

**Agricultural Resource Management Study
Sugarbeet Production Practices and Costs Report for
2000**

SUGARBEET RESPONDENT BOOKLET

FERTILIZER / PESTICIDE APPLICATION METHODS

Section C, Column 6

&

Section D, Column 9

- 1 BROADCAST, GROUND WITHOUT INCORPORATION
- 2 BROADCAST, GROUND WITH INCORPORATION
- 3 BROADCAST, BY AIR
- 4 IN SEED FURROW
- 5 IN IRRIGATION WATER
- 6 CHISEL/INJECTED OR KNIFED IN
- 7 BANDED/SIDEDRESSED IN OR OVER ROW
- 8 FOLIAR OR DIRECTED SPRAY
- 9 SPOT TREATMENTS

Section C, Item 4

Common Fertilizers and Their Percent Analysis

[Enumerator Note: *If Respondent cannot report the formulation for Section C, item 4, enter the formulations below.*]

Name	Percent Active Ingredients				RANGE
	N	P ₂ O ₅	K ₂ O	S	
Anhydrous ammonia	82	--	--	--	
Aqua ammonia	20	--	--	--	16-30% N
Ammonium nitrate	33	--	--	--	33-34% N
Ammonium sulfate	21	--	--	--	20-21% N
Nitrogen solutions	28	--	--	--	7-58% N
Sodium nitrate	16	--	--	--	
Urea	46	--	--	--	45-46% N
Urea ammonium nitrate	32	--	--	--	
Super phosphate (22 % & under) ...	--	19	--	--	18-22% P
Super phosphate (over 22 %)	--	30	--	--	23-39% P
Triple Super Phosphate	--	46	--	--	40-54% P
Ammonium phosphate	11	48	--	--	
Di-ammonium phosphate	18	46	--	--	
Mono-ammonium phosphate	11	52	--	--	
Potassium chloride	--	--	60	--	50-62% K
Potassium nitrate	13	--	44	--	
Potassium sodium nitrate	15	--	14	--	
Mixed Fertilizer	2	6	12	--	
	3	9	18	--	
	3	10	30	--	
	5	10	15	--	
	5	10	30	--	
	5	15	30	--	
	6	24	24	--	
	8	24	24	--	
	9	18	9	--	
	10	34	--	--	
Soil sulfur	--	--	--	92	
Sulfur-bentonite	--	--	--	90	
Sulfur dioxide	--	--	--	50	
Ammonium polySulfide	20	--	--	45	
Ammonium sulfate	21	--	--	24	
Ammonium thiosulphate solution ...	12	--	--	26	
Diammonium phosphate-sulfur	16	40	--	13	
Potassium sulfate	--	--	50	18	48-52% K
Potassium-magnesium sulfate	--	--	22	22	

