley & Son
61501 Bremen Highway
Mishawaka, IN 46544
(219) 255-4746

Kewanee Farm Equipment Co.
1516 Burlington Ave.
Kewanee, IL 61443
(309) 852-2191

Krause Plow Corp.
P.O. Box 2707
Hutchinson, KS 67504-2707
(316) 663-6161

Landoll Corp.
1700 May St.
Marysville, KS 66508
(913) 562-5381

Lorenz Mfg. Co.
P.O. Box 1507
Waterton, SD 57201
(605) 886-9596

J.E. Love Co.
309 California St.
Garfield, WA 99130
(509) 635-1321

Massey-Ferguson, Inc.
1901 Bell Ave.
Des Moines, IA 50315
(515) 247-2011

McConnell Mfg. Co., Inc.
McConnell Ave.
Prattsburg, NY 14873
(607) 522-3701

Mid-States Equipment Co., Inc.
P.O. Box 146
Lake View, IA 51540
(712) 657-8585

The Murray Ohio Mfg. Co.
P.O. Box 268
Brentwood, TN 37027
(615) 373-6500

Noble
P.O. Box 1030
Wahpeton, ND 58074
(701) 642-2621

Northwest-Tillers, Inc.
P.O. Box 10932
Yakima, WA 98909
(509) 575-1950

Orthmon Mfg., Inc.
P.O. Drawer B
Lexington, NE 68850
(308) 324-4654

Pepin Farm Implements
P.O. Box 158
610 Pine St.
Pepin, WI 54759
(715) 442-2111

Remlinger Mfg. Co., Inc.
P.O. Box 299
Kalida, OH 45853
(419) 532-3647

Rome Industries
P.O. Box 48
Cedartown, GA 30125
(404) 748-4450

Sprayrite Mfg. Co.
P.O. Box 3289
West Helena, AR 72390
(501) 572-6737

Sukup Mfg. Co.
P.O. Box 677
Sheffield, IA 50475
(515) 892-4222

Taylor/Pittsburgh Implements
P.O. Box 769
Athens, TN 37303
(615) 745-3110

Tebben Mfg.
P.O. Box 140
Rt. 2
Clara City, MN 56222
(612) 847-2200

Timm Enterprises, Ltd.
P.O. Box 157
Oakville, Ontario
Canada L6J 4Z5
(416) 878-4244

United Farm Tools, Inc.
P.O. Box 4026
Glasgow, KY 42142
(502) 651-7121

The Vassar Co.
P.O. Box 609
207 N Main
Perkins, OK 74059
(405) 547-2454

Vicom Farm Machinery, Inc.
2885 Charlestown Rd.
Lancaster, PA 17603
(717) 872-8661

White Farm Equipment
123 W Sycamore St.
Coldwater, OH 45828
(419) 678-5311

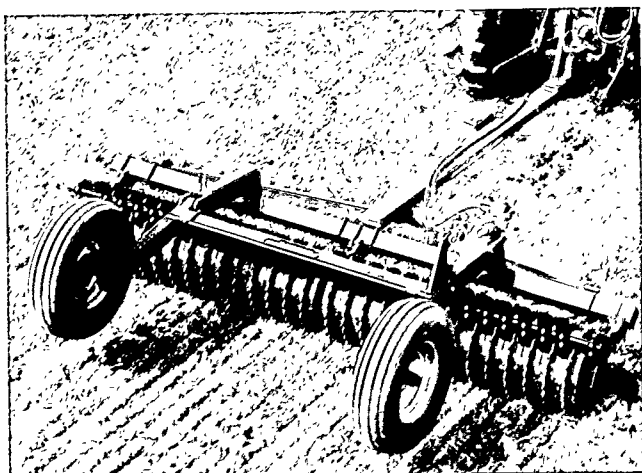
Wil-Rich
P.O. Box 1030
Wahpeton, ND 58074
(701) 642-2621

