

# CORN HERBICIDE PERFORMANCE RATINGS

## SOD & CRP HERBICIDE (rate)

### Key

EXCELLENT = 9-10

GOOD = 8

FAIR = 6-7

POOR = <6

NONE = N

UNKNOWN = U

	APPLICATION TIME	SITE OF ACTION	GRASSES & BROADLEAVES												
			Alfalfa	Bluegrass	Cool-season grasses	Orchardgrass	Quackgrass	Red clover	Smooth brome	Sweet clover	Tall fescue	Timothy	Vetch, hairy	Wheatgrass	Warm season grasses
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * (24 oz)	Spring	9	5	8	5	6	7	5	4	5	5	7	6	4	4
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * (48 oz)	Spring	9	6	9	6	7	9	7	6	7	7	8	7	6	7
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * (72 oz)	Spring	9	7	10	8	8	10	8	9	9	8	9	8	8	8
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * (24 oz)	Fall	9	6	9	7	8	9	7	6	7	7	9	7	6	7
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * (48 oz)	Fall	9	7	10	8	9	10	9	8	9	9	9	7	9	8
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>2,4-D 4#</b> (24 oz + 1 pt)	Spring	9,4	7	8	4	5	6	8	4	8	5	6	8	4	4
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>2,4-D 4#</b> (48 oz + 1 qt)	Spring	9,4	8	9	6	6	8	9	6	9	7	8	8	6	7
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>2,4-D 4#</b> (24 oz + 1 pt)	Fall	9,4	8	9	7	7	9	9	6	9	7	9	8	6	7
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>2,4-D 4#</b> (48 oz + 1 qt)	Fall	9,4	9	10	8	9	10	10	8	10	9	10	8	8	9
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>Sterling Blue/Banvel/Clarity/Clarifier</b> (24 oz + 0.5 pt)	Spring	9,4	8	8	5	5	6	8	4	9	5	6	7	4	4
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>Sterling Blue/Banvel/Clarity/Clarifier</b> (48 oz + 0.5 pt)	Spring	9,4	8	9	5	6	8	9	6	9	7	8	7	6	7
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>Sterling Blue/Banvel/Clarity/Clarifier</b> (48 oz + 1 pt)	Spring	9,4	9	9	6	6	8	10	6	10	7	8	8	6	7
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>Sterling Blue/Banvel/Clarity/Clarifier</b> (24 oz + 0.5 pt)	Fall	9,4	9	9	7	7	8	10	6	10	7	8	7	6	7
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate</b> * + <b>Sterling Blue/Banvel/Clarity/Clarifier</b> (48 oz + 1 pt)	Fall	9,4	10	10	8	9	10	10	8	10	9	10	9	8	9
<b>Gramoxone SL/SL 2.0</b> (2 pt)	Spring	22	2	5	3	3	3	5	3	3	5	3	8	3	3
<b>Gramoxone SL/SL 2.0</b> (4 pt)	Spring	22	3	6	4	4	4	6	4	4	7	5	9	4	4
<b>Gramoxone SL/SL 2.0</b> (2 pt)	Fall	22	3	6	4	4	4	6	4	4	6	4	7	4	4
<b>Gramoxone SL/SL 2.0</b> (4 pt)	Fall	22	5	6	5	4	4	6	5	4	7	4	8	5	5
<b>Gramoxone SL/SL 2.0 + Atrazine 90DF</b> (2 pt + 2 lb)	Spring	22,5	5	9	7	7	7	7	7	7	7	8	8	7	3
<b>2,4-D 4# + Sterling Blue/Banvel/Clarifier</b> (1 qt + 0.5 pt)	Spring	4,4	9	N	N	N	N	10	2	10	2	N	8	N	N
<b>2,4-D 4# + Sterling Blue/Banvel/Clarifier</b> (1 qt + 0.5 pt)	Fall	4,4	10	N	N	N	N	10	2	10	2	N	7	N	N

\* 24 oz Tomahawk 5/Cornerstone 5 Plus = 22 oz Roundup PowerMax II/WeatherMax; 24 oz Durango DMA/Duramax, or Tomahawk 5; 32 oz Cornerstone/Plus or Tomahawk 4.

**Warm-season perennial grasses:** Two applications are often required for effective control. Make first application in late summer to active growth prior to dormancy or frost followed by a second application in spring 7-14 days prior to planting.

**Cool-season perennial grasses:** Two applications may be required. Apply in fall before a hard freeze and in the spring 7-14 days prior to planting.

\*\* Rating reflects burndown activity only; not residual control. Ratings assume that old growth is removed before application and 6-12" of new growth is present. Low soil moisture can reduce control. Time from application to planting varies by products. See application timing table or label.

\*\*\* Warm-season grasses include bluestem, Indiangrass, switchgrass, buffalograss and eastern grama grass.

A Site of action, described on page 759.

# CORN AND SORGHUM HERBICIDE PERFORMANCE RATINGS

## BURNDOWN HERBICIDE (rate)

**Key**  
 EXCELLENT = 9-10  
 GOOD = 8  
 FAIR = 6-7  
 POOR = <6  
 NONE = N  
 UNKNOWN = U

	SITE OF ACTION	GRASSES										
		Barnyardgrass	Bluegrass, annual	Carolina foxtail & little barley	Crabgrass	Downy brome	Foxtail	Foxtail barley	Little barley	Ryegrass, annual	Sandbur, field	Wheat, winter
<b>Acuron</b>	5,15,27	8	8	9	6	4	8	4	U	U	7	6
<b>Aim + Atrazine 4L<sup>R</sup> + Sterling Blue/Banvel/Clarifier</b> (0.5 oz + 1 qt + 0.5 pt)	14, 5, 4	4	8	9	4	5	6	8	8	6	5	6
<b>Alluvex<sup>R</sup></b> (1.5 oz)	2	9	9	8	9	9	9	9	9	9	8	9
<b>Alluvex<sup>R</sup> + Glyphosate<sup>R</sup></b> (1.5 oz + labeled)	2, 9	6 <sup>R</sup>	9	10	5	7	6 <sup>R</sup>	9	9	6	5	6
<b>Atrazine 4L<sup>R</sup></b> (2 qt)	5	10	10	10	10	10	10	10	10	10	10	10
<b>Atrazine 4L<sup>R</sup> + 2,4-D LV46</b> (2 qt + 1 pt)	5, 4	7 <sup>R</sup>	10	10	5	8 <sup>R</sup>	6 <sup>R</sup>	10	9	7	6	7
<b>Atrazine 4L<sup>R</sup> + Banvel/Clarity/Sterling Blue/Clarifier</b> (2 qt + 0.5 pt)	5, 4	7 <sup>R</sup>	10	10	5	<sup>R</sup>	5 <sup>R</sup>	9	9	5	6	7
<b>Atrazine 4L<sup>R</sup> + Banvel/Clarity/Sterling Blue/Clarifier</b> (1 qt + 0.5 pt)	5, 4	4	8	9	4	5	6 <sup>R</sup>	9	9	6	5	6
<b>Autumn***<sup>R</sup></b> (0.3 oz)	2	N	N	N	N	N	N	N	N	N	N	N
<b>Autumn***<sup>R</sup> + 2,4-D LV4<sup>6</sup></b> (0.3 oz + 1 pt)	2, 4	N	N	N	N	N	N	N	N	N	N	N
<b>Autumn Super***<sup>R</sup></b> (0.3-0.5 oz)	2	N	N	N	N	N	N	N	N	N	N	N
<b>Balance Flexx***</b> (4-6 oz)	27	8	N	N	7	5	9	N	N	N	7	2
<b>Balance Flexx*** + Atrazine 4L</b> (4-6 oz + 1 qt)	27, 5	9	U	U	8	7	8	U	U	U	7	6
<b>Basis Blend***<sup>R</sup> + 2, 4-D LV4<sup>6</sup></b> (0.825 oz + 1.25 pt)	2, 4	8	7	7	6 <sup>R</sup>	5	8 <sup>R</sup>	U	7	U	7	6
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate<sup>*R</sup></b> (12 oz)	9	10	10	8	9	10	9	9	9	9	10	10
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate<sup>*R</sup></b> (18 oz)	9	10	10	9	9	10	10	9	9	9	10	10
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate<sup>*R</sup></b> (24 oz)	9	10	10	10	10	10	10	9	9	10	10	10
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate<sup>*V</sup> + 2-4-D LV4<sup>6</sup></b> (18 oz + 1 pt)	9, 4	10	10	8	9	10	10	9	9	9	10	10
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate<sup>*R</sup> + Atrazine 4L<sup>R</sup></b> (18 oz + 1 pt)	9, 5	10	10	9	9	10	9	8	9	10	10	10
<b>Cornerstone 5 Plus/Tomahawk 5/glyphosate<sup>*R</sup> + Atrazine 4L<sup>R</sup></b> (18 oz + 1.5 pt)	9, 5	10	10	10	9	10	9	9	9	10	10	10
<b>Corvus***</b> (3.33-5.6 oz)	27, 2	9	6	U	7	6	8	5	U	6	8	6
<b>Diflexx Duo</b> (24-40 oz)	27, 4	8	U	U	9	U	8	U	U	7	8	7
<b>Elevore + glyphosate + 2,4-D LV 6</b> (1 fl oz + 32-40 fl oz + 11.4 fl oz)	4,9,4	10	10	10	10	10	10	10	10	10	10	10
<b>Enlist Duo</b> (3.5 -4.75 pt)	4,9	10	10	10	10	10	10	9	9	10	10	10
<b>Expert</b> (3.75 qt)	5, 15, 9	10	10	10	10	9	9	9	9	10	9	9
<b>Fierce + 2,4-D LV4 + glyphosate<sup>R</sup></b> (3-4.5 oz + 1-2 pt + 1-2 pt)	14,15, 4, 9	10	10	10	10	10	10	10	10	10	10	10
<b>Gramoxone SL/SL 2.0</b> (2 pt)	22	8	8	9	8	7	8	7	9	7	7	7
<b>Gramoxone SL/SL 2.0 + Atrazine 4L<sup>R</sup></b> (2 pt + 2 qt)	22, 5	10	10	10	9	9	9	10	9	10	9	10
<b>Gramoxone SL/SL 2.0 + Atrazine 4L<sup>R</sup></b> (2 pt + 1 qt)	22, 5	8	9	9	8	8	8	9	9	8	8	8
<b>Leadoff<sup>R</sup> + 2,4-D</b>	2, 4	8	9	U	7 <sup>7</sup>	U	9 <sup>R</sup>	U	U	8	6	7
<b>Liberty 280 SL***</b> (29-36 fl oz)	10	8	6	9	8	U	8	7	U	6	8	4
<b>Lumax EZ/Lexar EZ***</b> (2.7-3.25 qt/3-3.5 qt)	5, 15, 27	6	8	9	6	4	6	4	U	U	7	6
<b>Princep/Simazine<sup>3***R</sup> + 2,4-D LV4</b> (1 qt + 1 pt - Fall)	5, 4	7 <sup>R</sup>	8	8	7	7	U	U	U	U	5	U
<b>Sharpen</b> (1 oz)	14	N	N	N	N	N	N	N	N	N	N	N
<b>2,4-D LV4<sup>V</sup></b> (1 pt - Fall)	4	N	N	N	N	N	N	N	N	N	N	N
<b>2,4-D LV4<sup>6</sup>/Enlist One</b> (1 pt - Spring)	4	N	N	N	N	N	N	N	N	N	N	N
<b>2,4-D LV4<sup>6</sup> + Sterling Blue/Banvel/Clarifier</b> (0.5 qt + 0.5 pt)	4, 4	N	N	N	N	N	N	N	N	N	N	N
<b>Sterling Blue or Banvel/Clarity/Clarifier/Diflexx<sup>R</sup></b> (0.5 pt)	4	N	N	N	N	N	N	N	N	N	N	N
<b>Valor/Rowel<sup>6</sup> + 2,4-D LV4<sup>6</sup> + glyphosate</b> (1-2 oz + 1-2 pt+ labeled)	14, 4	9	9	9	9	9	9	9	9	9	9	9
<b>Verdict</b> (10-16 fl oz)	14,15	N	N	N	N	N	N	N	N	N	N	N

\* 24 oz Tomahawk 5/Cornerstone 5 Plus = 22 oz Roundup PowerMax II/WeatherMax; 24 oz Durango DMA/Duramax, or Tomahawk 5; 32 oz Cornerstone/Plus or Tomahawk 4.

\*\* Ratings reflects burndown activity only; not residual control. Time from application to planting varies by products. See application timing table or label.

\*\*\* Not labeled for sorghum.

# CORN AND SORGHUM HERBICIDE PERFORMANCE RATINGS

BROADLEAVES																																
	Alfalfa	Bittercress/Sibara	Canada thistle	Chickweed	Clover, red	Clover, sweet	Cutleaf evening primrose	Daisy fleabane	Dandelion	Field pansy	Hairy vetch	Henbit/Deadnettle	Horseweed (marestail)	Knotweed, tall	Kochia	Kochia, triazine rest.	Lambquarters, common	Mousetail	Mustard, annual/winter annual	Mustard, wild	Pennycress	Pigweed	Prickly lettuce	Purslane speedwell	Ragweed, common	Russian thistle	Shepherdspurse	Smartweed, annual	Sunflower	Velvetleaf	Virginia pepperweed	Wild buckwheat
6	U	6	9	U	U	U	5	8	9	U	9	9	U	9	9	10	U	8	10	10	10	8	U	9	8	9	9	10	10	10	8	
8	8	7	10	8	7	6	5	9	9	10	10	8	10	10	9	10	10	10	10	8	10	10	10	10	10	91	0	10	10	10	9	10
5	U	7	8	U	U	U	U	7	U	U	9	5	U	8	8	9	U	8	8	8	8	U	5	5	5	8	8	U	9	U	5	
4	8	5	10	4	3	9	U	9	U	U	10	9	U	10	10	10	U	10	10	10	10	U	9	9	9	10	10	U	10	U	9	
6	10	8	10	7	7	U	7	4	9	6	9	8	8	10	1	10 <sup>R</sup>	10	9	10	10	10 <sup>R</sup>	9	10	9 <sup>R</sup>	9	10	10	10	10	9	9	
5	10	6	10	9	8	10	6	7	9	10	10	10	10	10	6	10	10	10	10	10	10	10	10	10	10	9	10	10	10	10	9	
7	10	7	10	10	9	10	8	7	9	10	10	10	10	10	8	10	10	10	10	10	10	10	10	10	10	9	10	10	10	9	10	
7	8	7	10	8	7	6	5	9	9	10	10	8	10	9	9	10	10	10	10	10	8	10	10	10	10	9	10	10	10	9	10	
5	U	6	7 <sup>R</sup>	U	5	U	7	8	U	6	9	7 <sup>R</sup>	7	7 <sup>R</sup>	7 <sup>R</sup>	9 <sup>R</sup>	U	9	9 <sup>R</sup>	9	7	8 <sup>R</sup>	U	9 <sup>R</sup>	8 <sup>R</sup>	9	8	9 <sup>R</sup>	8	9	7	
7	9	6	9	8	8	U	7	9	7	8	9	9	7	6	6	9	8	10	10	10	9	9	10	9	9	10	10	10	9	9	6	
8	U	8	9 <sup>R</sup>	U	5	U	7	8	U	6	9	9 <sup>R</sup>	7	7 <sup>R</sup>	7	9 <sup>R</sup>	U	9	9 <sup>R</sup>	9	8	8 <sup>R</sup>	U	9 <sup>R</sup>	8 <sup>R</sup>	9	8	9 <sup>R</sup>	8	9	7	
2	U	4	8	6	1	U	6	6	8	1	7	8	U	8	8	9	U	9	9	7	10	8	8	8	8	8	8	8	10	8	5	
4	U	4	9	6	2	U	7	7	8	6	8	9	9	9	9	10	U	8	9	8	10	9	9	10	9	9	10	8	10	8	7	
6	9	6	7	8	7	7	6	8	7	8	8	9	7	6	6	10	9	9	9	10	10	9	7	9	8	9	10	9	9	8	7	
3	8	7	10 <sup>R</sup>	4	3	5	5	5	8	6	7	6 <sup>R</sup>	9	6 <sup>R</sup>	6	7	9	10	9	10	8	6	10	7 <sup>R</sup>	8	10	7	9	7	7	6	
4	8	7	10 <sup>R</sup>	6	4	8	5	7	8	6	8	8 <sup>R</sup>	9	8 <sup>R</sup>	8	9	9	10	10	10	9	7	10	8 <sup>R</sup>	8	10	8	9	9	8	7	
5	8	8	10 <sup>R</sup>	7	5	8	5	7	8	7	9	9 <sup>R</sup>	9	9	9	9	10	10	10	10	10	10	8	10	9 <sup>R</sup>	9	10	9	9	10	8	8
6	9	8	10	8	6	9	6	8	9	7	9	9	9	9	9	9	10	10	10	10	10	9	10	9	9	10	9	10	10	9	6	
4	10	6	10	6	3	9	7	6	8	6	10	10	10	10	8	10	10	10	10	10	10	10	10	10	9	10	10	10	10	9	9	
6	10	8	10	7	4	10	7	6	9	6	10	10	10	9	8	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	9	
4	U	6	9	6	2	U	7	7 <sup>1</sup>	5	1	8	9	U	9	9	10	U	9	9	8	10	9	9	10	8	9	9	7	10	8	5	
7	7	8	8	8	7	8	8	2	10	8	7	9	8	9	7	9	9	7	9	8	9	7	9	9	9	7	8	10	10	7	9	
7	9	9	9	8	8	10	9	10	10	10	10	10	10	10	10	9	9	9	9	9	9	9	9	9	9	9	6	9	10	10	10	8
6	9	8	10	8	6	9	6	8	9	7	9	9	9	9	9	9	10	10	10	10	10	10	10	9	9	10	9	10	10	9	8	
4	8	7	10	4	3	10	7	7	9	6	9	9	10	10	9	10	10	10	10	10	10	10	9	10	9	10	10	10	10	10	10	10
9	9	9	9	9	9	9	7	9	9	9	10	9	9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	7
4	9	5	9	4	4	7	5	5	4	7	9	7	9	9	8	8	10	10	8	10	7	7	6	8	6	9	6	10	8	9	6	
5	10	5	10	7	7	10	7	5	8	8	10	10	10	10	8	10	10	10	10	10	10	8	9	10	10	9	10	10	10	10	10	
5	9	5	10	5	5	8	6	5	9	7	10	9	10	9	8	10	10	10	10	10	9	8	10	9	9	9	10	9	10	9	9	
8	9	7	9	U	U	9	U	9	U	U	9	7	U	8 <sup>R</sup>	8 <sup>R</sup>	9	U	9	9	9	9	U	U	8	6	9	9	9	9	9	7	
6	7	U	9	4	4	8	6	7	U	7	7	8	8	8	9	8	10	U	10	10	8	U	10	9	8	8	10	8	8	U	7	
6	U	6	9	U	U	U	5	8	9	U	9	9	U	9	9	10	U	8	10	10	10	8	U	8	7	8	9	10	10	10	8	
7	9	6	9	8	8	9	U	8	U	8	8	9	7	9	6	8	U	9	9	9	8 <sup>R</sup>	9	7	8	U	9	9	U	7	9	U	
7	U	8 <sup>1</sup>	8	7	7	8	9	7 <sup>1</sup>	3	7	7	8	5	8	8	9	9	9	9	9	9	9	8	8 <sup>R</sup>	9	9	9	8	8	8	9	
7	9	6	6	8	8	U	8	8	5	10	8	7	9	8 <sup>R</sup>	9 <sup>R</sup>	7	4	5	8	9	8	9	4	9	9	8	8	10	7	7	9	
5	9	4	7	7	6	7	7	7	3	7	4	7	6	6	6	9	8	10	8	10	8	8	7	9	9	8	7	10	8	7	9	
5	9	4	7	7	6	7	8	9	2	10	8	8	9	9	8	9	8	9	8	10	10	9	7	9	9	8	9	10	8	9	9	
7	7	7	8	8	8	7	8	8	2	10	8	7	9	8 <sup>R</sup>	9	7	4	5	7	9	8	9	4	9	9	7	8	10	7	7	9	
9	9	9	9	9	9	9	9	9	3	9	9	9	9	9	9	9	9	9	10	9	9	9	9	9	9	9	9	9	9	9	8	
7	9	8	7	7	7	8	8	7 <sup>5</sup>	3	7	7	8	8	8	8	9	U	9	9	9	9	9	9	9	9	8	9	9	9	9	9	

1 -Seeding only.

2 -As a winter annual, these are best controlled in fall or early spring.

3 -Simazine works primarily through residual root uptake.

6 -7 or more days prior to planting in minimum or no-till corn; 7 days or more for Shredder brands .

7 -Large crabgrass <0.5".

A -Site of action, described on page 759.

R -No control of herbicide resistant weed biotypes. See the list of known resistant weeds on the second page of the technical section.

# CORN AND SORGHUM HERBICIDE PERFORMANCE RATINGS

## PP OR PRE HERBICIDE (a.i.s)

**Key**  
 E = EXCELLENT (≥91%)  
 G = GOOD (81-90%)  
 F = FAIR = (65-80%)  
 P = POOR = (<65%)  
 N = NONE  
 U = UNKNOWN

	CROP TOLERANCE	SITE OF ACTION	GRASSES															
			Barnyardgrass	Crabgrass	Fall panicum	Foxtail, gi/gr	Foxtail, yellow	Johnsongrass (Seedling)	Quackgrass	Sandbur, field	Shattercane	Volunteer small grain	Wild oat	Wild proso millet	Wirestem muhly	Woolly cupgrass	Yellow nutsedge	
<b>Acuron</b> (atrazine + s-metolachlor + mesotrione + bicyclopyrone)	E	E	E	E	E	E	E	E	P	P	F	P	F	F	F/G	P	F	G/E
<b>Acuron Flexi</b> (bicyclopyrone + mesotrione + s-metolachlor)	E	5,15,27,27	E	E	E	E	E	E	P	P	F	P	F	F	F/G	P	F	G/E
<b>Alluvex</b> (rimsulfuron + thifensulfuron methyl)	E	2,2	P	F	G	E	E	P	P	P	P	G	F	P	U	P	P	
<b>Anthem/Anthem Maxx</b> (fluthiacet + pyroxasulfone)	E	14,15	E	E	E	E	E	F/G	P	F/G	F	F	G/E	G	P	F/G	F	
<b>Anthem ATZ</b> (atrazine + fluthiacet + pyroxasulfone)	E	E	E	E	E	E	E	F/G	P	F/G	F	F	G/E	G	P	F/G	F	
<b>Atrazine<sup>R</sup></b> (atrazine)	E	5	F <sup>R</sup>	P <sup>R</sup>	P <sup>R</sup>	F <sup>R</sup>	F <sup>R</sup>	P <sup>R</sup>	F <sup>R</sup>	F <sup>R</sup>	P <sup>R</sup>	F <sup>R</sup>	G <sup>R</sup>	P <sup>R</sup>	P <sup>R</sup>	P <sup>R</sup>	F <sup>R</sup>	
<b>Balance Flexx</b> (isoxaflutole)	E	27	G	F/G	G	G/E	F	F	P	F	P	P	P	G	P	F/G	P	
<b>Callisto/Incinerate</b> (mesotrione)	E	N	G <sup>2</sup>	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
<b>Capreno</b> (thien carbazono + tembotrione)	G	2,27	G	G	G	G	G	G	U	F	G/E	G	G	G	U	F/G	P	
<b>Charger MAX/Dual II Magnum/Cinch</b> (s-metolachlor)	E	15	E	E	E	E	E	E	P	P	P/F	P	P	P	F	P	F	F/G <sup>1</sup>
<b>Charger MAX ATZ<sup>R</sup>/Bicep II Magnum</b> (atrazine + s-metolachlor)	E	5,15	E	E	E	E	E	E	P	P	F	P	P/F	F	F	P	F	F/G <sup>1</sup>
<b>Charger MAX ATZ Lite<sup>R</sup>/Bicep Lite II Magnum</b> (atrazine + s-metolachlor)	E	5,15	E	E	E	E	E	E	P	P	F	P	P/F	F	F	P	F	F/G <sup>1</sup>
<b>Confidence/Tremor NXT/Harness/Surpass NXT</b> (acetochlor)	E	15	E	E	E	E	E	E	P	P	F	P	F	F	F/G	P	F/G	F/G <sup>1</sup>
<b>Confidence Xtra</b> (5.6L)/Tremor ATZ NXT/Harness Xtra (5.6L)/Keystone NXT/LA <sup>R</sup> (atrazine + acetochlor)	E	5,15	E	E	E	E	E	E	P	P	F	P	F	F	F/G	P	F/G	F/G <sup>1</sup>
<b>Corvus</b> (thien carbazono + isoxaflutole)	G	2,27	E	E	G	G/E	G	F/G	U	F	E	F	F	E	U	F/G	F	
<b>Degree Xtra/FulTime NXT</b> (atrazine + acetochlor) <sup>R</sup>	E	5,15	E	E	E	E	E	E	P	P	F	P	F	F	F/G	P	F/G	F/G <sup>1</sup>
<b>Dimetric EXT/Metriclude EXT<sup>R</sup></b> (metribuzin)	F	5	F <sup>R</sup>	F	F	F <sup>R</sup>	F <sup>R</sup>	P	P	P	P	P	P	P	P	P	P	
<b>Expert</b> (atrazine + s-metolachlor + glyphosate)	E	15,15,9	E	E	E	E	E	U	U	E	E	U	U	U	U	U	G	U
<b>Fierce</b> (flumioxazin + pyroxasulfone)	G/E	14,15	G	G/E	E	G/E	G/E	P	P	F	P	P	P	F/G	P	G	P	
<b>Framework/Prowl</b> (pendimethalin)	G/E	3	G/E	E	G/E	G/E	G/E	F	P	F	F	P	F	G	P	G	P	
<b>Hornet WDG<sup>R</sup></b> (flumetsulam + clopyralid)	G	2,4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
<b>Instigate</b> (rimsulfuron + mesotrione)	G/E	2,27	G	F/G	F	G	F	F	F	F	F	G	G	F <sup>R</sup>	F	F	F	
<b>Leadoff</b> (rimsulfuron + thifensulfuron methyl)	E	2,2	P	F	G	E	E	P	P	P	P	G	F	P	U	P	P	
<b>Lorox</b> (linuron)	G	7	U	P/F	P/F	P	P	U	P	N	N	N	N	N	N	P	P	
<b>Lumax EZ/Lexar EZ</b> (atrazine + s-metolachlor + mesotrione)	E	5,15,27	E	E	E	E	E	E	P	P	F	P	F	F	F	P	F	G
<b>Outlook</b> (dimethenamid-p)	E	15	E	E	E	E	E	E	P	P	P/F	P	P	F	G	P	F/G	F/G <sup>1</sup>
<b>Prequel<sup>3</sup></b> (rimsulfuron + isoxaflutole)	E	2,27	G/E	F/G	G	G/E	F/G	F	P	F	P	G	G	G	P	F/G	F	
<b>Princep<sup>R</sup></b> (simazine)	E	5	G <sup>R</sup>	F	P/F	G <sup>R</sup>	G <sup>R</sup>	P	P	P	P	U	U	U	P	P	U	
<b>Python WDG<sup>R</sup></b> (flumetsulam)	E	2	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
<b>Resicore</b> (acetochlor + clopyralid + mesotrione)	E	15,27,4	E	E	E	E	E	E	P	P	F	P	F	F	F/G	P	F/G	F/G <sup>1</sup>
<b>Resolve Q<sup>R</sup></b> (rimsulfuron)	G/E	2	G	F <sup>R</sup>	FG <sup>R</sup>	G <sup>R</sup>	FG <sup>R</sup>	F <sup>R</sup>	P	P/F	F <sup>R</sup>	G	G <sup>R</sup>	P	P	P	P	
<b>Thresidual/SureStart II/TripleFLEX II<sup>3R</sup></b> (acetochlor + clopyralid + flumetsulam)	E	15,4,2	G/E	G/E	G	G/E	G/E	P	P	F	P	F	F	F/G	P	F	F/G <sup>1</sup>	
<b>Valor/Rowel<sup>4</sup> + Atrazine</b> (atrazine + flumioxazin)	E	5,14	F <sup>R</sup>	P	P	F <sup>R</sup>	F <sup>R</sup>	P	F	P	P	F	G	P	P	P	F	
<b>Verdict</b> (safluenacil + dimethenamid-p)	E	14,15	E	E	E	E	E	P	P	P/F	P	P	P/F	F	P	F/G	F <sup>1</sup>	
<b>Zemax</b> (s-metolachlor + mesotrione)	E	15,27	E	E	E	E	E	P	P	F	P	F	F	F	P	F	G	
<b>Zidua/Zidua SC</b> (pyroxasulfone)	E	15	E	E	E	E	E	F	P	F	F	P	G	E	F	F	F	

1- Yellow nutsedge control with these herbicides is generally good PPI, Fair PRE.  
 2- Large crabgrass only.  
 3- Seedling only.  
 4- 7 or more days prior to planting in minimum or no-till corn.  
 A- Site of action, described on page 759.  
 R- No control of herbicide resistant weed biotypes. See the list of known resistant weeds on the second page of the technical section.

