



## Pests and Beneficials: Leafminers

It's often hard to put a finger on what exactly is causing damage to a crop. Sometimes pest damage imitates disease and vice versa. The damage from a common spring-early summer pest, the leafminer, can look like a disease problem. In the vegetable garden, plants in the beet family including chard and spinach are often most affected by leafminers. Spinach or beet leafminers attack the leaves of the plant, which develop blotchy spots that make them appear diseased. However, on closer inspection, the leafminers' larvae are evident.

### *Life Cycle*

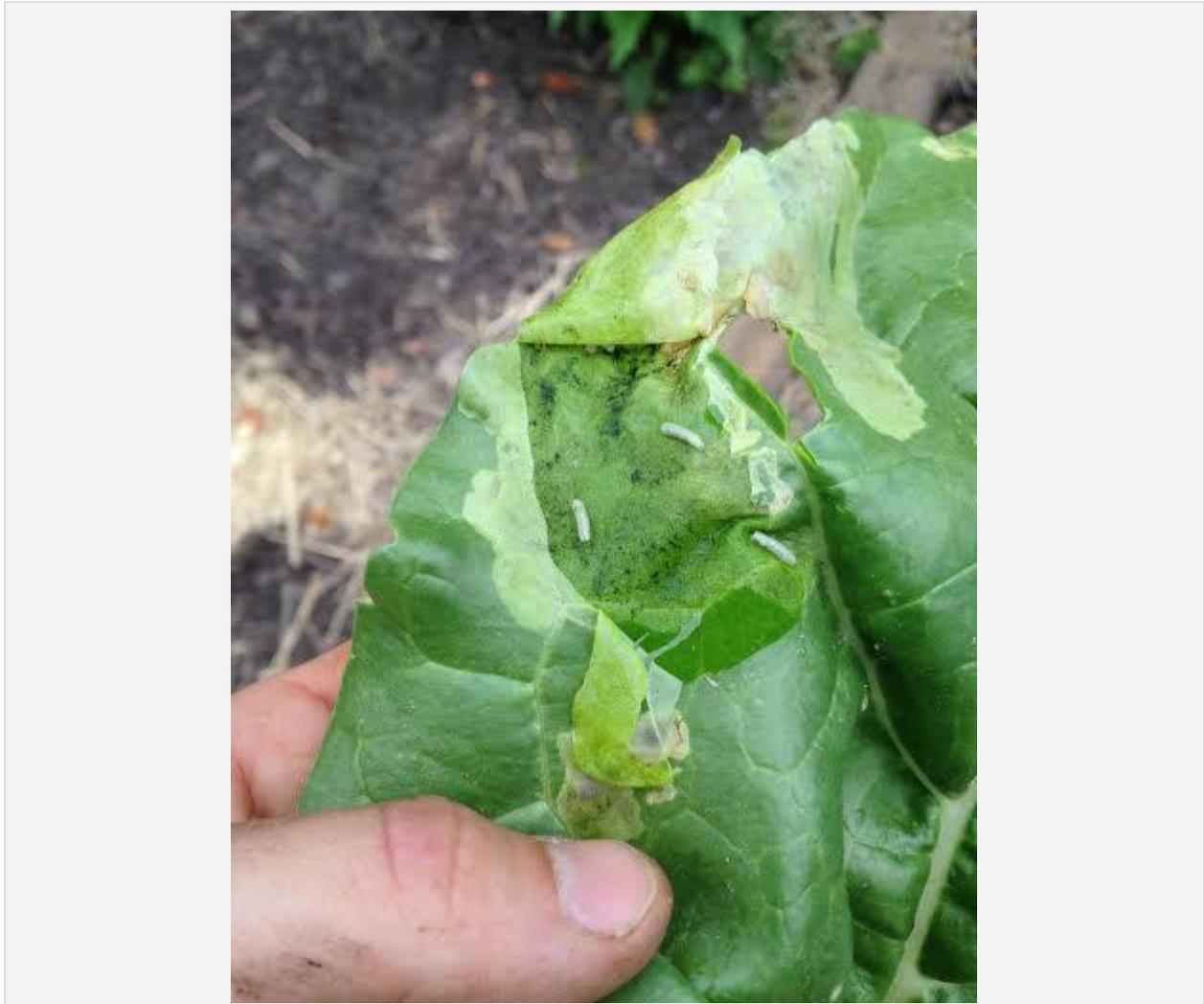
The leafminer is a fly in its adult form. The fly punctures a leaf to eat the juices of the plant, and also lays white eggs in a pattern on the underside of the leaf. When the eggs hatch, the larvae burrow and eat through the leaf, creating blotchy or serpentine hollow areas in the leaf. The larvae pupate in the soil and hatch as flies. Some pupae survive over the winter in the soil and hatch as flies the following spring. Damage usually begins in May and can resurge in late June and mid-August.



Leafminer burrows can create papery blotches on leaves.

### *Damage*

While damage from the leafminer is unsightly and can affect the amount of usable production from a crop, it rarely destroys a plant. Leafminer damage affects small plants and seedlings more severely than larger, more established plants. The damage affects the harvest of leaf crops like spinach and Swiss chard to a greater degree than that of beets.



On closer inspection, leafminer larvae are evident.

### *Control*

Insecticides are not generally recommended for leafminers, as beneficial insects that help control populations are also affected by these insecticides. To begin controlling the population, remove and destroy damaged leaves. Rub the leafminers' white eggs from the undersides of leaves. Repeat as new damage occurs.



Leafminer flies lay their tiny white eggs on the underside of the leaf.

To reduce damage in a subsequent season, remove all affected plant material from the garden. Rotate crops, to keep affected varieties from being planted in the same space as the previous year. Cover plants with fabric row cover immediately as they are planted. You can leave the row cover on (except to weed or harvest) through the growing season. Be sure to secure the edges of the row cover securely. Since few if any leafminer pupae will have overwintered in the soil where unaffected crops grew a previous year, the row-covered crop will have little if any damage.