Homeowner Pesticides

In recent years homeowners have lost the use of several pesticides in and around the home, yard and garden. The following is a discussion of the materials available to the homeowners for use on ornamentals and turf.

In order to manage pests in the yard, three factors must be addressed first:

1. What is the problem? Is the insect a beneficial, a pest or just a food source for other organisms? In short ***identify the insects first***. Identification is critical to knowing how to manage it. Knowing what to use and when to use it can save much time and money; reduce the potential for injury to the environment, non-target organisms, pets, children or yourself; and diminish the development of tolerance and resistance in the pest.

2. Once the pest is identified, you can select the method of management best suited to reducing the problem by the most-acceptable means. If insecticides are used, be sure to ***read the label and follow directions***. Overuse or underuse of a product can cause more problems than it solves; beneficial insects can be destroyed, releasing the pest to do greater harm or tolerance, or resistance could cause the loss of an additional management tool.

3. Be sure to check and adjust the water pH to make sure your treatment works as effectively and efficiently as possible. Most water in Louisiana is alkaline with, an average pH of 8.3 and a range of 4.0 to 12.0. The optimum pH of water used to spray insecticides is between 5.5 and 6.5. This is best adjusted by using a buffer, but you can get by with vinegar or acid if used without delay after mixing. It is best to use a digital pH pen to check pH. Check the pH, add buffer in small amounts and recheck until desire pH is reached. This is important, since all insecticides are acid-formers. By adding insecticides to alkaline water, we get alkaline hydrolysis or the breakdown of the insecticide. Correcting the pH allows the insecticide to give the proper initial knockdown and maintain the proper residual effectiveness. This reduces the amount of insecticide needed and keeps it effective and safe for the environment and non-target organisms.

Some materials' availability is in question. Although they appear to be taken off the market, in actuality some names are changing, so these materials will be available but under different names. Whenever a question arises about availability of a product, please call. Do not list any product in an article that cannot be found in your area. There will be situations where recommended materials are not available everywhere, so call your local AgCenter parish office to find out what is available locally. Two of the best examples are as follows.

Thiodan is one of the products that some dealers are having a difficult time finding. This is due to the fact that the Thiodan label is changing. It will be sold under the names Thionex, Endosulfan and Phaser. Phaser and Endosulfan are sold for commercial and professional use only, so these will not be available to homeowners. Thionex, however, will be the new source and label for Thiodan. Care should be taken when recommending this product near water sources and around cattle. This is a good material for aphids, caterpillars and several other insect pests.

Kelthane will confuse people for a while, since it is going to have a label change as well. It will become available under the name Dicofol – same material, different name. This miticide is every effective in controlling mites alone or with a light oil like ultra fine oil. This is the only miticide available to homeowners on the local markets.

Malathion is a widely used insecticide. About 157 labeled products contain malathion. It is broad-spectrum on outdoor ornamentals and turf. The only thing that will change with the malathion one uses is the rate, which is based on the percentage of active ingredient in the formulation purchased. Be sure to check the label before using to make sure the correct amount is used. Aphids, scales, mites and many other insect pests are listed on the label. This is an organophosphate material, and its time is probably limited.

Pyrethroids are a man-made class of chemicals which mimic the true pyrethrins, which come from flowers. Several on the market include cyfluthrin, cyhalothrin, deltamentrin, permethrin and bifenthrin. These are sold under various trade names, such as Bayer Advanced Garden, Astro, Talstar, Scimitar, Battle and others. Many formulations on the market may contain a combination of a pyrethroid with a fungicide or another insecticide. This group is one of only two groups that are labeled for borer control; the other is Thionex. Both should be used with an oil to allow the plant material to absorb or hold the material more effectively for better management of borers.

Oils are a unique group of materials that are used both alone and in combination with insecticides to mange pest populations. Dormant oils used to provide management during the dormant or cold months. Others like volck oil or scalicide oils are used in early spring and in early fall. Ultra fine oils are paraffinolic oils, which are highly refined and safe to use year-

round. There is less chance for phytotoxicity with these oils, and as the seasons change, the rate of use changes. Oils are good against a variety of pest insects – mites, scales, aphids, thrips, leafhoppers, leafrollers, webworms, whiteflies and mealybugs. Oils help to break surface tension on the waxy coverings of insects and allow for better application of the insecticide. Alone they have a smothering effect on insects by sealing off the insect's ability to respire or breath.

Spinosad is an organic insecticide made for soil organisms. It is very effective against leafminers, especially the citrus leaf miner. It is also effective against thrips and caterpillars. This is an ideal material for use with organic or reduced insecticide programs.

Sevin – carbaryl – is an old product that is still effective against caterpillars, fleas, beetles and white grubs. It is also used on fire ants as a mound drench. It has a few drawbacks, such as being highly toxic to beneficial insects and releasing pest populations. To reduce some of the negative effects, it should be used with ultra fine oil to enhance its good qualities and help to prevent mite populations.

Merit – imidaclorpid – is a recent insecticide that has use by homeowners for management of pest in ornamentals and turf. It is one of the systemic materials that can be used as a spray or as a drench to mange pests in large trees or shrubs. How it is used depends on the insect population, its feeding site and how severe the foliar damage is before treating. This insecticide is effective against many soft-bodied insects on plants and in the soil. Like Sevin, it is very effective against white grubs. Merit is good against several groups of insects and is available as a granule, a wettable powder and a flowable liquid.

Niban is new bait for slug and snail control. It goes along with methoxychlor and mesurol. Along with the beer trap, these are effective molluskicides. Niban is more water- and humidity-tolerant and will control several other pests.

Fire ant management has about 100 different labeled compounds or formulations on the market. A relatively new group of baits is the insect growth regulators – IGRs – which have been developed for management of the fire ant. This group of baits can be applied easily using a hand-held applicator or a small spreader available to homeowners through the county agent's office. These materials are Extinguish, Extinguish Plus, Esteem, FireStrike and Logic. These baits are mixed with soybean oil and impregnated on corn cob grit. They are applied at 1 to 1 ½ pounds per acre twice a year, usually April and October. Applied to individual yards, they are more expensive. But when applied as a community or subdivision, they are very economical. Several subdivisions and farms around the state have implemented this program very easily with great success.

Orthene – acephate – has been around for several years and is a very effective insecticide. A systemic, it can be used in several different ways. Applications have been made as sprays, drenches and paint-on controls. Although it has a strong nasty smell, it will control several pests, including aphids, caterpillars, scales, mealybugs, thrips, whiteflies and fire ants. It is one of the insecticides that can be used near water systems with safety.

Cygon – dimethoate – is the other systemic insecticide that is available to homeowners for pest control. This is an old material that is greatly affected by the pH of water. It works well on caterpillars, aphids, whiteflies, some beetles, thrips and scales. This material is an emulsifiable concentrate and can cause phytotoxicity on some foliage plants. Check the label to reduce phytotoxicity.

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