# CORN AND SORGHUM HERBICIDE PERFORMANCE RATINGS

BROADLEAVES																								
Bindweed, hedge	Buffalobur	Burcucumber	Canada thistle	Cocklebur	Horsenettle	Jerusalem artichoke	Jimsonweed	Knotweed	Kochia	Lambquarters, common	Morningglory, annual	Mustard	Nightshade, black	Pigweed	Purslane	Ragweed, common	Ragweed, giant	Russian thistle	Smartweed, annual	Sunflower	Velvetleaf	Waterhemp spp.	Wild buckwheat	
P/F	G/E	F/G	P/F	E	P	P/F	E	G	E	E	G/E	E	E	E	E	E	E	G/E	E	G/E	E	E	G	<b>Acuron</b>
P/F	G/E	F/G	P/F	G/E	P	P/F	E	G	G/E	E	F/G	E	E	E	E	E	E	G/E	E	F/G	E	E	F/G	<b>Acuron Flexi</b>
U	U	U	P	G	U	U	G	P	G	E	G	E	F/G	E	E	G	P	G	F/G	U	G	F/G	P	<b>Alluvex</b>
N	P	P	N	P	N	N	F	F	F	G	F	F	G	G/E	G/E	F	P	P	P	P	F	E	F	<b>Anthem/Anthem Maxx</b>
P	P	P	P	F/G	P	P	G	G	G/E	E	G/E	E	E	E	G/E	G/E	F	F/G	G	F	G	E	G	<b>Anthem ATZ</b>
p <sup>R</sup>	p <sup>R</sup>	f <sup>R</sup>	p <sup>R</sup>	G <sup>R</sup>	p <sup>R</sup>	p <sup>R</sup>	G/E <sup>R</sup>	G <sup>R</sup>	G/E <sup>R</sup>	E <sup>R</sup>	G/E <sup>R</sup>	E <sup>R</sup>	E <sup>R</sup>	E <sup>R</sup>	E <sup>R</sup>	F/G <sup>R</sup>	E <sup>R</sup>	E <sup>R</sup>	F/G <sup>R</sup>	E <sup>R</sup>	f <sup>R</sup>	E <sup>R</sup>	E <sup>R</sup>	<b>Atrazine</b>
N	E	F/G	N	P	N	N	F/G	U	G/E	G/E	P/F	E	G	G/E	G	G/E	P/F	G	G	F	E	G/E <sup>R</sup>	P	<b>Balance Flexx</b>
P/F	G/E	P/F	P	F	P/F	P/F	G/E	P	F	G/E	F/G	E	E	E	E	G	G	G	G/E	G/E	E	E <sup>R</sup>	F	<b>Callisto/Incinerate</b>
N	G	F/G	F	P	F	U	G	U	G/E	E	F	E	E	E	P	G/E	G	E	E	G/E	E	E <sup>R</sup>	F/G	<b>Capreno</b>
N	P	P	N	P	N	N	P	F	P	F	P	P	G	G	F	P	P	P	P	P	P	G	P	<b>Charger MAX/Dual II Magnum/Cinch</b>
P	P	P	P	F/G <sup>R</sup>	P	P	G <sup>R</sup>	G	G/E <sup>R</sup>	E <sup>R</sup>	G	E	E	E <sup>R</sup>	G	G/E <sup>R</sup>	G <sup>R</sup>	G	G <sup>R</sup>	F/G	F	E <sup>R</sup>	G	<b>Charger MAX ATZ/Bicep II Magnum</b>
P	P	P	P	F <sup>R</sup>	P	P	f <sup>R</sup>	F/G	G <sup>R</sup>	G <sup>R</sup>	G	E	E	E <sup>R</sup>	F	G <sup>R</sup>	f <sup>R</sup>	F/G	F/G <sup>R</sup>	F	F	G	F/G	<b>Charger MAX ATZ Lite/Bicep Lite II Magnum</b>
N	P	P	N	P	N	N	P	P	P/F	F/G	P	P	G	G/E	G	F/G	P	P	P	P	P	G/E	P	<b>Confidence/Tremor NXT/Harness/Surpass NXT</b>
P	P	F	P	F/G	P	P	G <sup>R</sup>	G	G/E <sup>R</sup>	E <sup>R</sup>	G	E	E	E <sup>R</sup>	G	E <sup>R</sup>	G <sup>R</sup>	G	G <sup>R</sup>	F/G	f <sup>R</sup>	E <sup>R</sup>	G	<b>Confidence Xtra/Tremor ATZ NXT/Harness Xtra/Keystone NXT/LA</b>
U	G	F	U	F	U	U	F	U	E	E	F	E	E	E	G/E	G/E	F	F	G/E	F	E	E <sup>R</sup>	P	<b>Corvus</b>
P	P	F	P	F/G	P	P	G <sup>R</sup>	G	G/E <sup>R</sup>	E <sup>R</sup>	G	E	E	E <sup>R</sup>	G	G/E <sup>R</sup>	G <sup>R</sup>	F	G <sup>R</sup>	F/G	f <sup>R</sup>	E <sup>R</sup>	G	<b>Degree Xtra/FulTime NXT</b>
F	F	P/F	P	f <sup>R</sup>	N	P	G <sup>R</sup>	G	G <sup>R</sup>	E <sup>R</sup>	P	G/E	P	E <sup>R</sup>	G	E	P/F	G	G	F	G <sup>R</sup>	G <sup>R</sup>	F	<b>Dimetric EXT/Metriclude EXT</b>
U	U	U	U	E	U	U	U	U	E	G	G	U	G	E	U	U	G	G	G	E	E	E	U	<b>Expert</b>
P	P	U	P	P	P	P	G	E	G	E	F/G	E	E	E	F/G	F	G/E	G	P	F/G	E	E	E	<b>Fierce</b>
N	P	P	N	P	N	N	P	P	G	G	P	P	P	G	P	P	P	PP	F	P	F	G	P	<b>Framework/Prowl</b>
N	F	P	F	G	N	N	G	F	G <sup>R</sup>	G/E <sup>R</sup>	F	E <sup>R</sup>	G	G/E <sup>R</sup>	E	G/E	G	E	E	G/E	G	G <sup>R</sup>	F	<b>Hornet WDG</b>
F	E	F	G	F	F	F	G/E	P	F	E	F	E	E	E	E	G	F	F	G/E	G/E	E	G/E	F	<b>Instigate</b>
U	U	U	P	G	U	U	G	P	G	E	G	E	F/G	E	E	G	P	G	F/G	U	G	F/G	P	<b>Leadoff</b>
U	U	NN	P/F	F	U	U	F	U	F	F	U	U	F	E	U	G	F	U	E	F	F	G	U	<b>Lorox</b>
P/F	G/E	P	P/F	G	P	P/F	E	G	G/E	E	G	E	E	E	E	G	F/G	F/G	E	G/E	E <sup>R</sup>	E	G	<b>Lumax EZ/Lexar EZ</b>
N	P	P	N	P	N	N	P	F	P/F	F/G	P	P	G	G/E	G	F	P	P	P	P	P	G/E	P	<b>Outlook</b>
N	E	F/G	N	F	N	N	G	U	G/E	G/E	P/F	G	G/E	G/E	G	G	P/F	F	G	F	E	G/E	F	<b>Prequel</b>
P	U	P	U	F/G <sup>R</sup>	U	U	G/E <sup>R</sup>	U	G/E <sup>R</sup>	E <sup>R</sup>	G	E	E	E <sup>R</sup>	E	E <sup>R</sup>	F	U	G	f <sup>R</sup>	f <sup>R</sup>	G <sup>R</sup>	U	<b>Princep</b>
N	F	P	N	f <sup>R</sup>	N	N	F	F	G <sup>R</sup>	G/E <sup>R</sup>	P	E	G <sup>R</sup>	E <sup>R</sup>	E	f <sup>R</sup>	P	E <sup>R</sup>	G/E <sup>R</sup>	F/G	G/E	G <sup>R</sup>	P	<b>Python WDG</b>
P/F	G/E	F	F	G/E	P	P/F	E	G	G/E	E	G/E	E	E	E	E	E	E	G/E	E	E	E	E	G/E	<b>Resicore</b>
U	U	U	P	f <sup>R</sup>	U	U	F	P	f <sup>R</sup>	FG <sup>R</sup>	P/F	F/G	P	f <sup>R</sup>	G	PF <sup>R</sup>	P	P	PF <sup>R</sup>	P	F	PF <sup>R</sup>	F	<b>Resolve Q</b>
N	F	P	P	G	N	N	G <sup>R</sup>	F	G <sup>R</sup>	E <sup>R</sup>	F	E	G	E <sup>R</sup>	E	G <sup>R</sup>	f <sup>R</sup>	G	E <sup>R</sup>	G/E	G	G <sup>R</sup>	G/E	<b>Thresidual/SureStart II/TripleFLEX II</b>
P	P	P	N	P	P	P	P	E	E	E	E	E	E	E	E	E	G	E	E	E	E	E	E	<b>Valor/Rowel</b>
U	E	F	P	G/E	P	F	G/E	G	G	E	G	E	E	E	U	G/E	G	E	E	E	E	E	E	<b>Verdict</b>
P/F	G/E	P	P/F	G	P	P/F	E	G	G/E	E	G	E	E	E	E	G	F/G	F/G	E	G/E	E	G/E	F	<b>Zemax</b>
N	P	P	N	P	N	N	P	F	P/F	F/G	P	P	G	G/E	G	F	P	P	P	P	P	E	P	<b>Zidua/Zidua SC</b>

# CORN AND SORGHUM HERBICIDE PERFORMANCE RATINGS

## POST HERBICIDE (a.i.s)

**Key**  
 E = EXCELLENT (≥91%)  
 G = GOOD (81-90%)  
 F = FAIR = (65-80%)  
 P = POOR = (<65%)  
 N = NONE  
 U = UNKNOWN

	CROP TOLERANCE	SITE OF ACTION	GRASSES																			
			Barnyardgrass	Crabgrass	Fall panicum	Foxtail, gl/gr	Foxtail, yellow	Johnsongrass (seedling)	Quackgrass	Sandbur, field	Shattercane	Volunteer small grain	Wild oat	Wild proso millet	Wirestem muhly	Woolly cupgrass	Yellow nutsedge	Bindweed, field	Bindweed, hedge	Buffalobur	Burcucumber	Canada thistle
<b>Acent Q<sup>R</sup></b> (nicosulfuron)	G/E	2	G/E	P	G	E <sup>R</sup>	G/E <sup>R</sup>	E	G	G	E <sup>R</sup>	G	E <sup>R</sup>	G/E	F	G/E	F	P/F	P/F	G/E	F/G	G
<b>Acuron</b> (atrazine + s-metolachlor + mesotrione + bicyclopyrone)	E	5,15,27,27	G	G/E	P	G	G	P	P	P	P	P	P	P	P	P	P/F	P/F	P/F	G/E	F/G	G
<b>Acuron Flexi</b> (bicyclopyrone + mesotrione + s-metolachlor)	E	5,15,27,27	G	G/E	P	G	G	P	P	P	P	P	P	P	P	P	P/F	P/F	P/F	G/E	F/G	G
<b>Aim</b> (carfentrazone)	G	14	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
<b>Armezon PRO</b> (topramezone + dimethenamid)	E	27,15	F/G	F/G	F	G <sup>2</sup>	F	P/F	P	P/F	P/F	F	P	G	P	F/G	P	N	P	U	F/G	P/F
<b>Atrazine<sup>R</sup></b> (atrazine)	E	5	F <sup>R</sup>	P	P	F <sup>R</sup>	F <sup>R</sup>	P	F	P/F	P	F	G	P	P	P	F	F	F	G	F/G	P
<b>Basagran/5L</b> (bentazon)	E	6	P	P	P	P	P	P	P	P	P	P	P	P	P	G	P/F	P/F	P	N	G	
<b>Basis Blend<sup>R</sup></b> (rimsulfuron + thifensulfuron)	G	2,2	G	F <sup>1</sup>	G	G/E <sup>R</sup>	F/G <sup>R</sup>	G	P	P/F	E <sup>R</sup>	F/G	F <sup>R</sup>	P/F	P	P/F	P	U	U	P	P/F	P
<b>Cadet</b> (fluthiacet)	E	14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	F	N
<b>Callisto/Incinerate<sup>4</sup></b> (mesotrione)	E	27	N	G <sup>1</sup>	N	N	N	N	N	N	N	N	N	N	N	N	N	P/F	P/F	F	F	P
<b>Callisto GT<sup>R</sup></b> (glyphosate + mesotrione)	E	9,27	E	E	E	E	E	G/E	E	E	E	E	E	E	E	G/E	E	F	F/G	F/G	F/G	G
<b>Callisto Xtra</b> (atrazine + mesotrione)	E	5,27	N	G <sup>1</sup>	N	P	N	N	N	N	N	N	N	N	N	N	N	P/F	P/F	F	G	P/F
<b>Capreno</b> (thiencarbazone + tembotrione)	G	2,27	G	G	G	G	G	U	F/G	G	G	G	G	U	F/G	P	N	N	G	F/G	F	
<b>Cornerstone 5 Plus/glyphosate<sup>**</sup></b> (glyphosate)	E	9	E	E	E	E	E	G/E	E	E	E	E	E	G/E	E	F	F/G	G	G	G	G	
<b>DiFlexx</b> (dicamba)	E	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F	F	F	F	F	
<b>DiFlexx DUO</b> (dicamba + tembotrione)	G	27,4	G	F/G	P	G	G	F	U	F	G	G	G	G	F/G	G/E	P	F	F	G	F/G	
<b>Dimetric EXT/Metriclude EXT<sup>R</sup></b> (metribuzin)	G	5	P/F <sup>R</sup>	P/F	P	P/F	P/F	P	P	P/F	P	P	P	P	P	P	F	F	E	F	P	
<b>Enlist Duo or Enlist One + glyphosate<sup>7</sup></b>	E	4,9	E	E	E	E	E	G/E	E	E	E	E	E	G/E	E	F	F/G	G	G	G	G	
<b>Enlist One</b> (2,4-D Choline) <sup>7</sup>	E	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F	F	P	P	
<b>Expert</b> (atrazine + s-metolachlor + glyphosate)	E	15,15,9	E	E	E	E	E	U	U	E	E	U	U	U	U	G	U	U	U	U	U	
<b>Halex GT</b> (glyphosate + s-metolachlor + mesotrione)	E	9,15,27	E	E	E	E	E	E	E	E	E	E	E	E	E	F	G	G	E	E	G	
<b>Herbivore/Permit<sup>R</sup></b> (halosulfuron)	E	2	P	P	P	P	P	P	P	P	P	P	P	P	P	E	P	P	P	F	P	
<b>Hornet WDG<sup>R</sup></b> (flumetsulam + clopyralid)	E	2,4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P/F	P/F	G	N	G/E	
<b>Impact/Armezon</b> (topramezone)	E	27	F/G	F/G	F	G <sup>2</sup>	F	P/F	P	P/F	P/F	F	P	G	P	F/G	P	N	P	U	F/G	
<b>Kochiavore</b> (2,4-D + bromoxynil + fluroxypyr)	F/G	4,4,6	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F	F	G	F	E	
<b>Laudis</b> (tembotrione)	E	27	G	F/G	P	G <sup>3</sup>	G	G	U	F	G	G	G	G	F/G	G/E	P	N	N	G	F/G	
<b>Liberty</b> (glufosinate)	E	10	F/G	G	F/G	E	F	F	F	F	G	G	G	E	F/G	G/E	P	F	F	G	F/G	
<b>Lumax EZ/Lexar EZ</b> (atrazine + s-metolachlor + mesotrione)	E	5,15,27	P	F	P	P	P	P	F	P	F	F	F	F	P	F	P/F	P/F	P/F	G/E	F	
<b>Moxy</b> (bromoxynil)	E	6	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P	P	G	F	
<b>Northstar</b> (primisulfuron + dicamba)	G	2,4	P	P	F	P/F <sup>R</sup>	P	G/E	G	P	E <sup>R</sup>	U	P	P	P	F	F/G	F	G	G		
<b>Option<sup>R</sup></b> (foramsulfuron)	G/E	2	G/E	F <sup>1</sup>	R <sup>G</sup>	G/E <sup>R</sup>	G	E	G	F/G	E <sup>R</sup>	E	E <sup>R</sup>	G/E	F	G	P	P	U	G		
<b>Peak</b> (prosulfuron)	E	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F/G	F/G	G/E	F/G		
<b>Python</b> (flumetsulam)	E	2	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P		
<b>Realm Q<sup>R</sup></b> (rimsulfuron + mesotrione)	E	2,27	G	G <sup>1</sup>	G	G/E	G	G	G	F	G	G	G	G	F/G	F/G	F/G	P/F	P/F	F		
<b>Resicore</b> (acetochlor + clopyralid + mesotrione)	E	15,27,4	P	F	P	P	P	P	P	P	P	P	P	P	P	P	P/F	P/F	P/F	G/E		

\*\*May use other glyphosate herbicides: Tomahawk brands, Roundup brands, Durango DMA/Duramax, or other glyphosates.

1- Large crabgrass only. Large only POST for Lexar EZ.

2- G for green. E for giant.

3- P/F on green foxtail.

4- Adding atrazine improves control of several broadleaves including kochia, morningglory, cocklebur, common ragweed, prickly sida and giant ragweed.

6- Palmer amaranth tends to be harder to control with POST herbicides than other pigweeds.

7- Enlist Corn Only

A- Site of action, described on page 759.

R- No control of herbicide resistant weed biotypes. See the list of known resistant weeds on the second page of the technical section.

# CORN AND SORGHUM HERBICIDE PERFORMANCE RATINGS

## BROADLEAVES

	Cocklebur	Dandelion	Hemp dogbane	Horsenettle	Horse weed (Marestail)	Jerusalem artichoke	Jimsonweed	Knotweed	Kochia	Lambquarters, common	Milkweed, common	Milkweed, honeyvine	Morningglory, annual	Morningglory, bigroot	Mustard	Nightshade, black	Pigweed6	Pokeweed	Prickly sida <sup>4</sup>	Purslane	Ragweed, common	Ragweed, giant	Russian thistle	Smartweed, annual	Smartweed, swamp	Sunflower	Velvetleaf	Waterhemp	Wild buckwheat	
	P	P	P	P	P/F	P	G	N	F <sup>R</sup>	P	P	P	F	P	G <sup>R</sup>	N	G/E <sup>R</sup>	P	P	N	P	P	P	G	P	P	P	P/F <sup>R</sup>	P	<b>Acent Q</b>
	E	G/E	U	G	G/E	F	G/E	G	G/E	E	U	U	G/E	P	E	E	E <sup>R</sup>	G	F/G	E	E	E	G/E	E	U	E	E	E <sup>R</sup>	G/E	<b>Acuron</b>
	E	G/E	U	F/G	F/G	F	G/E	G	G/E	E	U	U	G/E	P	E	E	E	F/G	F/G	E	E	E	F/G	G/E	U	G/E	E	E	P/F	<b>Acuron Flexi</b>
	F	U	P	U	F	P	F/G	U	G	G/E	P	P	F/G	P	G	G/E	G/E	U	F	U	F	F	F	F	P	P	E	G	P	<b>Aim</b>
	G	P/F	P	U	P/F	U	E	U	G	E	P	U	F	U	G/E	E	U	F	U	G	G	G/E	G	U	E	G/E	E	P	<b>Armezon PRO</b>	
	E <sup>R</sup>	F	P	P/F	P	P/F	E <sup>R</sup>	G	G <sup>R</sup>	E <sup>R</sup>	P	P	E	P	E	E	E <sup>R</sup>	U	G/E	F	E <sup>R</sup>	F/G <sup>R</sup>	F/G	E <sup>R</sup>	P	E	G/E <sup>R</sup>	G/E <sup>R</sup>	G	<b>Atrazine</b>
	E	P	P	P	U	P	E	P	F	F	P	P	F	P	E	P	P	U	G	E	F/G	P/F	P	E	P	G/E	G/E	P	F/G	<b>Basagran/5L</b>
	P/F <sup>R</sup>	P	P	P	P	P	N	P/F <sup>R</sup>	G/E <sup>R</sup>	P	P	P	P	E <sup>R</sup>	P	E <sup>R</sup>	U	P	N	P	P	P/F <sup>R</sup>	E	U	F <sup>R</sup>	F/G	G <sup>R</sup>	F	<b>Basis Blend</b>	
	P/F	U	U	U	P	U	P/F	U	F	F/G	U	U	F	U	P	F	G	U	P	U	P	P	P/F	F	P	P	E	F	F	<b>Cadet</b>
	G	F	P/F	G	P	P/F	E	F	F	E	P/F	P/F	F	P	E	E	E	G	F	E	F/G	F	E	E	F	E	E	E <sup>R</sup>	F	<b>Callisto/Incinerate</b>
	G/E	F	F/G	F/G	P <sup>R</sup>	F/G	E	F/G	G <sup>R</sup>	G/E	P/F	P/F	F	P	E	G/E	E	F/G	F/G	E	G/E <sup>R</sup>	G/E <sup>R</sup>	G/E	G/E	G	G/E	G/E <sup>R</sup>	G <sup>R</sup>	F	<b>Callisto GT</b>
	E	G	P/F	G	P	P/F	E	F	G	E <sup>R</sup>	P/F	P/F	G	P	E	E	E	G	F	E	G/E	G	E	E	F	E	E	E	G	<b>Callisto Xtra</b>
	G/E	P	P	F	F	P/F	E	F	G/E	E	P	P	F	F	E	E	E	U	F	P	G/E	G	E	E	P	G/E	E	E	F/G	<b>Capreno</b>
	E	F	F/G	F/G	P <sup>R</sup>	G	E	G	G <sup>R</sup>	G/E	F	F	F	P	E	G	E	F/G	F/G	E	G/E <sup>R</sup>	G/E <sup>R</sup>	F/G	G/E	F	G/E	G	G <sup>R</sup>	F	<b>Cornerstone 5 Plus</b>
	E	G	F	F	P/F	F/G	E	E	G	E	P/F	P/F	E	P/F	F	G	E	F	G	E	E	E	G/E	E	F	E	F/G	E	E	<b>DiFlexx</b>
	E	G	F	F	P/F	F/G	E	E	G/E	E	P/F	P/F	E	F	G/E	E	E	F	G	E	E	E	E	E	F	E	E	E	E	<b>DiFlexx DUO</b>
	E <sup>R</sup>	F	P	U	U	G	E <sup>R</sup>	E	G <sup>R</sup>	G/E <sup>R</sup>	P	P	P/F	P	G	G/E	E <sup>R</sup>	P	U	G	E <sup>R</sup>	G/E <sup>R</sup>	F	E <sup>R</sup>	P	E	G <sup>R</sup>	G <sup>R</sup>	G	<b>Dimetric EXT/Metriclud EXT</b>
	E	G	F/G	F/G	P/F	G	E	G	G	E	F	F	E	F	E	E	E	F/G	G	E	E	E	F/G	G/E	F	E	E	E	F	<b>Enlist Duo or Enlist One + glyphosate</b>
	E	G	P/F	F	P/F	F/G	F	P	F	G	F	F	E	F	E	F	G	F/G	G	P	G	G	F	P	P/F	F/G	G	G	P	<b>Enlist One</b>
	E	U	U	U	U	U	U	E	G	U	U	G	G	U	G	E	U	U	U	U	G	G	G	G	E	E	E	U	<b>Expert</b>	
	E	G	G	E	P/F	G	E	E	E	E	F	F	F	P/F	E	E	E	E	G	E	E	G/E	E	E	F	E	E	E	G	<b>Halex GT</b>
	E <sup>R</sup>	U	P/F	F	P	P	P/F	U	G <sup>R</sup>	G	P/F	P	F	P	E <sup>R</sup>	P	G/E <sup>R</sup>	G	F	U	G/E <sup>R</sup>	F/G <sup>R</sup>	P	G	U	E <sup>R</sup>	E	G <sup>R</sup>	P	<b>Herbivore/Permit</b>
	E	G	F	P	G	G	F/G	N	F <sup>R</sup>	F/G <sup>R</sup>	F	F	F/G	P	E	F	F/G <sup>R</sup>	P	F	E	E	E	F	G/E	P	E	E	F	F/G	<b>Hornet WDG</b>
	G	P/F	P	U	P/F	U	E	U	G	E	P	U	F	U	G/E	E	E	U	F	U	G	G	G/E	G	U	E	G/E	E	P	<b>Impact/Armezon</b>
	E	G	P/F	F	G	E	E	G	E	E	F	F	E	F	E	E	G	G	G	P	E	E	E	E	P/F	E	G	G	E	<b>Kochiavore</b>
	G/E	P	P	P	P/F	U	E	U	G/E	E	P	P	F	F	G/E	E	E	U	F4	P	E	G	E	E	P	G/E	E	E <sup>R</sup>	F	<b>Laudis</b>
	G/E	G	P/F	U	P	F	E	G	G	G	P/F	P	G/E	P	E	E	G	P/F	G/E	G	G/E	G/E	G	G/E	P	E	G	F/G	F/G	<b>Liberty</b>
	G	G	U	G	U	F	G/E	G	G/E	E	U	U	G	P	E	E	E <sup>R</sup>	G	U	E	G/E	G	F/G	E	U	E	E	E	G	<b>Lumax EZ/Lexar EZ</b>
	E	P	P	F	G	P	E	G	G	G/E	P	P	G	P	F/G	E	F/G	P	P	P	E	F	G	E	P	E	G	P	G/E	<b>Moxy</b>
	E	F	F	G	P	G	E	U	G	E	P/F	P/F	G	P	E	G	G	F/G	F/G	E	E	E	G	E	F	E	G	E	E	<b>Northstar</b>
	F <sup>R</sup>	U	U	U	G	U	F/G	U	F <sup>R</sup>	G <sup>R</sup>	P	P	P	P	G/E <sup>R</sup>	F/G <sup>R</sup>	G <sup>R</sup>	F	P	G	F/G <sup>R</sup>	F <sup>R</sup>	F <sup>R</sup>	F	U	F <sup>R</sup>	G	P	P	<b>Option</b>
	E	P	P	P	G/E	U	G/E	G/E	U	G/E	U	U	F/G	F/G	E	U	E	U	E	U	E	G/E	G/E	G/E	F/G	E	E	G/E	G/E	<b>Peak</b>
	F	P	P	F	G	P	F	P	F	F/G	P	P	P	P	G	F	F	P	F/G	F	F	F	F	F/G	F	F	E	F	P	<b>Python</b>
	G	G	P/F	G	G	P/F	E	F	F/G <sup>R</sup>	E	P/F	P/F	F/G	P	E	E	E	G	F	E	G	G	E	E	F	E	E	E	F/G	<b>Realm Q</b>
	E	G/E	U	G	G/E	G/E	G	G/E	E	U	U	G/E	P	E	E	E	E	G	G	E	E	E	G	E	U	E	E	E	G/E	<b>Resicore</b>

# CORN AND SORGHUM HERBICIDE PERFORMANCE RATINGS

## POST HERBICIDE *Continued* (a.i.s)

### Key

- E = EXCELLENT (≥91%)
- G = GOOD (81-90%)
- F = FAIR = (65-80%)
- P = POOR = (<65%)
- N = NONE
- U = UNKNOWN

	CROP TOLERANCE	SITE OF ACTION	GRASSES																			
			Barnyardgrass	Crabgrass	Fall panicum	Foxtail, gi/gr	Foxtail, yellow	Johnsongrass (seedling)	Quackgrass	Sandbur, field	Shattercane	Volunteer small grain	Wild oat	Wild proso millet	Wirestem muhly	Woolly cupgrass	Yellow nutsedge	Bindweed, field	Bindweed, hedge	Buffalobur	Burcucumber	Canada thistle
<b>Resolve Q<sup>R</sup></b> (rimsulfuron + thifensulfuron)	E	2,2	F/G	F <sup>1R</sup>	F/G	G/E <sup>R</sup>	G <sup>R</sup>	F	F/G	F/G	G <sup>R</sup>	F/G	F <sup>R</sup>	F	F	P/F	P/F	U	U	P	P/F	F
<b>Resource</b> (flumiclorac)	G/E	14	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	P	P	P	P/F	N
<b>Revulin Q</b> (nicosulfuron + mesotrione)	E	2,27	G/E	E	G	E	G/E	E	G	G	E	G	E	G	F	G	F/G	F	F	F	F	P
<b>Sequence</b> (glyphosate + s-metolachlor)	E	9,15	E	E	E	E	E	E	G/E	E	E	E	E	E	G/E	E	G	F/G	G	G	G	G
<b>2,4-D</b> (2, 4-D)	F/G	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F	F	P	P	F
<b>Solstice<sup>4</sup></b> (fluthiacet + mesotrione)	E	14,27	N	G <sup>1</sup>	N	N	N	N	N	N	N	N	N	N	N	N	N	P/F	P/F	G	G	P
<b>Spirit<sup>R</sup></b> (primisulfuron + prosulfuron)	G	2,2	P	P	P	P	P	G	G	P	G <sup>R</sup>	U	P	P/F	P	P/F	F	P	F	G	G	F/G
<b>Starane Ultra</b> (fluroxypyr)	G/E	4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	F/G	G/E	F	F/G	P
<b>Status<sup>R</sup></b> (dicamba + diflufenzopyr)	E	4,19	P/F	P/F	F	P/F	P/F	P	P	P	P	P	P	P/F	P	P	P	F/G	G	G	F/G	G
<b>Steadfast Q<sup>R</sup></b> (rimsulfuron + nicosulfuron)	E	2,2	G/E	F <sup>1</sup>	G <sup>R</sup>	E <sup>R</sup>	G/E <sup>R</sup>	E	G	G	E <sup>R</sup>	G	E <sup>R</sup>	G/E	F	G	F	P	P	P	P	F
<b>Sterling Blue/Clarity/Banvel/Clarifier</b> (dicamba)	G	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F	F	F	F	G
<b>Stinger</b> (clopyralid)	E	4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	E
<b>Warrant + glyphosate</b> (acetochlor + glyphosate)	E	15,9	E	E	E	E	E	E	E	E	P	P	P	U	U	U	F	U	U	U	U	G
<b>WideMatch</b> (clopyralid+ fluroxypyr)	G/E	4,4	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	F/G	G/E	F	F/G	G
<b>Yukon<sup>R</sup></b> (halosulfuron + dicamba)	G	2,4	P	P	P	P	P	P	P	P	P	P	P	P	P	P	E	F	F	P	F	F
<b>Zemax</b> (s-metolachlor + mesotrione)	E	15,27	P	G/E	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F/G	P	F