CHEMICALS and PESTICIDES for SUGARBEETS

H=HERBICIDE; I=INSECTICIDE; F=FUNGICIDE; M=MISC. OTHER; MG=GROWTH REGULATOR; MR=RODENTICIDE; MS=SOIL FUMIGANT

D/L	Class	Code	Product Name	D/L	Class	Code	Product Name
D	I	1672	Able	L	I	1025	Dipel ES-NT
			Apron	D	M	9127	Durham Metaldehyde Granules
L	F	8718	Apron XL LS				Dusting Sulfur
L	F	8701	Apron Flowable				Dusting Sulfur
D	F	7296	Agra-Cop 50WP	D	F	7129	Dusting Sulfur
L	I	1004	Asana XL	D	F	7118	Dusting Sulfur 98
L	H	4371	Assure II	L	MG	9277	Early Harvest
D	F	7196	Basicop	L	I	1330	Enstar II (Enstar 5E)
D	F	7111	Ben-Sul 60 Dust				Eptam
D	F	7003	Benlate	D	H	4583	Eptam (R) 20-G Granules
L	H	4386	Betamix	L	H	4053	Eptam 7-E
L	H	4387	Betanex				Evergreen
L	H	4020	Better Beet (4.3 EC)	L	I	1304	Evergreen Growers Spray
			Carbaryl	L	I	1413	Evergreen Growers Spray 7405
L	I	1011	Carbaryl 4L	L	I	1304	Evergreen Growers Spray 7439
D	I	1302	Carbaryl 90F	D	I	1053	Furadan 15G
D	I	1493	Carbaryl Insecticide Bait	L	I	1555	Gemstar LC
D	I	1047	Class Diazinon 14G	L	H	4580	Glyphos X-TRA
D	I	1670	Condor (WP)	D	F	7333	Golden-Dew
D	I	1241	Counter Cr	L	H	4064	Gramoxone Super Herbicide
L	H	4654	Cyclone Concentrate	L	MG	9277	Griffin Early Harvest PGR
L	MG	9081	Cytokini Bioregulator Concentrate	L	H	4383	Herbicide 273
L	M	9269	Cytoplex HMS	L	I	5345	Horse Spray Ready to Use
L	I	1557	Declare	L	F	7173	K-Cop
D	I	1411	Diatect Multipurpose				Kocide
			Diazinon	D	F	7059	Kocide 101
D	I	1047	Diazinon 14G	D	F	7262	Kocide 2000
L	I	1208	Diazinon 4 Spray	L	F	7126	Kocide 404S Flowable
D	I	1368	Diazinon 4 AG	L	F	7314	Kocide 4.5 LF
L	I	1041	Diazinon 4EC	D	F	7167	Kocide DF
D	I	1050	Diazinon 50 W	D	F	7168	Kolodust
D	I	1050	Diazinon 50 WP				Lannate
L	I	1046	Diazinon AG500	L	I	1064	Lannate LV
D	I	1044	D-Z-N Diazinon 50W	D	I	1065	Lannate SP
			Dibrom	D	I	1671	Lepinox WDG
L	I	1022	Dibrom 8 Emulsive				Lorsban
L	I	1251	Dibrom 8 Spray	D	I	1068	Lorsban 15G
			Dithane	D	I	1070	Lorsban 50W
D	F	7127	Dithane DF	L	I	1069	Lorsban 4E
L	F	7318	Dithane F-45 Flowable M	L	I	1420	Lorsban 30 Flowable
L	PH	6096	Dithane F-45 Flowable Mancozeb	L	I	1434	Lorsban 4E-HF
D	F	7016	Dithane —45	L	I	1523	Lorsban 2E
D	F	7317	Dithane WSP				

D/L	Class	Code	Product Name	D/L	Class	Code	Product Name
