

## Sugar beet—Beet leafhopper

*Circulifer tenellus*

**Pest description and crop damage** Light yellow-green to gray-brown wedge-shaped body about 0.125 inch long. These readily crawl as nymphs or jump and fly as adults. They are most important as a vector of curly top virus; they are seldom numerous enough to cause feeding injury through sap sucking. Not all leafhoppers found in sugar beets are the true beet leafhopper.

**Sampling and thresholds** No formal economic thresholds exist for beet leafhopper insecticide treatment decisions. Manage curly top by planting approved resistant varieties rather than solely attempting to kill the highly mobile, winged adult.

### Management—chemical control

1. aldicarb (Temik 15G NW, Temik 15G Lock'n Load) at 2.1 to 3 lb ai/a. PHI 90 days, 120 days if tops are fed to livestock. Do not use tops as food for humans. Do not make more than one at-planting and two postemergence applications per crop. Do not exceed a total of 4.95 lb ai/a per season.

*At planting* Drill granules 1 to 3 inches below seed line. Granules can be placed into the seed furrow if rate does not exceed 1.05 lb ai/a.

*Postemergence* Apply granules to both sides of plant row and immediately work into the soil or cover with soil; **or**, for furrow irrigation, side-dress granules 4 to 8 inches to water furrow side of plant row and at furrow depth. Irrigate soon after application. Apply within 60 days after planting.

2. carbaryl (Carbaryl 4 L, Sevin 4 F, Sevin XLR Plus, Sevin 80 S, Sevin 80 WSP) at 1 to 1.5 lb ai/a. PHI 14 days for Carbaryl 4 L; 28 days for Sevin 4 F, Sevin XLR Plus, Sevin 80 S, Sevin 80 WSP. For Sevin 4 F and Sevin XLR Plus, do not apply more than 3 lb ai/a per crop.
3. carbaryl (Sevin 80 S, Sevin 80 WSP) at 1.2 to 1.5 lb ai/a. Do not apply more than a total of 4 lb ai/a per crop.
4. diazinon (Diazinon 4 E, Diazinon 50 WP, Diazinon AG 600 WBC, Diazinon AG 500) at 0.375 to 0.5 lb ai/a. PHI 14 days.

24-hr REI. Do not apply more than five times per season. Tops may be fed to beef and dairy animals.

5. esfenvalerate (Asana XL) at 0.03 to 0.05 lb ai/a. PHI 21 days. Apply as necessary, but do not apply more than 0.15 lb ai/a per season.
6. insecticidal soap (M-Pede and others); see label for rates. PHI zero days. Wet spray must contact leafhopper to be effective; no residual control after spray dries. Do not make more than three sequential applications over a 2-week period.
7. methyl parathion (Declare, methyl 4 EC) at 0.25 to 0.375 lb ai/a. PHI 20 days, 60 days if tops are fed to livestock.
8. naled (Dibrom 8 Miscible) at 1 lb ai/a. PHI 5 days.
9. oxydemeton-methyl (Metasystox-R) at 0.375 to 0.75 lb ai/a. PHI 30 days. Do not apply more than twice per season. Do not harvest beets or use beet tops for feed or forage within 30 days of last application.
10. phorate (Phorate 20 G, Thimet 20-G) at 0.67 to 0.9 oz ai/1,000 row feet at planting. PHI 30 days. Do not place granules in direct contact with seed. Drill to side of seed **or** band over seed.
12. pyrethrins and silicon dioxide (Diatect Multipurpose Insecticide II) at 1 to 3 lb product/a. Can be applied either as dust or wettable powder.
13. terbufos (Counter 20 CR). One application per year. Do not place granules in direct contact with the seed.

*At planting* Apply at 0.6 to 1.2 oz ai/1,000 row feet banded. Apply in 5- to 7-inch band over the row and lightly incorporate to 1 inch.

**or**

Apply at 0.6 to 1.2 oz ai/1,000 row feet, modified in-furrow. Apply in furrow, 2 to 3 inches behind seed drop zone after some soil has covered the seed.

**or**

Apply at 2.4 oz ai/1,000 row feet knifed-in. Drill granules to the side of the seed and 2 to 4 inches below the seed.

*Postemergence* Apply at 0.6 to 1.2 oz ai/1,000 row feet. Apply in 5- to 7-inch band over the row; lightly incorporate.