

Section VII
Foliage and Seed Insects

**SUGARBEET LEAFMINER CONTROL WITH SOIL APPLIED AND
POST-EMERGENCE INSECTICIDES, 2001**

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Experimental plots were established on the UI Research and Extension Center, Kimberly, Idaho. Soil type was Portneuf silt loam and the plots were sprinkler irrigated. Three treatments and an untreated check were replicated four times in a RCB design for the at-plant/emergence portion of the study and the same no. of treatments and plot design were used for the foliar/post emergence plots. The beets were planted 16 Apr and on 18 Apr Temik was applied in a 4 inch band over the row and lightly incorporated with a small garden rake. Platinum was applied the same day in a 3-4 inch banded S using a CO₂ pressurized backpack sprayer (20 gal H₂O/acre, 30psi). The second application (at emergence) of Platinum was made on 8 May in the same manner as the at-planting application. For the foliar application pre-treatment counts were made 31 May and 1 Jun and applications were made 1 Jun. The materials were broadcast sprayed with a CO₂ pressurized backpack sprayer (20 gal/acre, 30 psi). Counts for both the at-planting and foliar portions were made by picking 25 leaves per plot at random from the center four plot rows and examining mines for live and dead larvae. Total mines were also counted. Data were analyzed using ANOVA and means separated using LSD (0.05).

More dead larvae were recorded in the Temik treated plots than in the Platinum plots. The later application of Platinum did tend to perform better than the at-plant application using dead maggots as an index. There was no difference between the treatments in the no. of mines per 25 leaves. The larvae apparently have to feed for a while before ingesting a lethal dose of any of these materials. All foliar sprays produced significantly more dead larvae than in the untreated check with Furadan and Thimet providing the better control. As with the at-plant materials, there was no difference in the no. of mines per 25 leaves. After the sampling period for the at-plant study, there were as many dead maggots in the untreated check plots as in the treated plots. This may have been due to parasitism or other natural factors.

Treatment	Rate (lb AI/acre)	Application method	June 7		
			Mean no. live maggots/25 leaves	Mean no. dead maggots/25 leaves	Mean no. total mines/25 leaves
Untreated Check	---	---	52.39 b	47.61 a	21.08 a
Temik 15G	2.0	BP ¹	17.73 a	82.27 b	26.13 a
Platinum 2SC	0.13	BS	52.52 b	47.48 a	28.72 a
Platinum 2SC	0.13	PBS	25.27 ab	74.73 ab	25.57 a

Means within a column with the same letter are not significantly different (P = 0.05; LSD).

¹ BP = Band at planting; BS = Band spray at planting; PBS = Emergence band spray.

Treatment	Rate (lb AI/acre)	Application method	June 11		
			Mean no. live maggots/25 leaves	Mean no. dead maggots/25 leaves	Mean no. total mines/25 leaves
Untreated Check	---	---	25.25 b	11.75 a	37.00 a
Actara 25WG	0.047	S ¹	15.25 ab	26.75 b	42.00 a
Furadan 4F	1.0	S	6.00 a	48.00 c	54.00 a
Thimet 20G	1.0	B	5.25 a	37.00 bc	42.25 a

Means within a column with the same letter are not significantly different ($P = 0.05$; LSD).

¹ S = Post emergence broadcast spray; B = post emergence band.

Treatment	Rate (lb AI/acre)	Application method	June 14		
			Mean no. live maggots/25 leaves	Mean no. dead maggots/25 leaves	Mean no. total mines/25 leaves
Untreated Check	---	---	66.45 b	33.53 a	35.50 a
Actara 25WG	0.047	S ¹	31.88 a	68.13 b	40.75 a
Furadan 4F	1.0	S	34.50 a	65.50 b	49.00 a
Thimet 20G	1.0	B	33.45 a	66.55 b	40.50 a

Means within a column with the same letter are not significantly different ($P = 0.05$; LSD).

¹ S = Post emergence broadcast spray; B = post emergence band.