



Landscape Services

Safety Standard Operating Procedure

(Revised 3/2023)

Integrated Pest Management Plan

This SSOP provides guidance on the practices established for **Integrated Pest Management Plan**. As with any equipment or tools, the most basic premise for safe operation is reading and adhering to the manufacturer's instructions and warnings. This SSOP is not a substitute for the owner's manual produced by the manufacturer.

PPE Requirements: Safety glasses, chemical gloves, closed toe shoes, chemical suit, face shield, respirator.

Safety: Pesticide Applicators must have a current **Oklahoma Certified Applicators License**. Only authorized pesticide handlers or supervisors should be in the mixing and loading area. All handlers should be wearing proper personal protective equipment (PPE). No other persons, and no animals, should be present.

General

Integrated Pest Management (IPM) is an approach that establishes sustainable practices to managing pests by combining biological, cultural, physical, and chemical methods in a way that minimizes economic, health and environmental risks.

Approach

Prevention strategies; monitoring for pests; identification of pests; taking action when appropriate; and identification of appropriate controls.

Objectives of this IPM plan include:

- Elimination of significant threats caused by pests.
- Prevention of loss or damage of plant material by pests.
- Protection of environmental quality.

Methods

Cultural: Not all pests require control. Suppress pest problems by minimizing the conditions they need to live (water, shelter, food).

Physical: Prevent pest access to the host or area, or, if the pests are already present, physically removing them by some means. For example, this could mean using barriers, traps, vacuuming, mowing or tillage, depending upon the pest and situation.

Biological: Use predators, parasites, or beneficial of pests in a targeted way to suppress pest populations.

Chemical: There are many "chemicals" that are used in pest management situations, but not all chemicals are alike from the standpoint of their range of action, toxicity, or persistence in the environment. Both organic and synthetic will be considered before application.

Threshold

In some cases, a certain number of pests can be tolerated. Conversely, there is a point at which you MUST do something. There is a point at which the cost of damage by the pest is MORE than the cost of control. This is an economic threshold. Tolerance of pests varies by whether they are a health hazard or merely cosmetic damage.

Evaluation

- Did the actions have the desired effect?
- Was the pest prevented or managed to satisfaction?
- Was the method itself satisfactory?
- Were there any unintended side effects?
- Future plan for this pest situation?

Notification of Discovery: Upon discovery of all pests, notification is to be immediately provided to Supervisor.

Pest Identification



APHID - check for two tail pipes (cornicles) found at the end of the abdomen. All aphids have cornicles, but some are smaller and less obvious. Aphids shed their exoskeletons (skins) as they grow. These white cast skins can be found on leaves or stuck in honeydew secretions of the aphid.



SPIDERMITE - Adult mites have an oval shaped body with eight legs. Juvenile mites are usually much smaller than adults and larvae only have six legs after hatching. Eggs are small, clear, spheres. Spider mites are identified by their silk webbing which they produce on infested leaves.



MEALEYBUG - Their oval bodies, ringed with waxy filaments, have distinct parallel segments. The waxy-white, slow-moving, wingless females typically feed in large, sticky colonies. Nymphs, known as crawlers, hatch from cottony masses of yellow-orange eggs.



BOXELDER BUG/ REDSHOULDER BUG - Black with reddish or orange markings on their back. Adult boxelder bugs have a body shape that is a somewhat-flattened and elongated oval and is about half an inch long. They have six legs and two antennae that are typically half of their body length.



FALL ARMYWORM - Larvae have key identification features, including four large spots in a square arrangement on the second last segment. Features to look for in older larvae include: » Inverted white 'Y' mark on the head between the eyes. More prominent thin white lines develop down the length

of the body.



BAGWORM - Newly hatched bagworms are barely visible to the eye, but the black or tan larvae grow up to 2 inches long as they feed heavily through the growing season. Positive I.D. often comes once the pests form protective, spindle-shaped bags that hang down from leaves and branches.



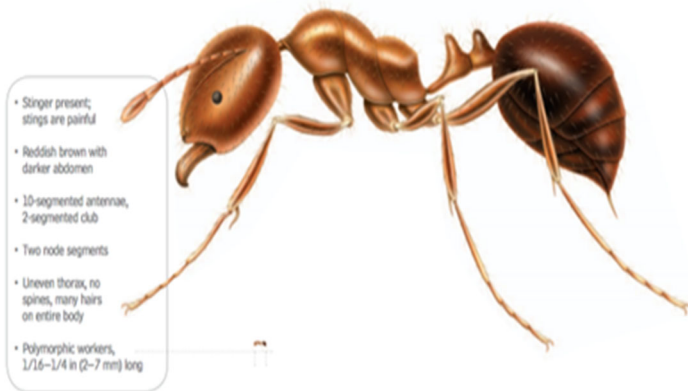
FALL WEBWORM - Variable in color, ranging from yellowish green to dark gray, and thinly covered with pale hairs and scattered tufts of very long hairs.



WHITE GRUB - Grubs are always C-shaped and are white with a brown head capsule. Unlike caterpillars, grubs lack abdominal prolegs. The raster, or tip of the abdomen, is also commonly brown.



THRIPS - They have narrow, fringed wings. The nymphs look like even smaller adults, though they tend to be light green or yellow rather than darker colors. Their wings are also not fully developed, and they sometimes have red eyes. Thrips appear to be tiny dark slivers on your plants.



FIRE ANT - One way to distinguish fire ants from other red ants is that they have a 2-segmented pedicel, which looks like two bumps on the 'waist' of the ant—the area between the thorax and abdomen. Their thorax lacks spines, and they also have 10 distinct antennal segments with a 2-segmented club at the ends.



SOFT SCALE - Soft scale insects are relatively large sap-sucking insects, measuring a tenth to a quarter of an inch long (2-6 mm.), with a distinct protective covering firmly attached to their bodies. Some mimic their surroundings; others produce a waxy coating that can make them resemble fluffy insect casings



ARMORED SCALE - If you lift one, you'll find a small soft-bodied insect inside, whereas with soft scale, the covering is often part of their body. Armored scale also doesn't draw ants or sooty mold since they don't produce honeydew



PYRACANTHA FIRE BLIGHT - Fire blight is a bacterial disease that affects only plants in the rose family such as apple, pear, loquat and pyracantha; roses are not affected. • Dieback of twigs and branches, as well as shriveling of flowers, occurs in warm, moist weather; affected tissues turn very dark and twigs are crook shaped. Cleaning of shears is necessary after each cut; cut at least 6 inches behind affected tissue.



LEAF CRUMPLER LARVA - Larva is around an inch long, with a green-grey color with purple markings at each segment. The caterpillars build web tubes on twigs which incorporate leaf fragments as they feed. Inspection of pyracantha infestation should begin in late May.



HOLLY LOOPER - The caterpillars are plain green, which camouflages them well in holly foliage. They feed exclusively on hollies.