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

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

Sugarbeet growers reported sugarbeet acreage treated with insecticide on the annual survey of sugarbeet growers (Table 1). Counter 15G, Counter 20G, Lorsban 15G and Mustang were primarily used as planting-time treatments, whereas Lorsban 4E and Asana were primarily applied postemergence. Counter 15G and Lorsban 15G were used on 43% and 7% of the acres, respectively, in 2005 while Counter 15G was used on 44% and Lorsban 15G on 8% of the acreage in 2004. Lorsban 4E usage was 11% in 2001, 2% in 2002, 2003 and 2004, and 4% in 2005. Mustang was used on 13% of the acreage in 2003 and 2004, and on 21% of the acreage in 2005. Averaged over all insecticides and counties, 79% of the acreage was treated in 2005 compared to 75% in 2004, 75% in 2003, 70% in 2002, 83% in 2001, 71% in 2000 and 74% in 1999.

The grower evaluations of insect control averaged over counties is presented in Table 2. The satisfaction with root maggot control generally was good with 94% evaluating control as good or excellent. Other insect control was evaluated as good or excellent by 94% of the respondents.

Cutworm, wireworm, lygus and springtail were identified as insect problems other than sugarbeet root maggot treated with insecticide in 2005 (Table 3). Cutworm and wireworm were the most common.

Seventy-four percent of the grower respondents to the survey said they would use insecticide-treated seed on some or all of their acres if insecticide-treated seed was available (Table 4). From 76% to 100% of the acreage would be treated by 44% of the respondents indicating that insecticide-treated seed would be quite popular. The main target insects of insecticide-treated seed indicated on survey responses were root maggot and cutworm (Table 5).

Modified-in-furrow was the most common planting - time application of insecticide with 58% of the respondents using that application (Table 6). Band application was used by 23% and spoon application by 20% of the respondents.

Postemergence insecticides were applied by 26% of the survey respondents while 30% indicated that root maggot was not a concern on their farms (Table 7). Of the respondents concerned with root maggot, 34% used postemergence insecticide.

Liquid insecticide was the most popular choice for root maggot control by survey respondents (Table 8). Liquid insecticides were preferred by 57% of all respondents and by 77% of the respondents who had a root maggot problem.

All six listed application methods of liquid insecticide were used for postemergence insect control (Table 9). The most common was broadcast by ground by 43% of the respondents followed by application on an 11-inch band in combination with a micro-rate herbicide treatment by 25% of the respondents.

When Lorsban 4E was applied postemergence for root maggot control, 82% of the respondents reduced the rate of Lorsban because it was being band applied (Table 10).

Cover crop was used to help establish sugarbeet fields by 31% of the respondents to this question (Table 11). Over

half of the growers reporting from Chippewa, Pembina, Renville and Wilkin counties used cover crop.

Table 1. Insecticide use by survey respondents in 2005.

County	Number of appl.	Acres not treated	Counter 15G	Counter 20CR	Lorsban 15G	Lorsban 4E	Other[7]	Asana	Mustang	Total acres treated
					% of acres					
Cass	15	7	48	0	1	2	0	0	51	101
Chippewa[1]	6	73	0	0	1	1	0	7	<1	8
Clay[2]	15	37	34	0	0	8	0	0	25	67
Grand Forks	14	5	67	0	10	4	0	0	18	99
Kittson	12	4	23	0	12	0	0	0	62	96
Marshall	16	0	45	0	31	0	0	0	24	100
Norman[3]	15	0	49	10	0	3	0	0	59	110
Pembina	20	0	82	7	11	25	21	0	0	146
Polk	46	7	68	0	3	4	0	1	25	101
Renville[4]	1	91	0	0	0	0	0	1	0	1
Richland	8	13	42	0	0	0	0	1	21	64
Traill	4	0	44	0	0	0	0	0	56	100
Traverse[5]	0	100	0	0	0	0	0	0	0	0
Walsh	12	7	62	13	18	13	0	0	0	106
Wilkin[6]	7	0	69	0	31	0	0	0	0	100
Total	191	24	43	1	7	4	1	1	21	79

[1]Includes Swift and Kandiyohi Counties.
[2]Includes Becker County.
[3]Includes Mahnomen County.
[4]Includes Redwood, Fairbault, Yellow Medicine, Lac Qui Parle, and Sibley Counties.
[5]Includes Grant, Stevens and Big Stone Counties.
[6]Includes Ottertail County.
[7]Other insecticide was Thimet.

