Companion Coverage

Grower 101

Labels: A Must Read

Labels can be confusing; find out what you should look for when reading a label.

By Dean Mosdell

Product labels will never win a Pulitzer Prize for literary excellence because label content is highly regulated. Federal law strictly defines the type of information a manufacturer must put on a label, and then the wording on the label is approved by EPA prior to registration. The information on a label is not only critical for successful use of a product but also contains, for example, detailed instructions regarding proper handling, disposal, worker protective equipment and first aid. Not only should you read the label before you purchase a product to determine whether it fits your needs, but it is highly recommended that you re-read it prior to each use, as each section of the label contains extremely vital and valuable product information. The following highlights some of the key sections of a product label related to use in ornamental plant production.

Product Ingredients

The section located just below the brand name and type of product identifies the percentage by weight of active ingredients and inert materials contained in the product. The active ingredient is the molecule that controls the target pest. It is important to know the active ingredient and mode of action to help determine resistance management strategies. In the future, a group number will be added to labels based on mode of action. For example, Heritage is a group 11 fungicide; all fungicides with a group 11 designation have the same mode of action. Until all companies' labels contain group numbers, end users will need to use other resources that list active ingredients with corresponding modes of action to aid in resistance management. The USDA lists this information at www.epa.gov/opppmsd1/pr_notices/pr2001-5.pdf.

Inert materials consist of additives such as surfactants, carriers, diluents, stabilizers, etc. Although not directly toxic to the pest, inert materials maximize product performance. The names of inert ingredients are not identified on the label and are often trade secrets.

Precautionary Statements

Following the product content on the first page of the label, you will find key information such as the toxicity and first aid recommendations in case of accidental exposure. This includes signal words — caution (least toxic), warning or danger (most toxic) — that provide an indication of toxicity. First aid instructions provide details on how to treat applicators or handlers if the product is accidentally inhaled, swallowed or splashed onto skin, eyes or clothes. These instructions are not a substitute for medical treatment. You should call a poison control center, doctor or the emergency number on the label, and have the label with you if first aid is required. Proper training of applicators and reading the precautions on the label can prevent most exposure issues. (See Figure 1, below left)

Labels contain additional precautionary statements based on the chemical characteristics of the formulation and its potential hazard to humans, animals and the environment. There are also specific instructions regarding personal protective equipment requirements for applicators and handlers, along with other safety recommendations. Certain pesticides may have non-target safety concerns such as toxicity to bees or fish and other aquatic organisms. To prevent possible non-target injury, specific instructions on how to use the product in proximity to these areas are provided. In some cases, these instructions on human, animal and environmental safety may prevent you from using a product in certain situations and locations.

Directions For Use

This section contains key application information based on research data collected during development of the product, including types of applications, adjuvants, pH adjustments, stage(s) of growth to treat, use restrictions, and restrictions and precautions based on the chemistry of the product. The REI (restricted-entry interval) requirement for the active ingredient and early entry requirements are listed under the subsection identifying agricultural use requirements (see Figure 2, below). Also, look for the storage and disposal language on the product label to maintain viability of the active ingredient while preventing contamination and exposure. Depending on the active ingredient, package and package size, disposal requirements will vary.

The "Directions for Use" section

FIRST AID	
If on skin or clothing	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If in eyes	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call **1-800-888-8372**	

Figure 1. The first page of the label will contain important first-aid information.

DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY OR POOR DISEASE CONTROL.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USES

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), notification to workers, and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water is:

- Coveralls
- Chemical resistant gloves made of any waterproof material such as polyvinyl chloride, nitrile rubber or butyl rubber
- Shoes plus socks

Figure 2. The Directions For Use section will contain key application information.

also provides information on pests controlled, rates and use sites for optimum efficacy. By the time a product reaches the market, it has gone through five or more years of field-testing in addition to several years of lab and greenhouse trials. The pests listed on the original label are typically important pests that were evaluated in the initial research trials. Additional pests are added as new research trials support the use. Each ornamental species is added to the label after testing for safety at several locations under typical conditions. Because not all of the vast number of ornamental species and varieties in existence can be evaluated, ornamental labels commonly recommend that users test the product on a small scale before treating a species or variety not listed. Also, look for ornamental species noted in this section or under "precautions" that were found to be injured by the formulation.

