



EXTENSION

Oklahoma Alfalfa Management Calendar for Insects and Diseases

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Kelly Seuhs

Associate Extension Specialist

As a perennial legume, alfalfa provides a potential habitat and food source for many insect species. While these insect pests of alfalfa are distinctly varied in their life cycles and habits, feeding injury caused by one or more species may occur anytime throughout the year.

Disease also can be a limiting factor in alfalfa production. The occurrence and severity of diseases depends on environmental conditions, soil type and crop management. Unfortunately, few economical control options are available for diseases once they're present in a field, but knowing which diseases are present can help in selecting resistant varieties and develop management strategies for future planting.

The capability of alfalfa to withstand stresses imposed by insect and disease infestations is greatly affected by initial planning and continued management throughout the life of the stand.

Note: This calendar is designed to help guide producers and agriculture professionals in timely management and future planning of common alfalfa insect and disease problems on established stands in Oklahoma. These guidelines are not a comprehensive list of insect or disease occurrence.

January

Insect Control: Insect activity slows greatly during winter months; however, mild temperatures and dry conditions can promote enhanced activity earlier than normal. January 1 is the starting date for degree-day accumulation in alfalfa weevil monitoring. See https://www.mesonet.org/index.php/agriculture/category/crop/alfalfa/degreeday_heat_unit_calculator for more information.

Disease Control: Little obvious disease activity takes place. Plants affected by existing disease, seedling diseases (new stands) or Phytophthora root rot (PRR) may die for lack of enough root reserves. Seed treatment can help with PRR seed decay and damping off of newly planted fields.

February

Insect Control: The alfalfa weevil is the most important insect pest of alfalfa in Oklahoma. Continue monitoring degree-day model for alfalfa weevil development. Scout fields as weather warms and 150 degree-days have accumulated for the area. The period when larval numbers exceed threshold vary by year and location throughout the state, ranging from late February to mid April.

Disease Control: Plants affected by either seedling diseases or Phytophthora root rot may die for lack of enough root reserves.

Oklahoma Cooperative Extension Fact Sheets
are also available on our website at:
extension.okstate.edu

March

Insect Control: Continue insect scouting. **Key pests:** Alfalfa weevil, army cutworm and aphids (predominately pea and blue alfalfa aphids). Cutworms can delay spring green-up four to six weeks. The most important factor for effective aphid management is variety choice. Most varieties used in Oklahoma have resistance to one or more aphid species. Preservation of natural control agents (beneficial insects) can also help. Extension Fact Sheets CR-7177, Scouting for the Alfalfa Weevil in Oklahoma and EPP-7184, Alfalfa Aphids in Oklahoma.

Disease Control: As alfalfa breaks dormancy, winter stand loss will be visible. Stand loss in a field seeded the previous fall is most commonly due to seedling diseases such as, Aphanomyces root rot or Damping off (germination). Phytophthora root rot and other crown diseases also may be present. In established stands, plants killed during the winter from crown rot complex or Phytophthora root rot will not regrow at this time.

April

Insect Control: Continue insect scouting. **Key pests:** Alfalfa weevil and aphids generally are the biggest concern this time of year. Peak in alfalfa weevil larval numbers and greatest amount of damage occurs mid- March to mid- April. See Extension Fact Sheet [EPP- 2097, Alfalfa Weevil and Its Management in Oklahoma](#).

Disease Control: Phytophthora root rot is the most important alfalfa disease in Oklahoma. It is present in most all fields, but can remain dormant many years. Phytophthora root rot can cause damping off of seedlings and root rot in older plants. Seedlings often are killed within a few weeks after emergence or in spring after fall planting. Aphanomyces root rot also can stunt and kill seedlings rapidly and causes root disease in established plants. Well-drained soils and variety resistance is recommended for both diseases. Leaf spot diseases begin to appear.

May

Insect Control: As first harvest approaches, alfalfa weevil populations should decline. However, adult weevil and variegated cutworm activity could persist in regrowth. Slow green up or appearance of alternating damage under windrows

and light damage between windrows after first harvest may indicate variegated cutworm presence.

Disease Control: Development of season-long wilts, root and crown diseases. Downy mildew is most serious during growth of the first crop, with newly seeded stands most susceptible. Cutting can help in control. Leaf spot diseases such as Lepto leaf spot, spring and summer black stem continue to develop.