Table 2. Insecticide usage and evaluation of root maggot control by survey respondents in 2005.

	Root Maggot Control					Other Insect Control				
Insecticide	No. of appl.	Excel	Good	Fair	Poor	No. of appl.	Excel	Good	Fair	Poor
		% of responses					% of responses			
Counter 15G	99	71	25	2	2	70	53	39	4	4
Counter 20CR	2	100	0	0	0	1	0	100	0	0
Lorsban 15G	13	62	38	0	0	7	43	57	0	0
Lorsban 4E	10	40	60	0	0	10	30	60	10	0
Mustang	34	53	32	9	6	37	54	43	3	0
Asana	0	0	0	0	0	5	80	20	0	0
Other	2	50	50	0	0	2	50	50	0	0
Total	160	64	30	3	3	132	52	42	4	2

Table 3. Insects other than root maggot that were treated for control, 2005.

County	Number of appl.	Cutworm	Grasshopper	Wireworm	Other: Lygus (3) Springtail (4)
		% of responses			
Cass	3	67	0	33	0
Chippewa[1]	3	100	0	0	0
Clay[2]	5	40	0	20	40
Grand Forks	0	0	0	0	0
Kittson	1	0	0	100	0
Marshall	1	100	0	0	0
Norman[3]	0	0	0	0	0
Pembina	0	0	0	0	0
Polk	11	27	0	36	36
Renville[4]	0	0	0	0	0
Richland	3	0	0	67	33
Traill	1	0	0	100	0
Traverse[5]	0	0	0	0	0
Walsh	0	0	0	0	0
Wilkin[6]	0	0	0	0	0
Total	28	39	0	36	25

[1]Includes Swift and Kandiyohi Counties.
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[6]Includes Ottertail County.

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

County	Number of Respondents	No Acres	1-25% of acres	26-50% of acres	51-75% of acres	76-100% of acres
		% of respondents				
Cass	8	0	0	13	25	63
Chippewa[1]	23	61	17	13	4	4
Clay[2]	12	17	0	0	0	83
Grand Forks	9	0	0	0	0	100
Kittson	12	25	0	17	0	58
Marshall	11	9	0	0	18	73
Norman[3]	8	13	13	13	0	63
Pembina	8	13	0	38	13	38
Polk	28	14	21	11	4	50
Renville[4]	22	59	23	14	0	5
Richland	8	25	25	13	25	13
Traill	3	67	0	0	0	33
Traverse[5]	4	50	25	0	25	0
Walsh	11	0	18	9	18	55
Wilkin[6]	4	0	0	0	0	100
Total	171	26	12	11	7	44

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[2]Includes Becker County.
[3]Includes Mahnomen County.
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[6]Includes Ottertail County.

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
		% of respondents				
Cass	9	33	22	22	0	22
Chippewa[1]	15	7	0	0	0	93
Clay[2]	12	50	8	8	0	33
Grand Forks	9	89	11	0	0	0
Kittson	12	33	42	0	0	25
Marshall	11	55	18	0	0	27
Norman[3]	9	44	0	0	0	56
Pembina	7	100	0	0	0	0
Polk	25	96	0	4	0	0
Renville[4]	10	10	20	0	10	60
Richland	8	25	13	13	38	13
Traill	3	67	0	33	0	0
Traverse[5]	3	33	0	0	0	67
Walsh	11	91	0	0	0	9
Wilkin[6]	5	60	0	20	0	20
Total	149	55	9	5	3	28

