

Weed Control in Corn and Wet Field Conditions

The persistent rains across much of Illinois have delayed corn planting and, in many areas, have also delayed implementation of weed control practices. The planting delays caused by wet soil conditions make it likely that some percentage of corn fields were (or will be) planted before any herbicide has been applied. It's somewhat difficult to consider all possible weed control questions or scenarios that might currently exist, but the following are some items for consideration with respect to weed management in corn.

Possible Scenarios

No herbicide applied, corn not planted. Existing vegetation should be controlled before planting. This can be accomplished by either preplant tillage or herbicide application. Tillage would provide the shortest interval between the weed control practice and planting, but if fields are tilled on the wet side, larger weeds may survive the tillage operation and continue to be problems after the crop emerges. If you opt for a herbicide to control existing vegetation prior to planting, consider several factors:

- Some herbicides (2,4-D in particular) have a minimum interval between application and planting. In many cases this interval is put in place to decrease the likelihood of crop injury. Several (but not all) 2,4-D formulations are labeled for preplant applications, but not all 2,4-D product labels have identical waiting intervals (if any) between application and corn planting, so it pays to check product labels. We discussed specifics about use of growth regulator herbicides in a previous issue of *the Bulletin* (see "[Multistate Ratings for Burndown Herbicide Efficacy](#)" in issue 4, April 18, 2008).
- Even if no waiting period is specified on the herbicide label, burndown herbicides require time to work. Planting too soon after application can injure the weeds, potentially reducing the level of weed control. Contact herbicides (those that do not move much within the plant following absorption) generally require less time between application and planting than translocated herbicides. Translocated herbicides must have sufficient time to move within the target plant to provide good control.
- Adjust the herbicide rate to control the vegetation as it stands now. If you prepaid last fall for a particular burndown herbicide rate, that rate may or may not be sufficient to control the existing vegetation once you can make the application.

No herbicide applied, corn has been planted. It is likely that planting delays caused by wet soil conditions have resulted in some corn fields being planted before a soil-residual was applied. If you still intend to apply a soil-residual herbicide (now preemergence instead of preplant), a couple of considerations follow:

- Closing the seed furrow can be difficult if planting occurs under wet soil conditions. This in itself can lead to establishment problems, but if a preemergence herbicide will be applied soon after planting, an open seed furrow provides an avenue for direct contact of the herbicide with the seed. Labels of many soil-applied corn herbicides warn that severe corn injury can result if the herbicide comes in direct contact with the seed.
- Be especially cautious about making preemergence applications to fields where the corn is within a day or two of emerging, especially with nonselective herbicides or soil-applied herbicides that should *not* be applied after crop emergence. Even if the crop hasn't fully emerged or isn't yet visible from the road, small cracks or other openings in the soil surface may allow the herbicide to come into direct contact with the emerging coleoptile. Do not use nitrogen fertilizer as the herbicide carrier if corn has begun to emerge.

Corn farmers should be aware that many, but not all, soil-applied corn herbicides can be applied *after* corn emergence. Not all of these herbicides will control emerged weeds, so additional management procedures (such as the use of a rotary hoe or the addition of a herbicide that has postemergence activity) may be needed in situations where weeds also have emerged. Farmers are also cautioned about the potential for enhanced corn injury if these products are applied during periods of crop stress, such as stress caused by excessive soil moisture or cool air temperatures. Table 1 summarizes information about postemergence applications of the more traditional soil-applied corn herbicides. Consult the respective product label for

additional information, such as the need for spray additives.

Table 1. Maximum corn size for postemergence applications of soil-residual herbicides.

