

SURVEY OF FUNGICIDE USE IN SUGARBEET IN EASTERN NORTH DAKOTA AND MINNESOTA - 2001

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Other portions of the survey are published in the
Weed Control and Entomology sections.

Sugarbeet growers were asked to report the fungicide used and the number of applications to sugarbeet acreage as part of the annual survey of sugarbeet growers. Multiple applications of fungicides to the same acreage were counted as multiple acres treated; thus, acres treated may exceed 100% of acres planted. All fungicides in [Table 1](#) would be used primarily for control of *Cercospora*. Tachigaren in [Table 5](#) would be used for control of *Aphanomyces*.

Fungicide use in 2001, averaged over all counties, was 248% as compared to 304% in 2000, 350% in 1999, 374% in 1998, and 245% in 1997 ([Table 1](#)). Acres not treated with fungicide was less than 1% in 2001 and was 1% in 1999 and 2000. Fungicide usage was highest in Renville County at 308%. Fungicide use was 852% in 1998, 599% in 1999, 409% in 2000 and 299% in 2001 in Chippewa County. Use was 702% in 1998, 625% in 1999, 430% in 2000 and 308% in 2001 in Renville County. Eminent was the most common fungicide and was used on 144% of the acres. Super Tin was used on 88% of the acres alone and on 7% of the acres in combination.

Eminent had a Section 18 label in 1999, 2000 and 2001 and was used on 165% of the acreage in 1999, on 170% in 2000 and on 144% in 2001. The Eminent use apparently had a large impact on *Cercospora* control. The percentage of respondents who named *Cercospora* as their worst production problem dropped from 36% in 1998 to 6% in 1999, 3% in 2000, and 1% in 2001.

Eminent is an excellent fungicide but it should be rotated with other fungicides to reduce the risk of *Cercospora* developing resistance. Thirty-five of the 462 survey respondents used only Eminent for *Cercospora* but only two of these growers applied Eminent more than once. Eminent should never be used as the only fungicide for *Cercospora* unless the field is only treated once.

The number of fungicide applications varied from zero to six times per acre ([Table 2](#)). Eighty-four percent of the respondents applied fungicides two or three times per acre. The average number of applications was 2.5 in 2001 and 3.1 in 2000.

Averaged over fungicides and counties, 60% of the fungicides were applied with a ground sprayer and 40% with aerial application ([Table 3](#)). The usage of ground sprayers varied from 18% in Polk County to 97% in Renville County. The overall usage of ground sprayers was 38% in 1997, 47% in 1998, 58% in 1999, 63% in 2000, and 60% in 2001.

The date of the first *Cercospora* spraying was spread from June 20 to after July 20 ([Table 4](#)). In past years, the southern areas sprayed earlier than more northern areas but this was not as evident in 2001. In general, spraying started later in 2001 than in 2000. Only 22% of the respondents started prior to July 10 in 2001 while 58% started prior to July 10 in 2000. In 2001, 30% started after July 20 while only 10% started after July 20 in 2000.

Tachigaren was used on 71% and 84% of the acreage in Chippewa and Renville Counties respectively ([Table 5](#)). Usage was much less in other counties and overall, 16% of the acreage was treated with Tachigaren.

Table 1. Fungicide use by survey respondents in 2001.

County	Fungicide treated acres										Total acres treated
	Acres not treated	Super/Agri tin	Tin+ Topsin	Topsin/Benlate	Coppers	Mancozeb	Topsin+ Mancozeb	Tin+ Mancozeb	Eminent	Other	
	-----% of acres planted-----										
Cass	0	82	0	0	6	0	0	0	142	0	230
Chippewa ¹	0	114	0	0	0	0	0	0	185	0	299
Clay ²	0	99	0	1	4	0	0	0	129	0	234
Grand Forks	0	73	10	<1	3	0	12	0	132	0	231
Kittson	<1	60	0	13	0	0	14	10	73	0	170
Marshall	0	84	0	6	0	0	6	0	103	0	198
Norman ³	0	66	2	5	0	20	1	8	165	0	267
Pembina	<1	89	3	0	1	0	1	12	106	0	211
Polk	0	68	17	6	9	2	2	2	146	0	253
Renville ⁴	0	129	0	0	0	0	0	0	179	4	308
Richland	<1	86	7	0	0	0	0	0	156	0	250
Traill	0	98	8	0	0	0	1	0	151	0	258
Traverse ⁵	0	100	0	0	0	0	0	0	154	0	254
Walsh	0	105	2	0	0	0	2	0	141	0	250
Wilkin ⁶	0	92	0	0	2	0	0	0	169	0	264
Other	0	100	0	0	0	0	0	0	138	0	238
Total	<1	88	5	2	3	1	2	2	144	<1	248

