

Tree Maintenance and Pesticides

IPM Approach

Integrated pest management (IPM) is used to maintain healthy trees and plants. The IPM approach uses three basic steps in solving pest-related problems:

1. Gather Information

The first step is to gather as much information as possible about the problem. If you think you have a pest problem, it is imperative that the pest be identified so that appropriate measures can be taken to protect the health of the trees as well as the health of yourself, your family and the environment. The Cooperative Extension Service can help you identify the problem and make recommendations.

2. Assess the Problem

Once the pest is identified, the next step is to evaluate whether the problem needs intervention. Everything has a purpose and a place within our environment. However, when the pest population becomes greater than can be naturally tolerated, intervention is warranted.

3. Choose the Chemical

Once you have decided that intervention is warranted, the next step is choosing a solution. There are a wide variety of solutions to choose from, including biological solutions and highly toxic chemical solutions.

After you have made a decision to use a chemical intervention there are several factors that must be kept in mind:

- Is it windy? According to Alaska pesticide regulations, it is unlawful to apply pesticides when wind speed exceeds the maximum wind speed stated on the pesticide label or 7 miles per hour if no wind speed is stated. If you apply a pesticide on your tree will it drift from the target area to contact and contaminate other areas?
- Is there a well, stream or lake located near to where you plan to apply chemicals? If so, pesticide runoff could directly contaminate local groundwater and your drinking supply if it seeps between the well casing and surrounding earth. Wells with non-grouted casings are particularly vulnerable. For additional information regarding pesticides and water, see Extension publication "Protect Water Sources: Understand Pesticide Movement," GWQ-00547.
- Is it the appropriate time of year for application to



achieve control of the pest? When you apply a pesticide, will you be applying it at the most vulnerable stage in the pest's life cycle? This factor is very important in achieving lasting and effective control of the pest.

- Read and follow the pesticide label. Some pesticide labels recommend a second application at a period of time after the initial application. It is important to follow the directions on the label exactly to achieve adequate control. If you do not follow the directions, control may not be realized and you may end up applying more pesticide than necessary, subjecting you, your family, your neighbors and the environment to unnecessary exposure.

After taking all these factors into account, the next step is to apply the pesticide.

All Pesticides Are Poisonous!

Pesticides come in different formulations, including concentrated liquid, ready-to-use and powder to be mixed with water. Whatever formulation you choose, you must read the label and follow the directions exactly. Applying a higher concentration of pesticide is against the law and is no more effective in killing insects than if you mixed it according to directions.

Personal safety equipment should be worn before opening the container.

Before choosing any solution it is important to know that **ALL PESTICIDES ARE POISONOUS**. Biological solutions are generally more specific to the pest, limiting the danger to

nontarget organisms. However, some biological or botanically derived pesticides are quite toxic and will kill all insects within the target zone. Read the label to know:

- what trees the pesticide can be used on
- what insects/diseases it will control
- what personal protective equipment is necessary for you to wear (Additional protective equipment may be warranted.)
- how to mix the chemical
- how to apply the chemical
- other important information



Things You Can Do to Avoid the Need for Pesticides and Chemicals

The first step in maintaining pest-free trees is to maintain the health of the tree. To do this, proper culture of the tree is essential. A healthy tree will better resist insect and disease problems than a weak or poorly cared for tree. Proper maintenance of your tree includes the following:

Water

Your tree will need about 1 inch of water per week around the root zone during the growing season. Be sure to account for natural rainfall. An overwatered tree will develop root problems and become unhealthy.

Nutrition

Nutrition is important for adequate growth and pest control. Trees in the landscape generally benefit from a general fertilizer with the formulation of 8-32-16 for Southcentral Alaska and 16-16-16 in Southeast and Interior Alaska. The first number of the fertilizer formulation is the percent by weight of nitrogen, the second number is percent phosphorous and the third number is percent potassium. Follow label directions to ensure proper placement and quantity of fertilizer and to minimize fertilizer runoff and environmental degradation. Fertilizer should be evenly applied for uptake by tree feeder roots. Tree roots in Alaska tend to be shallow and spread out at least as far from the trunk as the tree is tall.

Protective Clothing and Equipment

Fertilizers are corrosive materials and adequate precautions must be taken to protect yourself, your family and your neighbors from unintentional exposure. Whenever using any type of chemical fertilizer or pesticide, always follow the label requirements for protective equipment. However, if no protective equipment is specified on the label, always wear long pants, a long-sleeve shirt, goggles, water-resistant gloves and water-resistant boots or shoes (see illustration below). Be sure to look for other statements such as “caution – eye irritant” that may imply protective equipment should be used.

Lawn Areas

If trees are located in a lawn area, keep in mind the fertilizer used on your lawn is not appropriate for the trees. Lawn fertilizer is generally very high in nitrogen, which can cause rapid, weak growth in trees. High nitrogen is suspected of attracting insects such as aphids. (Avoidance of highly soluble fertilizer is advised.) Also, if a weed-and-feed formula is used, the herbicide has been known to move through the soil along with water. Contact with tree roots can adversely affect the health of your trees.

Turf grasses and tree feeder roots occupy the same space in the soil. Both can be found in the top 6 to 8 inches and compete for nutrients. When fertilizing your trees make sure that the fertilizer reaches the root zone area.

When applying a pesticide, keep in mind that children, pets and wildlife may use the area and even the plant that the pesticide is being applied to or around.

For information on pesticide laws, please contact ADEC at 1-800-478-2577.

www.uaf.edu/ces or 1-877-520-5211

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