

CropWatch

Countdown: Top 7 Reasons Why Weed Management Fails

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There are a number of reasons why weed management may be a problem with the weather conditions we are experiencing this year. Many of these are discussed in the following article.

No. 7. User did not read the label.

A herbicide label is a legal document. It is a violation of federal law to not follow the herbicide label's direction. Reading the herbicide label is important for successful weed management and to protect you, your family, and the environment. The label contains legally binding information — approved by the Environmental Protection Agency (EPA) — on how much herbicide to use for optimal weed control, how to handle the product, and when, where and how it should be applied. The label also lists all the weeds controlled or suppressed by the herbicide product. Often growers may not carefully read the label and then apply a herbicide that isn't labeled to control the predominant weed in the field. This is how weed management programs fail.

No. 6. The herbicide barrier was disrupted or moved.

This can happen when crop residue containing the herbicide is moved, such as by trash whippers, row cleaners, fertilizer units, planters or the wind. Crop residue can reduce weed pressure. We have observed where the soil disruption of using a physical marker inadvertently planted weed seed; the only weeds in the field were where the marker ran.

No. 5. Incorporation was not timely.

Timely herbicide application is critical for optimum weed control. Residual pre-emergence herbicides must be applied before crop and/or weed emergence. Additionally, moisture is needed to activate residual herbicides. Therefore, if irrigation or rain events do not occur within 10 days of residual herbicide application, a light tillage is necessary to incorporate the herbicide into the soil to activate it. If weeds have germinated and emerged before the herbicide incorporation and activation, your residual herbicide program will fail.

No. 4. Too much rainfall and/or irrigation.

The variability of weather is a major cause of unreliable herbicide performance resulting in either inadequate control of weeds or crop damage. For example, excess rainfall after residual herbicide application increases the likelihood of herbicide leaching and off-target movement. Additionally, the increased microbial activity of moist soil degrades herbicides more rapidly compared to dry soil.

No. 3. Application equipment did not do a uniform job.

This can be due to inaccurate sprayer calibration, wind, sprayer speed, using the wrong nozzle type, inappropriate pressure for the nozzle used, or not enough overlap in the spray pattern. We recommend 100% overlap so the pattern from one nozzle ends under the next nozzle tip. Other causes include boom bounce and a boom that's either too high or too low or uneven pressure along the spray boom. Nonuniformity can also be caused by using a spray volume (gallons per acre) that's incorrect for the herbicide being applied.

No. 2. Herbicide rate did not match soil type, weed pressure and/or tillage practices.

Soil type is an important consideration when selecting residual herbicide application rates. Most residual herbicide rates vary based on soil type and organic matter content. For example, if the soil is sandy loam with less than 1% organic matter content, a lower herbicide rate is required than if it were a silty-clay loam soil with more than 2% organic matter. For example, Zidua, a residual soybean herbicide, should be applied at 1.5 to 2.1 oz/acre if the soil is sandy loam (< 1% organic matter); if the soil is a silty clay loam (>2% organic matter), the rate can be increased to 2 to 3.5 oz/acre.

If weed pressure (density) is high, consider using a labeled herbicide application rate on the high end if soil type permits. It is also important to include more than 15 gallons per acre spray volume to improve coverage in dense weed areas. Under no-till production practices, weed

control is primarily through herbicides. No-till growers should consider applying preplant burndown herbicides if a field has a history of early emerging weeds such as giant ragweed and kochia. A weed control program can fail if soil type, weed pressure, and tillage practices are not considered before planning.

No. 1. Weeds are present or about ready to emerge before the herbicide is applied and activated.

Soil residual herbicides must be applied before the crop and weeds emerge. If they are applied after weeds emerge, your herbicide program will fail. Timing of herbicide application is critical with respect to weed emergence. If wet weather or a busy schedule do not permit application of residual pre-emergence herbicides before crop emergence, there are several residual herbicides registered in corn and soybean that be applied after crop emergence. (See these CropWatch articles for [Corn](#) and [Soybean](#) herbicide options.) They should be tank-mixed with foliar active, post-emergence herbicides to control existing weeds.

[Robert Klein](#), Western Nebraska Crops Specialist

[Amit Jhala](#), Extension Weeds Specialist

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CONTACT US

CropWatch

108 Ag. Communications Bldg.

Lincoln NE 68583-0918

Phone: (402) 472-7981

Email: ljasa1@unl.edu

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