

Sugarbeets XX- 12

Leafminers

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Leafminer

The spinach leafminer, *Pegomya hyoscyami*, can be readily found in most sugarbeet production areas; however, it seldom will reach levels of economic importance.

Identification (life cycle and seasonal history)

The leafminer overwinters in the soil in the pupal stage. Adult flies will emerge in May and seek out sugarbeet to lay their eggs. The adults are gray and smaller and thinner than a house fly. The larvae are white maggots and are always present in the mine inside the leaf. During the course of the year they will go through two or three generations, but the first generation is the most important because the sugarbeet foliage is most limited at this time. The females lay their eggs on the underside of sugarbeet leaves. When the eggs hatch the larvae will feed in the area between the upper and lower surfaces of the leaf. Larval development within the leaf will only last for about two weeks after which the maggot will move to the soil and pupate. The pupal period will last for two to three weeks after which the flies will emerge to begin a new generation.

Plant Damage and Response

While the larvae are small they create narrow, winding tunnels in the leaves that are visible as water soaked or whitish areas. As the larvae increase in size and in feeding consumption, the feeding areas appear as large irregular blotches on the leaves. These large leaf mines will dry up and darken, giving the plant a very ragged appearance.

Management Approaches

Leafminers attack sugarbeet early in the season when leaf area is limited; however, the leaf area of a sugarbeet with these mines is seldom great enough to warrant treatment. The area of the mines will increase until the maggots move out of the leaf to pupate. At this time the sugarbeet plants begin to increase in size, and by the time the next generation of leafminers begins, the size of the beets limits the impact of the insect. An

additional factor limiting leafminer damage is a potentially high rate of parasitization of the larvae near the end of the first generation. In addition to the products labeled for leafminer control (see table below), insecticidal control of the first generation can be obtained by systemic soil insecticides (e.g. Counter) or seed treatment (Gaucho).

Product List for Leafminers

Insecticide	Product per Acre	Preharvest Interval, remarks
Diazinon 50W ^R , AG500 ^R	50W: 0.75-1.0 lbs./A AG500: 0.75-1.0 pt./A	PHI 14 days; REI 24 hrs.
spinosad (multiple formulations)	See labels for rates	PHI 3 days; REI 4 hrs.
Temik 15G ^R	14-20 lbs./A	Apply at planting or post-emergence. Potential for groundwater contamination. See label for environmental precautions and restrictions. PHI 90 days; REI 48 hrs.
Thimet 20G ^R	3.4-4.5 oz/1000 row ft	Apply to side of seed or in band over seed at planting, not in contact with seed. REI 72 hrs.

^RRestricted use pesticide.

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