			Malathion	L	I	1474	Pyronil Crop Spray
L	I	1236	Malathion 57% Emulsifiable	D	I	1389	Red-Top Spray Sulfur
L	I	1157	Malathion ULV 9.33 Lb (95%)	L	F	7286	Ridomil Gold EC
			Maneb	L	I	1046	Rigo Diazinon AG 500
L	F	7062	Maneb 4 Flowable				Roundup
D	F	7229	Maneb 75 DF Dry Flowable	L	H	4506	Roundup L&G Concentrate
D	F	7022	Maneb 80 WP	L	H	4093	Roundup
D	F	7063	Maneb Plus	L	H	4700	Roundup Custom
			Manex	L	H	4376	Roundup D-PAK
L	F	7064	Manex	L	H	4564	Roundup Export
D	F	7311	Mankocide	L	H	4315	Roundup RT
			Manzate	L	H	4561	Roundup Ultra Dry
D	F	7025	Manzate 200 DF	D	H	4538	Roundup WSD Water Soluble
L	F	7067	Manzate 200 Flowable	Dry			
			Maxim 4FS	L	H	4094	Ro-Neet 6-E
L	PH	6275	Maxim 4FS				
L	MG	9171	Maxon II	L	H	4450	Sedagri Trifluralin 480
			Mefenoxam	L	H	4447	Select
D	F	7323	Mefenoxam (Ridomil Gold WSP)	D	I	1493	Sevimol Carbaryl
D	F	7320	Mefenoxam MZ (Ridomil Gold MZ)				Sevin
D	F	7307	Mefenoxam GR (Ridomil Gold GR)	L	I	1132	Sevin 4 Flowable
			Merit 2	L	I	1132	Sevin 4F Agricultural
L	I	1416	Merit 2	D	I	1341	Sevin 5% Bait
L	F	7396	Mertect (R) 340-F				Carbaryl
L	I	1072	Metasystox-R Spray	D	I	1171	Sevin 20% Bait
			Metabrom	D	IMG	1018/9061	Sevin 80S Carbaryl
D	PH	6029	Metabrom 100	L	IMG	1132/9058	Sevin Brand 4F Carbaryl
D	PH	6281	Metabrom Q	D	IMG	1012/9054	Sevin Brand 50W Carbaryl
			Metho-O-Gas	D	I	1496	Sevin Brand 80 WSP Carbaryl
D	PH	6030	Meth-O-Gas 100	L	I	1019	Sevin Brand RP4 Carbaryl
D	PH	6030	Meth-O-Gas 100				
L	I	1423	MGK Formula 7243	L	H	4320	Stinger
D	I	1393	Microthiol Disperss				Sunspray
			Nortron EC	L	I	1680	Sunspray 6
L	H	4388	Nortron EC	L	I	1205	Sunspray 6 Plus
			PCNB 2-E Liquid Emulsifiable				Super Tin
			Penncozeb	L	F	7073	Super Tin 4L
D	F	7098	Penncozeb 75 DF	D	F	7215	Super Tin 80 WP
D	F	7026	Penncozeb 80 WP				
			PGR-IV	L	I	1292	Supreme Oil
L	MG	9137	PGR-IV				Temik
D	I	1240	Phorate 20G	D	I	1124	Temik Brand15G Aldicarb Pesticide
			Poast	D	I	1124	Temik Brand15G NW Aldicarb
L	H	4081	Poast (1.5 EC)	L	F	7100	Tenn-Cop 5E
L	H	4703	Poast HC (3.5 EC)				Thimet
L	H	4334	Poast Plus (1 EC)				Thimet 10-G Soil and Systemic
			Prism	D	I	1219	
L	H	4573	Prism				
D	F	7146	Pro-Cop R				
L	I	1224	Pyrenone Crop Spray				

