

Alfalfa Integrated Pest Management

Peter Warren

Alfalfa Weevil

- In the late fall, remove the alfalfa for hay or by grazing. This removes the overwintering and egg laying sites used by the adult weevils, reducing the number of alfalfa weevil larvae in the spring.
- Early harvest can sometimes be used in the spring instead of insecticide sprays, if the crop has obtained sufficient growth before larval feeding damage becomes severe.
- Walk through fields once a week in the spring when growth starts and inspect tips for feeding injury. When feeding damage and weevil larvae are observed, systematic sampling should be conducted weekly (more often if weevil levels are approaching threshold) until fields are harvested, sprayed, or weevil season is over. See sampling method details in the Field Crops PMG (456-016).
- Harvesting early can be used as an effective control tactic if enough growth is present to justify the harvesting process. Yield sacrificed in the first cutting by harvesting early will be compensated for in subsequent cuttings and allow the second growth a head start before potato leafhopper adults appear in early June. If hay is cut to allow adequate storage of root carbohydrates. Alfalfa may be harvested early only once during the growing season without reducing stand density or longevity.
- If no sprays have been used, or if the field has been cut early because of a heavy weevil infestation, stubble sprays may be necessary. No formal sampling or economic thresholds are available for this crop stage, but if weevil larvae are easily found, shoot damage is occurring, or regrowth appears delayed, a stubble spray should be applied.

Potato Leafhopper

- Spring planting alfalfa with a companion crop of oats will help prevent soil erosion, and also reduce potato leafhopper infestations in the first summer cutting of the alfalfa.
- Leafhopper infestations are highly variable from field to field and from year to year; therefore, monitoring individual fields is required for effective pest management decision-making. See sampling method details in the Field Crops PMG (456-016).
- Insecticidal control is most effective if applied early in the crop growth if pest populations warrant the application. Beyond a crop height of 14 inches, the value of insecticidal control becomes marginal, since considerable clogging of the plant's vascular tissue will have already occurred.
- If spring planted fields are so severely stunted that harvesting will not produce a significant amount of hay, the crop should still be clipped to remove weeds and the damaged plants.
- Alfalfa should be sampled a week after harvest or as soon as regrowth starts. If leafhoppers are present at levels greater than 0.4 per sweep, spraying is recommended. If sampling regrowth is not feasible, and leafhoppers were present at high numbers before harvest, a stubble spray on the regrowth may be a good protective measure, especially if green alfalfa was left in the field following harvest.

Diseases

- Alfalfa cultivars differ in resistance to diseases. For cultivar selection, use the information in the "Diseases and Nematodes" section of the most recent Pest Management Guide (456-016).
- To avoid stand losses due to *Sclerotinia* Crown and Stem Rot, seed alfalfa during early spring. Avoid fall seeding.

- Stand establishment of forage legumes may benefit from the use of seed-protectant fungicides, particularly in spring seeding, no-till seeding or in other situations that may slow germination.
- Cool wet conditions favor seed decay and damping-off diseases.

Weeds

- Scout fields for weeds and keep records of which weeds are present. These records are invaluable in choosing a weed control program that includes crop rotation, tillage and proper herbicide selection.
- Weed seedlings compete strongly with legume seedlings for light, moisture and nutrients. Severe reduction or loss of stands may result if weeds are not controlled. Several preplant incorporated or postemergence treatments are available for grass and broadleaf control in seedling stands.
- For herbicide recommendations see the "Weeds" section of the most recent Pest Management Guide (456-016).

References

- (1) Youngman, R.R. INSECTS (Grain Crops, Soybeans, Forages) in *The Pest Management Guide (PMG)-Field Crops*. 2000. Virginia Cooperative Extension (Publication 456-016).
- (2) Stromberg, E.L., Phipps, P.M., Grybauskas, A.P., and Mulrooney, R.P. DISEASES and NEMATODES (Grain Crops, Soybeans, Forages). *The Pest Management Guide (PMG)-Field Crops*. 2000. Virginia Cooperative Extension (Publication 456-016).
- (3) Hagood, E.S., Swann, C. W, Wilson, H.P., Ritter, R.L., Majek, B.A., Curran, W.S., Chandran, R. WEEDS (Grain Crops, Soybeans, Forages) in *The Pest Management Guide (PMG)-Field Crops*. 2000. Virginia Cooperative Extension (Publication 456-016).

Note: The Pest Management Guide is available on-line at <http://www.ext.vt.edu/pubs/pmg>.