

Replant options following corn pre and early post emergence herbicide applications (revised from 2008)

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Recent damaging hail storms have many growers facing replant decisions. We have received questions on replant options in fields where pre-emergence herbicides were applied to corn. There are two primary issues to address. The first issue is: what do I do about the existing or surviving corn? The second issue is: what crops can I replant at this point if I have already applied a pre-emergence corn herbicide?

1. Killing a poor corn stand for replant purposes

It is not desirable to have plants of drastically different sizes growing in a field for yield and management purposes. Uneven plant stages can allow crop plants to act as weeds. What are your best options for controlling the poor stand of corn to replant corn?

One possibility is to mechanically destroy the damaged crop. Tillage is effective for any type of corn, but waiting for dry enough conditions to work the soil may not be desirable. Mowing or chopping the above ground foliage will not kill the damaged corn stand unless the growing point is destroyed. The growing point is below or at the soil surface until approximately the V6 growth stage.

A second possibility is to use herbicides to kill the existing stand. If the damaged corn stand is a conventional or LibertyLink hybrid, then glyphosate is the best herbicide option. However, if the corn is a Roundup Ready hybrid, killing the poor stand becomes more complicated.

There are three chemical options to control Roundup Ready corn, but each has some drawbacks. Select Max (clethodim) is slow acting but very effective at controlling a poor stand for a replant scenario (e.g., it will kill all the plants remaining). The drawback is a 6 day waiting period between herbicide application and replanting. If the waiting period is ignored, the replanted corn may be stunted.

Ignite 280 SL (glufosinate), Liberty (glufosinate) and Gramoxone (paraquat) can also be used. These products have no soil residual activity that delays planting. However, these options have been inconsistent in trials conducted at UNL. Immediately after spraying these herbicides, the corn will look ill. But unless conditions are just right (warm, humid, and the plants large enough for the growing point to be killed), the plants will often survive the application and send up new leaves. Gramoxone activity may be enhanced by tank-mixing it with atrazine or metribuzin. If Liberty is used, be sure to add AMS and to use the appropriate spray volume (15 to 20 GPA) to maximize effectiveness. An additional

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reminder, any corn hybrid containing a Herculex insect protection gene also contains the Liberty Link gene. Ignite 280 SL and Liberty will not be effective on these hybrids.

2. Replant crop options when a corn pre-emergence herbicide has been applied

The logical replant options at this point in the growing season are a short season corn hybrid, a slightly shorter maturity soybean variety or grain sorghum. Depending on the pre-emergence herbicide used in corn, it may not be possible to replant to any crop except corn. Table 1 lists corn, grain sorghum and soybeans replant intervals for some of the more common pre-plant and early pre-emergence corn herbicides.

Corn: Corn can be replanted at any point, unless Select has been used to kill the existing stand (see section 1). In most instances, producers can then use the post-emergence program they had initially intended on for subsequent weed control this year.

Soybeans: If atrazine has been applied pre-plant or pre-emergence soybeans should not be planted in that field until next year. This is clearly stated on the label of any herbicide that contains atrazine, regardless of the rate used.

Sorghum: There is more flexibility when replanting sorghum where corn pre-emergence herbicides have been used.

Replanting sorghum where common corn pre-emergence herbicides containing atrazine, dimethenamid-P (Outlook), or S-metolachlor (Dual II Magnum, Bicep II Magnum, Cinch, etc) were applied should present no problems. The situation is more complicated where products containing acetochlor were applied. The formulation Degree Xtra is labeled for use in sorghum, so sorghum may be planted at any time. However, if other products containing acetochlor (Breakfree, Breakfree ATZ, Degree, Keystone, Keystone LA, SureStart, etc) were applied, replanting sorghum is not allowed according to product labels. Consult Table 1 for details.

If products containing mesotrione (Callisto, Lumax, Lexar or Halex GT) were applied in corn, replanting sorghum is allowed. Lumax, Lexar, and Callisto are now labeled for pre-plant applications in grain sorghum. Mesotrione containing products can occasionally cause some bleaching or whitening of the emerging and young sorghum seedlings. However, this generally occurs only when the products are applied within 7 days of planting. Our experience has shown that the bleached sorghum grows out of these symptoms quickly and develops normally with little to no impact on yield. If Lumax, Lexar or Callisto were applied to the intended corn several weeks ago, there is little potential for injury to replanted sorghum.

In conclusion, this article has provided some general guidelines to consider. Producers should consult the valuable information on the label of the product(s) they have applied this spring for specific details and directions

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TABLE 1. Replant Intervals for some Common Corn Pre and Post-Emergence Herbicides

Herbicides	Corn Label Replant Interval		
	Field Corn	Grain Sorghum	Soybean
Aatrex	AT	AT	NCS
Balance PRO	AT	6 months	6 months
Balance Flexx	AT	6 months	6 months
Corvus	AT	9 to 17 months + 30" of rainfall (see label)	9 months + 15" of rainfall
Basis	AT	10 months	15 days to 10 months (check rate)
Bicep II Magnum	AT	AT (safened seed)	NCS
Bicep Lite II Magnum	AT	AT (safened seed)	NCS
Breakfree	AT	NCS	NCS
Breakfree ATZ	AT	NCS	NCS
Breakfree ATZ Lite	AT	NCS	NCS
Bullet	NCS	NCS	NCS
Callisto	AT	AT	NCS
Define	AT	12 months	AT
Degree	AT	NCS	NCS
Degree Xtra	AT	AT	NCS
Dual II Magnum	AT	AT	AT
Field Master	AT	NCS	NCS
FulTime	AT	NCS	NCS
G-Max Lite	AT	AT	NCS
Guardzman	AT	AT	NCS
Guardzman Max	AT	AT	NCS
Halex GT	AT	AT	NCS
Harness	AT	NCS	NCS
Harness Xtra	AT	NCS	NCS
Hornet WDG	AT	12 months	10.5-18 months (rainfall dependant)
Impact	AT	NCS	NCS
Keystone	AT	NCS	NCS
Keystone LA	AT	NCS	NCS
Laudis	AT	NCS	NCS
Lexar	AT	AT (Concept treated seed)	NCS
Lumax	AT	AT (Concept treated seed)	NCS
Me-Too-Lachlor II	AT	NCS	NCS
Outlook	AT	AT	AT
Python	AT	12 months	AT
Radius	AT	12 months	6 months
Ready Master ATZ	AT	AT	NCS
Stalwart	AT	NCS	NCS
Stalwart Xtra	AT	NCS	NCS
Status	7 days	30 days (and 1" rain)	30 days (and 1" rain)
Steadfast	AT	10-18 months (pH)	15 days
Steadfast ATZ	AT	10 months	10 months
SureStart	AT	NCS	NCS

AT = Any Time
 NCS = Next Cropping Season

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