Pea Aphid

Pea Aphids on Alfalfa Stem

Pea Aphid - Note banding pattern on antennae.

Description:

The pea aphid is about 3/16 inch long and 1/16 inch wide at maturity. It ranges from light to dark green in color. A small percentage of pea aphids may be pink or pinkish tinged. Cornicles are long and blackish towards the tip. The pea aphid can be distinguished from the blue alfalfa aphid by the narrow dark band at the tip of the third antennal segment, whereas the blue alfalfa aphid's third antennal segment is uniformly brown. Winged pea aphids have a light brown thoracic area, while this region on the blue alfalfa aphid is dark brown. In general the pea aphid is larger than the blue alfalfa aphid and lacks its dark blue-green color.

Distribution:

The pea aphid, *Acyrthosiphon pisum* (Harris), is distributed throughout the alfalfa-growing areas of the United States.

Life History:

In warm winters the pea aphid can remain active throughout the winter at least in southern Kansas, but under colder conditions it may overwinter in the egg stage. The tiny black eggs are glued to the stems and fallen leaves of alfalfa and clover in the fall. Hatching occurs in the early spring, and the young nymphs feed on the spring alfalfa or clover growth. Nymphs molt four times before becoming adults. After one or two
generations on alfalfa, a large proportion of the next generation will develop wings. These winged females move into nearby fields and start colonies, producing nymphs parthenogenetically. The entire life cycle takes about 12 days, and since each female can produce from 50 to 100 nymphs, large populations can result.

**Damage:**

Large pea aphid populations often develop in the spring and sometimes in the fall. Both the adults and nymphs suck juices from alfalfa leaves, petioles, stems, and flower buds. They prefer young growth and congregate on the growing tips of the plants. Heavy pea aphid feeding causes alfalfa to turn yellow and wilt. It can also cause stunted plants with small leaves and spindly stems. The tops of the plants will die if subjected to excessive feeding. Large infestations in the spring can cause failure of the first cutting and reduce the vigor of succeeding cuttings. When alfalfa growth is retarded, weeds often take over and crowd out the alfalfa. Prolonged periods of cool temperatures (50 to 60°F range) and dry conditions are conducive to the development of heavy pea aphids populations. Keep fields under close observation during periods of slow growth. Varieties of alfalfa are known to have varying degrees of resistance to pea aphids. Thus, variety selection can be an important means of reducing pea aphid damage and establishing a vigorous stand.

**Scouting:**

Evaluating plant vigor is often the key to determining the need to treat for this insect. Heavily infested plants may turn yellow and wilt, usually during March, April and May. Closely monitor fields early in the season during periods of slow growth. Randomly select complete stems throughout the field and count the number of blue alfalfa aphids per stem and all parasitized (mummified) or diseased (brown and flattened) aphids. Continue this procedure until you have sampled at least 20 to 30 stems. Calculate the average number of healthy aphids per stem and the average of diseased or parasitized aphids per stem. Then measure each stem and calculate the average stem length. Also count and record all aphid predators such as ladybird beetles and lacewings.

**Treatment Thresholds:**

Control decisions should be based on the maturity of the alfalfa, the size of the aphid population, and the number of natural control agents present. Alfalfa can tolerate low numbers of aphids without much sign of injury. Very light populations of aphids can even be considered beneficial because they provide a food source for ladybugs and other predators and parasites. However, high numbers of aphids can cause yellowing, wilting and stunting of plants. Fifty pea aphids per stem on 10 inch tall alfalfa would be cause for alarm if predators and diseased or parasitized aphids are scarce. On 20-inch tall alfalfa, twice as many aphids per stem would be required before treatment is justified. Evaluating relative plant vigor is often the key to determining the need to treat for this insect.
Management Options:

One of the best methods to reduce the impact of pea aphids is to select varieties with high levels of pea aphid resistance. Early cutting may be an option when heavy infestations develop close to cutting time.

Our data on efficacy of insecticides for pea aphid control in Kansas shows that some products may provide effective control of pea aphids even at the lowest recommended rates. For current treatment options see the latest edition of Alfalfa Insect Management – MF809. [http://www.oznet.ksu.edu/library/ENTML2/MF809.pdf](http://www.oznet.ksu.edu/library/ENTML2/MF809.pdf)