



Landscape Services

Safety Standard Operating Procedure

(Revised 7/2023)

Tree Related IPM

This SSOP provides guidance on the safe practice of **Tree Related IPM**. Large and/or small equipment may be used while performing tree IPM. As with any equipment or tool, 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(s) produced by the manufacturer.

Safety Requirements PPE Required: Highly tailored to the situation.

Safety Hazards: Vehicle and pedestrian traffic, underground and overhead utilities, lifting, bending, slipping, tripping, falling, overhead objects, dust, noise, sharp objects, blind spots, equipment malfunction, pinch points, hot or cold temperatures, inclement weather, and chemical hazards.

Scheduled: Typically seasonal, but also highly tailored to the situation.

Horticultural Elements: IPM procedures are highly tailored to specific horticultural elements.

IPM: Basic IPM methods include cultural, physical, biological, and chemical methods.

Please note, this topic is vast and every individual tree related IPM procedure will not be documented here. This document will provide a basic overview of our approach to IPM with some common examples of each method.

IPM: Integrated pest management is a systematic approach to plant protection which utilizes various strategies alongside each other to optimize the environmental, economic, and sociological outcomes in the landscape. This contrasts with traditional pest management systems which rely entirely on the use of pesticides. It's important to remember that not all insects/organisms found in the campus forest are considered pests. A healthy ecosystem will harbor abundant life of many varieties. But when a detrimental organism or pathogen has been positively identified, or when preventing a pest from establishing in the landscape, it's beneficial to utilize a holistic management approach. The four most common IPM methods are listed below. For more information, reference the book: Ornamental Pest Management, Oklahoma Cooperative Extension Services Division of Agricultural Sciences and Natural Resources Oklahoma State University. Or see links below.

Cultural IPM: These practices suppress pest problems by minimizing favorable conditions for the pest. Selecting healthy plants that are adapted to our growing conditions is the first step in cultural IPM practice as these plants will be less likely to be stressed and encourage pest activity. Pest resistant plant selections should also be considered. For example, when planting native Elm species we select cultivars that have shown Dutch Elm Disease resistance. Such as Princeton Elm, *Ulmus Americana* 'Princeton'.

Physical IPM: This method prevents pest access to the host area or physically removes an already present pest. The most common example of this on campus is live trapping and removing squirrels. Squirrels often injure and kill trees on campus, so relocation efforts are almost always in motion. See related SSOP Squirrel Trapping and Relocation.

Biological IPM: This method utilizes known predators, parasites, and/or diseases that afflict the pest of concern. As of now, there are no examples of this method being used directly in the campus forest. However, a commonly referenced landscape practice is the release of ladybugs to control aphid populations.

Chemical IPM: This pest control method is achieved via use of lethal chemicals, such as insecticide, fungicides, rodenticides, or other pesticides. Insecticides are the most commonly used chemical pest control methods on campus. For example, imidacloprid is used annually to help control bag worm infestations in trees. It is imperative to follow all product label instructions, including PPE use, and comply with all regulations when working with or applying chemicals. For more information on regulations see: <https://ag.ok.gov/wp-content/uploads/2020/11/2022-Combined-Pesticide-Manual.pdf>

Additional Resources:

<https://www.epa.gov/ipm/introduction-integrated-pest-management>

<https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles>

<https://www.usda.gov/oce/pest/integrated-pest-management>

<https://extension.okstate.edu/fact-sheets/integrated-pest-management-ipm-for-the-home-landscape.html>