

## Integrated Pest Management of Historic Gardens, Orchards and Landscape

The Integrated Pest Management (IPM) program for the gardens, orchards and landscape is based on recommendations provided by the University of Maryland Cooperative Extension Service in the *Maryland Master Gardeners Handbook* and other publications. Additional pertinent sources, such as the National Arboretum in Washington, DC are also consulted.

The principal staff member responsible for researching and implementing the program is the Horticulture/Landscape Manager. This staff member is a licensed pesticide applicator, a status that requires yearly refresher training. This position also trains other staff members who are registered to apply non-restricted chemicals. A collection of books relating to pest identification and control methods is available to all garden staff. Exhibit gardens at the various sites are managed on a day-to-day basis by the interpretive staff assigned to the site.

The IPM program covers all types of pests including insects, disease-causing organisms, weeds and animals. All pesticides are stored in a safe, locked cabinet that is only accessible to those persons authorized to apply the materials. Records are kept of all pesticide use.

The garden program covers cultivated beds at the Godiah Spray Plantation, Smith's Ordinary, the Woodland Indian Site and Farthings Ordinary as well as ornamental plantings at the Visitor Center and the State House Parking lot. The orchards are located at the Plantation and Farthings, the rest of the grounds fall under the category of historic landscape.

### **Preventative Maintenance**

IPM is a holistic program that relies on good management practices. These include building and maintaining a healthy soil, using mulches (including winter cover crops), choosing the right plant for the right place, timing the planting, using disease free seed and planting stock, watering, and properly disposing of diseased or infested plant material. These responsibilities are shared by all of the gardening staff.

Since our gardens are living exhibits, open to the public, we are operating under certain constraints. Visitors are unpredictable and are inclined to taste garden/orchard produce. We do not use any chemical products that leave a toxic residue. Many traditional IPM methods rely on visible traps or row covers, which are inappropriate for HSMC. IPM also places heavy reliance on disease or insect resistant varieties. We do try to plant resistant varieties whenever they also meet the criteria of being historically accurate.

### **Program Implementation: Insect pests**

Once a problem is detected, it is important to identify the pest and determine what level of damage can be tolerated. If control is deemed necessary, a strategy is selected. The least toxic solution is always tried first. This involves the use of physical controls such as handpicking insects, a time honored historic practice. Other benign techniques include pruning out insect damage, replacing diseased or infested plants with new plants, or using discreet traps, such as old boards or saucers of beer. Encouraging beneficial insects by providing the right habitat is also very useful.

Chemical controls are rarely used, except when the pest poses a risk to our visitors.

These situations include control of mosquitoes (to prevent West Nile virus) and stinging insects, such as wasps and yellow jackets.

### **Program Implementation: Weeds**

Herbaceous weeds in all garden areas are usually controlled by physical removal. Again correct identification is important. By concentrating on removing annuals before they set seed, the weed population can be reduced. Perennials require the removal of the root/runners as well as the seed head.

Weeds in non-garden areas, such as sidewalks and parking lots, are treated with the least toxic herbicide that will accomplish the objective. We are very cognizant of our proximity to the St. Mary's River and do not employ pesticides that will pose a threat to that habitat or to water quality.

Mulch is applied wherever possible to deter weed growth. Over the winter months beds are either planted with a winter cover crop or covered with black plastic to discourage weeds from invading during our closed season.

The most problematic weeds are invasive exotic species in the landscape at large. There is an ongoing effort to physically remove these species. Selective use of the least toxic herbicide is used where necessary.

### **Program Implementation: The Orchards**

The orchards present special challenges in terms of pest management. It is very difficult to produce a good crop of fruit in Maryland without resorting to the use of chemical sprays. Fortunately, we are not relying on heavy fruit production and we have determined that some damage can be tolerated in terms of usage. For these reasons, and because visitors are likely to pick and eat fruit from the trees, we do not employ chemical sprays.

Careful selection of varieties and good cultural practices allow us to produce an acceptable crop.