

**SURVEY OF FUNGICIDE USE IN SUGARBEET IN
WESTERN NORTH DAKOTA AND
EASTERN MONTANA - 2003**

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Sugarbeet growers were asked to report fungicide usage and to indicate number of applications per acre as a part of the annual survey of sugarbeet growers. Other portions of the survey are reported in the Weed Control and Entomology Sections.

Foliar fungicide was applied to 180% of sugarbeet acreage in 2003 ([Table 1](#)). In 1992, 23% of the acreage was treated, 40% was treated in 1993, 91% in 1995, 101% in 1997 and 228% in 1999 and 191% in 2001. Cercospora was named as worst production problem by 24% of the respondents in 1999 and by 39% in 2001 (see Weed Control and Production Practice section of survey). The availability and efficacy of Gem, Eminent and Headline for Cercospora control probably account for the decline in importance of Cercospora as a pest in sugarbeet. None of these three were available in 2001. Headline was applied to 78% of the acres, Eminent to 61% and Gem to 18% in 2003.

Eminent and Headline are excellent fungicides but they should be rotated with other fungicides to reduce the risk of Cercospora developing resistance. Gem has the same mode of action as Headline so rotating Gem and Headline would not be beneficial. Nine of 38 growers who responded to the survey used only Headline or only Eminent but none of the nine applied fungicide more than once (data not shown). These growers should use a fungicide for the first application in 2004 that has a different mode of action than the fungicide used in 2003.

Fungicides were applied twice to 50% of the acres and once to 26% ([Table 2](#)). The average number of applications was 1.5 times per acre in 2003 compared to 2.1 times per acre in 2001 and 2.3 times per acre in 1999. The increased efficacy of the new fungicides may have reduced the number of treatments needed for good Cercospora control.

The date of first fungicide application was somewhat uniformly spread from July 1 to 10 until after July 20 with 39% of the first applications from July 11 to 20 ([Table 3](#)). The timing in 2003 was similar to the timing in 2001.

Nearly five times more acres were treated with aerial application as compared to ground application ([Table 4](#)). Ground application declined from 45% of the acres in 2001 to 27% in 2003.

The rating of Cercospora control from fungicides indicated general satisfaction with 94% of the survey respondents indicating excellent or good control ([Table 5](#)). Please notice that the reported usage of several fungicides was limited.

Rhizomania was reported in three of the seven counties on the survey ([Table 6](#)). Rhizomania probably is more widespread than indicated on the survey but has not been identified yet. Only 3% of the reported acres on the survey were reported as infected.

Only 5% of the reported acres on the survey were treated with Quadris for Rhizoctonia control ([Table 6](#)). Rhizoctonia/Aphanomyces was indicated as the worst production problem by 17% of the respondents to the survey (see Weed Control and Production Practice section of survey). The survey results suggest that Quadris for Rhizoctonia control should be used on more than 5% of the acres.

TABLE 1. Fungicide use by survey respondents, 2003.

County	Acres planted	Fungicide Applied						TOTAL
		Topsin/Benlate	Super/Agri Tin	Headline	Eminent	GEM	Mancozebs	
		-----% of acres planted-----						
Custer	394	0	0	82	0	0	0	82
Dawson	1339	5	28	49	0	0	0	81

McKenzie	5038	0	0	81	73	36	0	190
Prairie	1058	0	0		0	0	0	0
Richland	3451	0	30	82	80	8	23	223
Roosevelt	200	0	0	100	100	0	0	200
Williams	1040	0	48	100	52	0	0	200
Total	11732	1	16	78	61	18	7	180

TABLE 2. Number of fungicide applications, 2003.

County	Respondents	Number of applications			
		0	1	2	3
-----% of respondents-----					
Custer	4	25	75	0	0
Dawson	8	38	50	12	0
McKenzie	10	0	10	90	0
Prairie	1	100	0	0	0
Richland	10	10	20	40	30
Roosevelt	1	0	100	0	0
Williams	4	0	0	100	0
Total	38	16	26	50	8

TABLE 3. Date of first fungicide application , 2003.

County	June 20-30	July 1-10	July 11-20	After July 20
-----% of respondents-----				
Custer	0	0	0	100
Dawson	0	0	50	50
McKenzie	11	22	56	11
Richland	0	57	29	14
Roosevelt	0	0	100	0
Williams	0	75	25	0
Total	4	32	39	25

TABLE 4. Method of fungicide application , 2003.

County	Ground	Aerial
-----% of acres-----		
Custer	0	82
Dawson	55	22
McKenzie	40	108
Prairie	0	0
Richland	6	200
Roosevelt	0	200
Williams	22	178
Total	27	130

TABLE 5. Rating of Cercospora control, 2003.

Fungicide	Responses	Cercospora control rating			
		Excellent	Good	Fair	Poor
		-----% of respondents-----			
Topsin/Benlate	1	100	0	0	0
Super Tin/Agri Tin	6	67	33	0	0
Headline	23	52	43	4	0
Eminent	15	40	53	7	0
GEM	5	40	60	0	0
Mancozebs	1	0	0	100	0
Total	51	49	45	6	0

Table 6. Acres affected by Rhizomania and acres treated with Quadris for Rhizoctonia control, 2003.

County	Respondent acres planted	Acres reported as affected by Rhizomania	Acres treated with Quadris
Custer	394	14	28
Dawson	1339	0	62
McKenzie	5038	300	180
Prairie	1058	0	270
Richland	3451	15	0
Roosevelt	200	0	0
Williams	1040	0	0
Total	11,732	329	540