<i>Herbicide</i>	<i>Maximum corn size for broadcast application</i>	<i>Comments</i>
Balance Pro, Radius	Before corn emergence	Applications to emerged corn will cause injury.
Princep	Before corn emergence	Do not apply to emerged corn.
Define SC	5 leaf collars	Will not control emerged weeds.
Micro-Tech	5 in.	Will not control emerged weeds.
Bullet	5 in.	Will provide control or partial control of small (<2 leaves) broadleaf and grass weed species.
Bicep II Magnum, Bicep Lite II Magnum, Cinch ATZ, Cinch ATZ Lite, Stalwart Xtra, Parallel Plus ^a	5 in.	Will provide control or partial control of small (<2 leaves) broadleaf and grass weed species.
SureStart	11 in.	Will provide control or partial control of small (<1.5-in.) broadleaf weed species.
FieldMaster	11 in.	Apply postemergence only to glyphosate-resistant corn hybrids.
Surpass, TopNotch, FulTime, Harness, Harness Xtra, Degree, Degree Xtra, Keystone, Keystone LA, Breakfree, Breakfree ATZ, Breakfree ATZ Lite	11 in.	Surpass, TopNotch, Harness, Breakfree, and Degree will not control emerged weeds.
Atrazine	12 in.	Add COC if weeds have emerged.
Lumax, Lexar	12 in.	NIS or COC may be added for POST applications.
Guardzman Max, G-Max Lite	12 in.	Will provide control or partial control of small (<1.5") broadleaf and grass weed species.
Outlook ^b	12 in.	Outlook will not control emerged weeds.
Expert	12 in.	Apply postemergence only to glyphosate-resistant corn hybrids.
Hornet WDG, Python WDG	20 in. (V6) ^c	Postemergence applications must include NIS, COC, or MSO.
Resolve Q	20 in. (V7)	Apply before grass weeds exceed 2 in. and broadleaves exceed 3 in.
Callisto	30 in. (V8)	Postemergence applications should include COC and nitrogen fertilizer.
Prowl HO	30 in. (V8)	Will not control emerged weeds.
Camix	30 in. ^d (V8)	NIS or COC may be added for POST applications.
Dual II Magnum, Cinch, Me-Too-Lachlor II, Stalwart C, Parallel	40 in.	Will not control emerged weeds.
Sencor	Prior to tassel emergence	Do not add COC or POC.

^aAll of these products are labeled for directed applications to corn up to 12 in. tall.

^bOutlook is labeled for layby applications to corn up to 36 inch tall.

^cHornet is labeled for directed application to corn up to 36 in. tall.

^dApplications to corn greater than 12 in. tall should be post-directed applications.

Herbicide applied, corn not planted. These fields, especially where the herbicide application was made several weeks ago, are excellent candidates for scouting prior to planting. If weeds are present, you should consider controlling them before you plant. Why not just wait and spray after planting? That may be a feasible option, but the planting operation will likely injure some of the weeds, and they will need time to recover before being sprayed. Waiting to control existing weeds after planting is also gambling that the weather will cooperate and allow you to make the application before the existing weeds begin to adversely impact the crop.

Herbicide applied, corn has been planted. Whether you initially planned to use a soil-applied program for weed control or a soil-applied followed by postemergence herbicide program, remain vigilant for weed emergence. The heavy precipitation in many areas of the state may have moved some soil-applied herbicides deeper into the soil profile than is conducive for good weed control. The less-than-ideal growing conditions may also increase the likelihood of corn injury from some soil-applied herbicides. --Aaron Hager

Author:
[Aaron Hager](#)

[Click here for a print-friendly version of this article](#)

[Return to table of contents](#)

[About Us](#)

[Contact Info](#)

[Mail Schedule](#)



[College of Agricultural, Consumer and Environmental Sciences](#)

[Crop Sciences | Entomology](#)

[Natural Resources & Environmental Sciences](#)

[Illinois Natural History Survey](#)



[Home](#) | [Current Issue](#) | [Past Issues](#) | [Subscribe](#) | [Resources](#) | [Search](#)
[Contact Us](#) | [About Us](#) | [Mail Schedule](#) | [Integrated Pest Management](#)

Copyright © 2004
University of Illinois at Urbana-Champaign