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Cocklebur	Dandelion	Hemp dogbane	Horsenettle	Horse weed (Marestail)	Jerusalem artichoke	Jimsonweed	Knotweed	Kochia	Lambsquarters, common	Milkweed, common	Milkweed, honeyvine	Morningglory, annual	Momingglory, bigroot	Mustard	Nightshade, black	Pigweed6	Pokeweed	Prickly sida <sup>4</sup>	Purslane	Ragweed, common	Ragweed, giant	Russian thistle	Smartweed, annual	Smartweed, swamp	Sunflower	Velvetleaf	Waterhemp	Wild buckwheat	
F <sup>R</sup>	F/G	P	P	G	P	F	N	G <sup>R</sup>	F <sup>R</sup>	P	P	F	P	E <sup>R</sup>	P	G/E <sup>R</sup>	U	U	F	F	P	P/F	F	P	P	F/G	F	F	<b>Resolve Q</b>
P/F	N	N	N	P	N	F	N	N	P/F	N	N	P/F	N	N	N	F	N	F	N	F	P/F	N	N	N	N	E	F	P/F	<b>Resource</b>
G	F	F	G	P	F	E	F	F/G <sup>R</sup>	E	F	F	F/G	P	E	E	E	G	F	E	G	G-E	E	E	F	E	E	E	F	<b>Revulin Q</b>
E	F	F/G	F/G	P <sup>R</sup>	G	E	G	G	G/E	F	F	F	P	E	G	E	F/G	F/G	E	G/E <sup>R</sup>	G/E <sup>R</sup>	F/G	G/E	F	G/E	G	G <sup>R</sup>	F	<b>Sequence</b>
E	G	P/F	F	P/F	F/G	F	P	F	G	F	F	E	F	E	F	G	F/G	G	P	G	G	F	P	P/F	F/G	G	G <sup>R</sup>	P	<b>2,4-D</b>
G	F	P/F	G	F	P/F	E	F	P/F	F/G	P/F	P/F	F/G	P	E	E	G/E	G	P/F	E	F/G	F	E	E	F	E	E <sup>R</sup>	E	F/G	<b>Solstice</b>
G/E <sup>R</sup>	G	P/F	F	P	F	G <sup>R</sup>	G	E <sup>R</sup>	G <sup>R</sup>	F	P	P	F	P	E <sup>R</sup>	G/E <sup>R</sup>	G	F	F	E <sup>R</sup>	E <sup>R</sup>	G/E <sup>R</sup>	E	F	G <sup>R</sup>	G/E	P	P	<b>Spirit</b>
F/G	F	G/E	F	P	F	F	G	E	P	P	G	E	U	F	P	P	F	U	E	E	G/E	P/F	P	P	F/G	G	P	F/G	<b>Starane Ultra</b>
E	G	F	F/G	F	E	E	E	G/E <sup>R</sup>	E	P/F	P/F	E	P/F	G	G	E	E	G	E	E	E	E	E	F/G	E	G	E	E	<b>Status</b>
F <sup>R</sup>	F	F	P	P	P	F	U	F <sup>R</sup>	P/F <sup>R</sup>	P	P	F	P	G <sup>R</sup>	P	G/E <sup>R</sup>	P	P	N	P	P	P	G	U	G <sup>R</sup>	P/F	P/F <sup>R</sup>	P	<b>Steadfast Q</b>
E	G	F	F	P/F	F/G	E	E	G <sup>R</sup>	E	P/F	P/F	E	P/F	F	G	E	F	G	E	E	E	G/E	E	F	E	F/G	E	E	<b>Sterling Blue/Clarity/Banvel/ Clarifier</b>
E	F	P/F	F	U	E	G	F	P	P	P	P/F	P	P	P	F	P	P	P	P	E	E	P	F/G	P	E	P	P	F/G	<b>Stinger</b>
E	U	U	U	U	U	E	U	U	G	U	U	U	U	E	G	E	U	P	G	G	G	U	G	G	U	G	G <sup>R</sup>	U	<b>Warrant + Glyphosate</b>
E	G	G/E	F	P/F	G	G	G	E	F	P	G	E	U	F	F	P	F/G	P	E	E	E	F	F	P	G	G	P	E	<b>WideMatch</b>
E	P	F	G	P/F	G	G	G	G <sup>R</sup>	E	F	F	G	P	E	G	G	G	F	E	E	E	F	E	U	E	E	E	E	<b>Yukon</b>
G	F	U	U	U	U	G	F	F	G/E	U	U	F	U	G/E	G/E	E	U	U	G/E	F/G	F	F	F/G	U	G	G/E	G/E	F	<b>Zemax</b>

# CORN HERBICIDE ADJUVANT RECOMMENDATIONS

Herbicide	SPRAY ADJUVANTS <sup>1</sup>								
	NIS		MSO <sup>2</sup>		HSOC-MSO <sup>3</sup>		COC <sup>4</sup>	MSOC-COC <sup>5</sup>	
ACCENT Q	1-2 qt/100 gal	or	1-2 gal/100 gal	or	0.5 gal/100 gal	or	1-2 gal/100 gal	or	0.5-1 gal/100 gal
ACURON	1 qt/ 100 gal	or					1 qt/A	or	1 pt/A
ACURON FLEXI	1 qt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal
AIM EC	1 qt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal
AIM + Atrazine or Banvel/Clarity/Sterling Blue/Clarifier, glyphosate, Hornet, 2,4-D	1 qt/100 gal								
ALLUVEX	1 qt/100 gal	or	0.5 gal/100 gal	or	0.25 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
ANTHEM/ANTHEM MAXX	1 qt/100 gal	or	1-2 pt/A	or	0.5-1 pt/A	or	1-2 pt/A	or	0.5-1 pt/A
ARMEZON PRO	0.25-0.5 gal/100 gal	or	0.5-1 gal/ 100 gal	or	0.25-0.5 gal/100 gal	or	0.5-1 gal/ 100 gal	or	0.25-0.5 gal/100 gal
ANTHEM ATZ	1qt/100 gal	or	1-2 pt/A	or	0.5-1 pt/A	or	1-2 pt/A	or	0.5-1 pt/A
ATRAZINE/AATREX	1 qt/100 gal	or	1 qt/A	or	1 pt/A	or	1 qt/A	or	1 pt/A
AUTUMN SUPER			1 gal/100 gal	or	0.5 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
BASAGRAN			1-2 pt/A	or	0.75-1 pt/A	or	1-2 pt/A	or	0.5-1 pt/A
			0.5-1 pt/A	or	0.75-1 pt/A	or	0.5-1 pt/A	or	0.25-0.5 pt/A
BASAGRAN 5L	1-2 qt/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
BASIS BLEND	1 qt/100 gal	or	1-2 gal/100 gal	or	0.5-1 gal/100 gal	or	1-2 gal/100 gal	or	0.5-1 gal/100 gal
BEACON	1 qt/100 gal					or	1-4 pt/A	or	0.5-2 pt/A
CADET	1 qt/100 gal					or	1-2 pt/A	or	0.5-1 pt/A
CALLISTO/INCINERATE	L						1 gal/100 gal	or	0.5 gal/100 gal
Callisto/Incinerate + Atrazine							1 gal/100 gal	or	0.5 gal/100 gal
Callisto/Incinerate + Liberty 280SL									
Callisto/Incinerate + glyphosate									
CALLISTO GT	1-2 qt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal
CALLISTO XTRA	1 qt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal
CAPRENO							1 gal/100 gal	or	0.5 gal/100 gal
CORNERSTONE	2 qt/100 gal								
CORNERSTONE PLUS									
CORNERSTONE 5 PLUS									
DIFLEXX	1 qt/ 100 gal	or	1 gal/ 100 gal	or	0.5 gal/ 100 gal	or	1 gal/ 100 gal	or	0.5 gal/ 100 gal
DIFLEXX DUO	1 qt/100 gal	or	1 qt/100 gal	or	0.5 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
DIMETRIC EXT + Basagran	1 qt/100 gal								
Dimetric EXT + Resource	1 qt/100 gal								
Dimetric EXT + Banvel/Clarity/Sterling Blue/Clarifier (dry conditions)	1 qt/100 gal								
DISTINCT	1 qt/100 gal								
DURANGO DMA/DURAMAX	L								
ELEVORE			0.5-1 gal/100 gal	or	0.5 gal-1 gal	or	0.5-1 gal/100 gal	or	0.5 gal-1 gal

Always refer to product label for specific information.

1- When rate ranges are given for adjuvants, higher rates are recommended under dry conditions. See specific label for details.

2- Use a quality MSO like Soy Oil Spray or Noble.

3- Use a quality HSOC-MSO like Succeed/Ultra or Destiny HC. HSOC-MSO are generally used at half the labeled MSO rates.

4- Use a quality COC like Prime Oil or Premium

5- Use a quality HSOC-COC like Between or Superb HC. HSOC-COC are generally used at half the labeled COC rates.

Do not use Superb HC at less than 1 pt/A at < 12.5 GPA. Contact the herbicide manufacturers representative to verify that they will allow its use.

L- labeled, but may not be the best choice because of crop tolerance or weed control issues. Consult product representatives or product label.

# CORN HERBICIDE ADJUVANT RECOMMENDATIONS

FERTILIZER ADDITIVES					Notes	
	28% N		AMS Dry <sup>1</sup>	Class Act/ Ultra-Lite Brands <sup>2</sup>		
+	2-4 qt/A	or	2-4 lb/A	✓		
					A COC may result in crop injury	
		+	8.5-17 lb/100 gal		Use of COC may result in temporary crop injury. Do not apply to yellow popcorn after crop emergence. See label for specific allowances in using AMS, UAN or MSO, and for adjuvant use in preemerge and preplant burndown.	
+	2-4 qt/100 gal	or	2-4 lb/A	✓	Use COC only under dry conditions, or for burndown, or with Atrazine.	
+	2-4 qt/100 gal	or	2-4 lb/A	✓		
or	2 qt/A	or	2 lb/A	✓		
+	1-2 qt/A	or	1-2 lb/A	✓		
+	1.25-2.5 gal/100 gal	or	8.5-17 lb/100 gal	or	✓	Use NIS in tank mixes and Oil when applying alone.
+	1-2 qt/A	or	1-2 lb/A	✓		
+	1.25-2.5 gal/100 gal	or	8.5-17 lb/100 gal	✓	MSO recommended under moisture or temperature stress.	
+	1.5-2 qt/A	or	1.5-3 lb/A		Use NIS only for broadleaves.	
or	2-4 qt/A	or	2.5 lb/A		Rates for adjuvants used alone.	
+	2-4 pt/A	or	1-2 lb/A		Rates for combined adjuvants.	
+	1.25-2.5 gal/100 gal	or	8.5-17 lb/100 gal	✓	MSO recommended under moisture or temperature stress.	
+	2 qt/A	or	2 lb/A	✓	MSO and COC rates vary by environmental conditions.	
+	1-2 qt/A		<sup>L</sup>	✓		
+	2.5 gal/100 gal	or	8.5 lb/100 gal	✓		
			1.5-3 lb/A	✓	Do not include UAN or AMS for yellow popcorn or sweetcorn. Do not use MSO adjuvants for POST applications.	
+	2.5 gal/100 gal	or	8.5 lb/100 gal			
		+	8.5-17 lb/100 gal	✓		
		+	8.5-17 lb/100 gal	✓	Do not use suspension fertilizers or UAN as a carrier.	
+	2.5 gal/100 gal	or	8.5-17 lb/100 gal	✓	Do not use UAN/AMS for sweet or pop corn.	
+	1.5 qt/A	or	1.5 lb/A		Minimum 1.25 pt/A of COC.	
		+	8.5-17 lb/100 gal	✓	See page 16.	
			8.5-17 lb/100 gal	✓	See page 16.	
			8.5-17 lb/100 gal	✓	See page 16.	
+	2-4 qt/A	or	1.25-2.5 lb/A	or	✓	Do not apply AMS in <10 gal/A.
+	2 gal/100 gal	or	2.5 lb/A	✓		
+	0.5-1 gal/A	or	17 lb/100 gal	✓		
+	2 gal/100 gal	or	2.5 lb/A	✓		
+	5 qt/100 gal	or	5 lb/100 gal	✓		
			8.5-17 lb/100 gal	✓	See page 16. Alliance use rate 5 qt/100 gal. NIS labeled for low use rates, >30 GPA, or burndown.	
					Use a CPDA	

1- Liquid Ammonium Sulfate (8-0-0-9) Equivalency: 3 qt liquid ~ 2.5 lb dry, 5 gal liquid = 17 lb dry.

2- Class Act NG or Flex, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

 See page 16 for all glyphosate and glufosinate herbicides.

# CORN HERBICIDE ADJUVANT RECOMMENDATIONS *Continued*

Herbicide	SPRAY ADJUVANTS <sup>1</sup>								
	NIS		MSO <sup>2</sup>		HSOC-MSO <sup>3</sup>		COC <sup>4</sup>	MSOC-COC <sup>5</sup>	
<b>ENLIST DUO / ENLIST ONE</b>									
<b>EXPERT</b>									
<b>FIERCE</b>	1 qt/100 gal		1 qt/100 gal	or	0.5-1 qt/100 gal	or	1 qt/100 gal	or	0.5-1 qt/100 gal
<b>FIRST SHOT</b>	1-2 qt/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
<b>GRAMOXONE SL/SL 2.0</b>	1 pt/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
<b>HALEX GT</b>	1-2 qt/100 gal								
<b>HARMONY SG</b>	1-2 pt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal
<b>HERBIVORE/PERMIT</b>	1-2 qt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal
<b>Herbivore/Permit + 2, 4-D Ester</b>	1-2 qt/100 gal								
<b>Herbivore/Permit + Banvel/Clarity/ Sterling Blue/Clarifier</b>	1-2 qt/100 gal								
<b>Herbivore/Permit + Atrazine</b>							1 gal/100 gal	or	0.5 gal/100 gal
<b>HORNET WDG</b>	1 qt/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
<b>Hornet WDG + Atrazine</b>	L		1 gal/100 gal	or	0.5 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
<b>Hornet WDG + Callisto/Incinerate + Atrazine</b>							1 gal/100 gal	or	0.5 gal/100 gal
<b>Hornet WDG + Option (+/- dicamba or atrazine)</b>			1.5 pt/A	or	0.75 pt/A				
<b>Hornet WDG + Sterling Blue/Banvel/ Clarifier or Aim</b>	1 qt/100 gal								
<b>IMPACT/ARMEZON</b>			1-1.5 gal/100 gal	or	0.5-0.75 gal/100 gal	or	1-1.5 gal/100 gal	or	0.5-0.75 gal/100 gal
<b>LAUDIS</b>			1 gal/100 gal	or	0.5 gal/100 gal			or	0.5 gal/100 gal
<b>LEADOFF</b>	1 qt/100 gal	or	2 qt/100 gal	or	1 qt/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
<b>LEXAR EZ - postemergence - burndown</b>	1 qt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal
							1 gal/100 gal	or	0.5 gal/100 gal
<b>Lexar EZ + glyphosate: postemergence GT corn</b>									
<b>Lexar EZ + Liberty 280SL: postemergence LL corn</b>									
<b>LIBERTY 280SL</b>									
<b>LUMAX EZ - postemergence - burndown</b>	1 qt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal
							1 gal/100 gal	or	0.5 gal/100 gal
<b>Lumax EZ + Liberty 280SL: postemergence LL corn</b>									
<b>Lumax EZ + glyphosate: postemergence GT corn</b>									
<b>METRICLUDE EXT (See Dimetric EXT)</b>									
<b>NORTHSTAR</b>	1 qt/100 gal						1-4 pt/A (<12" corn)	or	0.5-2 pt/A (<12" corn)
<b>OPTILL</b>			1 gal/100 gal	or	0.5 gal/100 gal				
<b>OPTION or OPTION TANK MIXES</b>			1.5 pt/A	or	0.75 pt/A				
<b>PANOFLEX</b>	0.5-4 pt/100 gal	or	0.5 gal/100 gal	or	0.5 gal/100 gal	or	1 gal/100 gal	or	0.5 gal/100 gal
<b>PEAK</b>	1-2 qt/100 gal					or	1-4 pt/A	or	0.5-2 pt/A
<b>PERMIT PLUS</b>	1-2 qt/100 gal					or	1 gal/100 gal	or	0.5 gal/100 gal

Always refer to product label for specific information.

1- When rate ranges are given for adjuvants, higher rates are recommended under dry conditions. See specific label for details.

2- Use a quality MSO like Soy Oil Spray or Noble.

3- Use a quality HSOC-MSO like Succeed/Ultra or Destiny HC. HSOC-MSO are generally used at half the labeled MSO rates.

4- Use a quality COC like Prime Oil or Premium

5- Use a quality HSOC-COC like Between or Superb HC. HSOC-COC are generally used at half the labeled COC rates.

Do not use Superb HC at less than 1 pt/A at < 12.5 GPA. Contact the herbicide manufacturers representative to verify that they will allow its use.

L- labeled, but may not be the best choice because of crop tolerance or weed control issues. Consult product representatives or product label.

# CORN HERBICIDE ADJUVANT RECOMMENDATIONS *Continued*

FERTILIZER ADDITIVES				Notes
	28% N	AMS Dry <sup>1</sup>	Class Act/ Ultra-Lite Brands <sup>2</sup>	
				For a current list of compatible and approved adjuvants visit <a href="http://www.enlisttankmix.com">www.enlisttankmix.com</a>
		17 lb/100 gal		
+	1-2 qt/A	2-2.5 lb/A	✓	
+	2-4 qt/A	or 2-4 lb/A	✓	
				Use 2 pt NIS or 1 pt COC by air.
		+ 8.5-17 lb/100 gal	✓	May use Class Act/Ultra-Lite Brands
+	2-4 qt/A	or 2-4 lb/A	✓	
		+ 2-4 lb/A	✓	
		+ 2-4 lb/A	✓	
+	2-4 qt/100 gal	or 2.5 lb/A		
+	2.5 gal/100 gal (dry cond)	or 2-4 lb/A (dry cond)	✓	
+	2.5 gal/100 gal (dry cond)	or 2-4 lb/A (dry cond)	✓	
+	2.5 gal/100 gal	or 8.5 lb/100 gal		
+	1.5-2 qt/A	or 1.5-3 lb/A		
+	1.25-2.5 gal/100 gal	or 8.5-17 lb/100 gal		MSO preferred over COC.
+	1.5 qt/A	or 1.5 lb/A or 8.5 lb/100 gal		Minimum 1.25 pt/A MSO. MSO preferred over COC.
+	2 qt/A	or 2 lb/A	✓	
			✓	
+	2.5 gal/100 gal	or 8.5 lb/100 gal		Do not add UAN or AMS if corn is emerged. COC may cause temporary crop injury. Use NIS for emerged corn.
		8.5 lb/100 gal	✓	
		3 lb/A		
		1.5-3 lb/A	✓	
+	2.5 gal/100 gal	or 8.5 lb/100 gal	✓	Do not add UAN or AMS if corn is emerged. COC may cause temporary crop injury to emerged corn. Use NIS for emerged corn.
		3 lb/A		
		8.5 lb/100 gal	✓	
+	2-4 qt/A	or 2-4 lb/A	✓	
	1.25-2.5 gal/100 gal	or 8.5-17 lb/100 gal	✓	Do not use less than 1 pt/A of MSO with low-volume (<12.5 gal/A applications).
+	1.5-2 qt/A	or 1.5-3 lb/A		
+	2-4 qt/A	or 2-4 lb/A	✓	
	0.5-1 gal/A	or 2 lb/A	✓	
	2-4 qt/A	or 2-4 lb/A	✓	Do not use both NIS and COC in spray mixture.

1- Liquid Ammonium Sulfate (8-0-0-9) Equivalency: 3 qt liquid ~ 2.5 lb dry, 5 gal liquid = 17 lb dry.  
 2- Class Act NG or Flex, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

 See page 16 for all glyphosate and glufosinate herbicides.

# CORN HERBICIDE ADJUVANT RECOMMENDATIONS *Continued*

Herbicide	SPRAY ADJUVANTS <sup>1</sup>									
	NIS		MSO <sup>2</sup>		HSOC-MSO <sup>3</sup>		COC <sup>4</sup>		MSOC-COC <sup>5</sup>	
PREQUEL	L	or	L	or	L	or	L	or	L	
PYTHON WDG	1 qt/100 gal	or					1 gal/ 100 gal	or	0.5 gal/100 gal	
REALM Q	1 qt/100 gal						or 1-2 gal/100 gal	or	0.5-1 gal/100 gal	
<b>Realm Q + Glyphosate</b>	1 qt/100 gal							or	0.5-1 gal/100 gal	
RESICORE - postemergence (see label for burndown)	1 qt/100 gal						or 1 gal/100 gal	or	0.5 gal/100 gal	
RESOLVE Q	1 qt/100 gal	or	1-2 gal/100 gal	or	0.5-1 gal/100 gal	or	1-2 gal/100 gal	or	0.5-1 gal/100 gal	
<b>Resolve Q + Glyphosate</b>	1-2 qt/100 gal									
RESOURCE	L	or	1-2 pt/A	or	0.75-1 pt/A	or	1-2 pt/A	or	0.5-1 pt/A	
<b>Resource + 2, 4-D amine or Banvel/   Clarity/Sterling Blue/Clarifier   or Stinger or Hornet</b>	1 qt/100 gal									
<b>Resource + Atrazine or Permit or Spirit</b>			1-2 pt/A	or	0.75-1 pt/A	or	1-2 pt/A	or	0.5-1 pt/A	
<b>Resource + Liberty 2805<sup>L</sup></b>	<sup>L</sup> (1 qt/100 gal)		<sup>L</sup> (1 pt/A)	or	<sup>L</sup> (0.75 pt/A)	or	<sup>L</sup> (1-2 pt/A)	or	<sup>L</sup> (0.5-1 pt/A)	
<b>Resource + Roundup WeatherMax</b>	<sup>L</sup> (1 qt/100 gal)									
REVULIN Q	1 qt/ 100 gal	or					1-2 gal/100 gal	or	0.5-1 gal/ 100 gal	
ROUNDUP ORIGINAL MAX or POWERMAX	1-2 qt/100 gal									
ROUNDUP WEATHERMAX										
RT 3										
SEQUENCE										
SHARPEN			1 pt/A	or	0.75 pt/A					
SOLSTICE	1 qt/100 gal						or 1 gal/100 gal	or	0.5 gal/100 gal	
SPIRIT	1-2 qt/100 gal	or	1-4 pt/A	or	0.75-2 pt/A	or	1-4 pt/A	or	0.5-2 pt/A	
STARANE UITRA										
STATUS	1 qt/100 gal	or	1-2 pt/A	or	0.75-1 pt/A	or	1-2 pt/A	or	0.5-1 pt/A	
STEADFAST Q	1 qt/100 gal			or	0.5 gal/100 gal	or	2-4 qt/A	or	1-2 qt/A	
STERLING BLUE OR BANVEL/CLARITY/ CLARIFIER	1 qt/100 gal									
<b>Sterling Blue/Banvel/Clarity/Clarifier   + Resource</b>	1 qt/100 gal									
<b>Sterling Blue/Banvel/Clarity/Clarifier   + Hornet (low rate)</b>	1 qt/100 gal									
VERDICT			1 pt/A	or	0.75 pt/A					
WIDEMATCH										
YUKON	1-2 qt/100 gal						or <sup>L</sup> (1 gal/100 gal)	or	<sup>L</sup> (0.5 gal/100 gal)	
<b>Yukon + Atrazine</b>							1 gal/100 gal	or	0.5 gal/100 gal	
ZEMAX	1 qt/100 gal						or 1 gal/100 gal	or	2 qt/100 gal	

Always refer to product label for specific information.

1- When rate ranges are given for adjuvants, higher rates are recommended under dry conditions. See specific label for details.

2- Use a quality MSO like Soy Oil Spray or Noble.

3- Use a quality HSOC-MSO like Succeed/Ultra or Destiny HC. HSOC-MSO are generally used at half the labeled MSO rates.

4- Use a quality COC like Prime Oil or Premium

5- Use a quality HSOC-COC like Between or Superb HC. HSOC-COC are generally used at half the labeled COC rates.

Do not use Superb HC at less than 1 pt/A at < 12.5 GPA. Contact the herbicide manufacturers representative to verify that they will allow its use.

<sup>L</sup>- labeled, but may not be the best choice because of crop tolerance or weed control issues. Consult product representatives or product label.

# CORN HERBICIDE ADJUVANT RECOMMENDATIONS *Continued*

FERTILIZER ADDITIVES				Notes
	28% N	AMS Dry <sup>1</sup>	Class Act/ Ultra-Lite Brands <sup>2</sup>	
+	L			NIS or COC, plus UAN required for burndown.
	2.5 gal/100 gal	or 2-4 lb/A	✓	Do not use liquid fertilizer solutions or suspensions as the total carrier.
+	2 qt/A	or 2 lb/A	✓	COC is preferred over NIS, COC rates vary by environment.
		+ 8.5-17 lb/100 gal	✓	NIS not required with loaded glyphosate.
+	2.5 gal/100 gal	or 8.5 lb/100 gal		Use of COC may result in temporary crop injury. Do not apply to yellow popcorn after crop emergence. See label for specific allowances in using AMS, UAN or MSO, and for adjuvant use in burndown.
+	2 qt/A	or 2 lb/A	✓	Surfactant not required with loaded glyphosate.
		+ 8.5-17 lb/100 gal	✓	Surfactant not required with loaded glyphosate.
+	1-2 qt/A	or 2-2.5 lb/A	✓	
+	1-2 qt/A	or 2-2.5 lb/A		
		+ 2.5 lb/A	✓	
		+ 2.5 lb/A	✓	
+	2 qt/A	or 2 lb/A	or ✓	For control of emerged weeds use COC. Weed control better with COC compared to a NIS. Yellow pop or sweet corn use NIS.
		+ 8.5-17 lb/100 gal	✓	See page 16.
		8.5-17 lb/100 gal	✓	See page 16. Alliance use rate 5 qt/100 gal.
		+ 8.5-17 lb/100 gal	✓	See page 16.
		+ 8.5-17 lb/100 gal		
+	1.25-2.5 gal/100 gal	or 8.5-17 lb/100 gal	✓	
+	2.5 gal/100 gal	or 8.5 lb/100 gal	✓	Do not include UAN or AMS for yellow popcorn or sweetcorn. Do not use suspension fertilizers as a carrier.
+	2-4 qt/A	or 2-4 lb/A	✓	Use 1 qt NIS or up to 2 pt COC by air.
+	2.5 gal/100 gal (dry cond)	or 2-4 lb/A (dry cond)	✓	Do 1 use liquid fertilizer solutions or suspensions as the total carrier because excessive crop injury may occur.
+	5 qt/100 gal	or 5-17 lb/100 gal	✓	
+	2-4 qt/A	or 2-4 lb/A	✓	
+/ or	2-4 qt/A	or 2.5 lb/A	✓	
				NIS may be added, particularly in dry conditions. Do not use AMS in < 10 GPA.
+	2.5 gal/100 gal	or 2-4 lb/A	✓	
+	1.25-2.5 gal/100 gal	or 8.5-17 lb/100 gal		
				See tank-mix partners.
+	2-4 qt/A	or 2-4 lb/A	✓	
				AMS or UAN may be added, but increases risk of crop injury. Any adjuvant may be used PP or PRE to crop.

1- Liquid Ammonium Sulfate (8-0-0-9) Equivalency: 3 qt liquid ~ 2.5 lb dry, 5 gal liquid = 17 lb dry.  
 2- Class Act NG or Flex, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

 See page 16 for all glyphosate and glufosinate herbicides.

# GLYPHOSATE AND LIBERTY ADJUVANT RECOMMENDATIONS

Herbicide	FERTILIZER ADDITIVES		ADJUVANT			DRIFT CONTROL and DEPOSITION AID			
	AMS Dry	AMS Liquid	Class Act NG/ Ultra-Lite	Class Act Flex	InterLock	Downdraft	Accudrop	MasterLock	
<b>Abundit Extra</b>	8.5-17 lb/100 gal <sup>1</sup>	or 2.5-5 gal/100 gal	or 2.5-5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Cornerstone Plus</b>	8.5-17 lb/100 gal	or 2.5-5 gal/100 gal	or 2.5-5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Cornerstone 5 Plus</b>	8.5-17 lb/100 gal	or 2.5-5 gal/100 gal	or 2.5-5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Duramax</b>	8.5-17 lb/100 gal <sup>1</sup>	or 2.5-5 gal/100 gal	or 2.5-5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Durango DMA</b>	8.5-17 lb/100 gal <sup>1</sup>	or 2.5-5 gal/100 gal	or 2.5-5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Liberty</b>	1.5-3 lb/A	or 1.8-3.6 qt/A	or 2.5-5 gal/100 gal <sup>2,3</sup>		and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Roundup PowerMax</b>	8.5-17 lb/100 gal <sup>1</sup>	or 2.5-5 gal/100 gal	or 2.5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Roundup PowerMax II</b>	8.5-17 lb/100 gal <sup>1</sup>	or 2.5-5 gal/100 gal	or 2.5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Roundup WeatherMAX</b>	8.5-17 lb/100 gal <sup>1</sup>	or 2.5-5 gal/100 gal	or 2.5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>RT 3</b>	8.5-17 lb/100 gal <sup>1</sup>	or 2.5-5 gal/100 gal	or 2.5-5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Tomahawk 4</b>	8.5-17 lb/100 gal	or 2.5-5 gal/100 gal	or 2.5-5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	
<b>Tomahawk 5</b>	8.5-17 lb/100 gal	or 2.5-5 gal/100 gal	or 2.5-5 gal/100 gal	or 1-4 gal/100 gal	and 4-6 fl oz/A	4-6 fl oz/A	3 fl oz/A	6.4 fl oz/A	

1 - Or 1-2 percent by weight.

2 - May be used if approved by manufacturers representative

3- To ensure maximum activity, add additional AMS to Class Act NG (2.5%).

GPA	3 lb AMS/A	1.5 lb AMS/A
20	6.5*	-
17	9.2*	0.3*
16	10.3*	0.9*
15	11.5*	1.5*

\* lb AMS/100 gal additional to add at the given GPA.



