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## Herbicides and cold weather

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# Herbicides and cold weather

## **Abstract**

The recent period of below normal temperatures has a few implications in terms of weed management. Postemergence herbicides, including burndown treatments for no-till, are most effective on actively growing weeds. Thus, there is potential for reduced herbicide performance of products applied during this period. In some situations, weeds will be controlled effectively but will take longer to die. In other situations, significant reductions in weed control will occur.

## **Keywords**

Agronomy

## **Disciplines**

Agricultural Science | Agriculture | Agronomy and Crop Sciences | Meteorology | Weed Science

# INTEGRATED CROP MANAGEMENT

## Herbicides and cold weather

The recent period of below normal temperatures has a few implications in terms of weed management. Postemergence herbicides, including burndown treatments for no-till, are most effective on actively growing weeds. Thus, there is potential for reduced herbicide performance of products applied during this period.

In some situations, weeds will be controlled effectively but will take longer to die. In other situations, significant reductions in weed control will occur. Because of this, treated fields should be scouted one or two weeks after application to determine the need for remedial action. Most annual weeds probably are small enough to be effectively controlled with standard treatments, but winter annuals and perennials could pose management problems.

Weeds will not "recover" immediately upon the return of more seasonable temperatures, thus herbicide performance may still be negatively affected in the days following arrival of seasonal temperatures. Where possible, increasing herbicide rates for burndown treatments can help overcome negative impacts of these cool temperatures.

The other weed management issue involves the effect of the cool temperatures on herbicide injury potential to crops. The primary selectivity mechanism for preemergence herbicides is differential metabolism--crops are able to detoxify the herbicide more rapidly than weeds, thus weeds are killed, but crops escape the effects of the herbicide. Crops under stress from the cold soil temperatures are less efficient at metabolizing herbicides and thus more prone to injury. The potential for injury will increase with soil moisture content since more herbicide is available for absorption in wet soils.

There will be some fields with emerged corn scheduled for delayed preemergence application with amide, amide:atrazine premixes, or other products. While these products are labeled for this use, there will be an increased risk of injury due to stressed corn.

These applications should be delayed where possible until conditions have improved and the corn has begun to recover.



*Frost-damaged giant ragweed seedlings; these plants experienced full recovery. (Photo by Bob Hartzler)*

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