What are pesticides and what does this mean for you?

There is likely a pesticide nearby if you look around right now.

This statement might confuse or even scare you, but understanding what is or is not a pesticide will allow you to make correct choices when controlling pests.

The term "pesticide" is often misunderstood depending on the context because they are found nearly everywhere, from storage sheds to hallway closets, and can be naturally or synthetically made. This article intends to help reduce confusion surrounding the word "pesticide."

Who decides what is a pesticide?

Understanding a few acronyms and background information is important to begin unraveling the confusion. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1947 governs the registration, distribution, sale, and use of pesticides in the United States. At that time, FIFRA was administered by the U.S. Department of Agriculture but moved under the jurisdiction of the Environmental Protection Agency (EPA) in 1970. Notable amendments to FIFRA occurred in 1972 with the Federal Environmental Pesticide Control Act and in 2003 with the Pesticide Registration Improvement Act.

Bottom line: the EPA administers programs to fulfill the FIFRA objective of ensuring that "when applied as instructed, pesticides will not generally cause unreasonable risk to human health or the environment."

What is a pesticide?

The EPA definition of a pesticide can be summarized in three points:

1. Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.
2. Any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.
3. Any type of nitrogen stabilizer.

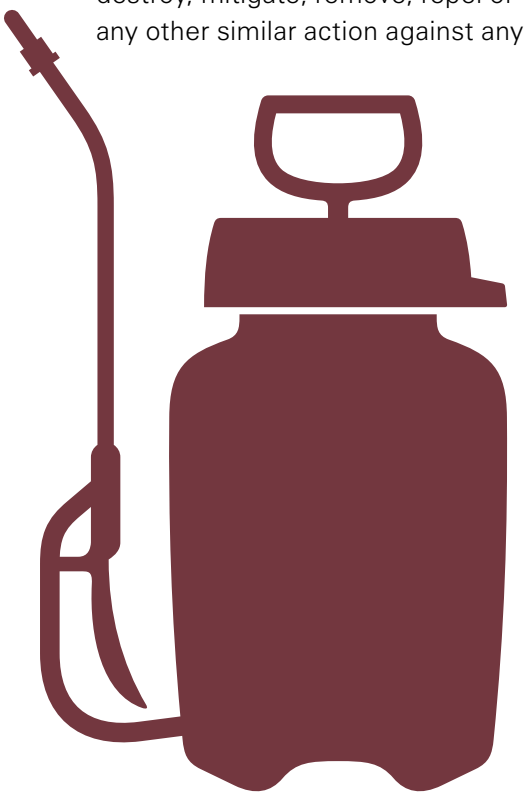
To help clarify these, the term "pest" can be categorized in two ways. First, a pest means "any insect, rodent, nematode, fungus, or weed." Second, a pest means "any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other microorganism (except viruses, bacteria, or other micro-organisms on or in living man or other living animals)."

Bottom line: Chemicals, compounds, devices, and products used for any pest listed above may be a pesticide.

What are the different types of pesticides?

The label on a pesticide container is a legally binding document. The EPA regulates registration and labeling of pesticide products and attempts to simplify the process for consumers to determine if they are purchasing a pesticide.

According to the EPA, any product that "makes a claim to prevent, kill, destroy, mitigate, remove, repel or any other similar action against any



pest; indirectly states or implies an action against a pest; draws a comparison to a pesticide" or even has a picture of a pest, will likely be required to become a registered pesticide.

The EPA uses three categories for registered pesticides: **biopesticides**, **antimicrobial**, and **conventional**.

Biopesticides are derived from such natural materials as animals, plants, bacteria, and certain minerals. Canola oil and baking soda have pesticidal applications and if advertised or used for these purposes, should be registered as a pesticide. For example, sodium bicarbonate can reduce powdery mildew on plants and is the active ingredient in baking soda.

Antimicrobial pesticides are intended to "destroy or suppress" microorganisms including bacteria, viruses, or fungi. The EPA has over 4,000 products registered as antimicrobial pesticides. Bleach, for example, can be an antimicrobial pesticide if used as a cleaner yet there are types of bleach used for deodorizing and likely aren't required to be registered as a pesticide.

All other pesticides are registered under the **conventional** category. Pesticides that have little to no risk to human health or the environment are deemed "minimum risk pesticides" and are not required to be registered. Citronella and salt are examples of active ingredients which are considered "minimum risk."

Bottom line: The registration process is very intricate, and the number of pesticide registrations is enormous.

What are all the different "cides?"

Classifying pesticides by the types of pests they kill is another method to help determine if a product is indeed a pesticide and if it is the best option for controlling a specific pest. The intended target or function is one way to classify pesticides.

Some common pesticide classifications include:

- **Insecticides** target insect pests
- **Herbicides** target plant pests
- **Rodenticides** target rodent pests
- **Fungicides** target fungal pests

Some lesser known pesticide classifications include:

- **Algaecides** target algae
- **Bactericides** target bacteria
- **Miticides** target mites
- **Piscicides** target fish

A product label will list a brand or trade name, but perhaps more importantly there is a specific area on the label that lists the ingredients of the product. The "active ingredient" on the label is one method to determine the target pest or function of a pesticide. Some products may list several active ingredients targeting various pests. For example, a pesticide product may contain active ingredients that target both fungi and insects.

Bottom line: Properly identifying the pest and understanding the type of pesticide is important for proper use, to ensure efficacy, and reduce personal and environmental harm.

Should I be worried about pesticides?

Registered pesticide products have been evaluated by the EPA and should always be used and disposed of according to the label. However, "homemade" products may have unintended or even unknown impacts. Concoctions and home remedies found on the internet or through word-of-mouth should be used with caution. Creating and using homemade pesticides can lead to inconsistent results and unknown safety concerns.

Bottom line: Pesticide labels may not be the most enjoyable literature but are critical for understanding how a product is intended to be used, the pests it targets, and any potential human or environmental safety concerns.

Your local weed and pest district or University of Wyoming Extension office is a useful source for information regarding pesticide use and safety.

Bottom line: **Jenna Meeks** is the assistant supervisor with the Goshen County Weed and Pest Control District. She can be reached at (307) 532-3713 or at gocoweeds@gmail.com.