D/L	Class	Code	Product Name
D	I	1256	Thimet 15-G Soil and Systemic
D	I	1127	Thimet 20-G Soil and Systemic
Thiram			
D	M	8710	Thiram 30% Flowable
L	F	8711	Thiram 42% Flowable
L	H	4107	Tillam 6-E
L	F	7316	Top Crop Flowable
Topsin			
L	F	7039	Topsin M 4.5 F
D	F	7040	Topsin M 70W
D	F	7151	Topsin M 85 WDG
D	F	7040	Topsin M WSB
L	H	4629	Treflan HFP
D	F	7087	Tri-Basic Copper Sulfate
D	H	4335	Trific 60 DF
Trifluralin			
D	H	4452	Trifluralin 10G
L	H	4450	Trifluralin 4EC
L	H	4451	Trifluralin 5
D	H	4285	Trilin 10G
D	H	4757	Upbeet
L	MS	9185	Vapam HI Soil Fumigant
D	I	1015	Wilbur-Ellis Sevin 5 Bait
D	I	1377	Xentari WDG

Conversion Codes for Liquid and Dry Products

Liquid Products

1 Gallon = 4 Quarts
 1 Quart = 2 Pints
 1 Pint = 16 Fluid Ounces
 2 Cups = 1 Pint

Dry Products

1 Pound = 16 Dry Ounces
 1 Ounce = 28.3 Grams
 1 Pound = 453 Grams

TARGET PEST CODE LIST for SUGARBEETS**SECTION D, Item 1 Column 12**

INSECTS		114 TRUE BUG	405 PERENNIAL GRASSES
101 APHIDS		11404 Lygus Bug	40501 Bermudagrass
10102 Black Bean Aphid		11406 Tarnished Plant Bug	40502 Johnsongrass
10106 Green Aphid		100 OTHER INSECTS	40503 Quackgrass
10109 Sugarbeet Root Aphid		WEEDS	406 SEDGES
102 BEETLES / WEEVILS		401 ANNUAL BROADLEAFS	400 OTHER WEEDS
10207 Flea Beetle		40101 Cocklebur	DISEASES
103 CUTWORMS / ARMYWORMS		40102 Common Chickweed	701 BACTERIAL DISEASES
10301 Beet Armyworm		40104 Hebit	702 FUNGAL DISEASES
10302 Fall Armyworm		40105 Hemp Sesbania	70203 Cercospora Leaf Spot
10306 Variegated Cutworm		40106 Lambsquarter	70208 Downy Mildew
104 FLIES / MAGGOTS		40107 Milkweed	70211 Fusarium Wilt
10401 Beet Root Maggot		40108 Morning Glory	70213 Phoma Seeding Blight
105 HOMOPTERA (Other than		40109 Nettleleaf Goosefoot	70214 Phymatotrichum Root Rot
10501 Bandedwinged Whitefly		40116 Shepherds Purse	70215 Powdery Mildew
10503 Silverleaf Whitefly		40118 Sowthistle	70217 Rhizoctonia
107 LEAFHOPPERS		40121 Wild Mustard	70218 Rust
108 LEAFMINERS		402 ANNUAL GRASSES	70220 Seed & Seedling Blight
10803 Spinach Leafminer		40201 Barnyard Grass	70221 Seedling Black Rot
110 MITES		40203 Cheatgrass/Downey Brome	70227 Tap Root Tip Rot
11003 Spider Mites		40204 Crabgrass	703 VIRAL DISEASES
111 MOTH / CATERPILLAR		40206 Foxtail	70306 Rhizomania
11101 Bollworm		40212 Panicum (Torpedograss)	700 OTHER DISEASES
11102 Cabbage Looper		40214 Shattercane	NEMATODES
11107 Garden Webworm		40215 Volunteer Grains	20001 Cyst
11110 Saltmarsh Caterpillar		40216 Wild Buckwheat	20006 Reniform
11116 Tobacco Budworm		40217 Wild Oats/Millet	20007 Root-Knot
112 ORTHOPTERA		40218 Witchgrass	200 Other Nematodes
11201 Cricket		404 PERENNIAL BROADLEAFS	OTHER PESTS
11202 Grasshopper		40402 Groundcherry	901 Birds, Animals, Rodents
113 THRIPS		40403 Nightshade	OTHER REASONS FOR APPLICATION
11301 Western Flower		40406 Canadian Thistle	902 Defoliant, Desiccant, Growth
			904 Kill nurse/cover crop

PEST MANAGEMENT INFORMATION SOURCES

Section E, item 29

- 1 Extension Advisor, Publications or Demonstrations
(County, Cooperative or University)
- 2 Farm Supply or Chemical Dealer
- 3 Commercial Scouting Service
- 4 Independent Crop Consultant or Pest Control Advisor
- 5 Other Growers or Producers
- 6 Producer Associations, Newsletters or Trade Magazines
- 7 Electronic Information Services (*World Wide Web, DTN, etc.*)
- 8 Other - (Specify _____)
- 9 None - Operator used no **outside** information source

MACHINERY and IMPLEMENT CODES**PLOWS and DISKS**

- 01 Chisel Plow (Big Ox)
- 02 Coulter Plow
(Coulter Chisel, Soil Saver, Soil Conservor)
- 03 Deep Ripper
(Knife, Bed Knife, Slide)
- 04 Disk Plow

Moldboard
- 05 -Regular
- 06 -Two-way
- 07 Stubble-mulch
(Noble, Sweeps, Hoeme Plow, Muckeroy Plow)
- 08 Subsoiler
(Chisel, Ripper, V-ripper)
- 09 Disk-chisel
(Mulch Tiller)

Offset Disk
- 10 -Heavy Disk
- 11 -Light Disk
- 12 One-way Disk
(Disk Tiller)
- 13 Single Disk

Tandem Disk
- 14 -Plowing
- 15 -Regular
- 16 Paraplow

CULTIVATORS

- 21 Field Cultivator
(Regular Digger, Triple K, Danish Tined, Swedish Tined, Incorporated, S-tine, Cultivator, Vibra-shank Harrow, Lilliston Tiller)
- 22 Furrow-out
- 23 Rotary Hoe
(Crust Buster)

Row
- 24 -Disk Sweep, Shovel
- 25 -Rolling, Rotary

Field Cultivator
- 26 -Heavy Duty
(Duckfoot Cultivator)
- 27 Marker
- 28 Fallow Master

PACKERS

- 51 Culti-packer
(Pulverizer, Crow-foot, Serrated, Ring, Spiral)

