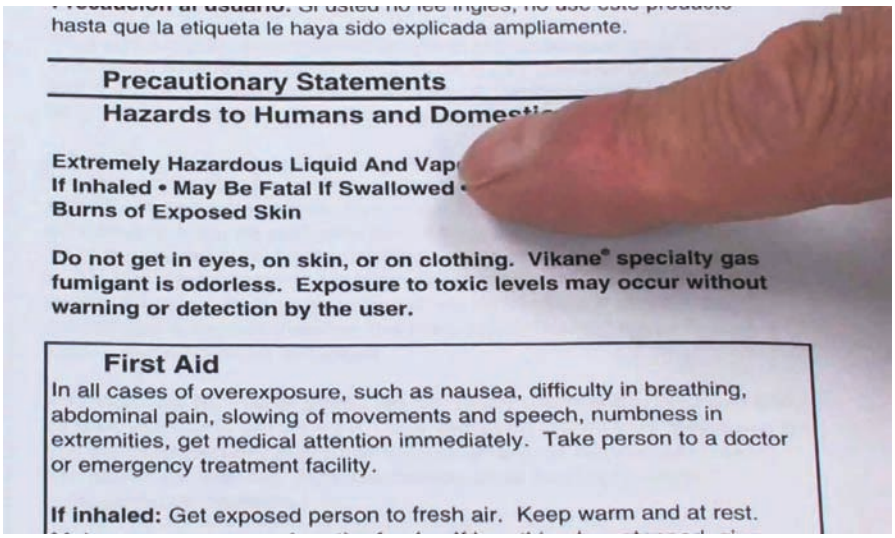
The pesticide label explained

By Laurie Ann Hurner

Editor's note: This continuing education unit (CEU) article grants one general standards (core) CEU when submitted and approved toward the renewal of a Florida Department of Agriculture and Consumer Services restricted-use pesticide license.



Precautionary statements on pesticide labels include information to protect humans and non-targeted animals.

Labels are everywhere — on the food we eat, the cars we drive and the products we use at work. In Florida agriculture, pesticides are part of most pest management practices. The Florida citrus industry uses pesticides every day. Some of them are general use (everybody can use them), and some are restricted-use (products used only by applicators who are certified and licensed or working under someone who is certified and licensed). No matter the products that are used, it is very important to understand the label. Let's look specifically at a pesticide label.

In the manual "Private Applicator Agricultural Pest Control" (SM 53), Fred Fishel, professor of agronomy and director of the Pesticide Information Office at the University of Florida/Institute of Food and Agricultural Sciences, says, "The pesticide label is a very expensive document. The information on the pesticide label represents the research, development and registration procedures that a pesticide must undergo before reaching the consumer marketplace, frequently at a cost of millions of dollars to the manufacturer." Information and instructions for application contained within the label must be submitted to the Environmental Protection Agency (EPA) for approval before the product can ever be approved for sale and use in agriculture.

Many people look at a pesticide label one time and never look at it again. This is a serious mistake, since labels are constantly being updated and need to be reviewed with every new pesticide purchase. The label, by definition, is "the information printed on or attached to the pesticide container." In addition to the label, when a product is purchased, other kinds of supplemental labeling information might be received. This is all the information about the product that might be received from the company, its sales representatives or a local pesticide dealer. This may come in the form of brochures, PowerPoint presentations, flyers and any other information that may go along with the product.

A pesticide label is broken down into four basic sections:

1) safety information
2) environmental information
3) product information
4) use information

We will now look in depth at each of these important parts of the label.

SAFETY INFORMATION

There is always a lot of safety information on a label that is directed toward the applicator of the material and any other people that may come in contact with the pesticide. A **child hazard warning** (KEEP OUT OF REACH OF CHILDREN) must be included on the front panel of each pesticide label.

According to the American Association of Poison Control Centers, pesticide exposure incidents occur in greater frequency to children under the age of six years than to older children, teens and adults on an annual basis. According to the EPA, children are more often exposed to pesticides accidentally due to their frequent exposure to grass and other outside areas often treated with pesticides, and treated indoor flooring materials where they often play and nap. Children may be enticed by agricultural pesticides due to their color or due to the simple fact that they have been told not to play with them.

In addition to protecting children, the pesticide label also contains a **hazard to humans and domestic animals section.** This section contains information about "routes of exposure" and other precautionary information

to avoid human and animal injury. There are four general routes of entry for a pesticide into human and animal bodies: lungs, mouth, eyes and skin. Each label will describe which routes of entry are particularly vulnerable to exposure by that particular pesticide. In addition, this section alerts the applicator of actions to take to avoid acute exposure. Acute exposure is meant to describe a single exposure event, the symptoms of which occur shortly after exposure, generally within 24 hours. This part of the label also alerts users to effects that may occur a few days after exposure or later in life.