Worksaver, Inc.
P.O. Box 1000
S State St.
Litchfield, IL 62056
(217) 324-5973

Yetter Mfg. Co., Inc.
P.O. Box 358
Colchester, IL 62326
(309) 776-4111

Roller Packers

Roller packers are tractor-drawn secondary tillage implements that are used to prepare seedbeds of proper tilth. They break clods, pulverize and firm the soil surface as well as close air pockets, (See *drum rollers Section 4.1*). Cultipackers have row indentation collars that are either serrated or smooth and create depressions for sowing seeds of cover or green manure crops. Cultipackers are used with harrows or cultivators and are available in a number of different sizes. Tandem models have arms that fold up for transport.



Roller Packers:

Bigham Brothers, Inc.
P.O. Box 3338
Lubbock, TX 79452
(806) 765-8201

Blanchard Co.
P.O. Box 1607
Minot, ND 58702
(701) 852-1924

Brillion Iron Works, Inc.
200 Park Ave.
Brillion, WI 54110
(414) 756-2121

B&W Foundry & Mfg. Co.
520 Upton St.
San Angelo, TX 76901
(915) 653-4516

Clyde Machinery, Inc.
P.O. Box 194
Glenwood, MN 56334

DMI, Inc.
P.O. Box 65
Goodfield, IL 61742
(309) 965-2233

ED-KA Mfg. Co.
P.O. Box 37
Garfield, WA 99130
(509) 635-1521

Farmhand, Inc.
P.O. Box 1500
Excelsior, MN 55331
(612) 474-1941

Flexi-Coil, Ltd.
P.O. Box 1928
Saskatoon, Saskatchewan
Canada S7K 3S5
(306) 934-3500

Harmon International Industries, Inc.
P.O. Box 1444
Saskatoon, Saskatchewan
Canada S7K 3P7
(306) 931-1161

Kewanee Farm Equipment Co.
1516 Burlington Ave.
Kewanee, IL 61443
(309) 852-2191

McConnell Mfg. Co., Inc.
McConnell Ave.
Prattsburg, NY 14873
(607) 522-3701

New Castings, Inc.
Spokane Industrial Park
Bldg. 4
Spokane, WA 99216
(509) 924-6464

Prime Mfg. Co., Inc.
P.O. Box 433
Poplarville, MS 39470
(601) 795-4553

Reiten, Inc.
P.O. Box 589
Cooperstown, ND 58425
(701) 797-2751

T.G. Schmeiser Co., Inc.
P.O. Box 1047
Fresno, CA 93714
(209) 268-8128

Taylor/Pittsburgh Implements
P.O. Box 769
Athens, TN 37303
(615) 745-3110

Tebben Mfg.
P.O. Box 140
Rt. 2
Clara City, MN 56222
(612) 847-2200

3.4 Soil Fumigation



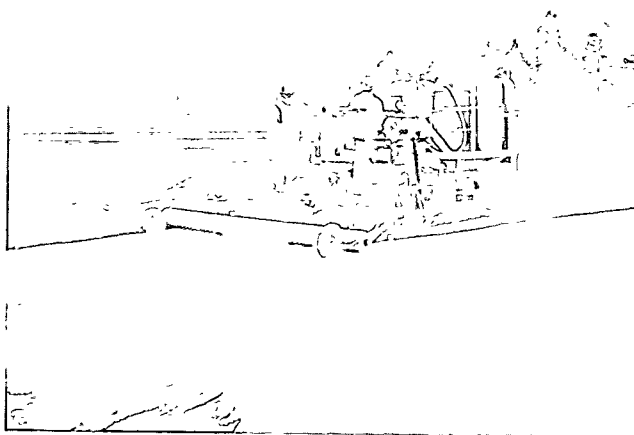
Many nursery pests, such as pathogenic fungi or insects, live in the soil and can build up their populations to harmful levels on crops of tree seedlings or in the cover crop or green manure crop. Because germinating seeds and young tree seedlings are particularly susceptible to these soilborne pathogens, nurseries often fumigate their seedbeds before sowing. Pesticides used for soil fumigation are extremely toxic, and therefore many nurseries contract with fumigation specialists to accomplish the task.

