

Identifying the Corn Blotch Leafminer

CIS 1078 Juan M. Alvarez, Gale Harding and Reed Findlay



Fig. 1a and b. Blotch mines produced by *Agromyza parvicornis* on leaves of corn plants



Fig. 2. Corn blotch leafminer (*Agromyza parvicornis*) adult

A new corn pest, the corn blotch leafminer (*Agromyza parvicornis*), was discovered in July 2002 in a northeastern Idaho field near Rigby. According to all available information, this was the pest's first occurrence in Idaho, although it has been reported previously in Southeastern and Midwestern states and, in 1995, in Nebraska. The current scientific literature indicates that corn is its only known host plant.

Symptoms

The first symptoms of the presence of *A. parvicornis* are linear mines on plant leaves that merge to produce what are called blotch mines (fig. 1a and b). The adult is a small, black or brown, clear-winged fly about 1/10 of an inch (2.5 mm) long (fig. 2). Wing lengths are about 1/8 inch (3 mm). The adult female fly deposits eggs on the upper or lower surface of corn leaves, and eggs can hatch in three to four days under summer conditions in northeastern Idaho.

Maggots (the larval stage) emerge from eggs directly into leaf tissue and begin feeding, forming the large, blotchy, burned-looking mines that can seriously injure and even kill leaves. Larvae are minute, 1/8 to 1/5 inch (3-5 mm) long and a translucent greenish-yellow color and are located inside the leaf mines (fig. 3). They consume the interior of the leaf and leave the epidermis looking like a silvery film over the leaf mines. In the Rigby-area field, we noted that plants in the whorl stage averaged five lower leaves that were heavily damaged by this leafminer.

As with similar leafminers, the larvae are protected within the leaf during their feeding cycle. Leaf mines weaken the leaves and provide easier access for bacterial and fungal diseases. Larvae complete their development in one week and then pupate within their mines. The pupa is light- to dark-brown and about 1/8 to 1/6 inch (3-4 mm) long (fig. 4). Adults emerge after seven days to repeat the cycle.

Crop Losses

Reports from other states indicate that field damage is usually limited but that large populations can occasionally lead to economic losses. Although no known economic thresholds have been established for this pest, a University of Nebraska publication compares its damage to hail damage and associates 50 percent destruction of leaf area with 6 percent potential yield loss.

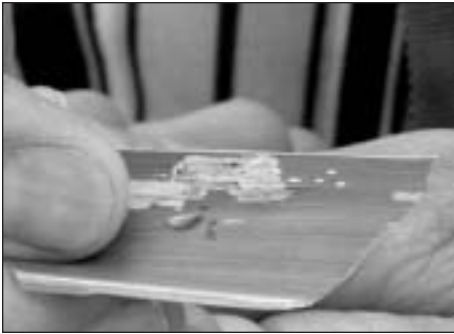


Fig. 3. Corn blotch leafminer (*Agromyza parvicornis*) larva



Fig. 4. Corn blotch leafminer (*Agromyza parvicornis*) pupae

The authors

Juan M. Alvarez is a University of Idaho Research and Extension entomologist. Gale Harding and Reed Findlay are UI Extension educators. Photos by Juan Alvarez.

As of July 2002, the only known infestation in Idaho was in the Rigby-area field, although by this date, there was no indication that other cornfields had been checked. Although the leafminers in the infested field were quite numerous, they were not expected to become a serious pest in Idaho during this period.

Cause and control of outbreak

The outbreak in the Rigby-area field was believed to be related to the elimination of this insect's parasitoids by insecticides applied against other pests. In fact, few wasp parasitoids were found in the attacked field where photographs of the leafminer were taken. Because *A. parvicornis* is usually not an economically important pest, it has not been studied and information on its control is very limited. No insecticides are currently registered for use against it.

Growers who suspect they have this leafminer in their cornfields should contact the UI Extension educator in their county. Color photographs of the corn blotch leafminer are available in the University of Idaho online catalog, Resources for Idaho, at <http://info.ag.uidaho.edu/catalog/catalog.html>.



Issued in furtherance of cooperative extension work in agriculture and home economics, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Charlotte V. Eberlein, Interim Director of Cooperative Extension, University of Idaho, Moscow, Idaho 84844. The University of Idaho provides equal opportunity in education and employment on the basis of race, color, religion, national origin, age, gender, disability, or status as a Vietnam-era veteran, as required by state and federal laws.