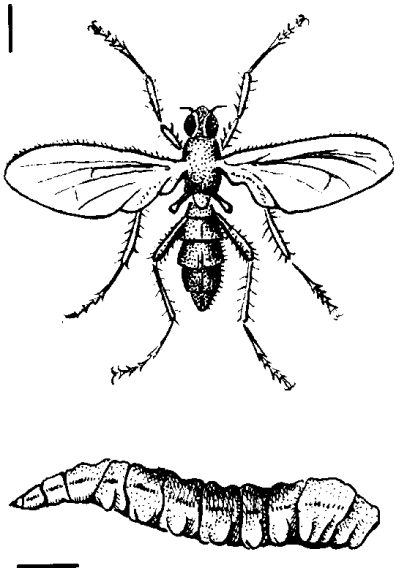
SPINACH LEAFMINER Diptera: Anthomyiidae *Pegomya hyoscyami*

DESCRIPTION

Adults are slender flies, 5 mm long, with a white face. The body is covered with long stiff bristles. **Larvae** are white or yellow (nearly transparent) and 6 to 8 mm long when mature. **Eggs** are white, cylindrical, and laid singly or in groups of two to six on the undersides of leaves.



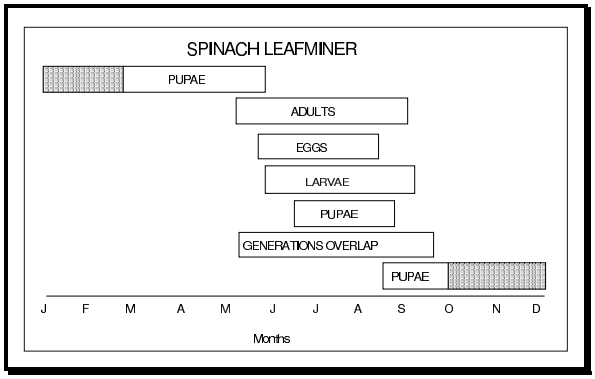
(after UT Agric. Exp. Stn. Curc. 54)

ECONOMIC IMPORTANCE

Larvae feed within leaves causing a white spot to develop in the leaf. Injury causes large irregular-shaped blotches on the leaves causing them to wilt in warm weather. This insect is especially serious in the spring and late summer. Injury to sugarbeet foliage may result in a reduction in root size and sugar content. Larvae of the **pea leafminer**, *Liromyza huidobrensis*, feed between the outer and inner epidermal layers of onion leaves causing them to wilt and droop. This species also attacks spinach, beets, peas, lettuce, and celery.

DISTRIBUTION AND LIFE HISTORY

This pest is distributed throughout North America and is often a serious pest of sugarbeets in the western United States. The maggots feed in the leaves of spinach, sugarbeets, table beets, chard, and lambsquarters. This species overwinters as a pupa in the soil. Adults emerge in late May, mate, and females lay eggs on the undersides of beet leaves or on leaves of lambsquarters if beets are not available. The eggs hatch in about four days, and the small maggots eat into the leaf and feed between the upper and lower surfaces. There may be several maggots in one leaf. When mature, larvae fall to the ground and pupate 5 to 6 cm deep. Adults emerge in 10 to 25 days and begin laying eggs for another generation. In the summer, a generation from egg to adult requires a month. There are at least three generations each year. The **pea leafminer** overwinters in the soil as a pupa and several generations develop during the growing season.



MANAGEMENT AND CONTROL

Infestations may be reduced through field sanitation, such as controlling lambsquarters in and around field margins, removing plant debris, and harvesting early, if practical. A parasite, *Opius pegomyiae*, has effectively reduced infestations of maggots in the spring and could be important in reducting the population later in the season. Insecticides registered to control this pest are listed in the Pacific Northwest Insect Control Handbook.