# POSTEMERGENCE APPLICATION RATES AND BROADLEAF/SEDGE WEED SIZES

BROADLEAF/ SEDGE	ACCENT Q		AIM EC		ATRAZINE 4L <sup>c</sup> + COC		BANVEL <sup>d,b/</sup> CLARITY/ STERLINGBLUE/ CLARIFIER/DIFLEXX		BASAGRAN		BASAGRAN 5L		BEACON		CADET		CALLISTO/ INCINERATE <sup>g</sup>		
	(Height, leaf stages, are maximum)	Ht in	Rate oz/A	Ht in	Rate fl oz/A	Ht in	Rate pt/A	Ht in	Rate fl oz/A	Ht in	Rate pt/A	Ht in	Rate pt/A	Ht in	Rate fl oz/A	Ht in	Rate fl oz/A	Ht in	Rate fl oz/A
Buffalobur	—	—	—	—	—	—	4	8-16	—	—	—	—	—	—	—	—	<5	3	10* 3
Burcucumber	3	0.9	—	—	—	—	4	8-16	—	—	—	—	1-4	0.76	2* 3*	0.6 0.9	10*	3	10* 3
Cocklebur	—	—	<4*	0.5	<4 <sup>R</sup>	2.4	4	8-16	6 6-10	1.5 2	<4 <6 <8	0.8 1.2 1.6	1-4 <sup>R</sup>	0.38-0.76	—	—	<5	3	10 <sup>h</sup> 3
Jimsonweed	3	0.9	<4*	0.5	<4 <sup>R</sup>	2.4	4	8-16	6 6-10	1.5 2	<4 <6 <10	0.8 1.2 1.6	1-4	0.38-0.76	2* 2*	0.6 0.9	<5	3	10 <sup>h</sup> 3
Kochia <sup>b</sup>	—	—	<4*	0.5	<1.5 <sup>R</sup>	4	4 <sup>R</sup>	8-16	—	—	—	—	1-4*	0.76	2*	0.9	<2 <sup>h</sup>	3	10* <sup>h</sup> 3
Lambsquarters	—	—	<3	0.5	<6 <sup>R</sup>	2.4	4	8-16	2*	2	<1 <1.5 <2	0.8 1.2 1.6	<1.5*	0.76	2 2 3*	0.6 0.9 0.9	<5	3	10 <sup>h</sup> 3
Marestail (horseweed)	—	—	—	—	—	—	—	—	—	—	—	—	2-9*	0.76	—	—	<5	3	—
Morningglory, Annual	2	0.9	2-3 leaves	0.5	<4	2.4	4	8-16	2*	2	<4	1.2-1.6	<1.5*	0.76	2	0.6	<5* <sup>h</sup>	3	10* 3
Nightshade, Black	—	—	<4	0.5	<1.5	4	4	8-16	—	—	<4	1.6	1-4	0.38-0.76	2*	0.6	<5 <sup>p</sup>	3	10 <sup>h</sup> 3
Nutsedge, Yellow	—	—	—	—	—	—	—	—	6 <sup>f</sup>	1.5	<8	1.2-1.6	—	—	—	—	—	—	—
Pigweed Species (redroot, smooth)	4 <sup>R</sup>	0.9	<4	0.5	<6 <sup>R</sup>	2.4	4	8-16	—	—	—	—	1-4*	0.38-0.76	2* 4	0.6 0.9	<5	3	10 <sup>h</sup> 3
Prickly Sida (Teaweed)	—	—	<4*	0.5	—	—	4	8-16	3 4	1.5 2	<3 <4	1.2 1.6	1-4	0.76	—	—	<2 <sup>v</sup>	3	—
Ragweed, Common	—	—	<4*	0.5	<4 <sup>R</sup>	2.4	4	8-16	3	2	<3	1.6	2-9	0.38-0.76	—	—	<5* <sup>h</sup>	3	10 <sup>h</sup> 3
Ragweed, Giant	—	—	—	—	<4	2.4	3	8	6	2	<6	1.6	2-9	0.38-0.76	—	—	<5	3	10 <sup>h</sup> 3
Sicklepod	—	—	—	—	<1.5*	2.4	6	8-16	—	—	—	—	—	—	—	—	—	—	—
Smartweed, Penn.	4	0.9	<4*	0.5	<4 <sup>R</sup>	2.4	2	8-16	6	1.5	<6	1.2	1-4	0.38-0.76	2*	0.6	<5	3	10 <sup>h</sup> 3
Sunflower, Wild	—	—	<4*	0.5	—	—	2	8-16	5 8	1.5 2	<5 <8	1.2 1.6	2-9	0.38-0.76	—	—	<5	3	10 <sup>h</sup> 3
Velvetleaf	—	—	1-17 <36	0.5 0.5	<4* <sup>R</sup>	2.4	2	8-16	2	1.5	—	—	1-4 <sup>s</sup>	0.76	36	0.6-0.9	<5	3	10 <sup>h</sup> 3
Venice Mallow	—	—	—	—	—	—	4	16	2 4	1.5 2	<2 <4	1.2 1.6	—	—	—	—	<5 <sup>h</sup>	3	—
Waterhemp	—	—	<2 <4*	0.5 0.5	—	—	4	8-16	—	—	—	—	—	—	2* 2	0.6 0.9	<5	3	10 <sup>hR</sup> 3

See notes on page 19.

# POSTEMERGENCE APPLICATION RATES AND BROADLEAF/SEDGE WEED SIZES *Continued*

CORN WEEDS

BROADLEAF/ SEDGE	CALLISTO XTRA	EVIK DF	HERBIVORE/ PERMIT	HORNET WDG	IMPACT <sup>g</sup> / ARMEZON	LIBERTY 280SL <sup>k</sup>	MOXY	NORTHSTAR	OPTION <sup>x</sup>
(Height, leaf stages, are maximum)	Ht Rate in fl oz/A	Ht Rate in lb/A	Ht Rate in oz/A	Ht Rate in oz/A	Ht Rate in fl oz/A	Ht Rate in fl oz/A	Ht Rate in pt/A	Ht Rate in oz/A	Ht Rate in oz/A
Buffalobur	<5 20-24 5-10 24	— —	— —	— —	— —	6 22 7 29 <sup>r</sup>	2 1 5 1.5-2	— —	— —
Burcucumber	<5 24 5-10 24	— —	1-3* 0.67 4-12* 1	— —	6 0.75	6 22 10 29 <sup>r</sup>	4 1.5-2	1-4 5	3 1.5
Cocklebur	<5 20-24 5-10 24	≥2 0.75-2 <sup>u</sup> 2-4 1.25-2 <sup>u</sup> 4-6 2 <sup>u</sup>	1-9 <sup>R</sup> 0.67 9-14 <sup>R</sup> 1	1-3 2 1-6 3 1-8 4	8 0.75	6 22 14 29 <sup>r</sup>	8 1 10 1.5-2	1-6 5	2 <sup>R</sup> 1.5
Jimsonweed	<5 20-24 5-10 24	— —	— —	1-6 3 1-8 4	6 0.75	6 22 10 29 <sup>r</sup>	4 1 6 1.5-2	1-6 5	3 1.5
Kochia <sup>b</sup>	<5 20-24	— —	1-3 <sup>R</sup> 0.67 3-6* <sup>R</sup> 1	<2* <sup>R</sup> 3 <4* <sup>R</sup> 4	6 0.75	4 <sup>g</sup> 22 6 <sup>g</sup> 29 <sup>r</sup>	2 1.5-2	1-4 <sup>b</sup> 5	— —
Lambsquarters	<5 20-24 5-10 24	≥2 0.75-2 <sup>u</sup> 2-4 1.25-2 <sup>u</sup> 4-6 2 <sup>u</sup>	1-2* <sup>R</sup> 0.67	<2* 3 <4* 4	6 0.75	4 <sup>g</sup> 22 6 <sup>g</sup> 29 <sup>r</sup>	6 1 8 1.5-2	1-4 5	2 <sup>R</sup> 1.5
Marestail (horseweed)	<5 20-24 5-10* 24	— —	— —	1-3 2 1-6 3 1-8 4	6 0.75	6-12 29	— —	6-12 5	— —
Morningglory, Annual	<5 24	≥2 0.75-2 <sup>u</sup> 2-4 1.25-2 <sup>u</sup> 4-6 2 <sup>u</sup>	1-3* 1	<2* 3 <4* 4	6* 0.75	6 <sup>g</sup> 22 8 <sup>g</sup> 29 <sup>r</sup>	3 1 4 1.5-2	1-3 5	3* 1.5
Nightshade, Black	<5 20-24 5-10 24	— —	— —	<2* 3 <4* 4	6 0.75	4 22 6 29 <sup>r</sup>	6 1	1-6 5	4 <sup>R</sup> 1.5
Nutsedge, Yellow	— —	— —	4-12* 0.67 4-12 1	— —	— —	— —	— —	1-4* 5	— —
Pigweed Species	<5 20-24 5-10 24	≥2 0.75-2 <sup>u</sup> 2-4 1.25-2 <sup>u</sup> 4-6 2 <sup>u</sup>	1-3 <sup>R</sup> 0.67 4-6 <sup>R</sup> 1	<2* 3 <4* 4	6 <sup>p</sup> 0.75	3 <sup>gp</sup> 22 4 <sup>gp</sup> 29 <sup>r</sup>	2 1.5-2	1-5 5 1-4 <sup>p</sup> 5	3 <sup>R</sup> 1.5
Prickly Sida (Teaweed)	<2 24	— —	— —	1-6 3 1-8 4	3 0.75	4 22 5 29 <sup>r</sup>	— —	1-4 5	— —
Ragweed, Common	<5 24 5-10 24	≥2 0.75-2 <sup>u</sup> 2-4 1.25-2 <sup>u</sup> 4-6 2 <sup>u</sup>	1-9 <sup>R</sup> 0.67 9-12 <sup>R</sup> 1	1-6 3 1-8 4	6 0.75	6 22 10 29 <sup>r</sup>	4 1 6 1.5-2	2-9 5	2 <sup>R</sup> 1.5
Ragweed, Giant	<5 24 5-10 24	≥2 0.75-2 <sup>u</sup> 2-4 1.25-2 <sup>u</sup> 4-6 2 <sup>u</sup>	1-3 <sup>R</sup> 0.67 4-6 <sup>R</sup> 1	1-6 3 1-8 4	8 0.75	6 22 12 29 <sup>r</sup>	4 1 6 1.5-2	2-9 5	3* <sup>R</sup> 1.5
Sicklepod	— —	— —	— —	<2* 3 <4* 4	— —	4 22 6 29 <sup>r</sup>	— —	1-3 5	— —
Smartweed, Penn.	<5 20-24 5-10 24	≥2 0.75-2 <sup>u</sup> 2-4 1.25-2 <sup>u</sup> 4-6 2 <sup>u</sup>	1-2 0.67	1-6 3 1-8 4	3 0.75 x	6 22 14 29 <sup>r</sup>	4 1 6 1.5-2	1-4 5	— —
Sunflower, Wild	<5 20-24 5-10 24	— —	1-12 <sup>R</sup> 0.67 12-15 <sup>R</sup> 1	1-3 2 1-6 3 1-8 4	8 0.75	6 22 10 29 <sup>r</sup>	6 1 8 1.5-2	2-9 5	2 <sup>R</sup> 1.5
Velvetleaf	<5 20-24 5-10 24	≥2 0.75-2 <sup>u</sup> 2-4 1.25-2 <sup>u</sup> 4-6 2 <sup>u</sup>	1-9 0.67 9-12 1 (add N)	1-3 2 1-6 3 1-8 4	8 0.75	3 22 4 <sup>g</sup> 29 <sup>r</sup>	3 1 5 1.5-2	1-4 <sup>w</sup> 5	2 1.5
Venice Mallow	<5 20-24	— —	1-3 0.67 4-12 1	1-6 3 1-8 4	3* 0.75	6 22 8 29 <sup>r</sup>	2 1.5-2	— —	2 1.5
Waterhemp	<5 24 5-10 24	— —	— —	<2* 3 <4 4	6 <sup>R</sup> 0.75	5 <sup>g</sup> 29 <sup>r</sup>	2 1.5-2	1-4 5	— —

See notes on page 19.

# POSTEMERGENCE APPLICATION RATES AND BROADLEAF/SEDGE WEED SIZES *Continued*

BROADLEAF/ SEDGE (Height, leaf stages, are maximum)	PEAK		PERMIT PLUS		RESOURCE (see label)		2,4-D <sup>d</sup> AMINE 4		SOLSTICE		SPIRIT		STARANE ULTRA/ WIDEMATCH <sup>a</sup>		STEADFAST Q		STINGER		YUKON	
	Ht in	Rate oz/A	Ht in	Rate oz/A	Leaf Stage	Rate fl oz/A	Ht in	Rate pt/A	Ht in	Rate oz/A	Ht in	Rate oz/A	Ht in	Rate pt/A	Ht in	Rate oz/A	Leaf Stage	Rate pt/A	Ht in	Rate oz/A
Buffalobur	1-3 1-5	0.75 1	—	—	—	—	—	—	<5	2.5-3.15	1-5	1	—	—	—	—	2-4	0.5	—	—
Burcucumber	1-5*	1	1-3*	0.75	—	—	—	—	<3	2.5-3.15 <sup>R</sup>	1-6	1	—	—	4	1.5	—	—	4-12*	4-8
Cocklebur	2-6 <sup>R</sup> 2-10 <sup>R</sup> 2-12 <sup>R</sup>	0.5 0.75 1.0	1-9	0.75	1-3*	8 <sup>l</sup>	6	0.5-1	<5	2.5-3.15	2-8 <sup>R</sup>	1	<8 (or 5 if)	0.4 <sup>h</sup>	4* <sup>R</sup>	1.5	<5	0.25-0.5	1-14	4-8
Jimsonweed	1-4 1-8	0.5 0.5	1-4*	0.75	4	8 <sup>l</sup>	3*	0.5-1	<5	2.5-3.15	1-6	1	<8	0.4 <sup>h</sup>	4	1.5	<5	0.25-0.5	1-4	4-8
Kochia <sup>b</sup>	1-4 <sup>R</sup> 1-6 <sup>R</sup>	0.75 1	1-3*	0.75	—	—	2*	0.5-1	<5	2.5-3.15 <sup>gR</sup>	1-4 <sup>R</sup>	1	<8	0.4 <sup>h</sup>	—	—	—	—	1-6	4-8
Lambsquarters	1-4 <sup>R</sup> 1-5 <sup>R</sup>	0.75 1	1-4	0.75	3* 3*	6 8 <sup>l</sup>	4	0.5-1	<5	2.5-3.15	1-3 <sup>R</sup>	1	—	—	4* <sup>R</sup>	1.5	—	—	1-6	4-8
Marestail (horseweed)	1-3* <sup>R</sup>	0.5	—	—	—	—	—	—	<3	2.5-3.15 <sup>gR</sup>	1-6 <sup>R</sup>	1	—	—	—	—	—	—	—	—
Morningglory, Annual	1-4*	1	1-3*	0.75	—	—	6	0.5-1	<3	2.5-3.15	1-4*	1	<8	0.4 <sup>h</sup>	4	1.5	—	—	1-6	4-8
Nightshade, Black	—	—	—	—	—	—	2*	0.5-1	<5	2.5-3.15	1-5 <sup>R</sup>	1	—	—	—	—	2-4	0.5	1-6	4-8
Nutsedge, Yellow	—	—	3-6	0.75	—	—	—	—	<5	2.5-3.15*	—	—	—	—	4*	1.5	—	—	1-12	6-8
Pigweed Species	1-3 <sup>R</sup> 1-5 <sup>R</sup> 1-6 <sup>R</sup>	0.5 0.75 1	1-12 <sup>R</sup>	0.75	<3 <4 <sup>p</sup>	6 8 <sup>l</sup>	4	0.5-1	<5	2.5-3.15	1-4 <sup>Rp</sup>	1	—	—	4 <sup>R</sup> (redroot, smooth)	1.5	—	—	1-12 (redroot)	4-8
Prickly Sida (Teaweed)	1-5*	1	—	—	<3 <4	6 <sup>l</sup> 8 <sup>l</sup>	—	—	<5	2.5-3.15 <sup>gR</sup>	1-3*	1	—	—	—	—	—	—	—	—
Ragweed, Common	2-6 2-12	0.5 1	1-9	0.75	<3 <4 <6	6 6 <sup>l</sup> 8 <sup>l</sup>	6	0.5-1	<5	2.5-3.15 <sup>g</sup>	2-9 <sup>R</sup>	1	<8	0.4 <sup>h</sup>	—	—	<5	0.25-0.5	1-12	4-8
Ragweed, Giant	1-3 <sup>R</sup> 1-4 <sup>R</sup>	0.75 1	1-3 <sup>R</sup>	0.75	—	—	6	0.5-1	<3	2.5-3.15 <sup>R</sup>	2-9	1	<8	0.4 <sup>h</sup>	—	—	<5	0.25-0.5	1-6	4-8
Sicklepod	1-3 1-5	0.5 1	—	—	—	—	—	—	—	—	1-3	1	—	—	—	—	<5	0.25-0.5	—	—
Smartweed, Penn.	1-3 1-6	0.5 1	1-6	0.75	—	—	2*	0.5-1	<3	2.5-3.15 <sup>R</sup>	1-6	1	<8	0.4 <sup>h</sup>	4*	1.5	2-3*	0.5	1-3	4-8
Sunflower, Wild	1-6 1-9 1-12	0.5 0.75 1	1-12	0.75	—	—	2	0.5-1	<5	2.5-3.15	1-12 <sup>R</sup>	1	<8	0.4 <sup>h</sup>	4 <sup>R</sup>	1.5	<5	0.25-0.5	1-15	4-8
Velvetleaf	1-4 1-6 1-9	0.5 0.75 1	1-9	0.75	<5 <6 <10	4 6 8 <sup>l</sup>	2	0.5-1	<5	2.5-3.15	1-6 (add N)	1	<8	0.4 <sup>h</sup>	4*	1.5	—	—	1-12	4-8
Venice Mallow	1-3 1-5	0.5 1	—	—	—	—	—	—	<5	2.5-3.15	1-4	1	—	—	—	—	—	—	1-12	6-8
Waterhemp	1-4	1	—	—	—	—	4*	0.5-1	<5	2.5-3.15 <sup>R</sup>	1-4 <sup>R</sup>	1	—	—	2* <sup>R</sup>	1.5	—	—	1-6	4-8

**Notes:**

\* Suppression or partial control only.

— No control or weed not on label.

R Certain herbicide-resistant biotypes may not be controlled.

a WideMatch rates 1.33 pt/A.

b Control reduced at button stage or <2" height.

c Use on Roundup Ready corn only.

d No sizes given on label; numbers here are conservative estimates. Growth regulators, including Sterling

Blue, can control large weeds but best control is on young, actively growing weeds.

e Labeled up to 10" with the addition of atrazine.

f Repeat application if needed.

g Atrazine should be added for best performance.

h Add 0.25 lb ai atrazine for control.

i Maximum runner <4".

j Atrazine improves control if glyphosate resistant.

k Use on Liberty Link corn only.

l Use drop nozzles with this rate and increase COC rate (see label).

m Rate of Distinct depends on size of corn (see label).

n <4" 6 fl oz.

p Includes Palmer Amaranth.

q LoVol 4# rate is 0.5-0.75 pt.

r 29 oz. for burndown, not POST.

s COC or liquid N fertilizer or AMS are recommended as spray adjuvants.

t South area rate is higher.

u Rate and degree of suppression/control dependent on geographic area; see label.

w See label.

x 1.75 oz Option can be used as a rescue treatment for weeds beyond label heights.

z Do not apply to kochia in the button stage.

# POST EMERGENCY APPLICATION RATES AND GRASS SIZES

GRASSES (Height, leaf stages, are maximum)	ACCENT Q <sup>z</sup>		BASIS BLEND		BEACON	CAPRENO		DIFLEX DUO		EVIK DF		HALEX GT <sup>c</sup>		IMPACT <sup>g</sup> / ARMEZON		LAUDIS		
	Ht in	Rate oz/A	Ht in	Rate oz/A	Ht in	Rate fl oz/A	Ht in	Rate fl oz/A	Ht in	Rate fl oz/A	Ht in	Rate pt/A	Ht in	Rate fl oz/A	Ht in	Rate fl oz/A		
<b>ANNUALS</b>																		
Barnyardgrass	2	0.45	2	0.825	—	5	3	5	3	≤2	1.25-2 <sup>u</sup>	4	3.6-4	4	0.75	5	3	
	4	0.9						6 <sup>g</sup>	3	2-4	2 <sup>u</sup>					6 <sup>g</sup>	3	
Broadleaf Signalgrass	2	0.9	—	—	—	5	3	4	3	≤2	1.25-2 <sup>u</sup>	4	3.6-4	3*	0.75	4	3	
								5 <sup>g</sup>	3	2-4	2 <sup>u</sup>					5 <sup>g</sup>	3	
Crabgrass (diameter)	—	—	<0.5 <sup>fr</sup>	0.825	—	3 <sup>f</sup>	3	3 <sup>f</sup>	3	≤2	2 <sup>u</sup>	4	3.6-4	3	0.75	3 <sup>f</sup>	3	
								4 <sup>g</sup>	3							4 <sup>g</sup>	3	
Fall Panicum	2	0.7	2	0.825	—	5	3	—	—	≤2	1.25-2 <sup>u</sup>	4	3.6-4	3*	0.75	—	—	
	4	0.9								2-4	2 <sup>u</sup>							
Foxtail, Giant	2 <sup>R</sup>	0.45	2 <sup>nR</sup>	0.825	1-2* <sup>R</sup>	0.76	3	3	3	3	≤2-4	2 <sup>u</sup>	4	3.6-4	4	0.75	3	3
	4 <sup>R</sup>	0.9						4 <sup>g</sup>	3							4 <sup>g</sup>	3	
Foxtail, Green	2 <sup>R</sup>	0.45	2 <sup>R</sup>	0.825	1-2* <sup>R</sup>	0.76	2	3	2*	2	≤2-4	2 <sup>u</sup>	4	3.6-4	3	0.75	2*	3
	4 <sup>R</sup>	0.9																
Foxtail, Yellow	2 <sup>R</sup>	0.7	2 <sup>R</sup>	0.825	—	3	3	3	3	≤2-4	2 <sup>u</sup>	4	3.6-4	3*	0.75	3	3	
	4 <sup>R</sup>	0.9						4 <sup>g</sup>	3							4 <sup>g</sup>	3	
Johnsongrass, Seedling	8	0.7	—	—	4-12 <sup>R</sup>	0.76	5	3	5	3	—	—	4	3.6-4	4*	0.75	5	3
	12	0.9						6 <sup>g</sup>	3								3	
																6 <sup>g</sup>		
Sandbur	3 <sup>h</sup>	0.9	—	—	1-4*	0.76	2	3	2*	3	—	—	4	3.6-4	—	—	2*	3
Shattercane	12 <sup>R</sup>	0.9	4 <sup>R</sup>	0.825	4-12 <sup>R</sup>	0.76	12	3	6	3	—	—	4	3.6-4	4*	0.75	6	3
								8 <sup>g</sup>	3							8 <sup>g</sup>	3	
Texas Panicum	3	0.9	—	—	—	3	3	3	3	≤2	1.25-2 <sup>u</sup>	4	3.6-4	—	—	3	3	
								4 <sup>g</sup>	3	2-4	2 <sup>u</sup>					4 <sup>g</sup>	3	
Volunteer Cereals	2	0.7	—	—	—	—	—	—	—	—	—	4	3.6-4	—	—	—	—	
	6	0.9																
Volunteer Corn	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Wild Oats	4 <sup>R</sup>	0.9	<3 <sup>ifR</sup>	0.825	—	6	3	—	—	—	—	4	3.6-4	—	—	—	—	
Wild Proso Millet	2	0.7	—	—	—	6	3	4	3	—	—	4	3.6-4	3	0.75	4	3	
	4	0.9						5 <sup>g</sup>	3							5 <sup>g</sup>	3	
Woolly Cupgrass	4 <sup>h</sup>	0.9	1	0.825	—	3	3	3	3	—	—	4	3.6-4	3*	0.75	3	3	
								4 <sup>g</sup>	3							4 <sup>g</sup>	3	
<b>PERENNIALS</b>																		
Johnsongrass, Rhizome	8	0.7	—	—	8-16* <sup>R</sup>	0.76	—	—	—	—	—	4-10	3.6-4	—	—	5	3	
	18	0.9																
Quackgrass	10 <sup>h</sup>	0.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Wirestem Muhly	8 <sup>h</sup>	0.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

POST EMERGENCE APPLICATION RATES AND GRASS SIZES *Continued*

GRASSES (Height, leaf stages, are maximum)	LIBERTY 280SL <sup>k</sup>		NORTHSTAR		OPTION		REALM Q		RESOLVE Q		STEADFAST Q	
	Ht in	Rate fl oz/A	Ht in	Rate oz/A	Ht in	Rate oz/A	Ht in	Rate oz/A	Ht in	Rate oz/A	Ht in	Rate oz/A
<b>ANNUALS</b>												
Barnyardgrass	3	22	—	—	4	1.5	1-2	4	1-3	1.25	4	1.5
	5	29 <sup>r</sup>										
Broadleaf Signalgrass	3	22	—	—	2	1.5	1-2*	4	1-3*		2	1.5
	5	29 <sup>r</sup>							1.25			
Crabgrass (diameter)	3 <sup>m</sup>	22	—	—	2 <sup>RR</sup>	1.5	0.5	4	1-3 <sup>R</sup>		1 <sup>R</sup>	1.5
	5 <sup>m</sup>	29 <sup>r</sup>							1.25			
Fall Panicum	3	22	1-3	5	3	1.5	1-2	4	2	1.25	4	1.5
	5	29 <sup>r</sup>										
Foxtail, Giant	6	22	1-3 <sup>R</sup>	5	6 <sup>R</sup>	1.5	1-2	4	2 <sup>R</sup>	1.25	4 <sup>R</sup>	1.5
	12	29 <sup>r</sup>										
Foxtail, Green	6	22	1-3 <sup>R</sup>	5	3 <sup>nR</sup>		1-2	4	2 <sup>R</sup>	1.25	4 <sup>R</sup>	1.5
	12	29 <sup>r</sup>			1.5							
Foxtail, Yellow	3 <sup>m</sup>	22	1-3 <sup>R</sup>	5	3 <sup>R</sup>	1.5	1-2	4	2 <sup>R</sup>	1.25	4 <sup>R h</sup>	1.5
	4 <sup>m</sup>	29 <sup>r</sup>										
Johnsongrass, Seedling	3	22	4-12*	5	16	1.5	1-2*	4	2*	1.25	8-12	1.5
	5	29 <sup>r</sup>										
Sandbur	—*	22	1-4*	5	2	1.5	—	—	—	—	2 <sup>h</sup>	1.5
	2	29 <sup>r</sup>										
Shattercane	6	22	4-12 <sup>R</sup>	5	12 <sup>R</sup>	1.5	4	4	4 <sup>R</sup>	1.25	6 <sup>R</sup>	1.5
	8	29 <sup>r</sup>										
Texas Panicum	4	22	—	—	2	1.5	—	—	—	—	4	1.5
	6	29 <sup>r</sup>										
Volunteer Cereals	4	22	—	—	4	1.5	1-2 <sup>p</sup>	4	2	1.25	2	1.5
	5	29 <sup>r</sup>										
Volunteer Corn	10 <sup>b</sup>	22	—	—	—	—	—	—	—	—	—	—
	12 <sup>b</sup>	29 <sup>r</sup>										
Wild Oats	3 <sup>m</sup>	22	—	—	6 <sup>R</sup>	1.5	1-2*	4	2* <sup>R</sup>	1.25	2 <sup>R</sup>	1.5
	4 <sup>m</sup>	29 <sup>r</sup>										
Wild Proso Millet	6	22	—	—	3	1.5	1-2*	4	2*	1.25	4	1.5
	7	29 <sup>r</sup>										
Woolly Cupgrass	6	22	—	—	2	1.5	1	4	1	1.25	3*	1.5
	12	29 <sup>r</sup>										
<b>PERENNIALS</b>												
Johnsongrass, Rhizome	—	—	8-16*	5	16	1.5	—	—	—	—	8-12	1.5
			(see label)									
Quackgrass	—	—	4-8*	5	10	1.5	1-2*	4	2*	1.25	8 <sup>h</sup>	1.5
			(see label)									
Wirestem Muhly	—	—	—	—	10	1.5	—	—	—	—	4 <sup>h</sup>	1.5

\* Suppression or partial control only.  
 — No control, or weed not on label.  
 (R) Rescue.  
 R Certain herbicide-resistant biotypes may not be controlled.  
 a Will not control GT volunteer corn.  
 b Will not control volunteer Liberty Link corn.  
 c Use on Roundup Ready corn only.  
 d Requires COC + fertilizer. Cultivation or retreatment may be required.  
 e Will not control Roundup Ready corn.  
 f Large crabgrass. Smooth is only partially controlled at 2".  
 g Atrazine should be added for best performance.  
 h Cultivation or re-treatment with Accent Q may be required.  
 i Rate is dependent on soil texture and o.m. See label.  
 j For overwintered wheat, use 16 fl oz on 6", 22 fl oz on 12" and 32 fl oz on 18" wheat.  
 k Use on Liberty Link corn only. Add AMS at 1.5-3 lbs/A (8.5-17 lbs/100 gal).  
 l Apply before weeds exceed 2" in height.  
 m Treat prior to tiller initiation.  
 n Labeled for bristly foxtail also.  
 o Use 16 oz on 12" sandbur. 32 oz on 24" Texas panicum.  
 p Volunteer wheat.  
 q Use 22 oz on 20" shattercane or 18" wild oat.  
 r 29 oz. for burndown, not POST.  
 u Rate and degree of suppression/control dependent on geographic area; see label.  
 z See label for weed heights at reduced rates of 0.33-0.5 oz.