June

Insect Control: Begin scouting for summer insect pest.

Key pests: Foliage feeding caterpillars, blister beetle and grasshopper. Treat grasshopper nymphs when small and manageable. Several species of foliage feeders are common in alfalfa from May through October. The most important of these are the corn earworm, yellow-striped armyworm, fall armyworm, alfalfa caterpillar, green cloverworm, beet armyworm and forage looper. When present in large numbers, these caterpillars may completely defoliate alfalfa.

Disease Control: Lepto leaf spot can be found any time, but is most prevalent in cool, wet weather early in the season. Spring black stem also occurs in cool wet springs. Cutting in late bud can help reduce losses. Summer black stem generally occurs after first cutting of hay and prefers warmer conditions and high humidity. Timely cutting can help with crop losses.

July

Insect Control: Continue scouting for summer insect pests. **Key pests:** Blister beetle, spotted alfalfa aphid, foliage feeding caterpillars and grasshopper. Blister beetles feed on foliage and blooms of many plants including alfalfa. Blister beetles contain a chemical called “cantharidin,” a blistering agent that is highly toxic and may cause illness or death in livestock, particularly horses, when consumed in forage. See Extension Fact Sheet [EPP-2072, Blister Beetles and Alfalfa](#).

Disease Control: Continued monitoring for leaf spot, wilt and crown diseases. Anthracnose is a stem disease affecting alfalfa in the warmest periods of the year. Symptoms vary and eventually causes a crown rot. Planting resistant varieties is the only effective control.

August

Insect Control: Key pests: Foliage feeding caterpillars, spotted alfalfa aphids, blister beetle and grasshopper. Grasshoppers may defoliate alfalfa in areas near field borders, however they pose a much more serious problem in seed production because they primarily feed on the fruiting structures when alfalfa is in bloom, causing extensive loss of the seed crop near field margins. Extension Fact Sheet [CR-7150, Alfalfa Forage Insect Control](#).

Disease Control: Increased anthracnose activity, especially in susceptible varieties. Plants infected with wilts (bacterial and verticillium) may show signs of stunting after the second crop year. Damage from crown rot complex still may be found. Resistant variety selection for anthracnose, wilts and crown rots complexes are best control.

September

Insect Control: Scout for late summer insect pests. **Key pests:** Spotted alfalfa aphid, grasshopper and fall armyworm. Especially monitor newly planted stands because of their sensitivity to enhanced insect pressure. The spotted alfalfa aphid induces a severe toxic reaction in susceptible alfalfa plants that results in chlorosis and necrosis of leaves. Established stands can be killed in one to two weeks, with seedling stands taking a week or less.

Disease Control: Leaf spot and summer black stem may still be active in warm, humid weather, although both are tapering off. Anthracnose activity and infestations from crown rot complex also is tapering off, but damage still may be evident.

October

Insect Control: Key pests: Aphids and fall armyworm. Fall armyworm can be active until first killing frost. Infestation levels of spotted aphids may continue to increase if dry weather conditions persist during fall. Newly established stands especially susceptible.

Disease Control: Evidence of fall-planted seedling diseases such as damping off (germination), Phytophthora and Aphanomyces root rot may be observed. Less than ideal growing conditions such as poor drainage, prolonged wet and cool periods can enhance these diseases. Look for varieties with resistance to multiple diseases if possible.

November

Insect Control: Key pests: Aphids and army cutworm. Small cutworm larvae may be numerous in November; however, damage is most prevalent in late winter when larvae become larger.

Disease Control: Hard freezes will cause disease numbers to decline drastically. New stands affected by seedling diseases from fall planting may show signs of decline.

December

Insect Control: Activity for alfalfa insects slows dramatically during winter months. However, if environmental conditions are favorable, such as warm or dry periods, monitoring must be maintained. Spotted alfalfa aphids and cowpea aphids can become a problem under these conditions.

Disease Control: Little obvious disease activity takes place. Plants affected by either crown rot complex or Phytophthora root rot may die for lack of enough root reserves.

For additional information contact your local extension educator. Alfalfa fact sheets can also be found at <http://entoplp.okstate.edu/factsheets.html>.

For more information on insect or disease identification, contact the [Plant Disease & Insect Diagnostics Lab \(PDIDL\)](#) <http://entoplp.okstate.edu/pddl/pdidl>

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