The key to successful fumigation is warm ($>50^{\circ}\text{F}$), moist, and porous soils that both stimulate dormant pests and allow the fumigant to penetrate thoroughly. Some southern nurseries are able to fumigate immediately before spring sowing, but cold, wet spring soil conditions force many other nurseries to fumigate the previous fall. The actual fumigation can be done in a few days if the weather cooperates, and the soil is ready for planting after allowing several weeks for ventilation.

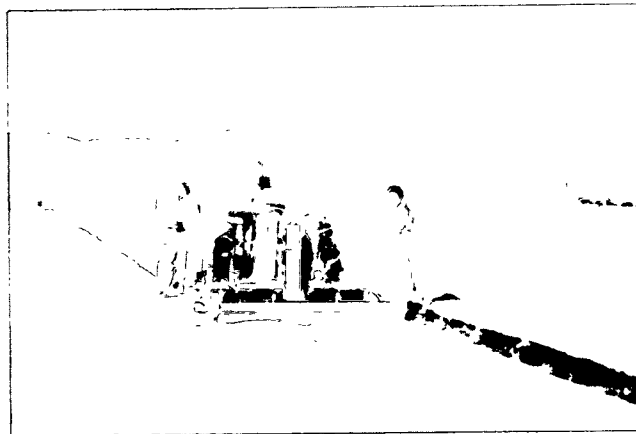
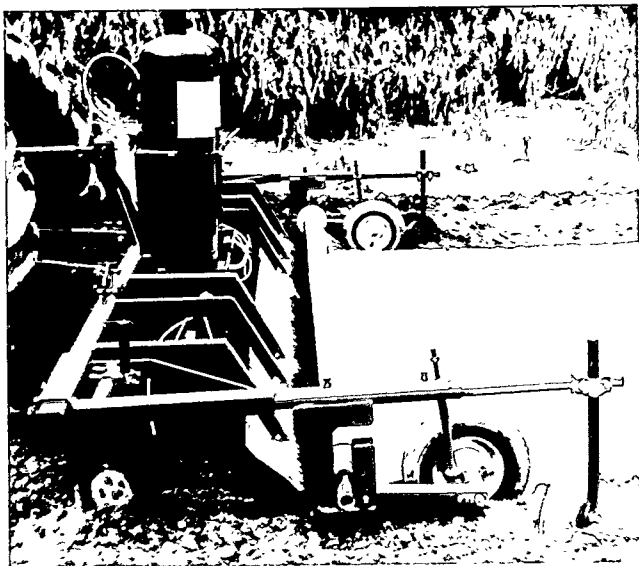
Fumigants

All fumigants function as gases. Some can be applied as pressurized liquids, such as methyl bromide/chloropicrin (MBC), or as fine powders, such as dazomet.

MBC is applied with a tractor-drawn implement consisting of ground-penetrating shanks that inject the pressurized liquid, connecting hoses, gages, the fumigant tank, and a roll of plastic tarp to cover the treated soil. Two tarping techniques have been used for covering injected fumigants. In "strip fumigation" the fumigant is applied under separate sections of tarp that are covered on both sides with soil. After the designated waiting period, the alternate untreated strips are then fumigated. With "continuous tarp fumigation" the application equipment has a liquid glue gun that seals each plastic tarp to the adjacent one so that the entire area can be treated at once.



Microgranule fumigants (dazomet) are applied through drop type spreaders (See Section 5.2), immediately incorporated into the soil, and physically sealed with a drum roller (See Section 4.1) and/or irrigation. Water converts the fine powder to gas and, after the prescribed waiting period, the treated area is cultivated to release the fumigant.