# HERBICIDE APPLICATION TIMING AND RESTRICTIONS

Herbicide	Application Timing	Comments/Restrictions	Do Not Till		GPA		Rainfast (hrs.)	Aerial Application	Interval (Days)			Seed(S), Pop(P), Sweet(SW)
			Days Before	Days After	Ground	Aerial			Feeding Forage	Grazing Animals	Grain Harvest	
<b>Accent Q</b>	POST	Up to and including V6 or 20" field corn. Field corn rescue - drop nozzles 20-36" but < V10. Up to V5 or 20" field corn for seed, and popcorn. Sweet corn - up to V5 or 12" broadcast, drop nozzles to V5 or 18".	-	-	10, 15	3	4	Y	30	30	NR	S <sup>7</sup> , P <sup>7</sup> , SW <sup>7</sup>
<b>Acuron</b>	PRE	PRE up to 28 days prior to planting.	NR	NR	10-80	-	-	N	45	45	60	S, P, SW
<b>Acuron Flexi</b>	PP	Up to 28 days prior to planting.	-	-	10-80	NO		NO	45	45	45-sweet	S, P, SW
	PRE	Before crop emerges.			10-80				60	60	60	
	POST	With dense weeds, higher application volume may be required. No on sweet corn or yellow popcorn.			10-30							
<b>Aim EC</b>	PP	Up to 30 days before planting.	-	-	10	3	6-8	Y	NR	NR	V14	S <sup>6</sup> , P, SW <sup>7</sup>
	POST	VE-V14. Drop nozzles for > V8 application.									3	P, SW
	PH	Field corn, seed corn, popcorn, sweet corn. Mature crop.										
<b>Alluvex</b>	PP	Up to planting on unfrozen ground. Do not apply to coarse soils with <1% O.M.	-	-	15	5		Y	30	30	30	
	PRE	Before crop emergence. Do not apply to coarse soils with <1% O.M.										
<b>Anthem or Anthem Maxx</b>	PP	FALL Do not exceed 2" incorporation depth. Apply when soil temperatures at 4" are sustained at < 55°F and before the ground freezes and after Oct. 1.	-	-	5-40	3	1	Y	30, 40-sweet	NL	70	S, P, SW
	PPI	Incorporate into 1-2" up to 14 days before planting.										
	PRE	Up to 45 days before planting. Popcorn and sweet corn application on coarse soils and where average rainfall exceeds 40" are not recommended.										
	POST	Up to V4										
<b>Anthem ATZ</b>	PP	Up to 45 days before planting. PPI 1-2" within 14 days of planting.	-	-	10-40	NO	4	NO	60, 45-sweet	-	70, 45-sweet	S, P, SW
	PRE	Up to crop emergence.										
	POST	Crop emergence to V4.										
<b>Armezon</b>	POST	VE-V8 or 45-day PHI. Use drops if needed for coverage.	-	-	10	2	1	Y	45	45	45	S, P, SW
<b>Armezon PRO</b>	PRE	Up to Emergence	-	7	10	2-10	1	Y	45	45	45, 50-sweet	S, P, SW
	POST	Emerge up to 30"/V8. From 12"-30" use drop nozzles. For pop emerge to 12".										
<b>Atrazine</b>	PP	Up to 45 days before planting. 0-14 days if PPI.	-	-	5	2	4	Y	60, 45-sweet	21	NR	S, P, SW
	PRE	Before crop emergence.										
	POST	VE to 12".									45-sweet	
<b>Autumn</b>	PP	FALL after harvest, but before ground freezes. SPRING, 30 days or more before planting.	-	-	10	-	2	-	NR	NR	NR	S, P, SW
<b>Autumn Super</b>	PP	After fall harvest but 30-60 days prior to planting in spring. Apply at least 30 days before planting field corn and at least 60 days before sweet, pop or seed corn.	-	-	10	NO	2	NO	NR	45	NR	S <sup>7</sup> , P <sup>7</sup> , SW <sup>7</sup>
<b>Balance Flexx</b>	PP	Up to 30 days before planting as planned sequential. May PPI 1-2" up to 21 days.	-	-	10	NO		NO	NR	NR	NR	S <sup>7</sup>
	PRE	Before crop emergence.										
	POST	POST through 2-leaf collar stage.										
<b>Banvel</b>	PP	In no-till corn.	-	7	3-50	1-10						S, P <sup>7</sup>
	PRE	Prior to corn emergence in no-till and to medium/fine soils with ≥ 2% O.M. (conv. or reduced tillage).										
	POST	VE to 5-leaf or 8". Late Post from 8-36" or 15 days before tassel emergence.					4	Y	DELAY-M	DELAY-M	NR	

See notes on page 29.

# HERBICIDE APPLICATION TIMING AND RESTRICTIONS *Continued*

Herbicide	Application Timing	Comments/Restrictions	Do Not Till		GPA		Rainfast (hrs.)	Aerial Application	Interval (Days)			Seed(S), Pop(P), Sweet (SW)
			Days Before	Days After	Ground	Aerial			Feeding Forage	Grazing Animals	Grain Harvest	
<b>Basagran or Basagran 5L</b>	POST	Corn is tolerant at all stages of growth. Apply up to 5-leaf sweet corn.	5	7	10-20	5	4	Y	NR	12	NR	S <sup>7</sup> ,P,SW
<b>Basis Blend</b>	PP	FALL after harvest through spring up to planting, when ground is not frozen.	-	-	10	5		Y	30	30	30	-
	PRE	Before crop emerges.										
	POST	Spike to 4 leaf (V2): 0.5-6" corn.										
<b>Beacon</b>	POST	4-20" corn if single or 1st split application (2nd application use drops between 20"-prior to tassel).	-	-	10-20	3		Y	30, 45-silage	30	60	S,P
<b>Bicep II Magnum or Bicep Lite II Magnum</b>	PP	Up to 30 days before planting (single application) or 45 days (split application). May PPI 2" within 14 days. FC - FALL in NE, KS ecofallow, prior to corn.	-	-	52	2	4	Y	60, 45-sweet	60, 45-sweet	NR, 30-sweet	S,P,SW
	PRE	Before crop emergence.			15							
	POST	VE to 5". 5-12" directed spray. VE to 12" broadcast for Bicep II Magnum.										
<b>Breakfree NXT</b>		See Surpass NXT.										
<b>Breakfree NXT ATZ</b>		See Keystone brands.										
<b>Cadet</b>	PP	Prior to planting.	2	2	15	5	4	Y	30, 40-sweet	NR	70, 40-sweet	S,P,SW
	PRE	Prior to crop emergence.										
	POST	Up to 48" corn but before tasseling. Processing sweet corn only. PH 30 days corn forage, 40 days sweet corn forage or ears, or 70 days for corn stover.										
<b>Callisto/ Incinerate</b>	PRE	Before crop emergence.	7	7	10-60	2 <sup>12</sup>	1	Y <sup>12</sup>	45	NR	45	S <sup>7</sup> ,P <sup>5</sup> ,SW <sup>7</sup>
	POST	Emergence up to 30" or V8.			10-30							
<b>Callisto GT</b>	POST	Emergence up to 30" or V8.	7	7	10-30	NO	-	NO	45	45	45	S <sup>7</sup> ,P <sup>5</sup> ,SW <sup>7</sup>
<b>Callisto Xtra</b>	POST	After emergence but before corn exceeds 12" height.	-	-	10-30	NO	1	NO	NR	NR	60, 45-sweet	S,P <sup>5</sup> ,SW <sup>7</sup>
<b>Capreno</b>	PRE	Before crop emerges.	7	7	10	NO	1	NO	45	45	NR	S
	POST	Up to V5. Drop nozzles after V6 to V7.										
<b>Charger Basic</b>		See Dual Magnum.										
<b>Charger MAX</b>		See Dual II Magnum.										
<b>Charger MAX ATZ or ATZ Lite</b>		See Bicep II Magnum/See Bicep Lite II Magnum.										
<b>Cinch</b>		See Dual II Magnum.										
<b>Cinch ATZ or ATZ Lite</b>		See Bicep II Magnum/See Bicep Lite II Magnum.										
<b>Clarifier</b>		See Sterling Blue.										
<b>Clarity</b>		See Sterling Blue.										
<b>Cleanse</b>		See Select.										
<b>Confidence/Tremor NXT</b>	PP	Up to 45 days before planting. May PPI 1-2" within 14 days of planting.	-	-	10	NO		NO	NR	NR	NR	S,P,SW
	PRE	Within 5 days of the last tillage.										
	POST	Before 11" corn.										
<b>Confidence Xtra/Tremor NXT or Confidence Xtra 5.6L/Tremor ATZ NXT</b>	PP	Up to 45 days before planting. May PPI 1-2" within 14 days of planting.	-	-	10	NO		NO	60, 45-sweet	NR	NR	S,P,SW
	PRE	Within 5 days of the last tillage.										
	POST	Before 11" corn prior to weed 2-leaf grass stage. Not for POST to sweet corn.										

See notes on page 29.

# HERBICIDE APPLICATION TIMING AND RESTRICTIONS *Continued*

Herbicide	Application Timing	Comments/Restrictions	Do Not Till		GPA		Rainfast (hrs.)	Aerial Application	Interval (Days)			Seed(S), Pop(P), Sweet (SW)
			Days Before	Days After	Ground	Aerial			Feeding Forage	Grazing Animals	Grain Harvest	
<b>Cornerstone Plus or Cornerstone 5 Plus</b>	PP	Also PRE/at planting - prior to crop emergence.	-	-	3-40	3-15	RE	Y	NR 50 <sup>7</sup>	NR 50 <sup>7</sup>	NR 7 <sup>7</sup>	S,P,SW
	POST	VE-V8 or 30". Apply only to Roundup Ready Corn or RR Corn 2. May apply up to 48" with drop nozzles on RR Corn 2.										
	PH	PRE-harvest when grain is <35% moisture.										
<b>Corvus</b>	PP	Up to 30 days before planting as planned sequential. May PPI 1-2" up to 21 days.	-	-	10	NO		NO	45	NR	NR	S <sup>7</sup>
	PRE	Before crop emergence.										
	POST	POST through 2 leaf collar stage.										
<b>Curtail</b>	POST	VE- V4, under 8" tall corn, up to 24" with drop nozzles.	-	10	10	2	6	Y	40	40	NR	-
<b>DiFlexx</b>	PP	PP/PRE, up to 14 days before or after planting.	NR	7	3-50	1-10	4	Y	45	NR	45	S,P
	POST	POST from spike to V6, 36" tall or 15 days prior to tassel. Directed V7-V10, 36" tall or 15 days prior to tassel.										
<b>Degree Xtra</b>	PP	0-45 days before planting. May use shallow PPI 0-14 days before planting.	-	-	10	NO		NO	60	NR	NR	S,P,S
	PRE	Within 5 days of last tillage.										
	POST	VE to 11" corn. Do not apply POST to sweet corn.										
<b>Dicamba Max 4</b>	PP	PP/PRE In no-till, reduced tillage or conventional corn.	-	-	3-50	1-10		Y	NL	NL	NL	F,S <sup>7</sup> ,P <sup>7</sup>
	POST	All tillage systems. Early POST VE-V5 or 8" corn. Late POST 8-36" corn or 15 days before tassel emergence. See label for restrictions if soybeans are growing nearby.				2-20		Y				
<b>DiFlexx DUO</b>	PP	PP/PRE up to 7 days prior to or 7 days after planting.	7	7	3-50	NO	4	NO	45	45	NR	S <sup>7</sup> ,P <sup>7</sup>
	POST	VE-V6 or 36" corn or 15 days prior to tassel. Directed applications from V7-V10 or 36" corn.										
<b>Dimetric EXT</b>	PP	Up to 30 days before planting. Do not incorporate. 2ee (exp.date not given) for FALL application in IA ,IL, IN, KS, KY, MI, MN, MO, OH, PA, SD,VA,WI.	-	-	10-40	2-10		Y	60	60	60	SW <sup>3,7</sup>
	PRE	Before crop emergence. PP or PRE sweet corn in certain states.										
	POST	After emergence to just prior to tasseling.										
<b>Distinct</b>	PP	FALL - 2 to 8 oz/A with 120-day replant interval for all crops. See label for less. PP - 4 to 6 oz/A 7 days or more before planting, or 6-8 oz at least 15 days before planting.	-	7	3-50	NO	4	NO	32	NO	72	S,P
<b>Dual II Magnum or Dual Magnum or Dual IIG Magnum</b>	PP	Up to 30 days before planting (single application) or 45 days (split application). May PPI 2" up to 14 days before planting. In FALL (Northern Corn Belt only), when soil temp. is less than 55°F before freeze-up. PHI 30 days sweet corn ears.	-	-	5	2 <sup>A</sup>		Y <sup>A</sup>	30	30	NR 30-sweet	S,P,SW
	PRE	Before crop emergence.										
	POST	VE to 5". >5"-40", use directed application. All G not labeled post or aerial.										
<b>Durango DMA/ Duramax</b>	PP	Also PRE/at-planting - prior to crop emergence.	-	-	5-20	3-15	RE	Y	50	50	7	S,P,SW
	POST	VE-V8 or 30". Apply only to Roundup Ready Corn or Corn 2. 30-48" with drops on Roundup Ready Corn 2.						Y	-	-	7	
	PH	PRE-harvest when grain is <35% moisture.						Y				
<b>Elevore</b>	PP	Apply up to 14 days before planting.	-	-	8	5	1	Y	NR	NR	NR	S,P,SW
<b>Enlist Duo</b>	PP	Enlist Corn - Up to planting/ Non-Enlist Corn - 7 to 14 days before planting	-	-	10-15	NO	24	N	50	NR	NR	S,P,SW
	Pre	Enlist Corn - after plant but before emergence/Non Enlist Corn - 3 to 5 days after planting before emergence										
	POST	Enlist Corn - Up to V8 or 30 inches. 30-48 use drops/Non-Enlist Corn - NL										
<b>Enlist One</b>	PP	Enlist Corn - Up to planting/ Non-Enlist Corn - 7 to 14 days before planting	-	-	10-15	NO	24	N	50	NR	NR	S,P,SW
	Pre	Enlist Corn - after plant but before emergence/Non Enlist Corn - 3 to 5 days after planting before emergence										
	POST	Enlist Corn - Up to V8 or 30 inches. 30-48 use drops/Non-Enlist Corn - NL										

See notes on page 29.



# HERBICIDE APPLICATION TIMING AND RESTRICTIONS *Continued*

Herbicide	Application Timing	Comments/Restrictions	Do Not Till		GPA		Rainfast (hrs.)	Aerial Application	Interval (Days)			Seed(S), Pop(P), Sweet (SW)
			Days Before	Days After	Ground	Aerial			Feeding Forage	Grazing Animals	Grain Harvest	
<b>Evik DF</b>	POST	12" to 3 weeks prior to tassel, drops only.	-	-	20	20		Y	30	30	30	S,P
<b>Expert</b>	PP	Up to 30 days before planting or PRE. FALL in NE and KS ecofallow prior to corn.	-	-	10	NO	2	NO	60, 45-sweet 30-RR	60, 45-sweet 30-RR	60	S,P <sup>4</sup> ,SW
	PRE	Before crop emergence.										
	POST	Up to 12" Roundup Ready Corn. PHI for grazing or feeding forage 30 days RR Corn.										
<b>Express</b>	PP	Burndown, delay planting at least 14 days.	-	-	5-20	2-5	4	Y	NO	NO	NR	-
<b>Fierce</b>	PP	No-till and Minimum till only. FALL application when soil is <50° F at 2" depth. Apply 7-30 days before planting in spring; See label for state restrictions.	-	-	10-30	7-10	1	Y	NR	NR	NR	-
<b>First Shot</b>	PP	Apply more than 14 days before planting.	-	-	5	5		Y	NO	NO	NR	
<b>Framework</b>	PRE	After planting, before weeds and crops emerge. Do not incorporate.	-	-	10	5		Y	21	21	NR	S,P,SW
	POST	POST up to V8 or 30" (field corn) or 20-24" other corn, culti-spray, 4" to lay-by.										
<b>Fultime NXT</b>	PP	0-45 days before planting. May use shallow PPI 0-14 days before planting.	-	-	10	NO		NO	NR	NR	60, 45-sweet	S,P,SW
	PRE	Within 5 days of last tillage.										
	POST	VE to 11" corn. Do not apply POST to sweet corn.										
<b>Gramoxone SL or SL 2.0</b>	PP	Before planting to emerged weeds.	-	-	10	5		Y	NR	NR	NR	S,P,SW
	PRE	Before crop emergence to emerged weeds.						Y				
	POST	>10" corn. POST directed only.			10	NO	0.5	NO				
	PH	PRE-harvest. After black layer. Not for sweet corn.			20	5		Y	NR	7	7	S,P,SW
<b>Halex GT</b>	POST	Apply up to 30" or V8 corn. Apply only to GT corn.	7	7	10-30	2	1	Y <sup>12</sup>	45	45	45	-
<b>Harmony Extra SG</b>	PP	Burndown. Delay planting 14 days.	-	-	5-20	2-5	4	Y	NO	NO	45	-
<b>Harmony SG</b>	PP	Apply before or after planting, but before crop emerges. <sup>A</sup> Straw may be fed.	7	7	5-25	NO	1	NO	NO <sup>A</sup>	NO	30	-
	POST	2-6 leaf or 1-5 collars or 16".			10-40				30	30		
<b>Harness or Harness 20G</b>	PP	Up to 45 days before planting. May PPI 1-2" within 14 days of planting. FALL after Oct.15 (20G) or after Sept.30 (EC), but before soil freeze-up, certain states.	-	-	10	NO		NO	NR	NR	60	S,P,SW
	PRE	Within 5 days of the last tillage.										
	POST	Harness before 11" corn.										
<b>Harness Xtra or Xtra 5.6L</b>	PP	Up to 45 days before planting. May PPI 1-2" within 14 days of planting.	-	-	10	NO		NO	60, 45-sweet	NR	NR	S,P,SW
	PRE	Within 5 days of the last tillage.										
	POST	Before 2-leaf weeds and 11" corn. No on sweet corn.										
<b>Herbivore/Permit</b>	POST	Broadcast or drop nozzles. Spike to lay-by.	-	7	10	3-15	4	Y	30	30	NR	S,P,SW <sup>7</sup>
<b>Hornet WDG</b>	PP	Up to 30 days before planting. May PPI 2".	10	10	10-60	5	-	Y	0	0	85	S <sup>7</sup>
	PRE	Prior to weed emergence or 2" corn.	-	-	-	-	-	-	-	-	45-silage	
	POST	VE up to and including V6 or 20". Drop nozzles to 36". PHI 45 silage if applied before V6.					2					
<b>Impact</b>	POST	VE to 45 days preharvest. Use drops if need for coverage.	-	7	10	3	1	Y	45	45	45	S,P,SW
<b>Incinerate</b>		See Callisto.										
<b>Instigate</b>	PP	Up to 14 days before planting. May PPI to 2" up to 14 days before planting.	-	-	10-80	NO	1	Y	45	45	45	-
	PRE	Before crop emergence.										
	POST	May be applied up to 2 leaf collars.										

See notes on page 29.

# HERBICIDE APPLICATION TIMING AND RESTRICTIONS *Continued*

Herbicide	Application Timing	Comments/Restrictions	Do Not Till		GPA		Rainfast (hrs.)	Aerial Application	Interval (Days)			Seed(S), Pop(P), Sweet (SW)
			Days Before	Days After	Ground	Aerial			Feeding Forage	Grazing Animals	Grain Harvest	
<b>Keystone NXT/ Breakfree NXT ATZ</b>	PP	Up to 45 days before planting. May PPI 1-2" within 14 days of planting.	-	-	10	NO		NO	45, 60	NR	NR	S,P,SW
	PRE	Within 5 days of the last tillage. PHI 45 sweet corn.										
	POST	Before 2-leaf weeds and 11" corn. PHI 60 field corn. No on sweet corn.										
<b>Keystone LA NXT/ Breakfree NXT Lite</b>	PP	Up to 45 days before planting. May PPI 1-2" within 14 days of planting. Prior to crop emergence.	-	-	10	NO		NO	60, 45-sweet	NR	NR	S,P,SW
	PRE	Within 5 days of the last tillage.										
	POST	Before 2-leaf weeds and 11" corn. No on sweet corn.										
<b>Kochiavore</b>	PP	Delay planting and tillage a minimum of 7 days after application.	-	7	8	3	1	Y	47	47	90	S <sup>7</sup>
	PRE	After planting and before emergence to control broadleaf weeds.										
	POST	V3-V5, broadcast or band, drops after V6 but not from 2 weeks before tasseling to dough stage.		7-10								
<b>Laudis</b>	POST	Emergence to V9 for field or popcorn (V7 for sweet corn).	7	7	10	NO	1	NO	45	45	NR	S <sup>7</sup> , P <sup>7</sup> , SW <sup>7,10</sup>
<b>Leadoff</b>	PP	FALL up to crop planting			10-15	5		Y	30	30	30	
	PRE	Before crop emergence.										
<b>Lexar EZ</b>	PP	Apply up to 14 days before planting in field, seed and popcorn.	-	-	10-80	NO	4	NO	45	45	60	S <sup>7</sup> , P <sup>4</sup> , SW <sup>10</sup>
	PRE	Before crop emergence in field, seed, pop, and sweet corn.										
	POST	Up to 12" corn and < 5" broadleaves in field, seed and popcorn, corn.			10-30							
<b>Liberty 280 SL</b>	PP	Burndown prior to planting corn.			15-40	10		Y	60	NR	70	S <sup>7</sup> , SW
	PRE	Prior to emergence of corn.										
	POST	VE-V7 or 24". Drop nozzles from 24-36". Apply to Liberty Link corn and sweet corn only.	5	7			4		55-sweet	NL	50-sweet	
<b>Lorox DF/ Linex 4L</b>	PRE	Before crop emergence.	-	-	15	NO		NO	NR	NR	57	-
<b>Lumax EZ</b>	PP	Up to 14 days before planting in field, seed and popcorn.	-	-	10-80	NO		NO	45	45	60, 45-sweet	S <sup>7</sup> , P <sup>4</sup> , SW <sup>11</sup>
	PRE	Before crop emergence in field, seed, pop, and sweet corn.										
	POST	Up to 12" corn but before grasses emerge in field corn.			10-30		4					
<b>Metriclude EXT</b>		See Dimetric EXT.										
<b>Moxy</b>	PRE	Up to just before crop emergence.			10-20	3-10		Y	45	45	NR	S <sup>7</sup> , P
	POST	VE to before VT-tassel emergence. Only 1 pt/A before V4.	-	5-7			1					
<b>Northstar</b>	POST	V2 or 4" up to V6 or 20". Directed only on corn up to 36" and all popcorn.	10	7	10-20	5	4	Y	30, 45-silage	30	60	S <sup>6,7</sup> , P <sup>6,7</sup>
<b>Optify</b>	PGR	Plant Growth Regulator. Soil applications can begin prior to planting and continue while plants are in vegetative stage. Foliar applications may begin when plants reach or surpass 4-leaf stage of development. Best to apply before leaf hardening.	-	-	-8	NO		NO	NL	NL	0	S,P,SW
<b>Optill</b>	PPI, PRE	Use only in Clearfield corn. Do not apply after emergence or in ND and MN (north of highway 210)	-	-	≥ 5	≥ 3	1	Y	80	80	-	-
<b>Option</b>	POST	Apply up through V6 corn. Drop nozzles from > V6 and < V8 corn.	7	7	10-20	NO	2	NO	45	45	70, 45-sweet	S <sup>7</sup> , P <sup>7</sup> , SW <sup>7</sup>
<b>Outlook</b>	PP	FALL after Oct. 1 when soil <55°F and before frozen. (Northern Corn Belt only).	-	-	5	2		Y	40	40	NR, 50-sweet	S <sup>7</sup> , P, SW <sup>7</sup>
	PP	Up to 45 days before planting. May PPI 1-2" within 14 days of planting.										
	PRE	Before crop and weed emergence.										
	POST	Up to 12" corn. Lay-by application from 12-36" corn. Not for sweet corn.										

See notes on page 29.

# HERBICIDE APPLICATION TIMING AND RESTRICTIONS *Continued*

Herbicide	Application Timing	Comments/Restrictions	Do Not Till		GPA		Rainfast (hrs.)	Aerial Application	Interval (Days)			Seed(S), Pop(P), Sweet (SW)
			Days Before	Days After	Ground	Aerial			Feeding Forage	Grazing Animals	Grain Harvest	
<b>Panoflex</b>	PP	14 days or greater before field corn, or 21 days or greater on lighter texture or high pH (>7.9) soils. PP or POST-harvest burndown only.	-	-	5-20	2-5	4		NL	7	NL	-
<b>Peak</b>	POST	Corn 4-30". Drop nozzles 20" or V6 to 30". PHI 40 days silage.	-	-	5	2	4	Y	30, 40	30	60	-
<b>Permit</b>	POST	Broadcast or drop nozzle spike through lay-by.	-	-	10	3-15	4	Y	30	30	30	S,P,SW
<b>Permit Plus</b>	POST	Broadcast or drop nozzles. Apply from V2 to V6. See label for geographic restrictions.	-	-	10	3-15	4	Y	30	30	NR	-
<b>Poast</b>	PP	Burndown 30 days or more before planting corn.	5	7	5-20	5-10	1	Y	45	45	60	SW
	POST	Up to onset of pollen shed for SR or Poast Protected sweet corn only.					1		30		45, 30-sweet	
<b>PowerMax</b>		See Roundup WeatherMAX										
<b>Prequel</b>	PP	Up to 30 days before planting, PPI 2".			15			NO	30	30	30	
	PRE	Before crop emerges.										
<b>Princep 4L or 90WG</b>	PP	Before planting. In FALL, after harvest before frozen; prior to corn. Do not graze after FALL application.	-	-	10	NO		NO	NO	60, 45-sweet	60, 45-sweet	SW
	PRE	Before crop emergence.	-	-								
<b>Prowl H2O</b>	PRE	After planting, before weeds and crops emerge. Do not incorporate.	-	-	10	5		Y	21	21	NR	S,P,SW
	POST	POST up to V8 or 30" (field corn) or 20-24" other corn, culti-spray, 4" to lay-by.										
<b>Python WDG</b>	PP	EPP FALL or spring. PP up to 30 days before planting. May PPI 2-3".	-	-	10-40	NO		NO	45	0	85	S
	PRE	Prior to weed emergence or 2" corn.										
	POST	VE-V6 or 20" corn.	10	10			6					
<b>Realm Q</b>	POST	Up to 20" field corn. Do not apply to >20" or ≥ V7 corn.			10,15	NO	4	NO	45	45	70	-
<b>Resicore</b>	PP	Up to 28 days prior to planting. PPI into upper 2" within 14 days prior to planting. Apply to soil surface.	-	-	10-80	NO	2	NO	60, 45-sweet	NR	45	S,P <sup>4</sup>
	PRE	Precipitation or irrigation of at least 0.25" required or follow with incorporation 7 days after application.										
	POST	Must occur before crop reaches 11". See label for split applications. Do not apply POST to yellow popcorn.			10-30							
<b>Resolve Q</b>	PP	Before planting.	-	-	10	5		Y	30	30	30	-
	PRE	Prior to crop emergence.										
	POST	Do not apply to corn taller than 20" or 7 collars. Use most restrictive.					4					
<b>Resource</b>	POST	V2-V10.	-	-	15	5-10	1	Y	28	28	60	S <sup>7</sup>
<b>Revulin Q</b>	POST	Up to 20" or up to V6. Directed up to 30". Seed, Pop < 20" or up to V5. Sweet > 18" or V6.	-	-	10	NO	4	NO	45	45	70	S,P <sup>5</sup> ,SW
<b>Roundup WeatherMAX/ PowerMax</b>	PP	Also PRE-emergence/at-planting - prior to crop emergence.	-	-	3-40	3-15		Y	NR	NR	NR	S,P,SW
	POST	VE-V8 or 30" in Roundup Ready Corn 2. Drops recommended 24-30". Labeled for 30- 48" use with drops in Roundup Ready Corn 2.	-	10-20			RE	Y	50	NR	50, 30-sweet	-
	PH	When grain is <35% moisture.							7	-	7	
<b>Rugged</b>	PP	Delay planting ≥ 7 days up to 1 pt, ≥ 14 days for 1-2 pt.	-	7	5	2		Y	7		7, 45-sweet	P <sup>7</sup> ,SW <sup>7</sup>
	PRE	Before crop emergences to emerged broadleaves.										
	POST	V2 (after leaves unfur) to 8" broadcast. Drop nozzles > 8" to 2 weeks prior to VT.	7-10				6					
	PH	After silks completely brown. Field and popcorn only.										

See notes on page 29.

# HERBICIDE APPLICATION TIMING AND RESTRICTIONS *Continued*

Herbicide	Application Timing	Comments/Restrictions	Do Not Till		GPA		Rainfast (hrs.)	Aerial Application	Interval (Days)			Seed(S), Pop(P), Sweet (SW)
			Days Before	Days After	Ground	Aerial			Feeding Forage	Grazing Animals	Grain Harvest	
<b>RT 3</b>	PP	Prior to planting.	-	-	3-40	3-15	RE	Y	NR	NR	NR	S,P,SW
	PRE	Prior to crop emergence.										
	PH	PRE-harvest when grain is <35% moisture or less.									7	
<b>Section Three</b>	PP	Burndown existing or volunteer Roundup Ready corn prior to replanting corn. Wait ≥ 6 days to replant corn.	-	-	5-40	3-10	1 hr	Y	NL	NL	NL	-
<b>Select</b>	PP	Burndown existing or volunteer Roundup Ready corn prior to replanting corn. Wait ≥ 6 days to replant corn.	-	-	10		1					-
<b>Select Max</b>	PP	Burndown existing or volunteer Roundup Ready corn prior to replanting corn. Wait ≥ 6 days to replant corn.	-	-	10		1				90	-
<b>Sequence</b>	PP	Apply before planting.	-	3	10-40	3-15		Y	30	30	50	S,P,SW
	PRE	Apply up to 30 days before crop emergence.									30-sweet	
	POST	To glyphosate tolerant corn up to 30" or V8; 30-48" with drop nozzles.					RE					
<b>Sharpen</b>	PP	Apply up to 30 days before planting. PPI 1-2" up to 14 days before planting.	-	-	5	3	1	Y	80	80	NR	S,P <sup>7</sup> ,SW <sup>7</sup>
	PRE	Before crop emergence. PP or PRE for seed corn.										
<b>2,4-D (Amine 4, LV4, LV6, Shredder E-99)</b>	PP	Amine 4, LV4, LV6: Delay planting 7 days for 1 pt. Delay planting 14 days for higher rates.	-	7	3	2		Y	7		7, 45-sweet	P <sup>7</sup> ,SW <sup>7</sup>
	PRE	E-99: Apply at 7-14 days before planting.										
	PRE	Before crop emerges.										
	POST	V2 (after leaves unfurl) to 8" broadcast. Drop nozzle from >8" to 2 weeks prior to VT. E-99 to tassel. <sup>A</sup> Ester <sup>1</sup> , Amine <sup>4</sup> .	-	10			1-4 <sup>A</sup>	Y	7	NR	45-sweet	P <sup>7</sup> ,SW <sup>7</sup>
<b>Simazine 4L</b>	PP	Before planting. In FALL, after harvest before frozen; prior to corn. Do not graze after FALL application.	-	-	20	NO		NO	NR	60, 45-sweet	60, 45-sweet	SW
	PRE	Before crop and weed emergence.										
<b>Solstice</b>	POST	Broadcast up to V8 or 30" corn. Do not apply to corn >12" if mixed with atrazine.	7	7	10-30	NO	1	NO	45, 40-sweet	-	70, 40-sweet	S,P <sup>5</sup> ,SW
<b>Spirit</b>	POST	Broadcast from 4" up to 20" or V6. Drop nozzles 20" up to 24". Directed from 10-24" popcorn.	10	7	10-20	3	4	Y	30, 40-silage	30	60	S <sup>7</sup> ,P <sup>6</sup>
<b>Starane NXT</b>	POST	Supplemental label (exp.3/2017) for VE-V5 corn in MN, ND, OK, SD, TX, WY, NE, CO, KS only.	-	-	8	3	1	Y	45	45	NR	-
<b>Starane Ultra</b>	PP	For volunteer potato or emerged weeds.	-	-	8	3	1	Y	47, 31-sweet	47, 31-sweet	90, 31-sweet	SW
	POST	Broadcast up to through V5; up to V4 for sweet corn. Drop nozzles after V5 (V4 sweet corn).										
<b>Status</b>	POST	Apply from 4 (V2) to 36" (V10 or 15 days of tassel emergence) corn.	-	7	3-50	NO	4	NO	32	32	72	S, P
<b>Steadfast Q</b>	POST	Up to 20" or through V6 corn.	-	-	10, 15	5	4	Y	30	30	NR	-
<b>Sterling Blue</b>	PP	In no-till corn. FALL post-harvest or fallow.	-	7	20	1-10	4	Y	DELAY-M	DELAY-M	NR	S <sup>7</sup> ,P <sup>7</sup>
	PRE	Prior to corn emergence in no-till and to medium/fine soils with ≥2.5% O.M.(conv. or reduced tillage).										
	POST	VE to 5-leaf or 8" and from 8-36" or 15 days before tassel emergence.										
<b>Stinger</b>	POST	VE to 24"; 18" for sweet corn. <sup>A</sup> Do not transfer livestock from treated areas to sensitive broadleaf crop areas without 7 days of grazing on untreated pasture (see label).	-	-	10		6		40, 60-pop/sweet	40 <sup>A</sup>	30-sweet	S <sup>7</sup> ,P <sup>7</sup> ,SW <sup>7</sup>
<b>SureStart II</b>		See Thresidual										

See notes on page 29.