ORNAMENTALS

Heritage is recommended for control of certain pathogens causing foliar, aerial, and root diseases, including leaf, tip, and flower blights, leaf spots, mildews, anthracnose, and rusts of ornamental plants. Heritage may be used to control certain diseases of container, bench, flat, plug, bed or field-grown ornamentals in greenhouses, shade-houses, outdoor nurseries, retail nurseries, and other residential and commercial landscape areas.

Application Directions: Apply Heritage as a broadcast or banded spray targeted at the foliage or crown of the plant. Apply to runoff in sufficient water to ensure complete coverage of the target plant. Good coverage and wetting of foliage is necessary for best control. Refer to the label for specific use directions for control of certain diseases. Repeat applications at specified intervals (plus alternations for resistance management) for as long as required. Applications may be made by ground only.

Do not exceed 600 gals. spray volume per acre for foliar applications. For drench and crown applications, do not exceed 2 pts. volume per sq. ft.

In addition, do not tankmix Heritage with other fungicides, insecticides, herbicides, fertilizers, adjuvants, etc., unless local experience indicates that the tankmix is safe to ornamental plants.

Drench Application: Heritage may be applied to control soilborne, seedling, and crown diseases of production ornamentals (greenhouse, shadehouse, and container grown) as a preventative, drench treatment prior to infection. Good coverage of the pre-infection area (root zone, root ball, crown, etc.) is necessary for satisfactory control. Heritage may be drench applied to container grown ornamentals using 0.2-0.9 oz./100 gals. of water. Apply 1-2 pts. of the solution per sq. ft. surface area on a 7-28 day interval. Apply drench prior to infection as healthy roots are necessary to optimize product uptake, systemic translocation and disease protection.

General Ornamental Use Precautions

Do not apply Heritage to apple or cherry trees (Flowering, Yoshina variety) due to possible phytotoxicity. Further, do not use spray equipment that has applied Heritage for use in these sensitive crops due to possible phytotoxicity from residue remaining in the sprayer.

Heritage may be applied to certain varieties of crabapple for control of apple scab. Heritage has been shown to be safer when applied to the species and varieties listed in Table 4. However, due to the large number of genera, species, and varieties of crabapple, it is impossible to test every one for tolerance to Heritage. The professional user should conduct small scale testing to insure plant safety prior to broadscale commercial use on plant genera and species not listed on this label.

Figure 3. Look for an ornamentals section under Specific Use Directions.

Specific Use Directions

Some labels contain more specific use directions related to plant production and the types of application. For example, under the subsection entitled "Ornamentals" in Figure 3, left, the fungicide label indicates that a maximum of 600 gal. of carrier per acre for foliar and 2 pints per sq.ft. for drench applications may be applied with this product. It is important to understand that carrier volume affects the rates of product applied. Also, the registered use sites of the product for ornamental production are listed under the subsection "Ornamentals."

Reading a product label is certainly not like reading a suspense novel, but it should not read like a mystery either. Manufacturers expend a great deal of effort to provide key details for optimum efficacy and protection when using their products. Remember, it is critical that you always read and follow label directions before buying or using any pesticide product. If you have any questions, contact the technical support group of the registrant. GPN

Author's Note: The label for Heritage fungicide, a registered trademark of a Syngenta Group Company, is used solely as an example for the purposes of discussing information contained in labels for agricultural products. Product-specific information identified herein should not be extended to other agricultural products.

Dean Mosdell, Ph.D., is a field technical manager with Syngenta Professional Products.

LearnMore

For more information related to this article, go to www.gpnmag.com/lm.cfm/gp110506