

SURVEY OF INSECTICIDE USE IN SUGARBEET IN EASTERN NORTH DAKOTA AND MINNESOTA - 2009

Aaron L. Carlson¹, John L. Luecke¹, Mohamed F.R. Khan¹, and Mark A. Boetel²

¹Sugarbeet Research Technician, Sugarbeet Research Specialist, and Extension Sugarbeet Specialist
North Dakota State University - University of Minnesota, Fargo, ND and

²Associate Professor, Dept. of Entomology, North Dakota State University

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

Sugarbeet growers reported 2009 insecticide use on sugarbeet acreage in the annual survey of sugarbeet growers (Table 1). Counter 15G, Counter 20CR, Lorsban 15G, and Mustang Max were primarily used as planting-time treatments, whereas Lorsban 4E and Asana were mostly applied postemergence. Poncho Beta was used as a seed treatment at planting. Poncho Beta was commercially available for the first time in 2009 and was used on 29% of the total sugarbeet acreage. Counter 15G and Lorsban 15G were used on 19% and 6% of the acres, respectively, in 2009, while Counter 15G was used on 43% and Lorsban 15G on 7% of the acreage in 2008. Lorsban 4E was applied to 4% of sugarbeet acres in 2005, 5% in 2006, 4% in 2007, 2% in 2008, and 4% during 2009. Mustang was used on 21% of the acreage in 2005, 28% in 2006, 23% in 2007, 31% in 2008, and 10% in 2009. Averaged over all insecticides and counties, 71% of the respondents' acreage was treated in 2009 compared to 92% in 2008, 80% in 2007, 83% in 2006, and 79% in 2005.

Table 1. Insecticide use by survey respondents in 2009.

| County | Respondent acres planted | Number of applications | Not treated | Counter 15G | Counter 20CR | Lorsban 15G | Lorsban 4E | Thimet 20G | Asana | Mustang | Poncho Beta | Total acres treated |
|------------------------------|--------------------------------|------------------------------|----------------|----------------|-----------------|----------------|---------------|---------------|----------|-----------|----------------|---------------------------|
| -----% of acres planted----- | | | | | | | | | | | | |
| Cass | 1,239 | 2 | 13 | 48 | - | - | - | - | - | - | 39 | 87 |
| Chippewa ¹ | 8,352 | 4 | 93 | - | - | - | - | - | 7 | - | - | 7 |
| Clay ² | 5,997 | 16 | 4 | 43 | - | 14 | - | - | - | 11 | 33 | 101 |
| Grand Forks | 2,194 | 5 | 0 | 21 | - | 8 | - | - | - | - | 71 | 100 |
| Kittson | 3,332 | 7 | 0 | 10 | - | - | - | - | - | 72 | 19 | 101 |
| Marshall | 4,009 | 13 | 0 | 16 | - | - | - | - | - | 4 | 80 | 100 |
| Norman ³ | 3,099 | 9 | 0 | 5 | - | - | 3 | - | - | 25 | 70 | 103 |
| Pembina | 3,382 | 9 | 0 | - | - | 11 | 42 | - | - | - | 86 | 139 |
| Polk | 20,722 | 35 | 5 | 42 | 2 | 16 | 1 | - | - | 3 | 37 | 101 |
| Renville ⁴ | 9,618 | 6 | 89 | - | - | 1 | - | - | 6 | - | 2 | 9 |
| Richland | 5,603 | 7 | 33 | 5 | 20 | 7 | - | - | - | 32 | 3 | 67 |
| Traill | 3,017 | 9 | 0 | 5 | - | - | - | - | - | 32 | 63 | 100 |
| Traverse ⁵ | 9,003 | 1 | 93 | - | - | - | - | - | 7 | - | - | 7 |
| Walsh | 5,486 | 17 | 0 | 20 | 4 | - | 27 | - | - | - | 76 | 127 |
| Wilkin ⁶ | 7,721 | 11 | 27 | 32 | - | 4 | 8 | - | 27 | 27 | 1 | 72 |
| No Response | 1,075 | 0 | 100 | - | - | - | - | - | - | - | - | 0 |
| Total | 93,849 | 151 | 33 | 19 | 2 | 6 | 4 | 0 | 2 | 10 | 29 | 71 |

¹Includes Kandiyohi and Swift Counties

²Includes Becker County

³Includes Mahnomon County

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

⁵Includes Big Stone, Grant, and Stevens Counties

⁶Includes Ottertail County

Grower evaluations of insect control, averaged over counties, are presented in Table 2. Satisfaction with root maggot control generally was good with 96% evaluating control as good or excellent. Other insect control was evaluated as good or excellent by 89% of the respondents.