Herbicide	Application Timing	Comments/Restrictions	Do Not Till		GPA		Rainfast (hrs.)	Aerial Application	Interval (Days)			Seed(S), Pop(P), Sweet (SW)
			Days Before	Days After	Ground	Aerial			Feeding Forage	Grazing Animals	Grain Harvest	
<b>Surpass NXT/ Breakfree NXT</b>	PP	Up to 45 days before planting. May PPI 1-2" within 14 days of planting. FALL after Sept.30, but before soil freeze-up, certain states.	-	-	10	NO		NO	NR	NR	60	S,P,SW
	PRE	Within 5 days of the last tillage.										
	POST	VE to 11" corn.										
<b>Thresidual/ SureStart II/ TripleFLEX II</b>	PP	May apply 21 or more days prior to planting. May incorporate 1-2" up to 14 days before planting. FALL, after Oct.15, soil temperature < 50°F, before ground freezes; to soybean stubble.	-	-	10	NO		NO	NR	NR	85	S <sup>7</sup>
	PRE	Before crop emergence.										
	POST	VE up to 11" corn.										
<b>Tomahawk 4 or 5</b>		See Cornerstone Plus/Cornerstone 5 Plus										
<b>Tremor NXT</b>		See Confidence.										
<b>Tremor ATZ Lite NXT</b>		See Confidence Xtra.										
<b>Tremor ATZ NXT</b>		See Confidence Xtra 5.6L.										
<b>TripleFLEX II</b>		See Thresidual.										
<b>Trust</b>	POST	After 2-leaf to 30". Must be incorporated within 24 hrs.	-	-	5-40	5-10		Y	42	42	NR	-
<b>Valor/Rowel</b>	PP	Apply 7-30 days before planting. Rowel: FALL Oct.15 or later in Region 2 and Nov.15 or later in Region 1 or where soil temperature < 50°F at 2".	-	-	10-60	5-10	1	Y	NR	NR	NR	-
<b>Verdict</b>	PP	FALL after Oct.1 in IA, MN, ND, SD, and WI. Up to 30 days before planting. PPI 1-2" up to 14 days before planting.	-	-	3	3	1	Y	80	80	80	S,P <sup>7</sup> ,SW <sup>12</sup>
	PRE											
<b>Vida</b>	PP	At planting	-	-	10	5		Y	50	NL	90	S, P
	PRE	After planting, before crop emergence										
	POST	Up to V4, Drops up to V8.										
<b>Warrant</b>	POST	Up to 30" corn, drop nozzles 24-30".	-	-	10	3-15 <sup>12</sup>		Y <sup>12</sup>	40	40	NR	S
<b>WideMatch</b>	POST	Broadcast up through V5. Drop nozzles after V5.	-	-	10	3	6	Y	47	47	90	
<b>Yukon</b>	POST	Broadcast from spike to 20" and directed or drop nozzles from 20-36" corn.	7	7	10	5-15	4	Y	DELAY-M > 30	DELAY-M > 30	NR	S
<b>Zemax</b>	PP	Apply up to 14 days prior to planting.	-	-	10-80	NO	1	NO	45	45	45	S,P <sup>4</sup> ,SW <sup>11</sup>
	POST	Apply up to 30" or V8 to field or seed corn.										
<b>Zidua/ Zidua SC</b>	PP	FALL use PP rates; PPI up to 14 days before planting. PP 15 to 45 days before planting. Not recommended PP on coarse soils, areas with >40" rainfall and/or irrigation, or for popcorn or sweet corn.	-	-	5	3		Y	NL	NL	37-sweet	S,P,SW
	PRE	After planting before emergence.										
	POST	Up to V4.										

Consult current labels for verification and specific tillage equipment since depth settings vary from desired depth of incorporation. Incorporation is not required for many of these herbicides.

For sweetcorn or popcorn, product may be labeled for certain varieties. User may assume all liability for use.

EPP - Early preplant  
PP - Preplant surface, unless otherwise specified  
PPI - Preplant incorporated  
PRE - Preemergence

PH - Preharvest  
PGR - Plant growth regulator  
POST - Postemergence  
DELAY-M - Delay until milk stage  
DELAY-M 30- Delay until milk stage, at least 30 days after application  
DELAY-S - Delay until silage stage  
NR - No restrictions  
NO - Not permitted  
NL - No related information on label.  
RE - Heavy rainfall soon after application may require retreatment.  
Y - Permitted  
\*Application Timing and Interval

1 Includes labeled minimum or range.  
2 See label for equipment restrictions.  
3 In certain states.  
4 Yellow popcorn PP or PRE.  
5 Yellow popcorn.  
6 Directed spray.  
7 Check with seed supplier or crop protection company rep.  
8 Formulate with liquid fertilizer and/or through irrigation system.  
10 Single application per season. Do not apply Laudis to sweet corn grown for grain or seed.  
11 PRE only.  
12 Supplemental label for processing sweet corn only.

## DEFINITION OF SOIL TEXTURES

**COARSE:** Sand, Loamy sand, Sandy loam.

**MEDIUM:** Loam, Silt, Silt loam.

**FINE:** Silty clay loam, Sandy clay loam, Silty clay, Sandy clay, Clay loam, Clay.

Soils with LOW organic matter, use low end of rate range; with HIGH organic matter, use high end of rate range. For preemergence herbicides to work properly, rainfall or sprinkler irrigation prior to weed germination is necessary. If adequate rain does not fall within 7 days of application, rotary hoe.

## DEFINITION OF APPLICATION TIMING

**Preplant surface** applications are designated as **PP**. **Preplant incorporated as PPI** – applied before planting, **Preemergence as PRE** – at or after planting but before crop or weed emergence, **Postemergence as POST** – after crop or weed emergence.

**EARLY POST** refers to conventional preemergence treatments that can be applied after crop or weed emergence or standard **POST** treatments applied to small emerged crops and weeds. However, herbicides that lack burndown properties such as the soil residual grass herbicides (S-metolachlor, alachlor, dimethenamid-P, etc.) will not control emerged grasses. **Pre-harvest or harvest aids – PH**, are applied just prior to harvest.

## NO-TILL/MINIMUM TILL

**BURNDOWN OF EMERGED VEGETATION** – Atrazine used at full rates will generally control emerged weed seedlings that are less than 2" tall. High spray volumes (20-40 GPA) improve coverage and allow spray penetration through crop residue. Liquid fertilizer carriers or the addition of surfactants/COC increase the burndown activity of herbicides. In many cases, however, the addition of one of the herbicides listed below will be required for control of emerged weeds. AVOID DRIFT potential with the use of InterLock.

**EARLY PREPLANT (EPP)** – When established weeds are present, a POST herbicide should be combined with the PRE herbicide. Atrazine, glyphosate, and paraquat, control established weeds. Control is improved when COC or UAN is added. Apply paraquat to grasses <4" tall. Apply glyphosate to larger grasses. 2,4-D ester can be tank mixed for additional broadleaf control.

## RIDGE TILL

**Ridge-till** planter sweeps disturb early preplant herbicides applied over the ridge. With the ridge plant system the row has fewer weeds because the weed seed produced the preceding year is not worked into the soil when the seedbed is prepared. During planting, sweeps or disks move soil containing kernels and ears, sorghum seed and/or heads, and most weed seed from the ridge. A banded herbicide treatment should be used at planting time in the row. If timely cultivation is not possible, weed pressure is heavy, or the field contains many hard-to-control weeds like velvetleaf, a broadcast herbicide treatment at planting may be necessary.

**EARLY PREPLANT** treatments can be applied prior to planting to keep early summer weeds under control. The early herbicide treatment should eliminate planting through 4" or taller weed growth. Trouble may arise along the cutting edge of the planter sweep, where larger broadleaf weeds such as kochia and Russian thistle may not be uprooted or covered. Most early germinating broadleaf weeds can be controlled effectively and economically with 2,4-D or dicamba. It is better to apply the 2,4-D at planting time from a spray boom on the front end or underbelly of the tractor rather than after planting. If considerable grass weed growth is present before planting, paraquat or glyphosate should be used. Another option would be to preplant cultivate for row-middle tillage, leaving ridge top weed removal to the planter sweep. This works extremely well on fields where corn was ensiled. Preplant cultivation also allows for rebuilding ridges, which may be desirable if they have been damaged by harvest equipment or livestock trampling. However, preplant cultivation mixes weed seed into the ridge.

Source: adapted from Univ. Nebraska

BURNDOWN	Rate/Acre			Comments/Restrictions	
	Herbicide	Coarse*	Medium		Fine
<b>AIM EC</b>		0.5 - 1 fl oz + 0.75-1 pt HSOC-COC <sup>1</sup>			Apply in tank mixes with glyphosate, 2,4-D, or Gramoxone. Speeds activity, and broadens spectrum of control. Burndown only, no residual. Apply up to 30 days before planting. Add to tank before other herbicides.
<b>ALLUVEX</b>		1.5 oz + 0.5 gal HSOC-COC <sup>1</sup> or 0.25 HSOC-MSO <sup>1</sup> /100 gal + 2 qt UAN or 2 lb AMS			Do not apply PRE to coarse soils with <1% O.M. Apply in tank mixes with atrazine, glyphosate, glufosinate, 2,4-D LVE, paraquat, saflufenacil, and/or dicamba. Burndown or PRE only, no residual. Apply PP in early spring up to crop planting on unfrozen ground. Add to tank before liquid fertilizers. Allow 3 weeks between Alluvex and any POST product containing rimsulfuron. Application to corn treated with Counter, Thimet, or Lorsban may cause severe crop injury.
<b>ANTHEM</b>		SEE PREPLANT/PREEMERGE SECTION			
<b>ANTHEM ATZ</b>		SEE PREPLANT/PREEMERGE SECTION			
<b>ANTHEM MAXX</b>		SEE PREPLANT/PREEMERGE SECTION			
<b>AUTUMN</b>		0.3 oz + 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 1.5-2 qt UAN or 1.5-3 lb AMS			Apply in FALL before ground freezes or in spring 30 days or more before planting to broadleaves ≤ 3" and grasses ≤ 1". Autumn provides good dandelion control with burndown and residual for small-seeded broadleaves. Tank mix with 2,4-D ester or glyphosate.
<b>AUTUMN SUPER</b>		0.3-0.5 oz + 0.5 gal HSOC-COC <sup>1</sup> or HSOC-MSO <sup>1</sup> /100 gal + 1.5-2 qt UAN or 1.5-3 lb AMS			Apply in FALL before ground freezes or in spring 30 days or more before planting field corn and 60 or more days before planting SWEET, POP or SEED corn. North of I-70, prior to November 1 apply 0.3 oz on soils pH <6.8 or 0.5 oz on soils pH >6.8. After November 1, apply 0.5 oz south of I-70 on soils pH <6.8 or 0.3 oz on soils pH >6.8. Do not apply to frozen soil. Apply to broadleaves < 3" and grasses < 1". Use 0.3 oz if soil pH is 7-8. Provides good dandelion and marestail control with burndown and residual for small-seeded broadleaves. Tank mix with 2,4-D, dicamba, paraquat, metribuzin, simazine or glyphosate. 2ee CO, IA, KS, MO, OK (exp. date not given) for FALL application rates on soils with soil pH 7-8 when soybeans are the next rotational crop the following Spring. 2ee in most states (exp. date not given) for reduced rates in FALL.
<b>BANVEL</b>		SEE STERLING BLUE			
<b>BASIS BLEND</b>		0.825-2.5 oz + 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 2 qt 28% N or 2-4 lb AMS			Apply after FALL harvest to soil that is not frozen through planting in spring. Do not apply to coarse soil with < 1% O.M. MSO or NIS may be used. Apply to grasses <3", broadleaves <4", and winter annuals <6". Can be mixed with liquid nitrogen fertilizer if first slurried in clean water. In FALL, may tank mix with 1 pt 2,4-D ester and glyphosate for control of winter annual grasses. For 0.825 oz, soybeans may be planted 15 days after application. Adding 0.2-0.3 oz Express plus 1 pt 2,4-D ester in FALL provides improved control of dandelion, chickweed and Canada thistle. Corn or soybeans can be planted 14 days after Express application.
<b>CADET</b>		0.5-0.9 oz + 1 qt NIS/100 gal or 0.5-1 pt HSOC-COC <sup>1</sup>			PP or PRE 0.4-0.9 oz. May tank mix with many other burndown or PRE herbicides. Controls certain emerged broadleaves. 1-2 qt UAN/A or AMS may be added.
<b>CLARITY/CLARIFIER</b>		SEE STERLING BLUE			
<b>CLEANSE</b>		SEE SELECT MAX			
<b>CORNERSTONE PLUS or CORNERSTONE 5 PLUS</b>		Up to 48 fl oz or Up to 36 fl oz: annuals Up to 5 qt or Up to 7.5 pt: perennials + 8.5-17 lb AMS/100 gal <sup>a</sup>			PP or PRE to emerged weeds. Most perennials are controlled better in fall than spring. Delay tillage 3 days after spraying annuals and 7 days for perennials. May be tank mixed with many products. <sup>a</sup> Include NIS, WC+NIS <sup>2</sup> as needed.
<b>DIFLEXX</b>		See Preplant/Preemerge			
<b>DIFLEXX DUO</b>		See Preplant/Preemerge			
<b>DISTINCT</b>		4-8 oz + 1 qt NIS/100 gal + 5 qt 28% N or 5 lb AMS/100 gal			FALL - apply 2 to 8 oz after crop harvest and prior to frost. See label for replant restrictions.
<b>DURANGO DMA/ DURAMAX</b>		Up to 36 fl oz: annuals Up to 7.5 pt: perennials + 8.5-17 lb AMS/100 gal <sup>a</sup>			PP or PRE to emerged weeds. Most perennials are controlled better in FALL than SPRING. Delay spring tillage 3 days after spraying annuals and 7 days for perennials. May add additional surfactant for burndown. May tank mix with many products. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>ENLIST DUO</b>		3.5-4.75 pt			PP or PRE. No plant back restrictions for Enlist corn. For non-Enlist corn avoid use on light, sandy soils and delay planting 7 day for 3.5 pt and 14 days for 4.75 pt. Delay PRE applications 3-5 days following planting, but before emergence.

See notes on page 41.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*Coarse – Sand, loamy sand, sandy loam.

Medium – Loam, silt, silt loam.

Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

\*\* May use other glyphosate herbicides:

Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

O.M. – Soils with low organic matter – use lower rate, with high organic matter – use higher rate within the range.

# CORN HERBICIDE APPLICATION RATES *Continued*

BURNDOWN CONTINUED	Rate/Acre			Comments/Restrictions
	Herbicide	Coarse*	Medium	
<b>ENLIST ONE</b>	1.5-2 pt			PP or PRE. No plant back restrictions for Enlist corn. For non-Enlist corn avoid use on light, sandy soils and delay planting 7 day for 1.5 pt and 14 days for 2 pt. Delay PRE applications 3-5 days following planting, but before emergence.
<b>ELEVORE</b>	1 fl oz			Apply at least 14 days prior to planting. For best performance apply with glyphosate and 2,4-D.
<b>EXPRESS</b>	0.25-0.5 oz + 0.5-1 gal HSOC-COC <sup>1</sup> or HSOC-MSO <sup>1</sup> /100 gal			PP burndown. Delay planting at least 14 days. NIS may be used. UAN/AMS may be added. Add 1 pt of 2,4-D 4 lb.
<b>EXPERT</b>	2.5-3.75 qt 3-3.75 qt + 17 lb AMS/100 gal	< 3% O.M. 3-3.75 qt ≥ 3% O.M. 3-3.75 qt	3-3.75 qt 3-3.75 qt	PP or PRE. Apply up to 30 days before planting or PRE to any corn. Do not apply to emerged corn, unless it is glyphosate tolerant. Do not add AMS if applied in liquid fertilizer. Do not apply with 10-34-0. A liquid fertilizer carrier can reduce perennial weed control. FALL to ecofallow (no till) in NE and KS where small grains are rotated to corn. Apply to stubble following harvest but before soil freeze-up. Note 3.
<b>FIERCE</b>	3-4.5 oz: FALL 3 oz: SPRING			PP. FALL application after November 15 in AL, AR, GA, KY, MS, OK, TN, and VA and after October 15 in DE, KS, IL, IN, IA, MD, MI, MN, MO, NE, ND, OH, PA, SD, WV, WI or when soil temperature falls below 50°F. May be applied spring between 7-30 days before planting. Use in minimum and no-till only. See label for state and planting interval restrictions. May be tank mixed with other herbicides. Mix with a burndown herbicide for more consistent control of emerged weeds. Fierce (pyroxasulfone) has a low water solubility and requires multiple rain events for activation.
<b>FIRSTSHOT</b>	0.5-0.8 oz			Apply more than 14 days before planting. In light soils, or soil pH >7.9, extend 7 additional days. May use 0.5-0.6 oz in tank mixes. Do not exceed 1 oz total if sequential application. Include MSO, COC, NIS plus UAN or AMS. <sup>1</sup>
<b>GRAMOXONE SL/SL 2.0</b>	2-2.5 pt: 1-3" weeds 2.5-3 pt: 3-6" weeds 3-4 pt: 6" weeds + 1 pt NIS/100 gal			Mix with clean water or fluid fertilizer, but not suspensions or high phosphate fertilizer. Apply in 25-40 GPA of carrier with 30-40 PSI pressure for best results. Triazine herbicides enhance performance of paraquat. When tank mixing with 2,4-D, use ester formulation. Amine can reduce grass control.
<b>GRAMOXONE SL/SL 2.0</b> + <b>BICEP II MAGNUM or</b> <b>DIMETRIC EXT or</b> <b>DUAL II MAGNUM or</b> <b>FULTIME NXT or</b> <b>HARNESS EC or</b> <b>HARNESS XTRA/ CONFIDENCE XTRA/ TREMOR ATZ LITE NXT</b> <b>HORNET WDG or</b> <b>LEXAR EZ or</b> <b>LUMAX EZ or</b> <b>OUTLOOK or</b> <b>SURPASS NXT</b>	2-4 pt + 1.6-2.6 qt 2-5.3 oz 1-1.67 pt 2.5-4 qt 1.5-3 pt 1.8-2.3 qt 4-6 oz 2.5-3 qt 3-3.5 qt 13-21 fl oz 2-3 pt			See comments above for Gramoxone and the label for tank mix partners application timing and adjuvant recommendations. 2ee AL, AR, CO, DE, GA, IL, IN, KS, KY, LA, MD, MI, MN, MO, MS, MT, NC, ND, NE, NJ, NM, OH, OK, PA, SC, TN, VA, WI, WY (exp. date not given) for tank mix with Sharpen and Gramoxone SL 2.0 for control of glyphosate resistant horseweed (marestalk) in various states.
<b>HARMONY SG</b>	0.45-0.9 oz			PP. Apply before or after planting but before crop emerges. May use NIS or COC plus UAN/AMS.
<b>HARMONY EXTRA SG</b>	0.45-0.9 oz			PP. Delay planting at least 14 days. Include NIS, COC or MSO plus UAN/AMS.
<b>LEXAR EZ</b>	SEE PREPLANT or PREEMERGENCE SECTION			
<b>LIBERTY 280SL</b>	29-36 fl oz + 1.5-3 lb AMS			PP or PRE. Do not apply to emerged corn unless it is Liberty Link. AMS or WC+NIS <sup>2</sup> should be added to maximize weed control. May be tankmixed with other products to add broaden weed spectrum or add residual control.
<b>LUMAX EZ</b>	SEE PREPLANT or PREEMERGENCE SECTION			
<b>OPTILL</b>	2 oz			Only in Clearfield corn. Do not apply in ND and MN (north of Highway 210).

See notes on page 41.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*Coarse – Sand, loamy sand, sandy loam.

Medium – Loam, silt, silt loam.

Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

\*\* May use other glyphosate herbicides:

Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

O.M. – Soils with low organic matter – use lower rate, with high organic matter – use higher rate within the range.



BURNDOWN CONTINUED	Rate/Acre			Comments/Restrictions
	Herbicide	Coarse*	Medium	
<b>PANOFLEX</b>	0.3-0.6 oz			PP or POST-harvest burndown. Apply 14 days or greater before field corn, or 21 days or greater on lighter texture or high pH (>7.9) soils. Sequential treatments may also be made provided the total amount applied during one post harvest/fallow/pre-plant time period does not exceed 0.6 oz/A. Allow 14 days between treatments. See label for crop rotation plant-back timings. Include COC, MSO, HSOC, NIS + UAN/AMS. <sup>1,2</sup>
<b>POAST</b>	1 pt + 0.5-1 pt HSOC-COC <sup>1</sup> or 0.75-1 pt HSOC-MSO <sup>1</sup> and 2-4 pt UAN or 1-2 lb AMS			PP. Burndown for grasses. Apply 30 days or more before planting corn.
<b>PREQUEL</b>	SEE PREPLANT or PREEMERGENCE SECTION			
<b>RESICORE</b>	2.25 qt	<3% O.M. 2.5 qt	2.75 qt	Do not apply >3.25 qt/A/year. Do not make more than two applications/year. Do not use on soils with >10% O.M. May be tank mixed with glyphosate, glufosinate, or paraquat in reduced and no-till corn up to 28 days prior to planting and crop emergence. For best results, apply to emerged weeds that are < 6" tall. Notes 3, 5, 6.
	2.5 qt	≥3% O.M. 2.75 qt	3 qt	
<b>RESOURCE</b>	2-4 fl oz			Tank mix with glyphosate products for faster burndown and greater weed control.
<b>ROUNDUP POWERMAX/ ROUNDUP POWERMAX II/ROUNDUP WEATHERMAX**</b>	22-32 fl oz: annual weeds Up to 3.3 qt; perennials + 8.5-17 lb AMS/100 gal <sup>a</sup>			Apply in 5-20 GPA water. Use flat fan nozzles and at least 30 psi pressure. If tank mixed with residual herbicides or UAN, use at least 16 oz in 10-20 GPA carrier to reduce antagonism. For best results with UAN carrier, do not use more than 50 lb/A of N. Spray to actively growing weeds and temperature >50°. Avoid application in late evening under marginal conditions. Most perennials are controlled better in FALL than in the SPRING. May be tank mixed with many products. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>ROUNDUP POWERMAX/ ROUNDUP POWERMAX II/ ROUNDUP WEATHERMAX**</b>	<b>Grass</b> Orchardgrass Smooth Bromegrass Reed Canarygrass Tall Fescue + 8.5-17 lb AMS /100 gal <sup>a</sup>	<b>Spring</b> 22-32 fl oz Up to 44 fl oz 48-64 fl oz 64 fl oz	<b>Fall</b> 22-32 fl oz Up to 44 fl oz 48-64 fl oz 22 fl oz	No-till sod or small grains. Apply in 5-10 GPA. Follow with residual herbicide at planting. For most consistent control, apply in FALL to active growth 6" or more. In SPRING, grass is best controlled when in boot to early heading stage. Canarygrass best controlled from boot to head stage. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>RT 3</b>	16-32 fl oz + 8.5-17 lb AMS/100 gal <sup>a</sup>			Application must be made prior to corn emergence. For use in CO, ID, KS*, MN*, MT, NE*, NM*, NV, ND, OK*, OR, SD, TX, UT, WA, WY. *See county restrictions on label. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>RUGGED</b>	1-2 pt			PP or PRE. 2,4-D acid formulation for control of emerged broadleaf weeds. Do not use on light, sandy soils. Do not till for 7 days. Planting must be delayed after application: 7 days (up to 1 pt), 14 days (1-2 pt). PRE after planting but before crop emergence. Maximum 1 application.
<b>SECTION THREE</b>	2 fl oz + 1 gal COC or 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 2.5-4 lb AMS/A or WC + NIS <sup>2</sup>			Burndown of existing or volunteer Roundup Ready corn up to 12" six days or more prior to reseeding corn. May use COC and/or WC+NIS. <sup>2</sup> Do not make more than 1 application/season or apply > 2 fl oz/A/season. 90 day PHI. 66330-414-1381 label.
<b>SELECT MAX or CLEANSE</b>	6 fl oz or 3 fl oz + 1 qt NIS/100 gal + 2.5-4 lb AMS			Burndown of existing or volunteer Roundup Ready corn up to 12" tall. Replant no sooner than 6 days after application. Maximum 1 application.
<b>SELECT MAX + GLYPHOSATE</b>	9-16 fl oz + See label.			Burndown. See label for potential delays in planting. Include AMS and NIS if needed.
<b>SEQUENCE</b>	2.5-4 pt + 8.5-17 lb AMS/100 gal <sup>a</sup>			PP or PRE. For burndown and residual control of weeds. See label for states and counties. Do not exceed 3.5 pt on coarse and 4 pt on medium or fine soils. Do not exceed 4 pt/A/season. Injury may occur following use under abnormally high soil moisture during early crop development. Do not apply to emerged conventional corn. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>SHARPEN</b>	2 fl oz + 0.75 pt HSOC-MSO <sup>1</sup> + 8.5-17 lb AMS or 1.25-2.5 gal UAN/100 gal	2.5 fl oz	3 fl oz	PP or PRE. Apply up to 30 days before planting. PPI 1-2" up to 14 days before planting. PRE before crop emergence. May use 1 oz for burndown with no residual. Do not use where OP or carbamate insecticide is or will be used at-planting. Early PP not recommended for coarse soils, areas with >40" rainfall, or for POP corn. Apply as part of a planned sequential program.
<b>STERLING BLUE/ CLARITY/CLARIFIER or BANVEL</b>	PP or PRE No-till 0.5 pt: sandy soils or medium, fine with < 2.5% O.M. (2% O.M. for Banvel) 1 pt: medium, fine soils with ≥ 2.5% O.M. (≥2% O.M. for Banvel) PRE Reduced or conv. tillage Do not apply: coarse soils 1 pt: medium, fine soils with ≥ 2.5% O.M. (≥ 2% O.M. for Banvel)			PP no-till corn only. For control of smartweed, triazine- or ALS-, or glyphosate-resistant kochia and other weeds. Delay PRE application until corn is emerged if corn is planted less than 1.5" deep or if planted on coarse textured soils or soils with organic matter levels less than 2% for Banvel or (2.5% Clarity/Sterling Blue/Clarifier). FALL POST-harvest or fallow or to crop stubble. Apply to actively growing small weeds <4".

See notes on page 41.

