

Integrated Pest Management (IPM)

The goal of any pest management program is to prevent pests from damaging or reducing the value of your crop, lawn, home or person. Pest management does not necessarily mean the complete elimination or eradication of a pest. It can mean controlling pest numbers before they build up to a point at which they can cause you real problems.

Integrated Pest Management, or “IPM,” is a type of pest management. IPM is a decision-making process that anticipates and prevents pest activity and infestation by combining a number of different strategies to achieve long-term solutions to pest problems. In IPM, pest management decisions are based on need and effectiveness rather than a schedule. One goal of IPM is to solve pest problems in the least toxic manner possible. A key element of IPM is planning ahead. You must anticipate and prepare for pest problems before they occur.

IPM does not mean simply switching from chemical pesticides to organic pesticides. Nor does it mean eliminating the use of all chemical pesticides completely. IPM can and may include the use of some chemical pesticides. According to the National Coalition on IPM, 1994, “IPM is a strategy that uses various combinations of pest control methods, biological, cultural, and chemical in a compatible manner to achieve satisfactory control and ensure favorable economic and environmental consequences.” IPM is not one single action, it is a process, a series of steps that must be carefully thought out ahead of time. Each step depends upon the given situation, the given pest and your given ability, both physically and financially, to accomplish all of the steps.

The beauty of IPM is that you plan ahead and often can employ strategies that actually prevent pests from ever building up to a level where they may cause you trouble. Some examples of preventive IPM strategies that you can use are:

- Reducing moisture in and around your home and keeping it in good repair to prevent termite and other pest infestations;
- Keeping your lawn healthy and growing pest-resistant varieties in your gardens to prevent or reduce the chance of infestations of harmful lawn and garden pests;
- Removing pet food overnight to keep pests such as cockroaches, skunks, opossums, raccoons or rats from invading in search of food;
- Weeding around your garden and your home to remove cover for insect or animal pests; and
- Watering your lawn in the morning instead of the evening to reduce the chance of turf diseases.

Any IPM program should include four basic components:

- Pest identification
- Pest monitoring
- Determination of economic injury level
- Pest control strategies

Correct identification of any pest or pests you find is very important because, for instance, not all insects you see in your house, lawn or garden are pests. Sometimes two different pests may look alike to you but may require entirely different

management strategies to control them. You must be able to predict the kinds of pests that potentially infest homes, lawns and gardens, so you can take preventive or corrective actions in these places.

Early detection of pests can mean savings of time and possibly dollars in managing the pests. Also, an early start allows you more options for managing these pests. This is why any IPM program requires you to routinely monitor your home, lawn or garden for the presence of both pests and beneficials or natural enemies of pests. You may find that natural enemies will often take care of pests on their own before they ever become a problem.

In IPM, you must determine at what level a pest or pests actually becomes a problem. This is often called the “economic injury level.” This level can be a certain number of insects or weeds in a specific area. It may be a certain amount of feeding damage on plants. Whatever this level is, it should be decided on before the pests reach it. Your county Extension agent can help you decide at what level additional control is needed to prevent the pest from causing economic or aesthetic damage.

Finally, you must decide what you will or will not do in the way of pest control if you believe that pests will go beyond your economic injury level. If you do end up with a pest problem, often nonchemical methods may be used to control these pests. Sometimes you can simply remove them or remove the source of the problem. In some situations, if preventive measures or nonchemical ways of controlling pests do not work, you may need to use a pesticide to prevent pests from reaching economic injury levels.

Factors affecting your IPM decisions should include:

- How much money and time you have to spend controlling the pest.
- Environmental conditions at the time of the pest outbreak.

- Whether or not you are willing to use a pesticide.
- Whether a pesticide is necessary to control your particular pest.
- Selection of the best pesticide for your particular pest.

Again, your county Extension agent can help you with these decisions.

Remember that, according to definition, IPM includes a combination of pest control methods. Some of the methods that can be used include:

- Plant selection.
- Physical removal of pests and their residues.
- Biological controls such as the introduction of pest parasites or predators.
- Cultural practices for maintaining health and vigor such as proper watering, fertilizing, pruning or mulching of plants.
- Traditional pesticides and alternative chemicals such as pheromones and insect growth regulators.
- Insecticidal soaps or “natural” pesticides.

If you do decide to use a pesticide, IPM encourages you to choose the pesticide that is least toxic. Find out which products will control your pest and use one with the signal word of CAUTION instead of WARNING, if possible. Your county Extension office can help you select the most effective and least toxic pesticide.

Prepared by Robert G. Bellinger, Extension Pesticide Coordinator, and Rachel C. Rowe, Pesticide Information Program Assistant, Clemson University.

This information is supplied with the understanding that no discrimination is intended and no endorsement by the Clemson University Cooperative Extension Service is implied. Common and brand names of pesticides are given as a convenience and are neither an endorsement nor guarantee of the product nor a suggestion that similar products are not effective. All recommendations for pesticide use are for South Carolina only and were legal at the time of publication, but the status of registration and use patterns are subject to change by action of state and federal regulatory agencies. Follow all directions, precautions and restrictions that are listed. (New 8/99).