Reasons why herbicides fail in weed management on lawns

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Weed control in lawns is easily maintained if done properly. Below are some of the reasons your preemergence herbicide might fail.

1) **You failed to read the label completely.**

Herbicide labels contain a lot of information about application timing, rates, spray volume, soil conditions, and how to incorporate or activate the herbicide. Many of these topics are addressed below in one-way or another. Effective herbicide management begins with reading the label.

2) **You disrupted the chemical barrier.**

Preemergence herbicides form a chemical barrier over the soil surface. The barrier is typically ½ to 1 inch thick (depending on product, soil type, and method of incorporation). Fortunately, most weed seeds germinate in the top ½ inch of the soil. Herbicides do not prevent weeds from germinating; instead they control weeds as they germinate within the chemical barrier.

Moving containers, walking or dragging objects across treated lawns are common ways we disrupt the chemical barrier. A million or more weed seeds can be found in just ½ cubic meter of soil. A disruption in the chemical barrier provides an opportunity for weed seeds to germinate.

**3) Your herbicide combination (or lack thereof) did not cover a broad weed spectrum.**

No single preemergence herbicide provides control of all weeds. When spraying herbicides, use a product effective in controlling both broadleafs and weed type grasses. Using two herbicides simultaneously should prevent an uncontrolled species.

Many granular herbicides contain two active ingredients for broad-spectrum control, while some contain only one. Check the labels of your granular herbicides to see it provides control over the species prevalent in your lawn.

**4) You failed to incorporate the herbicide with irrigation.**

This is a crucial step in herbicide management. The herbicide label will provide instruction for how much irrigation to apply after application. The some herbicides state that as long as the herbicide is watered in within 3 weeks, the herbicide will be effective. The most ideal circumstance in using rainfall for watering in the herbicide is to have a single rain event that provided the complete volume of water needed. If the cumulative rainfall over 3 weeks is greater than ½ inch, the herbicide should be adequately watered in, unless in sandy soils if allowed to dry, the herbicide will bind to the soil and will not allowed to move thru the soil letting weed seeds germinate.

**5) You routinely over- watered your lawn.**

Over-watering will reduce herbicide efficacy. Possible reasons are: increased irrigation will leach the herbicide away from the surface more rapidly; increased irrigation results in the surface being more wet, which also causes increased microbial degradation of the herbicides; and most important, is that excessive water allows weeds that would otherwise suffer from sub-lethal herbicide toxicity to survive.

**5) You tried to save a few pennies by using a lower herbicide rate.**

There is a concentration in the soil at which an herbicide will inhibit weed growth. After applying the recommended herbicide rate a chemical barrier should be in the soil with sufficient herbicide concentration inhibiting weeds from growing for two-three months. When lower than recommended rates are used, the herbicide concentration in the chemical barrier starts out low. It is soon degraded to the point where weeds can successfully germinate and grow.

**6) You top-dressed with fertilizers.**

Top-dressing fertilizer is a common practice in lawn maintenance. It is also a practice that will lead to poor weed control. Why does top-dressing fertilizer tend to decrease herbicide effectiveness? Increased microbial activity around elevated nitrogen concentrations (caused by top-dressing) leads to accelerated microbial degradation of the herbicide.

7) **You did not calibrate your equipment.**

Improper sprayer calibration will result in improper herbicide rates being applied to your lawn. Without regular sprayer calibration, you cannot know what rates are being applied. Be sure your nozzle is clean, operating properly, and that your nozzle is emitting the correct volume of spray. Calibrating granular herbicide applicators is easy; however, making applications uniform is not. Remember, too much herbicide may cause plant injury, and too little will result in poor weed control. To improve application uniformity, consider applying the total amount of herbicide for a given area in at least two/three passes.

8) **You applied herbicides to your lawn that already had weeds.**

This is the number one reason why herbicides fail to provide weed control. Herbicides registered for use on the lawn will not kill existing weeds. Many of the herbicides used on lawns work by inhibiting root growth. But even small weeds generally have a deep, well-developed taproot, which when greater than one inch deep will not be affected by herbicide activity. Many weeds germinate within days of receiving optimal environmental conditions. That is why it is recommended to apply a preemergence herbicide in August/September for the winter growing weeds and in January/March for warm season weeds. Sometimes a second application may be required in the June/July timeframe.

If you have a specific horticulture question, please call our HOTLINE at 409 882-7010 Tuesday & Thursdays 10AM – 2PM or send us your question thru our website https://txmg.org/orange/contact and we will get back with you.

Information in this article adapted from “Top 10 Reasons Herbicides Fail” by Dr. James Altland, Research Horticulturist at the USDA-ARS Application Technology Research Unit in Wooster, Ohio