

## Weed Management for Unplanted Acres

### What You'll Learn...

- Heavy spring rains have resulted in flooded fields that may delay planting, prevent planting, or drown out already planted fields
- Once the decision has been made to leave a field unplanted, then agronomic decisions need to be made involving weed control and cover crops
- Those filing claims under prevented planting crop insurance should discuss conditions and requirements with a crop insurance professional

### Weed Management Basics

The main goal is to minimize growth of the weed seed bank by removing weeds prior to seed set. This helps minimize waste of nutrients intended for crop growth, as well as helps reduce growth of the weed seed bank. There are several options for weed control including one or more of the following: herbicides, tillage, cover crops, and mowing. Any of these tools should be employed prior to weeds setting seed.

### Herbicides

There are different herbicide options depending on if a cover crop will be planted. If considering a cover crop, then a burndown and possibly an in-crop application may be options. If no cover crop will be planted, then additional herbicide options are available and annual maximum use rates have increased relevance.

Due to effectiveness and economics, Roundup® brand agricultural herbicides, 2,4-D, and Clarity® (dicamba) are common herbicide options for unplanted acreage. All three herbicides can be used as a burndown prior to certain cover crops, but Roundup agricultural herbicides have the least restrictive plant-back restrictions (Table 1). The plant-back restrictions are related to if the crop is on the herbicide label.

### Tillage

If considering a cover crop, tillage alone can be highly effective on small weeds and has no plant-back restrictions. If weeds are larger, tillage can be used in conjunction with a herbicide burndown to increase control. For most perennial weeds and weeds under stressful conditions, waiting 5 to 7 days after the herbicide application

to perform tillage can help improve weed control by allowing time for translocation. Good growing conditions can reduce the time needed for herbicide translocation. While good weed control of annual weeds in favorable growing conditions is possible with only 1 day between application and tillage, waiting 5 to 7 days reduces the risk of inconsistent weed control. If tillage has been done, time has passed, and a herbicide burndown will be applied, please note that large weeds may not have been controlled with tillage, but rather injured and may regrow (Figure 1). This can result in misjudging weed height due to part of the weed being buried below ground.



Figure 1. Weed injured by tillage and allowed to regrow.

Using tillage for season-long weed control, may be detrimental to soil health. Tillage can break up compaction in the tillage zone, but it can also create a layer of compaction underneath the tillage zone. Also, the repeated trips across the field with heavy equipment generally does not help compaction. Leaving the field fallow and weed free with tillage also increases the risk for wind and water erosion, as well as deterioration of organic matter as the soil is constantly being exposed to the elements. Additionally, with minimal weed growth, the risk for fallow syndrome in corn is greater the following season.

### Mowing

Larger weeds can be managed with mowing versus tillage, but weeds should still be controlled prior to setting seed. Mowing can be used in conjunction with tillage or herbicides. As with tillage, waiting 5 to 7 days after the herbicide application to mow can help improve weed control by allowing time for translocation. Good growing conditions can reduce the time needed for herbicide translocation. Mowed weeds will be older and more hardened off than what the height would indicate so rates should be adjusted accordingly. The risk for erosion and fallow syndrome in corn would likely be less with mowing versus tillage. The key to mowing is making sure it is done prior to weeds setting seed.

### Cover Crops

A cover crop can often aid in weed control, help minimize erosion, and help minimize the effects of fallow syndrome. If a cover crop will be used, it is very important to check rotation restrictions of burndown herbicides for the specific cover crop(s) planted.

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**Table 1. Characteristics of three common herbicides used for burndown and/or fallow situations.**

Characteristics	Roundup® Agricultural Herbicides	2,4-D	Clarity® (dicamba)
Maximum Annual Application	5.3 qts./a	For fallow, 2 applications/year, minimum 30 days between applications. 4.2 pts./a (2 lbs. a.e./a).	64 oz./a
Rate Structure	<p>&lt; 6" = 22 oz./a*</p> <p>6-12" = 32 oz./a</p> <p>&gt;12" = 44 oz./a</p>	<p>Annual weeds = 1-2 pts./a</p> <p>Biennial weeds = 2-4 pts./a</p> <p>Perennial weeds= 2-4 pts./a</p> <p>Wild onions and garlic= 4 pts./a</p>	<p><b>Annual weeds:</b></p> <p>Small actively growing 8-16 oz./a</p> <p>Established weed growth 16-24 oz./a</p> <p><b>Biennial weeds:</b></p> <p>Rosette diameter 1-3" 8-16 oz./a</p> <p>Rosette diameter &gt;3" 16-32 oz./a</p> <p>Bolting 32-48 oz./a</p> <p><b>Perennial weeds:</b></p> <p>Top growth (TG) suppression 8-16 oz./a</p> <p>TG control and root suppression 16-32 oz./a</p> <p>TG and root control** 32-64 oz./a</p>
Additives	8.5-17 lbs./100 gal. spray solution	COC 1% v/v. or NIS at 0.25% v/v	See label
Plant-back Restrictions	<p>Labeled crops: none</p> <p>Other crops: 30 days</p>	<p><b>Labeled crops:</b> within 29 days after application. Labeled crops may be at risk of crop injury or loss if planted soon after application, especially the first 14 days. Degradation factors should be considered.</p> <p><b>Other crops:</b> may be planted 30 or more days after application without concern for illegal residues in the planted crop. However, there may be a risk for crop injury to susceptible crops. Under normal conditions, any crop may be planted without risk of injury if at least 90 days of soil temperature above freezing have elapsed after application.</p> <p><b>Degradation Factors:</b> risk of crop injury is less with lower use rates and/or warm moist soil conditions that favor rapid break down of 2,4-D.</p>	<p><b>&lt;=24 oz./a - Barley, oat, wheat, and other grass seedings:</b> 15 days per 8 oz./a applied east of the Mississippi River and 22 days per 8 oz./a west of the Mississippi River.</p> <p><b>&lt;=24 oz./a - Crops not on label:</b> 120 days</p> <p><b>&gt;24 oz. &amp; up to 64 oz./a - Barley, oat, wheat, and other grass seedings:</b> 30 days per 16 oz./a east of the Mississippi River and 45 days per 16 oz./a west of the Mississippi River</p> <p><b>&gt;24 oz. &amp; up to 64 oz./a - Crops not on label:</b> 120 days in areas with 30" or more of annual rainfall and 180 days in areas with less than 30" of annual rainfall</p> <p><b>Soybean (4-16 oz./a and only where annual rainfall is 25" or more):</b> Rainfall accumulation of 1" needs to occur prior to starting the waiting interval of 14 days for 8 oz./a or less, and 28 days for up to 16 oz./a.</p>

Notes: \*rates based on 16-40 gallons per acre spray solution

\*\* see label for specific rates for various species

**Sources:**

<sup>1</sup> Gunsolus, J. 2013. Weed management in prevented planting acres. Minnesota Crop News. University of Minnesota Extension. <http://blog.lib.umn.edu/efans/cropnews> (verified 7/14/14).

<sup>2</sup> Zollinger, R. 2010. Weed management after a flood—Strategies for this year and next. North Dakota State University. <http://www.ag.ndsu.edu> (verified 7/14/14).

Individual results may vary, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible.

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