# CORN HERBICIDE APPLICATION RATES *Continued*

CORN WEEDS

BURNDOWN CONTINUED	Rate/Acre			Comments/Restrictions
	Coarse*	Medium	Fine	
<b>TOMAHAWK 4 or 5</b>	SEE CORNERSTONE PLUS/CORNERSTONE 5 PLUS			
<b>VIDA</b>	0.5-2 fl oz			PP and PRE. Allow 30 days before application.
<b>VALOR/ROWEL</b>	1-4 oz			PP. Apply from 14-30 days before planting in minimum and no-till fields. Do not irrigate when corn is emerging to 2-leaf. May be tank mixed with many other herbicides. Mixes with acetochlor, metolachlor, dimethenamid, flufenacet, or alachlor may injure crop. Rowel: FALL Oct. 15 or later in Region 2 and Nov. 15 or later in Region 1 or where soil temperature < 50° F at 2". Has significant soil residual control, do not disturb soil after application.
<b>2,4-D LV4 or LV6 or AMINE 4 or SHREDDER E-99</b>	PP 1-2.1 pt LV4 or 0.75-1.33 pt LV6 or 1-2 pt Amine 4 or 0.67-1.33 pt E-99 PRE 2.1 pt LV4 or 1.33 pt LV6 or 2 pt Amine 4 or 0.66-1.33 pt E-99			PP or PRE. Do not use on light, sandy soils. Do not till for 7 days. Planting must be delayed after application: 7 days (up to 1 pt LV4, LV6, or Amine 4), 14 days (1-2 pt LV4 or Amine 4 or 1-1.33 pt LV6), 7-14 days before planting (E-99). Ester formulations dissipate faster than amines. PRE after planting but before crop emergence. Maximum 1 application.
<b>2,4-D LV4 + STERLING/BANVEL</b>	1 qt + 0.5 pt			No-till alfalfa sod. Apply in FALL or SPRING to alfalfa with 4" new growth. Best control in FALL. Wait at least 3 days before applying 28% UAN or a triazine herbicide. If brome grass or blue- grass is present, add Roundup WeatherMAX. Delay planting as for 2,4D LV4 & LV6 or Amine 4 & Shredder E-99.
PREPLANT OR PREEMERGENCE	Coarse	Medium	Fine	
<b>ACURON</b>	<3% O.M. 2.5 qt >3% O.M. 3 qt			Do not apply with any organophosphates or carbamates insecticides. Up to 28 days prior to planting. 2ee IA, ID, IL, MN, ND, SD, WI (exp. 4/2021) for impregnation or coating onto dry bulk fertilizer.
<b>ACURON FLEXI</b>	<3% O.M. 2 qt ≥3% O.M. 2.25 qt			Do not make more than 2 total applications per year. Do not make a second application within 14 days of the first application. 2ee IA, IL, MN, ND, SD, WI (exp. 4/2021) for impregnation or coating onto dry bulk fertilizer.
<b>ALLUVEX</b>	SEE BURNDOWN SECTION			
<b>ANTHEM</b>	<3% O.M. 6-8 fl oz >3% O.M. 6-8 fl oz + 0.5-1 pt HSOC-COC <sup>1</sup> or HSOC-MSO <sup>1</sup> + 1-2 qt UAN or 1-2 lb AMS	8-10 fl oz 8-11 fl oz	9-11 fl oz 10-13 fl oz	Apply FALL, PP, or PRE. May tank mix with many other burndown or PRE herbicides. PPI do not exceed 2" incorporation, apply up to 14 days before planting. PP up to 45 days before planting. Can be applied early POST to V4.
<b>ANTHEM ATZ</b>	<3% O.M. 1.75-2 pt >3% O.M. 1.75-2 pt + 0.5-1 pt HSOC-COC or HSOC-MSO <sup>1</sup> + 1-2 qt UAN or 1-2 lb AMS	2-2.25 pt 2-2.75 pt	2.25-3 pt 2.5-4 pt	Apply FALL, PP, or PRE. May tank mix with many other burndown or PRE herbicides. PPI do not exceed 1-2" incorporation, apply up to 14 days before planting. PP up to 45 days before planting. Anthem ATZ (pyroxasulfone) has a low water solubility and requires multiple rain events for activation.
<b>ANTHEM MAXX</b>	EPP 3-4 fl oz Other uses < 1% O.M. 2.5-3 fl oz ≥ 1% ≤ 3% O.M. 2.5-3.5 fl oz > 3% O.M. 3.5-4 fl oz	4-5 fl oz 2.5-4 fl oz 3.25-5 fl oz 4-5.5 fl oz	4.5-6.5 fl oz 3-4 fl oz 4-5.5 fl oz 5-6.5 fl oz	If applying FALL application followed by SPRING application, do not exceed 8.15 fl oz/A. FALL Do not exceed 2" incorporation depth. Apply when soil temperatures at 4" are sustained at < 55°F and before the ground freezes and after Oct. 1. PRE up to 45 days before planting. PPI Incorporate into the upper 1-2" up to 14 days before planting. POP and SWEET corn PRE on coarse soils or where average annual rainfall exceeds 40" is not recommended.
<b>ATRAZINE/AATREX 4L or ATRAZINE 90 DF/ AATREX NINE-O</b>	3.2-4 pt 1.8-2.2 lb	3.2-4 pt 1.8-2.2 lb	3.2-4 pt 1.8-2.2 lb	EPP. Apply up to 45 days before planting (14 days on coarse soils). PPI 0-14 days prior to planting or PRE. For quackgrass, use a split application. Check label for state or region restrictions on rates, timing and crop rotation. Note 1.
<b>ATRAZINE 4L or ATRAZINE 90DF</b>	2 qt 2.2 lb			No-till into cool season grass sod. Weak on warm-season perennial grasses. On medium or fine textured soils, atrazine may provide suppression only. Not recommended on coarse soils if groundwater contamination can occur. Apply in early spring to 4-6" grass. Add Gramoxone SL/SL 2.0 or Roundup WeatherMax. Note 1.
<b>ATRAZINE 4L or 90DF + GRAMOXONE SL/ SL 2.0</b>	1.2 qt or 1.33 lb + 2 pt	1.4 qt or 1.55 lb + 2 pt	1.5 qt or 1.67 lb + 2 pt	No-till into winter wheat or rye. Apply when rye and wheat are 4-10" tall and before corn emerges. Can add Balance Flexx. Note 1.
<b>AUTUMN</b>	SEE BURNDOWN SECTION			

See notes on page 41.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*Coarse – Sand, loamy sand, sandy loam.

Medium – Loam, silt, silt loam.

Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

\*\* May use other glyphosate herbicides:

Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

O.M. – Soils with low organic matter – use lower rate, with high organic matter – use higher rate within the range.

PREPLANT or PRE CONTINUED	Rate/Acre			Comments/Restrictions
	Coarse*	Medium	Fine	
<b>AUTUMN SUPER</b>	SEE BURNDOWN SECTION			
<b>BALANCE FLEXX</b> 8-30 days before planting	4-5 fl oz	6 fl oz	6 fl oz	PP or PPI up to 30 days before planting if planned sequential, otherwise 21 days. See remarks below. Corn seed must be covered >1.5". Not labeled in WI. See label for states and specific restrictions. PP or PPI 0-7 days preplant or PRE before crop or weeds emerge. Include 1 pt HSOC-COC <sup>1</sup> or HSOC-MSO <sup>1</sup> /A for burndown. Can incorporate <2". For labeled weeds 3" or less in height. For weeds greater than 3" in height or those not controlled by Balance Flexx, add another burndown herbicide (e.g. Gramoxone SL/SL 2.0, Roundup WeatherMax, or 2,4-D). Atrazine will improve control of giant ragweed or Pennsylvania smartweed. When tank mixing with liquid nitrogen fertilizer or Roundup WeatherMax, substitute a NIS for COC. Balance Flexx provides residual weed control. Not labeled in WI. See IA,SD,NE (exp. date not given) for tank mix with glyphosate + atrazine (POST) or with dicamba+ atrazine. MN-specific restrictions. See label for details. Note 3.
0-7 days before planting or PRE	3-4 fl oz	5-6 fl oz	5-6 fl oz	
<b>BANVEL</b>	SEE STERLING BLUE IN BURNDOWN SECTION			
<b>BASIS BLEND</b>	SEE BURNDOWN SECTION			
<b>BICEP II MAGNUM or BICEP LITE II MAGNUM</b>	2.1 qt 1.5 qt	2.1-2.58 qt 1.5-1.9 qt	2.1-2.58 qt 1.9-2.2 qt	EPP. Apply 2/3 of total rate 30-45 days prior to planting with the remainder at planting. If applied 0-29 days prior to planting, use either as a split or single application. On coarse soils, make only a single application 0-14 days prior to planting. Do not use on peat or muck soils. Apply early preplant only in CO,IA,IL,IN,KS,KY,MN,MI,MT,ND,NE,SD,TN,WI,WY. Notes 1,2,3.
<b>BICEP II MAGNUM or BICEP LITE II MAGNUM</b>	1.3-1.6 qt 0.9-1.5 qt	1.6-2.1 qt 1.1-1.5 qt	2.1-2.58 qt 1.5-2.2 qt	PP or PPI within 2 weeks of planting. PRE from planting to weeds < 2" or crop <5". Lower rates for each soil texture with <3% O.M. (see label). On fine textured soils use maximum rates for yellow nutsedge, cocklebur and velvetleaf. Do not use on peat or muck soils. Notes 1,2,3,5.
<b>BREAKFREE NXT</b>	SEE SURPASS NXT			
<b>BREAKFREE NXT ATZ, BREAKFREE NXT LITE</b>	SEE KEYSTONE NXT BRANDS			
<b>CADET</b>	SEE BURNDOWN SECTION			
<b>CALLISTO/INCINERATE</b> +	5.3-7.7 fl oz +	5.3-7.7 fl oz +	5.3-7.7 fl oz +	PRE. Apply after planting and before crop emerges. Apply 6-7.7 fl oz/A alone or with a grass herbicide or 5.3-6 fl oz/A tank mixed with atrazine. See label for PRE aerial application to corn in AL,AR,CO,FL,GA,IL,IN,IA,KS,KY,LA,MN,MO,MS,ND,NE,OH,OK,SD,TN,TX. Apply up to 5" corn when mixed with Bicep. Note 3.
<b>DUAL II MAGNUM or BICEP II MAGNUM or BICEP LITE II or MAGNUM</b>	1 pt 1.6 qt 0.9-1.5 qt	1.3-1.67 pt 1.8-2.1 qt 1.5-2 qt	1.3-2 pt 2.1-2.6 qt 1.5-2.2 qt	
<b>CAPRENO</b>	3-6 fl oz			
<b>CHARGER BASIC or MAX</b>	EPP up to 45 days before planting. Split apply 2/3 rate if 30-45 days preplant and remainder at planting. Use a single or split application 0-30 days preplant. PPI 0-14 days before planting. PRE before corn or weeds emerge or EARLY POST to corn up to 5" or layby to 40" tall. Use high end of rate range for yellow nutsedge and black nightshade. Can use up to 2.5 pt/A Charger Basic or Charger Max on soils with 6-20% O.M. May be FALL applied in after Sept. 30 in ND,SD,MN,WI, and North of Rt 30 in IA, after Oct. 15 North of Rt 91 in NE and South of Rt 30 in IA, and after Oct 31 north of Rt 136 in IL. Do not use on coarse soils in FALL. Soil temperature must be <55° F and before soil freeze up (see label). <sup>A</sup> Up to 14 days before planting. Notes 4, 6.			
FALL Minimum or No-till, >2.5% O.M.	–	1.67-2 pt	2 pt	
EPP Minimum or No-till	1.33 pt <sup>A</sup>	1.67 pt	2 pt	
PPI or PRE <3% O.M.	1-1.33 pt	1.33-1.67 pt	1.33-1.67 pt	
PPI or PRE ≥3% O.M.	1.33 pt	1.33-1.67 pt	1.67-2 pt	
<b>CHARGER MAX ATZ or CHARGER MAX ATZ LITE</b>	PP or PPI within 2 weeks of planting. See label for EPP tillage, split applications, residue and state restrictions. PRE or EARLY POST to weeds < 2" or crop <5". On fine textured soils use maximum rates for yellow nutsedge, cocklebur and velvetleaf. Do not use on peat or muck soils. Notes 1, 2, 3, 4.			
EPP Single Application	2.1 qt or 1.5 qt	2.1-2.58 qt or 1.5-1.9 qt	2.1-2.58 qt or 1.9-2.2 qt	
PP, PPI, PRE <3% O.M.	1.3 qt or 0.9 qt	1.6 qt or 1.1-1.5 qt	2.1 qt or 1.5 qt	
PP, PPI, PRE ≥3% O.M.	1.6 qt or 1.1-1.5 qt	2.1 qt or 1.5 qt	2.1-2.58 qt or 1.5-2.2 qt	

See notes on page 41.

# CORN HERBICIDE APPLICATION RATES *Continued*

PREPLANT or PRE CONTINUED	Rate/Acre			Comments/Restrictions	
	Herbicide	Coarse*	Medium		Fine
<b>CINCH</b>	SEE DUAL II MAGNUM				
<b>CINCH ATZ</b>	SEE BICEP II MAGNUM				
<b>CINCH ATZ LITE</b>	SEE BICEP LITE II MAGNUM				
<b>CLARIFIER</b>	SEE STERLING BLUE IN BURNDOWN SECTION				
<b>CLARITY</b>	SEE STERLING BLUE IN BURNDOWN SECTION				
<b>CONFIDENCE/TREMOR NXT</b>				EPP, PPI, PRE. EPP up to 45 days before planting in no-till or conservation tillage. May split apply with 60% 30-45 days before planting and rest at planting. A single application may be made 30 days before planting. PPI within 14 days of planting. Apply up to 14 days before planting on coarse soils. Apply PRE before crop and weed emergence and within 5 days of last tillage. Use 2.5 to 3.4 pt on soils with 6-10% O.M. Notes 4, 6.	
EPP No- or cons. till only	1.5-2 pt	2.25-2.75 pt	2.75-3 pt		
<3% O.M.	1.25-1.75 pt	1.75-2.25 pt	1.75-2.25 pt		
≥3% O.M.	1.75 pt	1.75-2.25 pt	2.25-2.75 pt		
<b>CONFIDENCE XTRA/ TREMOR ATZ LITE NXT</b>				EPP, PPI, or PRE. See Confidence comments for single, split, and PPI application timings. Apply up to 14 days before planting on coarse soils. May use up to 2.7 qt for medium/fine soils with heavy weed pressure. Notes 1, 2, 3, 5, 6.	
EPP No - or cons. till only	1.8 qt	2.3 qt	2.3 qt		
Other uses	1.8 qt	1.8-2.3 qt	2-2.3 qt		
<b>CONFIDENCE XTRA 5.6L/ TREMOR ATZ NXT</b>				EPP, PPI, or PRE. See Confidence comments for single, split, and PPI application timings. Apply up to 14 days before planting on coarse soils. May use up to 2.3 qt on coarse and 2.3-3 qt on medium/fine soils with heavy weed pressure. Notes 1, 2, 3, 5, 6.	
EPP No - or cons. till only	1.7-2.3 qt	2.3-3 qt	2.3-3 qt		
Other uses <3% O.M.	1.4 qt	1.7-2.4 qt	2.3-2.6 qt		
Other uses ≥3% O.M.	1.7 qt	2.3-2.6	2.3-3		
<b>CORNERSTONE BRANDS</b>	SEE BURNDOWN SECTION				
<b>CORVUS</b>	≤2% O.M.	3.33 fl oz	5.6 fl oz	5.6 fl oz	PP or PPI up to 30 days before planting if planned sequential, otherwise 21 days. See remarks below. Corn seed must be covered >1.5". Not labeled in WI. See label for all states and specific restrictions. PP or PPI 0-7 days preplant or PRE before crop or weeds emerge. If soils are ≤ 2% O.M. and ≥ pH 7.5 reduce rate by 0.5 oz. Provides burndown of labeled weeds <6" tall when applied with COC or MSO. 2ee IA,IN,KS,KY,MI,MO,OH,SD,TN (exp. date not given) for tank mix with glyphosate + atrazine (POST) or with dicamba + atrazine. Note 3.
>2% O.M.	5.6 fl oz	5.6 fl oz	5.6 fl oz		
<b>DEGREE XTRA</b>	2.9 qt	2.9-3.7 qt	3.2-3.7 qt	EPP. Apply up to 45 days before planting. Apply PRE before crop or weed emergence. On heavy weed infestations, use up to 4.3 pt on medium or fine textured soil. Can apply EARLY POST up to 11" corn. Notes 1, 2, 3, 5. PRE fb POST. Roundup Ready rate for a sequential program followed by Roundup Ready POST.	
PRE fb POST	2 qt	2 qt	2 qt		
<b>DICAMBA MAX 4</b>	PP/PRE in No-Till	0.5 pt	<2% O.M. 0.5 pt	≥2% O.M. 1 pt	PRE does not require mechanical incorporation to become active, though shallow incorporation recommended if not followed by adequate rainfall or sprinkler irrigation. Avoid equipment that concentrates treated soil over seed furrow.
PRE in Conventional and Reduced Tillage	–	–	≥2% O.M. 1 pt	≥2% O.M. 1 pt	
<b>DIFLEXX</b>	8-16 fl oz				Up to 14 days before or after planting. HSOC-MSO <sup>1</sup> or HSOC-COC <sup>1</sup> at 0.5% v/v should be used to control emerged weeds. 2ee in numerous states (exp. date not given) for reduced rate of 6 fl oz/A in FIELD, POP and SEED, and for reduced rate of 6-10 fl oz/A in POP.
<b>DIFLEXX DUO</b>	20-40 fl oz				Apply when weeds are present using a mixture of DiFlexx DUO with HSOC-MSO <sup>1</sup> or HSOC-COC <sup>1</sup> at 0.5 % v/v.
<b>DIMETRIC EXT + LABELED HERBICIDES</b>	IA, KS, MO, NE, SD 2-5.33 oz: PP 0-30 days 2-5.33 oz: PRE IL, IN, KY, MI, MN, OH, WI 2-5.33 oz: PP 10-30 days 2-4 oz: PP 0-9 days or PRE See label for SWEET corn rates.				PP or PRE. Dimetric EXT aids in the residual control of horseweed, lambsquarters, pigweeds, ragweeds, smartweed, sunflower, velvetleaf and waterhemp when tank mixed with other soil applied corn herbicides. Improves burndown of small weeds. Do not use on coarse soils with <1.5% O.M. Do not use >4 oz on soil with <2% O.M. Do not use on soils with pH >7.0. Plant at least 1.5" deep. May tank mix with 2,4-D LVE in IL, IN, IA, KS, KY, MI, MO, MN, NE, OH, SD, and WI for burndown. See 2,4-D for planting restrictions. 2ee (exp. date not given) in IA, IL, IN, KS, KY, MI, MN, MO, OH, PA, SD,VA,WI for FALL application at 4-12 oz/A. Corn can be planted at normal times at ≤ 5.3 oz. Delay ≥ 4 months for > 5.3 oz.

See notes on page 41.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*Coarse – Sand, loamy sand, sandy loam.

Medium – Loam, silt, silt loam.

Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

\*\* May use other glyphosate herbicides:

Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

O.M. – Soils with low organic matter – use lower rate, with high organic matter – use higher rate within the range.

PREPLANT or PRE CONTINUED	Rate/Acre			Comments/Restrictions
	Coarse*	Medium	Fine	
<b>DUAL MAGNUM or DUAL II MAGNUM or DUAL IIG MAGNUM or DUAL II MAGNUM SI</b> (SI for impregnation only)	Fall Minimum or No-till, >2.5% O.M.			EPP up to 45 days before planting. Split apply 2/3 rate if 30-45 days PP and remainder at planting. Use a single or split application 0-30 days PP. PPI 0-14 days before planting. PRE before corn or weeds emerge or EARLY POST to corn up to 5" or layby to 40" tall. Use high end of rate range for yellow nutsedge and black nightshade. Can use up to 2.5 pt Dual Magnum or Dual II Magnum or 16 lb of granules on soils with 6-20% O.M. May be FALL applied after Sept. 30 in ND, SD, MN,WI, and North of Rt 30 in IA, after Oct. 15 north of Rt 91 in NE and south of Rt 30 in IA, and after Oct. 31 north of Rt 136 in IL. Do not use on coarse soils in FALL. See label for Italian ryegrass control in FALL with Dual Magnum. See label for Italian ryegrass "control in FALL with Dual II Magnum and yellow nutsedge control in ID, OR, and WA in FALL with Dual II Magnum. Soil temperature must be <55° F and before soil freeze up (see label)." See in CO, IA, IL, IN, KS, KY, MI, MO, MN, NE, ND, OH, OK, SD,WI (exp. date not given) for use rates of Dual II Magnum and Dual II Magnum SI on coarse soils. See label. Up to 14 days before planting. When used as part of a 2-pass system rates of Cinch maybe reduced to as low as 1-1.33 pt/A. Notes 4, 6.
	—	1.67-2 pt D, DII	2 pt D, DII	
	—	10-15 lb IIG	12-15 lb IIG	
	—	2-2.4 pt SI	2.4 pt SI	
	EPP Minimum or No-till			
	1.33 pt D, DII <sup>A</sup>	1.67 pt D, DII	2 pt D, DII	
	1.6 pt SI <sup>A</sup>	2 pt SI	2.4 pt SI	
	PPI or PRE < 3% O.M.; EPP for IIG			
	1-1.33 pt D, DII	1.33-1.67 pt D, DII	1.33-1.67 pt D, DII	
	6-8 lb IIG <sup>A</sup>	8-10 lb IIG	8-10 lb IIG	
1.2-1.6 pt SI	1.6-2 pt SI	1.6-2 pt SI		
PPI or PRE ≥ 3% O.M.; EPP for IIG				
1.33 pt D, DII	1.33-1.67 pt D, DII	1.67-2 pt D, DII		
8 lb IIG <sup>A</sup>	8-10 lb IIG	10-12 lb IIG		
1.6 pt SI	1.6-2 pt SI	2-2.4 pt SI		
<b>DUAL II MAGNUM</b>	1.33 pt	1.67 pt	2 pt	EPP. Apply 2/3 of total rate 30-45 days prior to planting with the remainder at planting. If applied 0-29 days prior to planting, use either as a split or single application. On coarse soils, make only a single application 0-14 days prior to planting. Do not use on peat or muck soils. Apply early preplant only in CO, IA, IL, IN, KS, KY, MN, MI, MT, ND, NE, SD,TN,WI,WY. Notes 1, 2, 6.
+	+	+	+	
<b>ATRAZINE 4L or ATRAZINE 90DF</b>	3.2 pt 1.75 lb	3.2-4 pt 1.75-2.2 lb	4 pt 2.2 lb	
<b>DUAL II MAGNUM</b>	1 pt	1-1.33 pt	1.33-1.67 pt	PP or PPI within 2 weeks of planting. PRE from planting to weeds < 2" or crop <5". On fine textured soils use maximum rates for yellow nutsedge, cocklebur and velvetleaf. Do not use on peat or muck soils. Notes 1,2,5, 6.
+	+	+	+	
<b>ATRAZINE 4L or ATRAZINE 90DF</b>	3.2 pt 1.75 lb	3.2-4 pt 1.75-2.2 lb	3.25-4 pt 1.8-2.2 lb	
<b>DURANGO DMA/ DURAMAX</b>	SEE BURNDOWN SECTION			
<b>EXPERT</b>	SEE BURNDOWN SECTION			
<b>FIERCE</b>	SEE BURNDOWN SECTION			
<b>FRAMEWORK or PROWL H2O</b> (alone or) +	1.8-3.6 pt 2-3 pt +	2.4-4.8 pt 3-4 pt +	2.4-4.8 pt 3-4 pt +	PRE after planting but before crop or weeds emerge. Do not incorporate. If cultivation is necessary, use rotary hoe. Plant corn at least 1.5" deep. Can apply alone or with atrazine POST-plant incorporated or layby at reduced rates from 4" corn to last cultivation. Use on SWEET corn only for processing. Note 1.
<b>ATRAZINE 4L or ATRAZINE 90DF</b>	1 qt 1.1 lb	1-1.6 qt 1.1-1.78 lb	1-1.6 qt 1.1-1.78 lb	
<b>FULTIME NXT</b>	2.9 qt	2.9-3.7 qt	3.2-3.7 qt	
<b>GRAMOXONE SL/SL 2.0</b>	SEE BURNDOWN SECTION			
<b>HARMONY SG</b>	SEE BURNDOWN SECTION			
<b>HARNES</b> EPP No- or cons. till only <3% O.M. ≥3% O.M. PRE fb POST	1.5-2 pt 1.25-1.75 pt 1.75 pt 1.5 pt	2.25-2.75 pt 1.75-2.25 pt 1.75-2.25 pt 1.5 pt	2.75-3 pt 1.75-2.25 pt 2.25-2.75 pt 1.5 pt	EPP, PPI, PRE. EPP up to 45 days before planting in no-till or conservation tillage. May split apply with 60% 30-45 days before planting and rest at planting. A single application may be made less than 30 days before planting. PPI within 14 days of planting. Apply up to 14 days before planting on coarse soils. Apply PRE before crop and weed emergence and within 5 days of last tillage. Use 2.5 to 3.4 pt/A on soils with 6-10% O.M. Notes 4, 6.  PRE <sup>fb</sup> POST. Roundup Ready rate for a sequential program followed by Roundup Ready POST. Do not apply POST to SWEET corn. Note 7. FALL Supplement label (exp. date not given) in IA, MN, ND, SD,WI and NE (north of Rte 91) and IL (north of Rte 136): Apply after Sept. 20 when soils are <55° F but before ground freezes.
<b>HARNES</b> +	1-1.175 pt +	1.25-2.25 pt +	1.75-2.25 pt +	
<b>ATRAZINE 4L or ATRAZINE 90DF</b>	1.25-2 qt 1.4-2.2 lb	1.25-2 qt 1.4-2.2 lb	1.5-2 qt 1.67-2.2 lb	PPI within 14 days of planting or PRE before weed and crop emergence and within 5 days of last tillage. Tank mixes with 1 pt Banvel/Clarity/Sterling Blue/Clarifier can be applied PRE or EARLY POST on corn up to 8" (products containing dicamba can cause corn injury if applied before corn emergence). With these tank mixes, plant corn >1.5" deep. Notes 1, 2, 5, 6.

See notes on page 41.

# CORN HERBICIDE APPLICATION RATES *Continued*

PREPLANT or PRE CONTINUED	Rate/Acre			Comments/Restrictions
	Herbicide	Coarse*	Medium	
<b>HARNESS 20G</b>	6-8 lb	8-10 lb	8-12 lb	EPP (including FALL), PPI, or PRE. Note 5.
<b>HARNESS XTRA/ CONFIDENCE XTRA/ TREMOR ATZ LITE NXT</b>				EPP, PPI, or PRE. See Harness comments for single, split, and PPI application timings. Apply up to 14 days before planting on coarse soils. May use up to 2.7 qt for medium/fine soils with heavy weed pressure. Notes 1, 2, 3, 5, 6.
EPP No - or cons. till only	1.8 qt	2.3 qt	2.3 qt	PRE fb POST. Roundup Ready Rate for a sequential program followed by Roundup Ready POST. Do not apply POST to SWEET corn. Note 7.
Other uses	1.8 qt	1.8-2.3 qt	2-2.3 qt	
PRE fb POST	1.2 qt	1.2 qt	1.2 qt	
<b>HARNESS XTRA 5.6L</b>				EPP, PPI, or PRE. See Harness comments for single, split, and PPI application timings. Apply up to 14 days before planting on coarse soils. May use up to 2.7 qt for medium/fine soils with heavy weed pressure. Notes 1, 2, 3, 5, 6.
EPP No - or cons. till only	1.7-2.3 qt	2.3-3 qt	2.3-3 qt	PRE fb POST. Roundup Ready Rate for a sequential program followed by Roundup Ready POST. Do not apply POST to SWEET corn. Note 7.
Other uses <3% O.M.	1.4 qt	1.7-2.4 qt	2.3-2.6 qt	
Other uses ≥3% O.M.	1.7 qt	2.3-2.6 qt	2.3-3	
PRE fb POST	1.5 qt	1.5 qt	1.5 qt	
<b>HORNET WDG</b> <3% O.M. >3% O.M.	4 oz 4-5 oz	4-5 oz 5 oz	4-5 oz 5 oz	EPP or PPI (2-3") 0-30 days prior to planting. Add a burndown herbicide for emerged weeds. Apply PRE at or after planting until spike stage (<2") corn or weed emergence. Plant corn >1.5" deep and close furrow. Do not use Counter or Thimet. Apply other soil organophosphate insecticides in a T-Band. Use low end of rates if soil O.M.% is <3%. To avoid corn injury, do not apply if soil pH >7.8 or if soil O.M.<1.5%. or if soil pH <5.9 and O.M. >5%. See Technical Bulletin in IA, IL, MN, and WI for rotational Interval for SWEET Corn.
<b>HORNET WDG</b> <3% O.M. >3% O.M.	3 oz 4 oz			Reduced rates for use in tank mixes with atrazine-containing formulations such as Bicep, Degree Xtra, and Confidence Xtra, Tremor ATZ Lite NXT, or Harness Xtra. Tank mixes provide improved control of velvetleaf, lambsquarter, and pigweeds including waterhemp. See remarks for Hornet WDG above.
<b>INCINERATE</b>	SEE CALLISTO			
<b>INSTIGATE</b>	Do not apply on coarse soils	5.25-7 oz	5.25-7 oz	PP, PRE. Instigate also has activity on emerged weeds <3". Add atrazine for broader spectrum and longer residual. Typical use rate is 6 oz for most soils. Use higher rates on fine soils and on soils with >3% OM. Do not apply to coarse soils with <1% OM. Do not make more than 1 application per season. Include a COC, MSO, or NIS in PP or PRE applications. May be applied up to 14 days before planting. PPI up to 2" deep. Do not apply within 45 days of crop emergence where Counter has been applied. Aerial application 2 GPA PRE in AL, AR, CO, FL, GA, IL, IN, IA, KS, KY, LA, MN, MS, MO, NE, ND, OH, OK, SD, TN, TX.
<b>KEYSTONE LA NXT/ BREAKFREE NXT LITE</b>				EPP, PPI, or PRE. See Harness Xtra comments for single, split, and PPI application timings. Apply up to 14 days before planting on coarse soils. May use up to 2.7 qt for medium/fine soils with heavy weed pressure. Notes 1, 2, 3, 5, 6.
EPP No - or cons. till only	1.8 qt	2.3 qt	2.3 qt	
Other uses	1.8 qt	1.8-2.3 qt	2-2.3 qt	
<b>KEYSTONE NXT/ BREAKFREE NXT ATZ</b>				EPP, PPI, or PRE. See Harness Xtra 5.6L comments for single, split, and PPI application timings. Apply up to 14 days before planting on coarse soil. May use up to 2.3 qt/A on coarse and 2.3-3 qt/A on medium/fine soils with heavy weed pressure. Notes 1, 2, 3, 5, 6.
EPP No - or cons. till only	1.7-2.3 qt	2.3-3 qt	2.3-3 qt	
Other uses <3% O.M.	1.4 qt	1.7-2.4 qt	2.3-2.6 qt	
Other uses ≥3% O.M.	1.7 qt	2.3-2.6 qt	2.3-3 qt	
<b>KOCHIAVORE</b>	Do not use	1-1.5 pt	1-1.5 pt	PP delay planting and tillage for a minimum of 7 days after application. PRE and reduced tillage applications after planting to control emerged broadleaf weeds; seed furrow must be completely closed. Limit of 1 PP or PRE application/season. Maximum 3 pt/A/season.
<b>LEADOFF</b>	1.5-2.7 oz			PP or PRE. Apply in FALL after crop harvest through early SPRING up to planting. Apply before crop emergence. Do not apply to coarse soils with <1% OM. Do not apply Counter within 60 days of application. Allow 3 weeks between PRE applications of Leadoff and POST applications of rimsulfuron products.
<b>LEXAR EZ</b> <3% O.M. ≥3% O.M.	3 qt 3.5 qt			PP or PRE. Apply up to 14 days before planting or PRE before crop emerges. Include HSOC-COC <sup>1</sup> and AMS for burndown. Use ≥ 2.25 qt/A in a planned sequential program on glyphosate tolerant corn. Do not apply more than 3.5 qt/A or 2.5 lb/A atrazine or 3.75 lb/A of s-metolachlor/year. Do not use on soils with > 10% O.M. Do not mix with OPs or carbamates or follow Counter. Do not make an additional application of any mesotrione containing products to corn treated with Lexar EZ. Notes 1, 2, 3, 6.
<b>LIBERTY 280SL</b>	SEE BURNDOWN SECTION			
<b>LOROX DF/LINEX 4L</b>	1-1.5 lb/1-1.5 pt			PRE. Before crop emerges. East of Rocky mountains only.

