



Grow Native is a native plant education and marketing program of the Missouri Prairie Foundation.

Information Sheet: Pesticide Usage and Native Plant Production

The use of native plant materials in landscapes is becoming the default selection for many gardeners and is a strong area of horticultural interest and business growth. Many growers, garden centers, and installers rely on their sales of native plants to bolster their business.

Pesticides, Plant Sales, and the Law

Concurrent with the interest and enthusiasm for native plants, often there are questions about the use of pesticides on them. Unfortunately these questions may put many responsible growers and retailers in a defensive posture as there may be industry regulations or state laws that mandate producing or selling plants that are pest free. This situation may also be complicated by the desire to sell or buy only those plants that are cosmetically free of insect or disease damage. Producing plants that comply with laws and regulations and that are free of blemishes may require the use of pesticides.

IPM: Part of the Solution

Buyers and growers alike requesting and emphasizing that native plants be produced and sold by nurseries that practice Integrated Pest Management (IPM) in their production and sales programs may resolve this situation. IPM is a pest-control approach that uses many methods of controlling plant pests, such as insect pheromone traps, to reduce use of pesticides. IPM, if applied correctly, can form the foundation for improved plant production and marketing strategies. One of the basic principles of IPM is the very essence of why native plants are so popular: **Prevention as a practice of IPM focuses on selecting plants that are well adapted for local conditions and thereby reduce pest problems.**

By utilizing and promoting IPM, growers and retailers alike demonstrate their commitment to producing and selling native plants in a responsible and thoughtful manner, and that the use of any pesticide is done only as part of an overall strategy to produce and sell plants that are pest-free and attractive.

Informing Consumers

In addition, sellers of native plants should be transparent about the type of and timing of pesticide application, keeping in mind that many consumers may be buying the plants specifically to sustain insects. For example, there are some pesticides that can be very harmful to specific insects because they never break down, whereas many other pesticides have

chemical structures that break down into harmless components after only a few days of application. A grower legally must maintain pesticide application logs, and there should be no harm in sharing this with the consumers.

In the future, pest management without the use of pesticides is likely feasible, however the appropriate use of pesticides is still a crucial part of IPM. Developments in pest management utilizing predatory insects are making pesticide-free options more feasible. This transition is a complete paradigm shift in all parties involved from the grower to using more insect-friendly controls and to the consumer not demanding an aesthetically perfect plant.

The Grow Native! Program Committee hopes that through communications such as this, the program will be an integral part of helping growers and retailers transition to pesticide-free plants and educating the public about them.

Sidebar: Definitions

Pesticide—A pesticide is a substance that prevents, kills, or mitigates a pest that adversely affects plant life. In horticulture this usually includes insecticides, fungicides, and herbicides but can also include other substances such as insect growth regulators and repellents, bactericides, and nematocides.

Insecticide – A substance used to control or kill insects that may damage plants. Modes of action can be systemic (within the plant and then ingested by the target insect) or by direct contact with the insect pest. Natural insecticides are extracted from natural sources and often thought of as less harmful to other non-target organisms. Organic insecticides are made from synthetic chemical compounds. Inorganic insecticides are made from metals.

Herbicide – A chemical compound that is used to prevent, damage, or kill unwanted plants. There are selective herbicides that affect only certain types of plants or broad-spectrum herbicides that affect all plants that they come in contact with. A post-emergent herbicide is applied to actively growing plants and a pre-emergent herbicide is applied to soil to affect plants that have not emerged from the soil yet.

Fungicide – A chemical compound or biological organism used to kill or inhibit fungi that damage plants. There are three modes of action possible with fungicides. A contact fungicide works where directly applied on the plant to be protected. A trans-laminar fungicide will translocate from the upper, sprayed leaf surface to the lower, unsprayed leaf surface. A systemic fungicide is taken up by the plants root system and redistributed through the plant's vascular system to all parts of the plant.

Biological – An insect or other invertebrate that targets and parasitizes unwanted pests.