Gardening with Fewer Pesticides

Prepared by Sharon Yiesla of
Sharon Yiesla, Horticultural Services Revised 4/25

Many gardeners are looking for ways to reduce the amount of pesticide they use in their gardens. There are a number of methods that can be employed to accomplish this. These methods are most effective when more than one is used at the same time. The information given here focuses on prevention and management.

Plant Health Care (PHC): The main focus is on stress reduction.

- Site selection: Match the plant to a site that can support it.
- Proper planting:
  - Amend the soil when feasible.
  - Dig a planting hole that is big enough for the root system.
  - Plant at the right depth.
  - Water new plants.
- Maintenance:
  - Proper watering
  - Proper fertilizing
  - Proper mulching
  - Proper pruning
- Monitoring: examining plants on a regular basis to find problems while they are still small and easier to handle.

Integrated Pest Management (IPM): Using a variety of techniques to manage pests.

- Monitoring:
- Proper identification of the problem: It is difficult to manage a problem if the problem is not identified.
- Choose the proper management techniques:
  - Cultural: practices used in selecting and growing plants. These are simply good gardening practices that are often ignored or poorly carried out.
    - Choose disease resistant varieties: These plants are not immune to diseases, but are much less likely to be affected by them. They generally will not need to be treated with fungicides.
    - Sanitation: refers to keeping the garden and gardening tools clean. As plants or plant parts die, remove them from the garden. Decaying plant material can be a good home for disease organisms and insect pests. Remove weeds as well since they can harbor disease organisms and insects. Gardening tools should be kept clean as well; they can serve to spread disease problems if not properly cleaned.
    - Crop rotation: Rotating crops can help reduce the buildup of disease organisms in the soil. This is especially useful in the vegetable garden. Rotate crops so that a particular vegetable (or a related one) is not planted in the same location more than once in three years.

        - Keep plants healthy: Plants that are in good health and properly cared for will be able to resist many problems on their own. This includes proper watering, fertilizing, mulching and pruning
    - Mechanical: techniques to exclude or destroy a pest through mechanical or physical means.
        - Barriers: used to keep pests away from plants
        - Hand picking: physically removing the insect, its eggs or diseased plant parts.
        - Traps: Some attract insects with floral or hormone lures, others may attract with color or shape and catch insects with sticky coatings. Traps are mostly used as monitoring devices to gauge when to use a pesticide. With small pest populations, they may provide a good level of management by themselves
    - Biological: making use of the natural enemies of plant pests.
        - Avoid use of pesticides that may kill good insects as well as bad.
        - Learn to tell the good guys from the bad.
            - Predators: organisms that kill other organisms
            - Parasitoids: organisms that need a host to complete their life cycle; the host organism is destroyed
            - Infectious agents: naturally occurring diseases of pests
        - Provide a good home for beneficial organisms (water supply, a wide range of plants)
    - Chemical: IPM does not exclude the use of pesticides, but other choices are explored first.

Using non chemical controls:

- Little or no risk to people to people or the environment
- May require extra planning and effort
- Results often are not immediate, but may be more effective in the long run

If you do use pesticides:

- Correctly identify the problem
- Select a pesticide with low toxicity
- Read and follow ALL directions
- Use the product at the right time
- To be as safe as you can be, limit your exposure to the pesticide