Fumigation Equipment:

Coastal Chemical Corp.
P.O. Box 856
Greenville, NC 27834
(919) 756-1156

Great Lakes Chemical Corp.
P.O. Box 2200
Highway 52 NW
West Lafayette, IN 47906
(317) 497-6100

Hendrix and Dail, Inc.
P.O. Box 648
Greenville, NC 27835
(919) 758-4263

Reddick Equipment Co., Inc.
P.O. Box 71
Williamston, NC 27892
(919) 792-1191

Tri-Cal
P.O. Box 1327
8770 Highway 25
Hollister, CA 95024
(916) 966-2930

Granular Fumigants:

Farm Bureau Co.
P.O. Box 54
Amtigo, WI 54409
(715) 627-4844

Hopkins Agricultural Chemical, Co.
P.O. Box 7532
537 Atlas Ave.
Madison, WI 53707
(800) 356-7202

A.H. Hummert Seed Co.
2746 Chouteau Ave.
St. Louis, MO 63103
(800) 325-3055

Loveland Industries
P.O. Box 1289
Greeley, CO 80632
(303) 346-8920

J. Mollerna & Sons
5400 36th St. SE
Grand Rapids, MI 49508
(616) 940-1441

Northwest Chemical
Salem, OR
(503) 390-3030

Settlers Corp.
P.O. Box 93
Bruce Crossing, MI 49912
(906) 827-3515

Smoke River Chemicals
Caldwell, ID
(208) 454-0475

Tri-River Chemical Co., Inc.
P.O. Box 2778
Pasco, WA 99302

Volm Bag Co.
P.O. Box B
1804 N Edison
Amtigo, WI 54409
(715) 627-4826

Fumigation Contractors:

A.G. Fumigation
P.O. Box 9068
Brooks, OR 97305
(503) 393-1077

Aguitte Crew
P.O. Box 415
Independence, OR 97351-0415

Anderson Reclamation
1125 W Baseline 295
Mesa, AZ 85210

Blair Soil Fumigation
1401 Camellia Dr.
Quitman, GA 31643
(912) 263-7083

Ray Burkhardt
P.O. Box 1112
Redmond, OR 97756

Coastal Chemical Corp.
P.O. Box 856
Greenville, NC 27834
(919) 756-1156

Dodyns-Hart Pest Control
P.O. Box 1005
Pendleton, OR 97801-0020

Evert Fumigation Co., Inc.
4040 Colvert St.
Lincoln, NE 68506
(402) 488-2478

Hendrix and Dail, Inc.
P.O. Box 648
Greenville, NC 27835
(919) 758-4263

Northwest Chemical Corp.
4560 Ridge Dr. NE
Salem, OR 97303
(503) 390-3030

NW Pesticides Enterprises, Inc.
14520 Beck Rd.
Dallas, OR 97338

Reddick Equipment Co., Inc.
P.O. Box 71
Williamston, NC 27892
(919) 792-1191

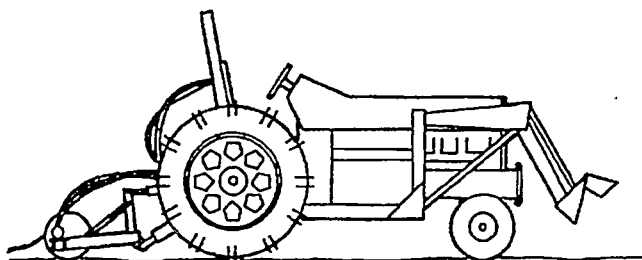
Rite-Way Fumigation Co., Inc.
1705 N 13th St.
Norfolk, NE 68701
(402) 371-2421

Soilfume, Inc.
209 Riverside Rd.
Watsonville, CA 95076
(408) 728-1732

Trident Agricultural Products, Inc
8002 NE, Highway 99
Suite 259
Vancouver, WA 98665

Nursery Tarp Roller

After MBC fumigation, the tarp must be removed from the treated area. A commercial tarp remover is available from the Humbolt and Coeur d'Alene Nurseries. It consists of a roller driven by a hydraulic motor. The apparatus is mounted on a 3-point hitch.