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

County	Number of Respondents	Band	Modified in-furrow	Spoon
		% of respondents		
Cass	6	33	50	17
Chippewa[1]	0	0	0	0
Clay[2]	7	29	57	14
Grand Forks	8	13	75	13
Kittson	5	0	40	60
Marshall	10	30	50	20
Norman[3]	6	33	17	50
Pembina	7	57	29	14
Polk	24	21	54	25
Renville[4]	1	0	100	0
Richland	3	0	100	0
Traill	2	50	50	0
Traverse[5]	1	0	100	0
Walsh	11	9	82	9
Wilkin[6]	6	17	83	0
Total	97	23	58	20

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Table7. 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		
Cass	8	25	38	38
Chippewa[1]	9	0	11	89
Clay[2]	11	27	64	9
Grand Forks	9	22	56	22
Kittson	6	33	50	17
Marshall	12	17	58	25
Norman[3]	9	33	33	33
Pembina	7	71	29	0
Polk	27	33	37	30
Renville[4]	5	0	40	60
Richland	3	0	67	33
Traill	3	0	33	67
Traverse[5]	3	0	67	33
Walsh	11	36	45	18
Wilkin[6]	5	20	60	20
Total	128	26	44	30

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[6]Includes Ottertail County.

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

County	Number of Respondents	Liquid	Granule	Root maggot not a concern
		% of respondents		
Cass	6	50	33	17
Chippewa[1]	8	13	0	88
Clay[2]	9	78	0	22
Grand Forks	9	67	0	33
Kittson	9	56	33	11
Marshall	12	67	17	17
Norman[3]	9	78	0	22
Pembina	7	71	29	0
Polk	27	63	26	11
Renville[4]	3	33	0	67
Richland	3	67	0	33
Traill	3	0	0	100
Traverse[5]	2	100	0	0
Walsh	8	38	38	25
Wilkin[6]	4	25	25	50
Total	119	57	17	26

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

County	Number of Respondents	7-inch band with micro-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					
Cass	5	0	40	60	0	0	0
Chippewa[1]	6	0	33	50	0	0	17
Clay[2]	6	0	17	67	0	0	17
Grand Forks	7	0	14	86	0	0	0
Kittson	2	0	0	50	0	50	0
Marshall	7	29	14	29	29	0	0
Norman[3]	6	17	17	33	0	17	17
Pembina	6	17	50	17	0	0	17
Polk	14	7	36	50	0	7	0
Renville[4]	5	0	0	40	0	20	40
Richland	2	50	0	50	0	0	0
Traill	0	0	0	0	0	0	0
Traverse[5]	1	0	100	0	0	0	0
Walsh	6	33	17	0	17	33	0
Wilkin[6]	3	0	33	33	0	33	0
Total	76	11	25	43	4	9	8

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Table 10. Responses to the question "If you band-apply 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	
Cass	0	0	0
Chippewa[1]	1	0	100
Clay[2]	1	0	100
Grand Forks	3	0	100
Kittson	1	0	100
Marshall	5	20	80
Norman[3]	0	0	0
Pembina	4	25	75
Polk	8	25	75
Norman[3]	1	100	0
Richland	0	0	0
Traill	0	0	0
Traverse[5]	1	0	100
Walsh	5	20	80
Wilkin[6]	3	0	100
Total	33	18	82

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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	
Cass	8	13	88
Chippewa[1]	23	61	39
Clay[2]	12	17	83
Grand Forks	8	0	100
Kittson	10	10	90
Marshall	13	8	92
Norman[3]	9	11	89
Pembina	7	71	29
Polk	30	17	83
Renville[4]	19	63	37
Richland	8	63	38
Traill	4	0	100
Traverse[5]	4	25	75
Walsh	8	13	88
Wilkin[6]	6	67	33
Total	169	31	69

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