Roller-packer
- 52 -Attachment
- 53 -Smooth & Flat

HARROWS (DRAGS)

- 30 Heavy Harrow
- 31 Field Conditioner
(Scratcher, Seed Bed Conditioner, Soil Conditioner, Ground Hog)
- 32 Finishing
(Harrogator, Spiral, Roller, Knives, Shanks, Pegs, Smoother)
- 33 Flex-tine Tooth
(Coil Tine)
- 34 Multi-weeder
(Cultivator & Harrow)
- 35 Rail, Pipe, Log, Plank
- 36 Rod Weeder
- 37 Roller (Culti-mulcher, Pulvi-mulcher, Crumbler, Packer-mulcher, Packer & Shanks)
- 38 Spike Tooth
- 39 Spring Tooth
- 40 Powered Spike Tooth Harrow

BEDDERS-SHAPERS

- 41 Bedder (Shaper)
Bedshaper, Crowder)
- 42 Bed Shaper

Disk
- 43 -Hipper
- 44 -Row
- 45 Float
- 46 Lister (Middle-buster)
- 47 Rotovator-bedder
- 48 Seedbed Roller
(Flat Roller)
- 49 Sub-soil Bedder
(Ripper-hipper)
- 50 Discovator

MISCELLANEOUS TILLAGE

- 61 Land-all, Do-all
Mix-n-till, Till-all
(Disk, Shovels, Reel & Spikes)
- 62 Mulch Treader, Picker,
Treader, Skew
- 63 Roto-tiller
- 64 Roterra
(Roto-spike, Lely)
- 65 Sand-fighter
- 66 Soil Finisher
(Finishing Tool, Mulch Finisher
Tri-tiller, Task Master)

FERTILIZER APPLICATORS

- 71 Aerial (Airplane)
- 72 Attachment to
Implement
- 73 Manure Spreader
- 74 Self-propelled
- 75 Truck Spreader

Tractor Mounted
- 76 -Anhydrous
- 77 -Dry
(Includes Lime & Gypsum)
- 78 -Liquid

Trailer Mounted
- 79 -Anhydrous
- 80 -Dry
(Includes Lime & Gypsum)
- 81 -Liquid

CHEMICAL APPLICATORS

- 91 Aerial (Airplane)
- 92 Attachment to
Implement
- 93 Largest Self-propelled
(Or Large Truck)
- 94 Motorcycle/atv
Sprayer
- 95 Small Self-propelled
(Spra-coupe, Hi-cycle)
- 96 Small Truck
(Skid Mounted)
- 97 Tractor Mounted
- 98 Trailer Mounted

DRILLS and SEEDERS

- 101 Aerial Seeding
- 102 Broadcast Seeder

- Drill
- 103 -Air Delivery
- 104 -Lister Disk
- 105 -No-till,
Minimum till
- 106 -Plain
- 107 -Press, Disk or Hoe

PLANTERS

- 111 Bedder-shaper Planter
- 112 Lister-bedder
- 113 No-till, Minimum Till,
(Ripper Planter)
- 114 Conventional,
Regular (Tye, Flex)
- 115 Air Delivery/vacuum
- 116 Ridge till

MACHINERY and IMPLEMENT CODES**HARVESTING EQUIPMENT**

- Small Grains Combine
121 -(Self-propelled)
- Hillside
122 -Self-propelled, 2wd
123 -Self-propelled, 4wd
124 -Track
125 -PTO/motor Mounted
- Windrower-swather
126 -(Grain/hay)pto
127 -(Grain/hay)
Self-propelled
- Row Crops Combine
128 -(Self-propelled)
Hillside
129 -Self-propelled, 2wd
Or 2wd with
Rear Wheel Assist
130 -Self Propelled, 4wd
131 -Track
132 -PTO/motor Mounted
133 Corn Picker
134 Hand Harvesting

PTO - Power Take-off
WD - Wheel Drive

HAULING EQUIPMENT

- Trailers
194 General Purpose Wagon or
Cart
195 Hay Wagon
208 Gravity Wagon
209 Grain Cart with Auger
220 Other Trailers
- Trucks
301 -Single Axle
302 -Tandem Axle
303 -Tri-Axle
304 -Semi
305 Other Trucks