Table 2. Evaluation of root maggot and other insect control by survey respondents in 2009.

| Insecticide | Root Maggot Control | | | | | Other Insect Control | | | | | | |
|--------------|---------------------|--------------------------|------|------|------|----------------------|-----------|--------------------------|------|------|--|--|
| | No. of Respondents | Excellent | Good | Fair | Poor | No. of Respondents | Excellent | Good | Fair | Poor | | |
| | | -----% of responses----- | | | | | | -----% of responses----- | | | | |
| Counter 15G | 41 | 68 | 29 | 3 | - | 30 | 67 | 30 | 3 | - | | |
| Counter 20CR | 4 | 50 | 50 | - | - | 4 | 25 | 50 | 25 | - | | |
| Lorsban 15G | 9 | 67 | 33 | - | - | 5 | 20 | 40 | 40 | - | | |
| Lorsban 4E | 10 | 40 | 60 | - | - | 4 | 75 | 25 | - | - | | |
| Thimet 20G | 0 | - | - | - | - | 0 | - | - | - | - | | |
| Mustang | 14 | 57 | 29 | 14 | - | 16 | 69 | 13 | 13 | 6 | | |
| Asana | 4 | 75 | 25 | - | - | 5 | 40 | 60 | - | - | | |
| Poncho Beta | 53 | 55 | 42 | 3 | - | 33 | 48 | 40 | 6 | 6 | | |
| Total | 135 | 59 | 37 | 4 | 0 | 97 | 56 | 33 | 8 | 3 | | |

Cutworms, wireworms, springtails, and grasshoppers were identified as insect problems other than sugarbeet root maggot for areas treated with insecticides in 2009 (Table 3). Cutworms were the most common non-maggot pest problem in 2009.

Table 3. Insects other than root maggot that were treated for control by survey respondents in 2009.

| County | Number of Respondents | Cutworm | Grasshopper | Wireworm | Springtail | Other |
|-----------------------|-----------------------|---------|-------------|----------|------------|-------|
| | | | | | | |
| Cass | 0 | - | - | - | - | - |
| Chippewa ¹ | 2 | 100 | - | - | - | - |
| Clay ² | 1 | 100 | - | - | - | - |
| Grand Forks | 0 | - | - | - | - | - |
| Kittson | 1 | - | - | 100 | - | - |
| Marshall | 1 | 100 | - | - | - | - |
| Norman ³ | 0 | - | - | - | - | - |
| Pembina | 0 | - | - | - | - | - |
| Polk | 7 | 14 | 14 | 58 | 14 | - |
| Renville ⁴ | 2 | 100 | - | - | - | - |
| Richland | 2 | - | - | 50 | 50 | - |
| Trail | 0 | - | - | - | - | - |
| Traverse ⁵ | 1 | 100 | - | - | - | - |
| Walsh | 1 | 100 | - | - | - | - |
| Wilkin ⁶ | 0 | - | - | - | - | - |
| Total | 18 | 50 | 6 | 33 | 11 | 0 |

¹Includes Kandiyohi and Swift Counties

²Includes Becker County

³Includes Mahnomon County

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

⁵Includes Big Stone, Grant, and Stevens Counties

⁶Includes Ottertail County

Survey data on placement methods used by growers in 2009 is presented in Table 4. The majority (42 of 55) of survey respondents that applied a planting-time granular insecticide used Counter 15G, and nearly equal numbers used band (29%) or modified in-furrow placement (24%). Interestingly, 24% of the producers using Lorsban 15G chose to apply it using modified in-furrow placement. This placement is not recommended by NDSU Extension because Lorsban 15G is more likely to be phytotoxic and cause yield reductions when applied modified in-furrow.

Table 4. Placement of granular insecticides used in sugarbeet in 2009.

| Insecticide | No. of Responses | Band | Mod. In-Furrow | Spoon | No Response. |
|--------------|------------------|------|----------------|-------|--------------|
| | | | | | |
| Counter 15G | 42 | 29 | 24 | 19 | 29 |
| Counter 20CR | 4 | 25 | 50 | 25 | 0 |
| Lorsban 15G | 9 | 56 | 11 | 11 | 22 |
| Total | 55 | 33 | 24 | 18 | 25 |