Drawings are available from:

USDA Forest Service
Humbolt Nursery
P.O. Box 2158
McKinleyville, CA 95521
(707) 839-3256

or

USDA Forest Service
Coeur d'Alene Nursery
3600 Nursery Rd.
Coeur d'Alene, ID 83814
(208) 765-6365

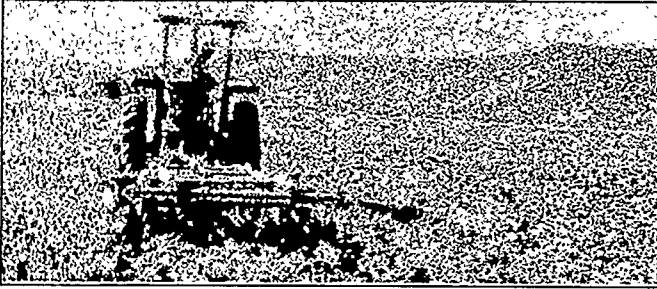
or

USDA Forest Service
Missoula Technology and
Development Center
Building 1, Fort Missoula
Missoula, MT 59801
(406) 329-3900

Tarp Roller:

Yellow Devil Tarp Layer
Magnolia Agriculture Supply, Inc.
P.O. Box 6948
Jackson, MS 39212

3.5 Applying Soil Amendments



The final step in presowing soil preparation is to apply fertilizers or other soil amendments that must be incorporated. Some fertilizers and other chemical amendments cannot be applied as a top dressing after the crop is sown. Bareroot nurseries usually apply sulfur (to lower soil pH) or dolomitic limestone (to raise pH) during the fallow year or just before sowing. Among the macronutrient fertilizers, phosphorus, and potassium (potash) are incorporated into the seedbed before sowing.

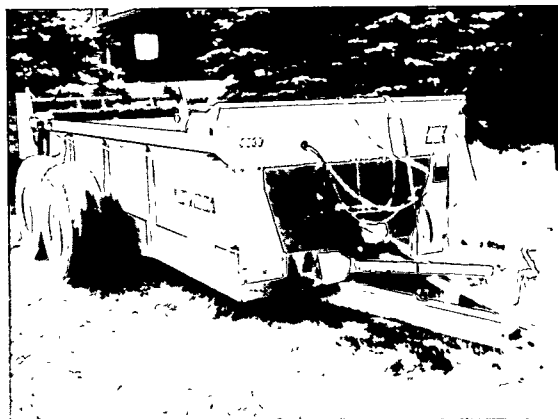
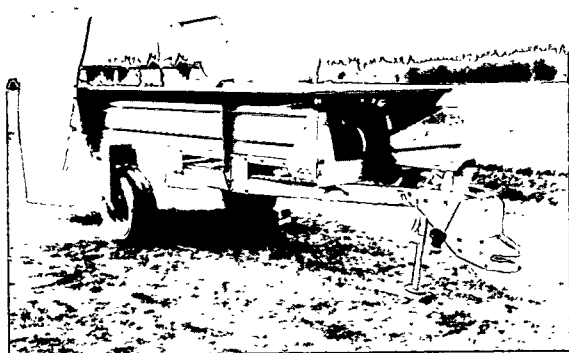
During the fallow year, presowing chemical amendments are normally broadcast with large-capacity agricultural fertilizer spreaders (See Section 5.2) and incorporated with standard cultivation equipment. This may be done before sowing the cover or green manure crop. Another alternative is to apply the amendments immediately before sowing. This can be done either as a broadcast application and incorporation or with drop spreaders mixed directly into the seedbed during bed formation.