MOWERS and BALERS

- 141 Amish Harvester
- Bale Wagon
142 -Pto
143 -Self-propelled
144 Bale Loader
- Baler
145 -Motor Mounted
146 -PTO (Large)
147 -PTO (Small)
148 -Self-propelled
149 Mower-chopper-Rotary
150 -Conditioner/PTO
151 -Self-propelled
152 -Drum-disk
153 -Flail
154 -Sickle
- Rake
155 -Dump
156 -Side Delivery
157 -Wheel
158 Stack Mower
159 Stackers, Automatic
160 Front End Loader

SUGARBEET EQUIPMENT

- 231 Beater (Defoliator)
- Harvester
233 -Regular or Direct
234 -Tank
235 -Other
- Thinner
236 -Mechanical (Electronic)
237 -Mechanical (Random)
238 Planter
239 Topper (Top saver)

LAND FORMING EQUIPMENT

- 171 Backhoe
172 Disk Border Maker
173 Ditch Closer
174 Ditched
175 Levee Plow Disk
176 Quarter Drain Machine
177 Rear Mounted Blade
178 Corrugator
(Furrow Dicer,
Dammar Dicer, Dicer)
180 Land Plane Leveler
(Water Leveler)
181 Laser Planer,
Laser Leveler

For implements codes 171-177,
enter *Total Hours Operated* in the
column labeled *Total Acres
Covered*.

Total Acres Covered is not
meaningful for these implements.

OTHER IMPLEMENTS

- 191 Burn Buggy
192 Chaff/straw Saver
193 Electric-discharge
Weed Killer
196 Off-field Thresher
197 Rock Picker
198 Rock Windrower or Rake
199 Rodent (Gopher) Killer
200 Roller Groover
201 Rubber-wheeled
Weed Puller
202 Flail Shredder
203 Rotary Shredder
204 Silage Harvester
205 Stalk Shredder,
Stalk Cutter
206 Swath Roller

SECTION G, IRRIGATION TYPE CODES

PRESSURE SYSTEMS	GRAVITY SYSTEMS
1 HAND-MOVE	10 SIPHON TUBE from unlined ditches
2 SOLID OR PERMANENT SET	11 SIPHON TUBE from lined ditches
3 SIDE ROLL OR WHEEL LINE	12 PORTAL SYSTEM from unlined ditches
4 CENTER PIVOT OR LINEAR MOVE with sprinklers on main line	13 PORTAL SYSTEM from lined ditches
5 CENTER PIVOT OR LINEAR MOVE with sprinklers below main line, but more than 2 feet above ground	14 ANY POLY PIPE SYSTEM
6 CENTER PIVOT OR LINEAR MOVE with sprinklers less than 2 feet above ground	15 GATED PIPE (not poly pipe)
7 BIG GUN	16 IMPROVED GATED PIPE (surge flow or cablegation not poly pipe)
8 LOW FLOW IRRIGATION (drip, trickle or micro sprinkler)	17 SUBIRRIGATION
9 OTHER - SPECIFY	18 OPEN DISCHARGE FROM WELL OR PUMP
	19 OTHER - SPECIFY

Section G, item 11

- | | |
|---|--|
| 1 | Retained at the end of the field with no re-use? |
| 2 | Re-used to irrigate on the farm? |
| 3 | Collected in evaporation ponds on the farm? |
| 4 | Drains from the farm? |
| 5 | There is no runoff |

LANDLORD COSTS

Seed Costs
a. Purchased seed
Fertilizer Costs [Exclude Lime and Gypsum]
c. Fertilizer custom applications
d. Fertilizer materials
Chemicals/Pesticides Costs
e. Chemicals/pesticides custom applications
f. Chemicals/pesticides materials
Technical Services
g. Soil tests or plant tissue tests
h. Scouting service
i. Biological pest controls and their application
Custom Field Operations and Services
k. Custom land preparation, shaping, and/or leveling
l. Custom cultivating
m. Custom planting and/or reseeding
n. Custom harvesting
o. Custom hauling
q. Custom mechanical thinning
r. Custom harvesting and hauling
s. Other custom services
Irrigation and Water Management Costs
t. Purchased irrigation water
u. Fuel, lubrication and electricity for irrigation

Section I, Item 1