SURVEY OF INSECTICIDE USE IN SUGARBEET IN WESTERN NORTH DAKOTA AND EASTERN MONTANA - 2005

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Other portions of the survey are published in the
Weed Control and Plant Pathology sections

Sugarbeet growers were asked to report insecticide usage and to evaluate insect control as part of the biennial survey of sugarbeet growers. Other portions of the survey are reported in the Plant Pathology and Weed Control sections. Counter was used on 59% of the sugarbeet acreage in 2005, 93% in 2003, 74% in 2001, 83% in 1999 and 76% in 1995 (Table 1). Mustang was reported for the first time on the survey being used on 52% of respondents acres in 2005. Total insecticide use was 104% of the acreage in 1995, 113% in 1997, 138% in 1999, 111% in 2001, 115% in 2003 and 114% in 2005. Asana was used on 31% of the acreage in 2001 and on 12% in 1999. Asana was not reported on the 2003 survey but was reported on 2% of respondents acres in 2005. Lorsban 4E was used on 31% of the acreage in 1999, less than 1% in 2001, 13% in 2003 and was not reported in 2005. Counter 20CR was used on 1% of the acreage in 2003 and in 2005, on 13% in 2001 and was not used in 1999.

Root maggot control was evaluated as excellent or good by 90% of the respondents in 2005 (Table 2) as compared to 81% in 2003, 79 % in 2001, 71% in 1999 and 68% in 1997. Other insect control was evaluated as excellent or good by 90% of the respondents in 2005.

Target insects, other than root maggot, listed on the survey included cutworm, wireworm, springtail and flea beetle (Table 3). Wireworm was the most common.

Eighty-six percent of the respondents indicated they would use some insecticide-treated seed if it were registered and available (Table 4). Fifty-two percent indicated they would use insecticide-treated seed on 76 to 100% of the acreage. The main target insects for insecticide-treated seed were root maggot by 37% of the respondents, springtail by 26%, cutworm by 21% and wireworm by 11% (Table 5).

Granular soil insecticide was applied in a band by 38%, modified-in-furrow by 54% and with a spoon by 8% of the respondents (Table 6). Root maggot was not a concern to 50% of the respondents (Table 7). A postemergence insecticide for root maggot control was typically used by 22% of all respondents or 44% of respondents with a root maggot concern. A liquid formulation of postemergence insecticide was preferred by 58% of all respondents or 92% of respondents with a root maggot concern (Table 8). A liquid insecticide for postemergence control of root maggot would be applied using several reported methods (Table 9). Including the insecticide with micro-rate herbicide in an 11-inch band was preferred by 36% of the respondents. Broadcast with a ground sprayer was preferred by 29% of the respondents and applying the insecticide alone in a 7-inch band was preferred by 21% of the respondents. The application rate of Lorsban or generic equivalent was reduced according to the band width by 67% of the respondents (Table 10) while the full broadcast rate was applied in the band by 33%.

Seeding a cover crop to help establish sugarbeet was used by only one of the 21 respondents to this question (Table 11). Low yields that could have been caused by nematodes was reported by 14% of the respondents (Table 12).

TABLE 1. Insecticide use by survey respondents, 2005.

County	Acres Planted	Insecticide treated acres: Counter 15G	Counter 20CR	Lorsban 4E	Lorsban 15G	Mustang	Asana	Total
		% of acres planted						
Custer	140	0	0	0	0	100	64	164
Dawson	1188	18	0	0	0	82	4	104
McKenzie	1500	100	0	0	0	17	0	117
Prairie	520	0	0	0	0	100	0	100
Richland	1885	97	3	0	0	16	0	116
Roosevelt	905	100	0	0	0	42	0	142
Williams	1595	8	0	0	0	92	0	100
Total	7,733	59	1	0	0	52	2	114

TABLE 2. Rating of insect control by survey respondents, 2005.

Insecticide	Root Maggot: Number of Applic.	Exc[1]	Good	Fair	Poor	Other insects: Number of Applic.	Exc[1]	Good	Fair	Poor
		% of responses					% of responses			
Counter 15G	12	33	58	8	0	8	25	63	13	0
Counter 20CR	0	0	0	0	0	1	0	100	0	0
Mustang	7	0	86	0	14	10	20	70	10	0
Asana	1	0	100	0	0	2	0	100	0	0
Total	20	20	70	5	5	21	19	71	10	0

Exc[1] = excellent

Table 3. Insects included in the "other" category.