Organic amendments, such as sawdust, are also applied as presowing incorporations. With sawdust, it is particularly important to apply the amendment as early in the fallow season as possible and to add supplemental nitrogen fertilizer at the same time to hasten decomposition. Uncomposted sawdust should never be applied immediately before sowing because it will utilize existing soil nitrogen for decomposition and result in nitrogen deficiency in the tree seedling crop.

Bulk organic amendments like sawdust have traditionally been applied with modified agricultural manure spreaders. It is extremely difficult to achieve even distribution of this material with stock equipment. Specialized manure spreaders have been constructed by many forest nurseries. Manure spreaders are available from standard agricultural equipment suppliers (See Section 4.4).

Agricultural Manure Spreaders

Manure usually is a readily available and inexpensive fertilizer. Besides adding nutrients to the soil, it also improves soil structure. Manure wagons are available with various paddles for varied spread patterns. They vary in capacity from 100 to 420 bushels. Some are equipped with steep sides to aid spreading. Many manufacturers provide tank spreaders for liquid manure, such as Ford New Holland. Capacity on tank spreaders ranges from 1,000 to 2,500 gallons. Manure wagons also may be used to spread mulch on seedbeds.



Manure Spreaders:

Ag-Chem Equipment Co., Inc.
5720 Smetana Dr.
Suite 100
Minnetonka, MN 55343
(612) 933-9006

Badger Northland, Inc.
P.O. Box 1215
Kaukauna, WI 54130
(414) 766-4603

Balzer Mfg. Co.
Highway 60 E
Mountain Lake, MN 56159
(507) 217-3133

Belarus Machinery, Inc.
P.O. Box 23608
Milwaukee, WI 53223
(414) 355-2000

Big A Equipment Co., Inc.
Industrial Rd.
Jackson, MN 56143
(913) 825-1631

J.I. Case Co.
A Tenneco Co.
700 State St.
Racine, WI 53404
(414) 636-5397

Deere & Co.
John Deere Rd.
Moline, IL 61265
(309) 765-5678

Du-Al Mfg. Co.
1000 W Cherokee
Sioux Falls, SD 57117-5041
(605) 336-3860

Dyco Industries
2 Powder Mill Rd.
Maynard, MA 01754
(617) 897-6381

Farnam Equipment
P.O. Box 34820
Phoenix, AZ 85067
(602) 285-1660

Forage King Industries, Inc.
P.O. Box 215
Ridgeland, WI 54763
(715) 949-1020

Ford New Holland, Inc.
P.O. Box 1895
500 Diller Ave.
New Holland, PA 17557-0903
(717) 355-1121

Gehl Co.
143 Water St.
West Bend, WI 53095
(414) 334-9461

H. & S. Mfg. Co., Inc.
P.O. Box 768
Marshfield, WI 54449
(715) 387-3414

Highway Equipment Co.
616 D Ave. NW
Cedar Rapids, IA 52805
(319) 363-8281

Huebner Implement Works, Inc.
P.O. Box 95
Forest Junction, WI 54123
(414) 989-1215

Kelly Ryan Equipment, Co.
P.O. Box 488
Blair, NE 68008
(402) 426-2151

Kirby Mfg., Inc.
P.O. Box 989
Merced, CA 95341
(209) 723-0778

Knight Mfg. Corp.
P.O. Box 167
Broadhead, WI 53520
(608) 897-2131

Meyer Mfg. Corp.
P.O. Box 405
Dorchester, WI 54425
(715) 654-5132

Miller-St. Nazianz, Inc.
511 E Main St.
St. Nazianz, WI 54232
(414) 773-2121

New Idea Farm Equipment Div.
123 W Sycamore St.
Coldwater, OH 45828
(419) 678-5311

Off-Road Floater Equipment, Co.
627 Adena Rd.
Chillicothe, OH 45601
(614) 775-2666

Pequea Machine
3230 Gordonville Rd.
Gordonville, PA 17259
(717) 768-3197

United Farm Tools
P.O. Box 4026
Glasgow, KY 42141
(502) 651-7121