A large part of the safety information on a pesticide label revolves around **signal words.** A signal word is "displayed in large letters on the front

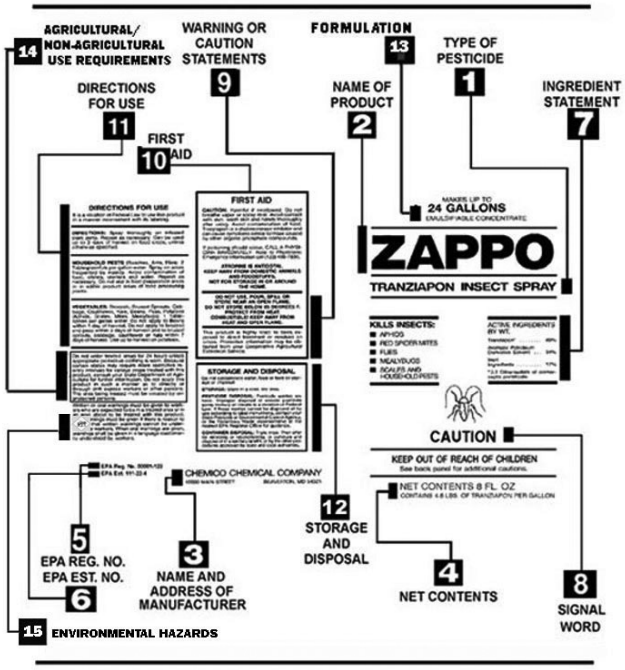
Danger, denoted by the skull and crossbones and printed in red, indicates the pesticide is most likely to cause acute illness through oral, dermal or inhalation exposure.

of the label to indicate approximately how acutely toxic the pesticide is to humans by ingestion." The three signal words found on labels currently are **caution, warning and danger**. Danger, denoted by the skull and crossbones and printed in red, indicates the pesticide is most likely to cause acute illness through oral, dermal or inhalation exposure. Labels with the caution signal word indicate slightly toxic or relatively non-toxic products. Due to newly instituted federal labeling requirements, the caution label will soon go away. In the future, labels will include just warning or danger statements.

Danger product labels will have a special section called **statement of practical treatment** on them. This section is very important in that it will provide information to medical professionals and others if an exposure to these highly toxic chemicals

occurs. It is very important to take the label of any product, especially danger products, to the hospital or clinic when seeking treatment for exposure. All signal word products will include a first-aid statement, but the danger label will be the most in depth.

The last part of the safety information section of the label that should be studied involves **personal protective equipment (PPE)**. This section is very specific as to the exact type of clothing that must be worn during the handling, mixing and applying stages of pesticide use. PPE should also be worn when servicing equipment or if coming into contact with pesticide-contaminated equipment. It is important to remember that the PPE listed is the minimum that must be worn. Wearing more than what is listed is not a violation of the law.



This photo shows all the different sections of a typical pesticide label.

ENVIRONMENTAL INFORMATION

According to Fishel, "This section of the label explains the nature of potential hazards and the precautions needed to prevent injury or damage to non-target organisms or to the environment." Some non-target examples are: bodies of water, honeybees and groundwater. It is very important to pay attention to and be familiar with this part of the label. Even though it does not apply directly to an applicator, there are still stiff penalties and fines associated with disrupting non-target organisms and the environment.

PRODUCT INFORMATION

The product information section of a pesticide label is specific to the pesticide. This section provides key information that needs to be noted before use. This information becomes significant when the product does not appear to work or has been used and caused harm. Specific types of product information included within this section are as follows:

- **Use classification** indicates if the product is for general use or restricted use.
- **Brand (trade) name** is the specific name issued by the manufacturer for the product.
- **Ingredient statement** identifies the name and percentage (by weight) of each active ingredient in the product. An active ingredient may be identified in this section by its chemical name, which is generally long and difficult to spell and say. In the ingredient statement, there is a section titled "other ingredients," which indicates the filler or other ingredients that help the pesticide to be applied. These ingredients are not considered toxic and will usually not be named or spelled out. They are often referred to as inert ingredients.
- **Net contents** refer to how much product is in the container. This is usually expressed in pounds, ounces, gallons, quarts or pints.
- **EPA registration number** is the number assigned to the specific product only. It indicates that the product has met all federal regulations and has been through all the testing phases required.
- **EPA establishment number** indicates where the product was formulated. Each facility has a separate establishment number so that if there is ever a problem with product in the field, it can be traced specifically back to where it was made.
- **Name and address of manufacturer** are required by federal law. The contact information for the maker of the product must be provided on the label.
- **Formulation** is "a mixture of active ingredient(s) combined during manufacture with inert ingredients." A word or abbreviation will describe the product formulation. For example, WP stands for wettable powder, D for dusts, G for granulars, etc. It is important to be familiar with the formulation of the product as this will determine how and when it will be applied, as well as what equipment an applicator will need.
- **Physical or chemical hazards** include any special warnings that may be needed, such as the product being flammable, explosive, corrosive, etc. It is important to be prepared for the worst. Know the hazards and how to prepare for them should they occur.
- **Limited warranty and disclaimer** tells the user that the product is good, that it is safe and that it will do its job.