Table 2. Number of fungicide applications by survey respondents in 2001.

County	Number of applications						
	0	1	2	3	4	5	6
	-----% of respondents-----						
Cass	0	10	48	43	0	0	0
Chippewa ¹	0	0	14	72	14	0	0
Clay ²	0	10	54	34	2	0	0
Grand Forks	0	0	54	41	4	0	0
Kittson	9	30	48	13	0	0	0
Marshall	0	19	52	29	0	0	0
Norman ³	0	8	25	50	17	0	0
Pembina	0	7	57	29	7	0	0
Polk	0	7	32	57	3	1	0
Renville ⁴	0	0	22	49	27	0	2
Richland	8	12	23	50	8	0	0
Traill	0	0	44	50	6	0	0
Traverse ⁵	0	5	30	50	15	0	0
Walsh	0	6	46	48	0	0	0
Wilkin ⁶	0	4	18	79	0	0	0
Other	0	0	33	67	0	0	0
Total	1	8	37	47	7	<1	<1

¹Includes Swift and Kandiyohi Counties.

²Includes Becker County.

³Includes Mahnomon County.

⁴Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle, and Sibley Counties.

⁵Includes Grant, Stevens, and Big Stone Counties.

⁶Includes Ottertail County.

Table 3. Ground and aerial application of fungicides, 2001.

County	Ground	Aerial
	-----% of treated acres-----	
Cass	74	26
Chippewa ¹	91	9
Clay ²	78	22
Grand Forks	65	35
Kittson	18	82
Marshall	56	44
Norman ³	61	39
Pembina	46	54
Polk	31	69
Renville ⁴	97	3
Richland	92	8
Traill	26	74
Traverse ⁵	47	53
Walsh	46	54
Wilkin ⁶	72	28
Total	60	40

Table 4. Date of first fungicide application, 2001.

County	June 20-30	July 1-10	July 11-20	After July 20
	-----% of respondents-----			
Cass	5	14	57	24
Chippewa ¹	0	15	82	4
Clay ²	5	10	47	37
Grand Forks	0	15	40	45
Kittson	11	22	39	28
Marshall	4	15	37	44
Norman ³	0	14	62	24
Pembina	4	21	29	46
Polk	8	10	43	39
Renville ⁴	3	47	47	3
Richland	10	25	25	40
Traill	0	6	33	61
Traverse ⁵	0	22	67	11
Walsh	3	20	37	40
Wilkin ⁶	4	11	70	15
Total	4	18	48	30

¹Includes Swift and Kandiyohi Counties.

²Includes Becker County.

³Includes Mahnomon County.

⁴Includes Redwood, Faribault, Yellow Medicine, Lac Qui Parle and Sibley Counties.

⁵Includes Grant, Stevens and Big Stone Counties.

⁶Includes Ottertail County.

Table 5. Acres planted with Tachigaren treated seed, 2001.

County	Use of Tachigaren treated seed
	% of planted acres
Cass	5
Chippewa ¹	71
Clay ²	1
Grand Forks	10
Kittson	10
Marshall	1
Norman ³	3
Pembina	3
Polk	1
Renville ⁴	84
Richland	30
Traill	15
Traverse ⁵	9
Walsh	5
Wilkin ⁶	19
Total	16

¹Includes Swift and Kandiyohi Counties.

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⁵Includes Grant, Stevens and Big Stone Counties.

⁶Includes Ottertail County.