



PERFECT HERBICIDE STILL A FANTASTIC DREAM; UNTIL THEN . . .

Not considering herbicide type, persistency, application method could lead to nightmares

By Travis Ziehl

Wouldn't weed control be easy if there was one herbicide that would control only weeds and not harm desirable plants?

Hasn't happened yet – although there is progress being made in the production of herbicides that are more targeted in their effects.

Fine-tuning herbicide chemistry is not the only way to reduce unintended herbicide injuries. You, the applicator, can make informed choices while selecting herbicides, preparing for application, and during the application process that can greatly reduce unintended effects.

Know What You are Trying to Control

Identify your problem plants. Once properly identified, make a list of the weeds you'd like to control and identify where they are growing, i.e., lawns, pastures, riparian areas, native landscapes.

Choose an Appropriate Herbicide

Herbicides can be selective or non-selective.

Selective herbicides control specific types of weeds whereas **non-selective herbicides** kill or injure most plants. For example, 2,4-D Amine, a selective herbicide, controls broadleaf plants but not grasses; however, glyphosate is a non-selective herbicide that can kill or injure any green plant.

With this in mind, you might choose a product that selectively controls broadleaf (non-grass) weeds to maintain a dandelion-free lawn or a healthy stand of pasture grasses. Or, a non-selective herbicide might



be chosen to keep driveways and roadside shoulders plant-free.

Read the label to help select an appropriate herbicide for the targeted weed and the environment you are trying to control it in (lawn versus pasture). The label provides critical information including the types of weeds the herbicide controls, where and how it can be applied, and needed required protective equipment. The label is the law. Thoroughly read and understand its contents and follow the directions.

Apply it Correctly

Match application method to task. Choosing the right application method is nearly as important as choosing the correct product. Using a boom sprayer

from a tractor to control weeds in a flowerbed might be overkill, and it just might produce overkill. Sprayers that allow spot treatments (applied applications to a particular spot rather than a broad area) ensure application of a herbicide only where wanted. Spot control of weeds is labor intensive and might mean you have to go back to clean up the ones you missed. But, it will also mean less damage to non-targeted plants and likely less herbicide used.

There are other techniques for spot treatments besides using a sprayer. Commercially available herbicide wick applicators look like modified paint rollers. Herbicide is applied only to plants that contact the wick. I've also used a small paintbrush to apply herbicides to control leafy spurge occurring in desirable and expensive ornamental willow rootballs.

Calibrate your equipment. This is the part of herbicide application people tend to overlook. Knowing how much product your equipment is releasing during application is very important. Too much herbicide can burn off the weed's foliage. If this occurs, the herbicide will never make it into a perennial weed's root system where it can kill the plant. If too much herbicide is applied, it is also more likely non-target plants will be killed. If too little herbicide is applied, it may not be enough to kill target plants. A few simple equipment adjustments can fix these problems. Visit www.wyoweed.org, click the Education link, and you will find several easy-to-follow calibration videos.

Keep the herbicide on target – avoid drift. Consider potential herbicide drift. Drift occurs when small droplets from the sprayer move with the wind to nearby areas. Avoid spraying on windy days and be conscious of what is downwind. Making



A piece of cardboard shields the desirable plant from a spot application of herbicide.

sure the sprayer produces large, consistently sized droplets can also reduce drift. Larger drops are heavier than small ones, making them less likely to be carried away by a breeze. To create larger droplets, the sprayer nozzle may need to be adjusted, cleaned, or the pump pressure of the sprayer reduced.

Check the label to see if the herbicide is volatile (prone to becoming a vapor). Under the right (or, more appropriately, wrong) environmental conditions, a volatile product could move from the site of application through the air as vapor and damage non-target plants. This may mean not using the herbicide on hot days or when there is a temperature inversion.

Shielding can prevent overspray or very-local immediate drift. This type of physical barrier prevents herbicide contact on desirable plants. A shield can be as simple as a piece of plastic or cardboard placed between the sprayer and the desirable plants.

Keep herbicide persistence in mind. Characteristics of herbicides play an important role in protecting desirable plants. Some herbicides are

more persistent than others and may remain active in the soil or decaying plant matter for months or even years until properly broken down, often by microbial activity. For example, a more persistent herbicide like aminopyralid, labeled for range and pasture, should never be used on a lawn since grass clippings may be added to compost. When the compost is then added to a garden, the residual herbicide may kill any susceptible vegetables or ornamentals that are planted. Other herbicides, like glyphosate, only persist for a couple weeks or less. If you plan to use a herbicide to kill weeds or grass before planting vegetables, crops, trees, shrubs or other ornamentals in the area, check the label to find out how long the herbicide will persist.

Weed Control without Herbicides

In some cases, using a herbicide might not be the right choice. If the targeted weeds are few and far between, consider mechanical control. This can mean using a shovel or garden hoe to remove weeds that have a simple taproot or use a good

pair of gardening gloves and pull that problem plant.

Once a weed infestation is under control, mulching or reseeding an area can be an effective way to keep weeds at bay. Mulch used in vegetable or ornamental beds can help reduce germination of weed seeds, while reseeding pasture or natural areas can establish desirable plants that will compete with weeds.

Weed control is an on-going process often most effective when several management techniques are used. Every year, new products and techniques can be added to our toolbox,

making weed control easier and safer. Keeping an open mind and discussing new developments with local experts can help the landowner achieve the best weed control while minimizing damage to non-target plants.

Local Experts can Help

Contact your local weed and pest control district or UW Extension office with any questions regarding herbicide selection or application. For more information, visit www.wyo-weed.org/addresses.html. The UW Extension educator county list is at www.uwyo.edu/ces/county.

*We're not sure if there are whispers of "The Terminator" in weed-control circles whenever **Travis Ziehl** is mentioned, but he is the integrated pest management supervisor for the Teton County Weed and Pest Control District. He can be reached at (307) 733-8419 or at tziehl@tcweed.org.*



Using a shovel on small weed infestations is cheap and effective.

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The Wyoming Association of Conservation Districts is a project partner of *Backyards & Barnyards*.

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