SURVEY OF FUNGICIDE USE IN SUGARBEET IN WESTERN NORTH DAKOTA AND EASTERN MONTANA IN 2009

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Other portions of this survey can be found in the Weed Control and Entomology sections.

Sugarbeet growers were asked to report fungicide usage and to indicate the number of applications per acre as a part of the biennial survey of sugarbeet growers in western North Dakota and eastern Montana. Foliar fungicide was applied to 60% of sugarbeet acreage in 2009 (Table 1). This compares to78% in 2007, 1% in 2005, 180% in 2003, and 191% in 2001. Only one fungicide, Headline, was applied by respondents in 2009.

Fungicides were applied at a rate of 0.5 applications per respondent as calculated from Table 2. A summary of fungicide applications from 1991 to 2007 is shown in Table 2. Of the acres of sugarbeet treated with fungicide, 88% received aerial applications and 12% received applications by a ground sprayer (data not shown).

Cercospora leaf spot control was rated excellent or good by 86% of respondents (Table 3). This compares to 79% in 2007, 100% in 2005 and 94% in 2003. Most growers applied fungicide after mid-August, suggesting that cercospora leaf spot may be appearing later compared to the 1990s (Table 4).

The root diseases Aphanomyces root rot, Fusarium, and Rhizoctonia root and crown rot appear to be causing problems at a similar level to that reported in 2007 (Table 5).

Table 1. A summary of the fungicide use by survey respondents to control cercospora from 1991 to 2009.

		Fungicide applied										
Year	Acres Reported	Super/Agri Tin	Eminent	Headline	Gem	Tin + Topsin	Mancozebs	Topsin/ Benlate	Mancozebs + Topsin	Coppers	Other[1]	Total
		----------% of acres reported----------										
2009	3,441	-	-	60	-	-	-	-	-	-	-	60
2007	8,346	-	35	36	-	-	-	-	-	-	7	78
2005	7,733	-	-	1	-	-	-	-	-	-	-	1
2003	11,732	16	61	78	18	-	7	1	-	-	-	180
2001	22,125	64	50	-	-	2	<1	75	-	-	-	191
1999	12,296	113	7	-	-	3	2	93	10	-	-	228
1997	11,059	77	-	-	-	-	-	19	-	6	-	101
1995	12,338	260	-	-	-	-	51	18	-	3	7	336
1993	9,242	38	-	-	-	-	-	-	-	3	2	43
1992	12,791	23	-	-	-	-	-	-	-	-	2	25
1991	15,784	41	-	-	-	-	-	-	-	7	9	57

[1]Other includes 2007: Quadris; 1995: Du-Ter, AgscoTN, and sulfer; 1992: unknown; 1991: Du-Ter and AgscoTN

Table 2. The number of fungicide applications to control cercospora per respondent from 1991 to 2009.

Year	Number of respondents	Fungicide applications					
		0	1	2	3	4	5
		----------% of respondents----------					
2009	15	53	47	-	-	-	-
2007	21	33	53	14	-	-	-
2005	24	96	4	-	-	-	-
2003	38	16	26	50	8	-	-
2001	65	2	14	57	28	-	-
1999	45	4	2	55	36	-	2
1997	43	28	42	28	2	-	-
1995	63	5	38	54	3	-	-
1993	66	81	14	5	-	-	-
1992	70	87	7	6	-	-	-
1991	84	50	27	17	6	-	-

Table 3. Cercospora control rating by fungicide in 2009.

Fungicide	Responses	Cercospora control rating			
		Excellent	Good	Fair	Poor
		----------% of responses----------			
Headline	7	29	57	14	-
Total	7	29	57	14	0

Table 4. Timing of foliar fungicide applications in sugarbeet in 2009.

Year	First Application							Last Application						
	Resp	June 20-30	July 1-10	July 11-20	July 21-31	Aug 1-15	After Aug 15	Resp.	Before Aug 1	Aug 1-10	Aug 11-20	Aug 21-31	Sept 1-10	After Sept 10
	No.	---------- % of respondents ----------						No.	---------- % of respondents ----------					
2009	6	-	-	-	-	33	67	6	-	-	17	50	33	-

Table 5. Sugarbeet root diseases as a percent of planted acres from 2003 to 2009.

Year	Respondent acres planted	Seeded to Rhizomania resistant variety	Affected by Rhizomania	Affected by Aphanomyces	Affected by Rhizoctonia	Affected by Fusarium
		----------% of acres planted----------				
2009	3,441	NA[1]	NA	3.5	6.3	4.4
2007	8,346	14.9	0.2	3.4	6.9	3.5
2005	7,733	4.6	1.9	NA	NA	NA
2003	11,732	NA	2.8	NA	NA	NA

[1]NA = Question not asked on that year's survey