County	Cutworm	Grasshopper	Wireworm	Springtail (1) Flea beetle (2)
	% of respondents			
Custer	0	0	0	0
Dawson	33	0	33	33
McKenzie	0	0	0	100
Prairie	0	0	0	0
Richland	0	0	0	0
Roosevelt	0	0	0	0
Williams	0	0	100	0
Total	17	0	33	50

Table 4. Growers estimated acres that would be seeded with insecticide-treated seed if it were EPA approved, 2005.

County	Number of Respondents	None	1-25%	26-50%	51-75%	76-100%
		% of respondents				
Custer	1	0	0	0	0	100
Dawson	5	20	20	20	0	40
McKenzie	5	20	20	20	0	40
Prairie	2	0	0	0	50	50
Richland	4	0	0	50	0	50
Roosevelt	1	100	0	0	0	0
Williams	3	0	0	0	0	100
Total	21	14	10	19	5	52

Table 5. Responses to the question "What would be the main target insect if you were to use a seed treatment insecticide?", 2005.

County	Number of Respondents	Root Maggot	Wireworm	Springtail	White grub	Cutworm	Other
		% of respondents					
Custer	1	0	0	100	0	0	0
Dawson	4	75	0	0	0	25	0
McKenzie	5	20	0	40	0	40	0
Prairie	2	50	0	0	0	0	50
Richland	4	50	25	0	0	25	0
Roosevelt	0	0	0	0	0	0	0
Williams	3	0	33	67	0	0	0
Total	19	37	11	26	0	21	5

Table 6. How growers applied granular soil insecticide at planting time, 2005.

County	Number of Respondents	Band	Modified-in-furrow	Spoon
		% of respondents		
Custer	1	0	100	0
Dawson	2	50	50	0
McKenzie	5	40	40	20
Prairie	0	0	0	0
Richland	3	67	33	0
Roosevelt	1	0	100	0
Williams	1	0	100	0
Total	13	38	54	8

Table 7. Responses to the question "If root maggot is a problem in your area, do you typically apply a postemergence insecticide?", 2005.

County	Number of Respondents	Yes	No	Root maggot not a concern
		% of respondents		
Custer	1	0	0	100
Dawson	3	33	33	33
McKenzie	5	20	20	60
Prairie	2	0	50	50
Richland	3	33	67	0
Roosevelt	1	0	0	100
Williams	3	33	0	67
Total	18	22	28	50

Table 8. Responses to the question "What formulation of post insecticide do you prefer for root maggot control?", 2005.

County	Number of Respondents	Liquid	Granule	Root maggot not a concern
		% of respondents		
Custer	1	0	0	100
Dawson	5	80	0	20
McKenzie	4	75	0	25
Prairie	2	50	0	50
Richland	3	67	33	0
Roosevelt	1	0	0	100
Williams	3	33	0	67
Total	19	58	5	37

Table 9. Responses to the question "If you use a liquid insecticide for postemergence control, how is it applied?", 2005.

County	Number of Respondents	7-inch band with micor-rate herbicide	11-inch band with micro-rate herbicide	Broadcast by ground	7-inch band alone	11-inch band alone	Broadcast by air
		% of respondents					
Custer	1	0	0	100	0	0	0
Dawson	4	0	25	50	25	0	0
McKenzie	4	25	75	0	0	0	0
Prairie	1	0	0	0	100	0	0
Richland	2	0	0	0	50	50	0
Roosevelt	0	0	0	0	0	0	0
Williams	2	0	50	50	0	0	0
Total	14	7	36	29	21	7	0

Table 10. Responses to the question "If you band-applied Lorsban 4E (or generic equivalent) for postemergence root maggot control, how was it concentrated?", 2005.

County	Number of Respondents	Full broadcast amount in band	Reduced according to band width
		----------% of respondents----------	
Custer	0	0	0
Dawson	2	0	100
McKenzie	2	100	0
Prarie	1	0	100
Richland	1	0	100
Roosevelt	0	0	0
Williams	0	0	0
Total	6	33	67

Table 11. Responses to the question "Do you plant a cover crop when you establish your sugarbeet fields?", 2005.

County	Number of Respondents	Yes	No
		----------% of respondents----------	
Custer	1	100	0
Dawson	5	0	100
McKenzie	5	0	100
Prarie	2	0	100
Richland	4	0	100
Roosevelt	1	0	100
Williams	3	0	100
Total	21	5	95

Table 12. Responses to the question "In 2004 or 2005, did you observe low yields which could have been caused by nematodes?", 2005.

County	Number of Respondents	Yes	No
		----------% of respondents----------	
Custer	1	0	100
Dawson	5	20	80
McKenzie	5	20	80
Prarie	2	0	100
Richland	4	25	75
Roosevelt	1	0	100
Williams	3	0	100
Total	21	14	86