USE INFORMATION

This section of the label is the one that most people look at and are

capable of reciting from memory. It makes up the bulk of the label and is easily identified. It generally contains two sections: **directions for use** and **storage and disposal**. The directions-for-use section is pretty self-explanatory. "It is a violation of federal law to use this product in any manner inconsistent with its labeling" is a statement that appears on every pesticide label. To avoid being noncompliant with directions for use is another reason why an applicator should be very cautious when using a pesticide product. The storage-and-disposal section informs the user how the pesticide needs to be stored, how the containers are to be disposed of and whether the product can be disposed of in a landfill or not.

CONCLUSION

When considering if using a pesticide is the correct action to take in a grower's integrated pest management plan, the pesticide label is a wealth of information. There are many things covered and a lot of important information provided. The number-one thing an applicator needs to remember is, "The label is the law, and the law is the label!" Finally, it is important to remember there are several times in the pesticide application process when the label needs to be consulted: before purchasing the product, before mixing and applying the product, and before disposing of the product.

Laurie Ann Hurner is the Highlands County Extension director and a citrus agent with the University of Florida/Institute of Food and Agricultural Sciences.

Please mail the answer sheet or a copy of the form to:

Laurie Ann Hurner
UF/IFAS Extension Highlands County
4509 West George Blvd.
Sebring, FL 33875

If you have questions regarding this form, test or CEUs, e-mail Laurie Ann Hurner at lhurner@ufl.edu or call 863-402-7150. Please allow two weeks to process your CEU request.

'The pesticide label explained' test

To receive one core continuing education unit (CEU), read "The pesticide label explained" in this issue of *Citrus Industry* magazine. Answer the 20 questions on the magazine's website (www.CitrusIndustry.net) or mail the answers and application information to the address at the end of the article. The article and test set are valid for up to one year from the publication date. After one year, this test will no longer grant a CEU.

1. The only time you need to read a pesticide label is if you swallow some of the product. **T F**
2. Personal protective equipment is not discussed on a pesticide label. It is on the safety data sheet. **T F**
3. A child hazard warning, KEEP OUT OF REACH OF CHILDREN, must be included on the front panel of every pesticide label. **T F**
4. Routes of exposure on a pesticide label describe how the pest the applicator is trying to kill will die. **T F**
5. The danger signal word is always accompanied by a skull and crossbones. **T F**
6. A pesticide label has four general sections: safety information, environmental information, cost and use information. **T F**
7. The safety information section of the pesticide label is all about the applicator or other people/animals that may come into contact with the product. **T F**
8. Caution is the signal word that is on the pesticide label of a product that is least toxic. **T F**
9. The label is the law, and the law is the label! **T F**
10. If a pesticide label says an applicator needs to wear safety glasses, it is okay not to wear them if the temperature is above 90 degrees. **T F**
11. Honeybees are an animal species that are not ever affected by pesticides. **T F**
12. Lawyers and litigants are most worried about the use information section of the pesticide label. **T F**
13. If pesticide applicators or others think they have been exposed to a pesticide, they should immediately refer to the statement of practical treatment and make sure to provide that information to the medical personnel they seek help from. **T F**
14. A statement that appears on every pesticide label is "It is a violation of federal law to use this product in any manner inconsistent with its labeling." **T F**
15. The federal agency that approves all pesticides and their labels is the Florida Department of Agriculture. **T F**
16. The label is all of the information that might be received from the company about the product, including safety data sheets, PowerPoint presentations, flyers, etc. **T F**
17. Pesticide labeling is the information printed on or attached to the pesticide container itself. **T F**
18. Product information becomes very important to a pesticide applicator in the event that the product does not work correctly or causes harm to a crop. **T F**
19. According to the American Association of Poison Control, children under six years of age are exposed to pesticides more than older children. **T F**
20. The physical or chemical hazards portion of the label tells the user if there are any special warnings that need to be heeded as far as a product being flammable, explosive, corrosive, etc. **T F**

Please circle the number below to rate this article and test:

Not very useful 1 2 3 4 5 6 7 8 9 10 Very useful

Pesticide Applicator CEU Form

First Name:_____ **Last Name:**_____

E-mail: _____

Pesticide License Number: _____

Address: _____

City: _____ **Street:** _____ **Zip:**_____

Phone: _____