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Caution! Warning! Danger!
Understanding Signal Words on Pesticide Labels

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Pesticide labels contain a lot of information and can be overwhelming. But reading and understanding pesticide labels is **essential** to ensuring **safe** and **effective** use of pesticides. Further, it is a federal crime to use a pesticide in any way that is not consistent with label instructions.

One important element of a pesticide label is the **Signal Word** (Figure 1). But what is a Signal Word? What does a Signal Word mean? This short communication will explain why Signal Words are on labels, what each Signal Word means, why some pesticides do not have one, and provide additional resources for more information.

Signal Words are required for all registered pesticides except those that meet Toxicity Category IV (meaning it is practically non-toxic and not an irritant). In these cases, at the manufacturer's discretion, the Signal Word CAUTION may be included on the label.

The Signal Word must appear in large letters on the front panel of the label along with the statement "Keep Out of Reach of Children." Each Signal Word tells the user how toxic a product is if it gets on or enters the body. Routes of entry include: swallowing or ingestion (i.e., orally), through the skin (i.e., dermally), or by breathing (i.e., inhalation).

General definitions of Signal Words from the National Pesticide Applicator Certification Core Manual, 2nd Edition, 2014:

CAUTION. This means that the product is **slightly toxic** orally, dermally, or through inhalation, or it causes slight eye irritation.

WARNING. This means that the product is **moderately toxic** either orally, dermally, or through inhalation, or it causes moderate eye and skin irritation. **AVISO**, the Spanish word for WARNING, must also appear on the label.

DANGER. This means that the product is **highly toxic by at least one route of entry into the body**. Products with this Signal Word can cause severe eye damage or skin irritation. **PELIGRO**, the Spanish word for DANGER must also appear on the label.

DANGER – POISON. These words are always accompanied by a skull and crossbones symbol (Figure 2). This means that the product is **highly toxic by any route of entry into the body**. **These products can cause death in very low doses.** PELIGRO, the Spanish word for DANGER must also appear on the label. "Poison" must be in red letters.

When purchasing a pesticide, use the Signal Word and labeling to help you determine the least toxic and most effective product that will address your need.

Remember, all pesticides can be potentially harmful in high enough concentrations, no matter what the Signal Word is.

Figure 1. An example label showing key information about the product, including the Signal Word, in this case "WARNING/AVISO".

Figure 2. The "DANGER – POISON" Signal Words are always accompanied by the skull and cross-bones, which tells the user that this product is highly toxic by any route of entry.

Additional Resources:

QR codes for resources

For a more detailed explanations, typical route of entry statements for Signal Word categories, and additional resources see the following University of Florida, Institute of Food and Agricultural Science Extension publication https://edis.ifas.ufl.edu/pi137.

Downloadable copies of the National Pesticide Applicator Certification Core Manual, 2nd Edition 2014 can be found at http://www.nasda.org/9381/Foundation/11379/11383/30485.aspx.

For a Signal Word topic fact sheet and more resources visit the National Pesticide Information Centers web page at http://npic.orst.edu/factsheets/signalwords.html.

For a pdf version of this document go to http://ag.arizona.edu/crops/cotton/files/SignalWords.pdf

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