See notes on page 41.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*Coarse – Sand, loamy sand, sandy loam.

Medium – Loam, silt, silt loam.

Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

\*\* May use other glyphosate herbicides:

Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

O.M. – Soils with low organic matter – use lower rate, with high organic matter – use higher rate within the range.

PREPLANT or PRE CONTINUED	Rate/Acre			Comments/Restrictions
	Herbicide	Coarse*	Medium	
<b>LUMAX EZ</b> <3% O.M. ≥3% O.M.	2.7 qt 3.25 qt			PP or PRE. Apply up to 14 days before planting or PRE before weeds emerge. SWEET corn before crop emergence only. Tank mixes include Gramoxone SL/SL 2.0 or glyphosate for emerged weeds. Include HSOC-COC or HSOC-MSO <sup>1</sup> and AMS for burndown. Apply ≥ 2 qt/A in a planned sequential program on glyphosate tolerant corn. Do not apply more than 3.25 qt/A Lumax EZ or 2.5 lb/A atrazine or 3.75 lb/A of s-metolachlor per year. Lumax EZ contains 0.935 lb a.i. atrazine/gal. Do not use on soils with >10% O.M. Do not mix with OP's or carbamates or follow Counter. Do not make an additional application of any mesotrione containing products to corn treated with Lumax EZ. Notes 1, 2, 3, 6.
<b>METRICLUDE EXT</b>	SEE DIMETRIC EXT			
<b>OPTIFY</b>	5-12 fl oz			Plant Growth Regulator. At planting: Apply at 5 fl oz/A with liquid fertilizer. Broadcast: Apply at 8-12 fl oz/A. Via irrigation: Apply at 8 fl oz/A. Best results when applied with nutrients. Repeat application ≥7 days. Do not apply >24 oz/A/season.
<b>OUTLOOK</b>				PP, PPI, or PRE. Apply up to 45 days before planting. Use 21 fl oz for all EPP (15-45 days). EPP not recommended on coarse soils. May split by using 2/3 early and 1/3 at planting. PPI 1-2" up to 14 days before planting. PRE before crop emergence.
Spring <3% O.M.	12-14 fl oz	14-18 fl oz	14-18 fl oz	PP FALL in minimum or no-till. In ND, SD, MN, WI, IA, IL north of Hwy 136, and NE north of Hwy 91. Apply after Oct. 1 to medium and fine soils >2.5% O.M. when soil <55° F and before ground freezes. If tilling, go no deeper than 2-3". Note 6.
Spring ≥3% O.M.	14-18 fl oz	18-21 fl oz	18-21 fl oz	
Fall	Do not use	Up to 21 fl oz	Up to 21 fl oz	
<b>PREQUEL</b>	1.66-2.5 oz			PPI, PP or PRE. PPI up to 21 days before planting, 30 days if used in a sequential program. PP or PRE prior to crop emergence. Include NIS or COC with UAN for burndown of emerged weeds. If weeds are >3", include a burndown herbicide. Labeled in AR, CO, IL, IN, IA, KS, KY, MO, MT, NE, ND, OH, OK, PA, SD, TN, TX, WY. See label for O.M., pH and other restrictions. Corn must be planted >1" deep. See label for counties that prohibit use. Note 8
<b>PRINCEP 4L or PRINCEP CALIBER 90</b>	1 qt or 1.1 lb			FALL, EPP, PPI or PRE. Labeled up to 2 qt or 2.2 lb in SPRING. Use lower rates on coarse-textured soils and soils with low O.M. Tank mix with Bicep formulations or Atrazine. When tank mixing with atrazine products, do not exceed 2.5 lbs ai/A combined atrazine and simazine. Princep provides soil residual control of late-germinating weeds such as crabgrass and fall panicum. Less burndown action than other triazines. See label for rotation and use area restrictions. May apply in FALL at 1 qt or 1.1 lb after harvest and before weeds emerge. Do not apply to frozen ground. Not labeled for silage corn.
<b>PYTHON WDG</b>	0.8-1 oz	0.89-1.33 oz	0.89-1.33 oz	EPP, FALL or SPRING, PP or PPI (2-3") up to 30 days prior to planting. Add burndown herbicides for emerged weeds. In FALL, apply 0.8-1 oz in tank mixes after soil < 50° F and to ≤ 4" weeds. Apply PRE through the spike stage (<2") of corn. Plant corn >1.5" deep. Use upper end of rates if soil O.M. is >3% or for specific weeds. Do not use if soil organic matter <1.5% or if soil pH >7.8; or if soil pH <5.9 and O.M. >5%. Do not use on peat or muck soils. Use 0.8-1 oz Python with atrazine containing tank mixes for consistent control of velvetleaf, lambsquarter, pigweed, waterhemp (including triazine-tolerant biotypes). Observe insecticide restrictions.
<b>RESICORE</b> <3% O.M. ≥3% O.M.	2.25 qt 2.5 qt	2.5 qt 2.75 qt	2.75 qt 3 qt	Do not apply >3.25 qt/A/year. Do not make more than two applications/year. Do not use on soils with >10% O.M. Apply up to 28 days prior to planting (PP) or before crop emerges (PRE). Notes 3, 5, 6.
<b>RESOLVE Q</b>	1.25-2.5 fl oz			PP or PRE for field corn only. May be incorporated ≤ 2". Use HSOC-MSO <sup>1</sup> or HSOC-COC <sup>1</sup> plus UAN or AMS for burndown of emerged weeds. Do not exceed 1.25 oz PRE if following with rimsulfuron POST. Do not apply to coarse soils with <1% O.M.
<b>ROUNDUP WEATHERMAX**</b>	SEE BURNDOWN SECTION			
<b>RT 3</b>	SEE BURNDOWN SECTION			
<b>RUGGED</b>	SEE BURNDOWN SECTION			
<b>SEQUENCE</b>	SEE BURNDOWN SECTION			
<b>SHARPEN</b>	SEE BURNDOWN SECTION			
<b>SIMAZINE 4L</b>	PP Up to 2.5 qt PRE Up to 2 qt			Product labels from individual registrants vary in formulation and rate/A. Check labels. FALL, PP, or PRE. PP best if applied within 2 weeks of planting. PRE prior to weed and corn emergence. FALL up to 1 qt or 1.1 lb. See Princep comments.
<b>STARANE ULTRA</b>	0.4 pt			PP for emerged volunteer potato or emerged weeds. For best results, plant corn 2 weeks after applying to potato.
<b>STERLING BLUE/ CLARITY/ CLARIFIER or BANVEL</b>	SEE BURNDOWN SECTION			
<b>SURESTART II</b>	SEE THREESIDUAL			

See notes on page 41.

# CORN HERBICIDE APPLICATION RATES *Continued*

PREPLANT or PRE CONTINUED	Rate/Acre			Comments/Restrictions
	Herbicide	Coarse*	Medium	
<b>SURPASS NXT/ BREAKFREE NXT</b>				
EPP No- or cons. till only	1.5-2 pt	2.25-2.75 pt	2.75-3 pt	EPP, PPI, PRE. FALL only in IA, MN, ND, SD, WI, NE (north of Rte 91), and IL (north of Rte 136) after soybean harvest and prior to corn, after Sept 30 when soils are <55° F but before ground freezes. EPP up to 45 days before planting in no-till or conservation tillage. May split apply with 60% 30-45 days before planting and rest at planting. A single application may be made less than 30 days before planting. PPI within 14 days of planting. Apply up to 14 days before planting on coarse soils. Apply PRE before crop and weed emergence and within 5 days of last tillage. Use 2.5 to 3.4 pt on soils with 6-10% O.M. Notes 4, 6.
<3% O.M.	1.25-1.75 pt	1.75-2.25 pt	1.75-2.25 pt	
≥3% O.M.	1.75 pt	1.75-2.25 pt	2.25-2.75 pt	
<b>SURPASS NXT</b>	1-1.175 pt	1.25-2.25 pt	1.75-2.25 pt	PPI within 14 days of planting or PRE before weed and crop emergence and within 5 days of last tillage. Tank mixes with 1 pt Banvel/Clarity/Sterling Blue/Clarifier can be applied PRE or EARLY POST on corn up to 8" (products containing dicamba can cause corn injury if applied before corn emergence). With these tank mixes, plant corn >1.5" deep. Notes 1, 2, 5, 6.
+	+	+	+	
<b>ATRAZINE 4L or</b> <b>ATRAZINE 90DF</b>	1.25-2 qt 1.4-2.2 lb	1.25-2 qt 1.4-2.2 lb	1.5-2 qt 1.67-2.2 lb	
<b>THREESIDUAL/ SURESTART II/ TRIPLEFLEX II</b>				FALL, EPP, PPI, PRE or EARLY POST up to 11" corn. FALL to soybean stubble after October 15 - soil temperature <50°F at 4" and before ground freezes. Medium and fine soils with >2.5% O.M. only. May apply 21 or more days prior to planting. Use in herbicide tolerant corn, such as Roundup Ready or Liberty Link field and silage corn and conventional corn. Provides early season control of grass and broadleaf weeds to allow for optimal timing of the in-crop POST glyphosate or glufosinate. Do not apply >3 pt in a single application or >3.5 pt/A/ crop season. To avoid crop injury, plant corn at least 1.5" deep and close furrow. Do not use terbufos or phorate insecticides. Apply all other OP insecticides in a T-band or band. Do not apply if soil pH >7.8 or if soil O.M. <1.5% or soil pH <5.9 and soil OM >5%. Do not tank mix with liquid OP insecticides in POST applications. See Technical Bulletin for SureStart II, 8.5 month rotation interval to certain SWEET corn. Notes 4, 8.
<3% O.M.	1.5-2 pt	1.5-2.5 pt	2-3 pt	
≥3% O.M.	1.5-2 pt	1.75-3 pt	2-3 pt	
<b>TOMAHAWK BRANDS</b>	SEE BURNDOWN SECTION			
<b>TREMOR ATZ LITE NXT</b>	SEE CONFIDENCE XTRA			
<b>TREMOR ATZ NXT</b>	SEE CONFIDENCE XTRA 5.6L			
<b>TRIPLEFLEX II</b>	SEE THREESIDUAL			
<b>VALOR/ROWEL</b>	SEE BURNDOWN SECTION			
<b>VERDICT</b>	10-12 fl oz + 0.75 pt HSOC-MSO <sup>1</sup> + 8.5-17 lb AMS or 1.25-2.5 gal UAN/100 gal	13-15 fl oz	16-18 fl oz	EPP, PPI or PRE. Planned sequential rates to be followed by a POST treatment. Apply up to 30 days before planting or PPI 2" up to 14 days before planting. PRE before corn emerges. FALL after October 1 in IA, MN, ND, SD, and WI. Use 20-25 fl oz/A on medium to fine texture soils with >2.5% O.M. Soil temperature <55°F at 4" and before ground freezes. Do not apply when at-planting OP or carbamate insecticide is planned or has occurred. May be tank mixed with other herbicides. Provides burndown of many broadleaves plus residual control of broadleaves and grasses. Supplemental label (exp. 3/2019) for processing SWEET corn. Note 8.
<b>WARRANT</b>	<3% O.M. >3% O.M.	1.5-2.75 qt 2-3 qt		PP, PRE only in AL, AR, GA, HI, LA, MS, NM, NC, OK, SC, TN, TX, and VA only. Apply broadcast to the soil surface. Do not apply to SWEET corn. Do not exceed 4 qt/A/ season.
<b>ZEMAX</b>	<3% O.M. ≥3% O.M.	2 qt 2.4 qt		PP, PRE. Apply up to 14 days prior to planting. Maximum 2.4 qt per growing season.
<b>ZIDUA/ZIDUA SC</b>	1-2 oz/2.5-4 fl oz	1.5-3 oz/3.25-5 fl oz	2-4 oz/4-6.5 fl oz	FALL, PP, PPI, PRE. Planned sequential rates. FALL applications use PP rates. PP and PPI up to 14 days before planting. PRE before crop emerges. Maximum 2.75 oz/A/season on coarse soils and 5 oz/A/season on medium and fine soils. Rates shown are reduced for planned sequential POST. Full rates are coarse: 1.5-2.75 oz/A, medium: 2-3 oz/A, fine: 2.5-4 oz/A. Check with seed company for tolerance of SWEET, POP and SEED corn. PP not recommended: On coarse soils; in areas with >40" rainfall and/or irrigation; for POP or SWEET corn. Note 8.
<b>2,4-D</b>	SEE BURNDOWN SECTION			

See notes on page 41.

1 Between and Soperb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*Coarse – Sand, loamy sand, sandy loam.

Medium – Loam, silt, silt loam.

Fine – Silty clay loam, sandy clay loam, silty clay, sandy clay, clay loam, clay.

\*\* May use other glyphosate herbicides:

Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

O.M. – Soils with low organic matter – use lower rate, with high organic matter – use higher rate within the range.



**NOTE 1:** Do not exceed maximum rate of Atrazine allowed per year. **FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE:** Do not apply within 66' of points where field runoff enters perennial or intermittent streams or rivers. This buffer zone around stand pipes is not required if the atrazine applied in this buffer zone is incorporated into the soil after application, if area is managed under no-till system combined with high crop residue management. Mixing, loading, rinsing or washing is permitted within 50' of a well only if conducted on an impervious pad constructed to meet standards specified on the label. **On Highly Erodible Soils** (as defined by NRCS) In conservation tillage leave  $\geq 30\%$  of the soil covered with plant residues at planting, apply a maximum of 2 lb (active ingredient)/A as a broadcast spray. If the soil coverage with plant residue is less than 30% at planting, a maximum of 1.6 lb (active ingredient) per acre may be applied as a broadcast spray. **On Soils Not Highly Erodible** Apply a maximum of 2 lb (active ingredient) per acre as a broadcast spray. Do not mix, load or apply within 50' of any well or sinkhole. Do not apply within 200' of a natural or impounded lake or reservoir.

**NOTE 2:** These combination products contain the following amounts of atrazine: Anthem ATZ (each qt) 1.0015 lb; Bicep II Magnum/Charger MAX ATZ/Cinch ATZ (each qt) 0.6675 lb; – Bicep Lite II Magnum/Charger MAX ATZ Lite/Cinch ATZ Lite (each qt) 0.4175 lb; – Confidence Xtra/Tremor ATZ Lite NXT (each qt) 0.625 lb; – Conf. Xtra 5.6L/Tremor ATZ NXT (each qt) 0.425 lb; – Degree Xtra (each qt) 1.34 lb; – Expert (each qt) 0.53 lb; – Harness Xtra 5.6L (each qt) 0.625 lb; – Harness Xtra 6L (each qt) 0.425 lb; FulTime NXT (each qt) 0.335 lb; – Keystone NXT (each qt) 0.625 lb; – Keystone LA NXT (each qt) 0.425 lb; – Lexar EZ (each qt) 0.44 lb; – Lumax EZ (each qt) 0.23 lb.

**NOTE 3:** Not recommended if there is a risk of groundwater contamination.

**NOTE 4:** The maximum rate of Dual II MAGNUM/CHARGER MAX/CINCH for hard- to-kill weeds may be increased to: coarse 2 pt, medium 2.5 pt, fine 3 pt.

**NOTE 5:** If ground water level is 30 feet or less, DO NOT APPLY to sands with  $< 3\%$  O.M. – to loamy sands  $< 2\%$  O.M. – to sandy loams  $< 1\%$  O.M. Only one treatment may be applied to a labeled crop. Do not mix or load within 50' of any wells, sinkholes, intermittent streams and rivers and lakes and reservoirs, except as permitted on an impervious pad.

**NOTE 6:** Can be applied at certain POST timings; see POST section.

**NOTE 7:** The Roundup Ready Rate may be used PRE in a planned PRE/POST program when followed by Roundup herbicide labeled for Roundup Ready Corn 2.

**NOTE 8:** These herbicides are designed primarily for use as a planned PRE followed by a POST herbicide. Check with seed company for tolerance of sweet corn, popcorn and seed corn.

# IDENTIFYING STAGES OF DEVELOPMENT IN CORN

The staging system described here (often referred to as the Iowa State staging system) divides plant development into vegetative (V) and reproductive (R) stages (Table 1). Subdivisions of the V stages are designated numerically as V1, V2, V3, etc. through V(n), where (n) represents the last leaf stage before VT for the specific hybrid under consideration. The first and last V stages are designated as VE (emergence) and VT (tasseling). The (n) will fluctuate with hybrid and environmental differences. The six subdivisions of the reproductive stages are designated numerically with their common names in Table 1.

**Table 1. Vegetative and reproductive stages of a corn plant.\***

Vegetative Stages	Reproductive Stages
VE emergence	R1 silking
V1 first leaf	R2 blister
V2 second leaf	R3 milk
V3 third leaf	R4 dough
●	R5 dent
●	R6 physiological maturity
●	
V(n) nth leaf	
VT tasseling	

**\*This system accurately identifies the stages of a corn plant. However, all plants in a given field will not be in the same stage at the same time. When staging a field of corn, each specific V or R stage is defined only when 50 percent or more of the plants in the field are in or beyond that stage.**

- Spike Stage or VE.** Emergence of the coleoptile above the soil surface.
- First Leaf (V1)** – emerges from coleoptile with rounded tip. Some herbicide labels do not count this leaf as a “true leaf.”
- “True” Leaves (V2-Vn)** – all leaves with pointed leaf tip.
- Tassel (VT)** – bottom-most branch of tassel completely visible and silk has not emerged.
- Silking (R1)** – silks visible outside husks.
- Blister (R2)** – kernels white on outside, clear liquid inside.
- Milk (R3)** – kernel yellow outside, milky white fluid inside.
- Dough (R4)** – kernel fluid thick/pasty, cob pink or red.
- Dent (R5)** – most kernels at least partially dented.
- Physiological Maturity (R6)** – milk line no longer evident, black layer formed. Maximum dry weight is attained.

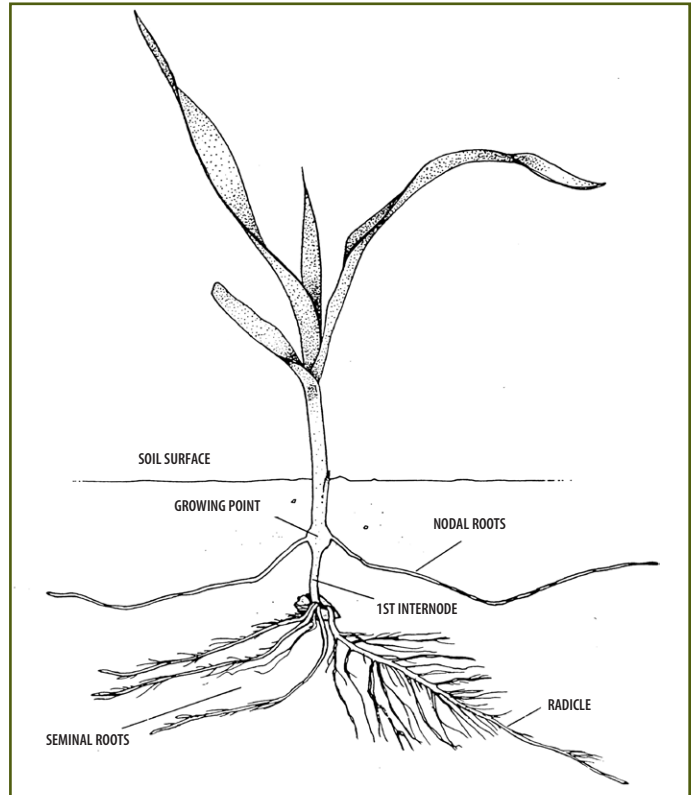
Herbicide labels refer to the stage of development of corn based on plant height or leaf stage. **Corn height is generally defined as “free standing” or the height of the arch of the highest leaf that is at least 50% developed.** Corn height is less accurate than leaf number in determining growth stage. However, there are several different methods of counting leaves.

**1. Leaf Collar Method:** This staging method is the most common on labels. Count all leaves including the first leaf with a rounded tip which have formed a visible collar. This method is used in “How a Corn Plant Develops” Special Report No. 48 Iowa State University.

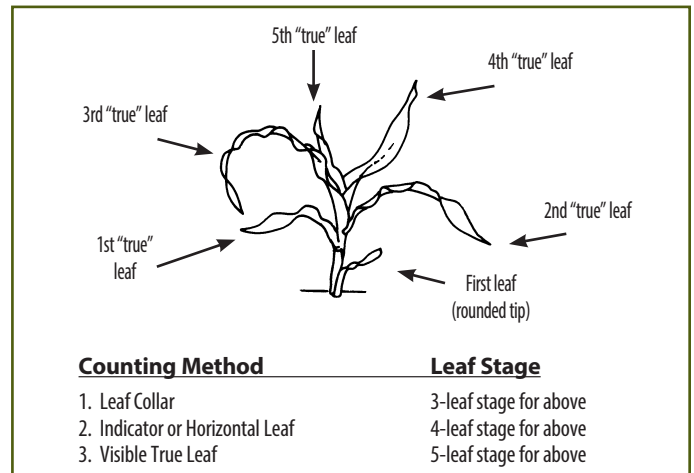
**2. Indicator Leaf or Horizontal Leaf Method:** Counts all leaves, including the first leaf, to the indicator leaf – the uppermost leaf that is 50% exposed from the whorl and whose tip points below a horizontal line. Used by hail insurance adjusters.

**3. Visible True Leaf Method:** Does not count the first leaf with the rounded tip. Method used on some herbicide labels.

Each leaf stage is defined according to the uppermost leaf whose leaf collar is visible. An example of a two leaf corn plant is given in Figure 1 and 2. The first part of the collar that is visible is the back which appears as a discolored line between the leaf blade and leaf sheath. The characteristically oval-tipped first leaf is a reference point for counting upward to the top visible leaf collar.



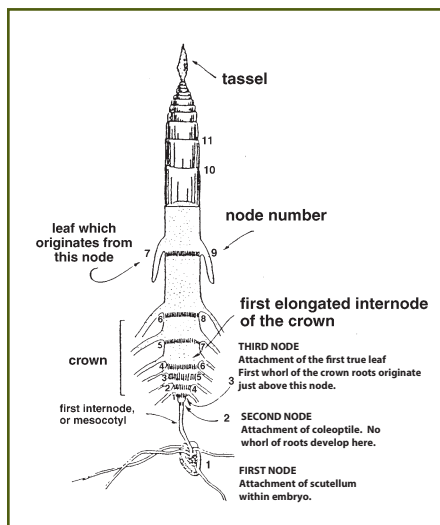
**Figure 1. Corn roots.**



**Figure 2. Example of corn leaf stage by 3 leaf counting methods.**

**Source:** “How a Corn Plant Develops” Special Report No. 48 Iowa State University

Beginning at about V6, however, increasing stalk and nodal root growth combine to tear small lowest leaves from plant. Degeneration and eventual loss of leaves results. To determine the leaf stage after lower leaf loss, split the lower stalk lengthwise (see fig. 3) and inspect for internode elongation. The first node above the first elongated stalk internode generally is the fifth leaf node. This internode usually is about one centimeter (0.4 inch) in length. This fifth leaf node may be used as a replacement reference point for counting to the top leaf collar.



**Figure 3. Split lower corn stalk method for determining leaf stage when lower leaves have been lost.**

## RATE OF DEVELOPMENT

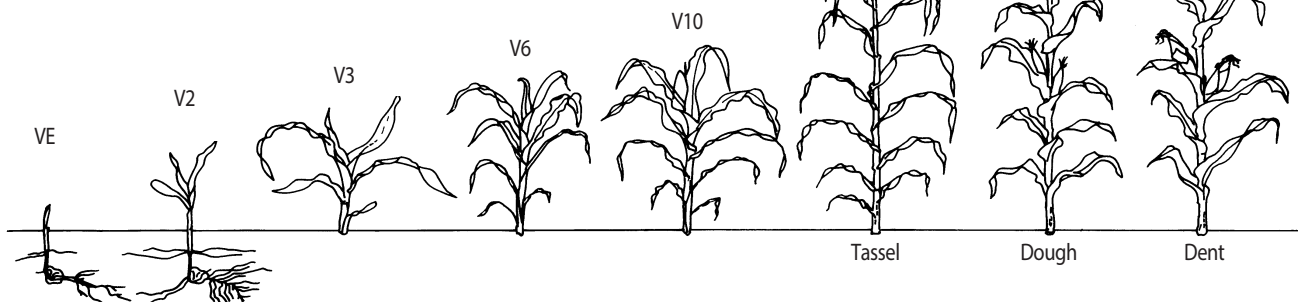
Emergence may occur as rapidly as 4 or 5 days after planting in warm moist soil, or may take 3 weeks or more in cool soils. A new leaf will appear about every 3 days during early growth, while later leaves developing during warmer conditions may appear in 1 to 2 days. Full season hybrids in central Iowa typically produce 20 to 21 leaves. Earlier maturing hybrids will produce fewer leaves.

The rate of development after pollination is given in Table 2. Keep in mind that development may be faster than suggested here under higher than normal temperatures or slower under lower than normal temperatures.

**Table 2. Days after pollination for reproductive growth stages.**

Kernel Growth Stage	Days After Pollination
Pre-blister .....	9
Blister.....	13
Early Milk.....	17
Milk.....	21
Late Milk.....	25
Soft Dough.....	30
Early Dent .....	35
Dented.....	40
Late Dent .....	45
Half Milk Line.....	50
Mature.....	55

## CORN GROWTH STAGES (Leaf collar method)



Source: "How a Corn Plant Develops" Special Report No. 48 Iowa State University

## POSTEMERGENCE HERBICIDES

**ADJUVANTS** — The choice of a nonionic surfactant (Preference), crop oil concentrate (Superb HC), methylated soy oil (Destiny HC), and/or fertilizer additive depends on environmental conditions, crop and weed size and vigor and other variables. Check herbicide labels for these conditions to prevent poor herbicide performance and/or crop injury.

**HERBICIDE APPLICATION TIMING** is a very important. Weeds and grasses are more easily controlled, with less chemical, when they are small and actively growing. Large crop and weed canopies shelter smaller weeds and prevent the adequate spray coverage that is necessary for contact herbicides to work well. When both broadleaf weeds and grasses are problems after crop emergence, use both a broadleaf herbicide and a grass herbicide (Section). Sometimes these can be applied together, but other times they should be applied separately.

**CONDITIONS THAT DICTATE THE CHOICE** — If weeds and grasses are small and about the same size, and perennial grasses are not a problem, then a tank mix will save time and application costs. In some cases, there is an antagonism between the broadleaf herbicide and grass herbicide mixed together, so that it is necessary to increase the rate of the latter.

**CULTIVATION** — Cultivation 7-14 days after a POST application can greatly improve the effectiveness of a weed control program. Cultivation during, or within 7 days before or after a foliar herbicide application, can result in erratic control. Cultivation severs weed roots and prevents translocation of systemic herbicides to the weed roots. Cultivation during application may create dust which then may reduce the effectiveness of foliar herbicides.

# APPLICATION TIMING

Preplant surface
  Preemergence surface
  Preplant incorporated and preplant surface

Herbicide	Days before planting (maximum)									
	Fall	**	45	30	21	14	7	0	PRE	
<b>Acuron</b> - field/seed/pop/sweet										
<b>Acuron Flexi</b> - field/seed/pop/sweet										
<b>Aim EC</b> - field/seed/pop/sweet										
<b>Alluvex</b> - field									emerged weeds	
<b>Anthem, Anthem MAXX or ATZ</b> - field/seed/pop/sweet										
<b>Autumn</b> - field/seed/pop/sweet	at least 90 d prior to seed/pop/sweet; 30 d prior to field									
<b>Autumn Super</b> - field/seed/pop										
<b>Atrazine</b> - field/seed/pop/sweet										
<b>Balance FLEXX/Corvus</b> - field/seed					21 d or up to 30 d if planned sequential; geographic restrictions					
<b>Banvel/Clarity/Sterling Blue</b> - field/seed/pop										
<b>Basis Blend</b> - seed										
<b>Bicep(s)/Ch. Max ATZ(s)/Cinch ATZ(s)</b> - field/seed/pop/sweet				split appl.	single or split appl.					
<b>Cadet</b> - field/seed/pop/sweet										
<b>Callisto</b> - field/seed/pop/sweet										
<b>Capreno</b> - field/seed										
<b>Charger Basic or Max/Cinch/Dual(s)</b> - field/seed/pop/sweet				split appl.	single or split appl.				pre-weed emergence	
<b>Cornerstone, Cornerstone Plus or 5 Plus</b> - field/seed/pop/sweet									emerged weeds	
<b>Confidence</b> - field/seed/pop/sweet									w/in 5 d of last tillage	
<b>Confidence Xtra or Xtra 5.6L/Degree Xtra/ FulTime NXT</b> - field/seed/pop/sweet									w/in 5 d of last tillage	
<b>DiFlexx</b> - field/seed/pop										
<b>Dimetric EXT /BL2/Metriclude EXT</b> - field										
<b>Distinct</b> - field/seed/pop					>6 oz	4-6 oz				
<b>Durango DMA/Duramax</b> - field/seed/pop/sweet										
<b>Enlist Duo/One</b>	Up to plant for Enlist Corn. 7-14 days before plant for Non-Enlist-Rate dependent.									
<b>Elevore</b> - field/seed/pop/sweet										
<b>Eradicane 6.7E</b> - field/seed/pop/sweet								PPI only		
<b>Fierce</b> - field	see label for tillage and planting restrictions 30 d before planting									
<b>Framework/Prowl H<sub>2</sub>O</b> - field/seed/pop/sweet									pre-weed emergence	
<b>Gramoxone SL or SL 2.0</b> - field/seed/pop/sweet									emerged weeds	
<b>Harmony Extra SG/Express</b> - field		pop/sweet: 45 d; field/seed 21 d on light text. soils or pH >7.9, otherwise 14 d								
<b>Harmony SG</b> - field									emerged weeds	
<b>Harness or Harness 20G</b> - field/seed/pop/sweet									w/in 5 d of last tillage	
<b>Harness Xtra or Xtra 5.6L</b> - field/seed/pop/sweet									w/in 5 d of last tillage	
<b>Hornet WDG</b> - field/seed										
<b>Instigate</b> - field									emerged weeds	
<b>Keystone NXT or LA NXT</b> - field/seed/pop/sweet										

Preplant surface
  Preemergence surface
  Preplant incorporated and preplant surface

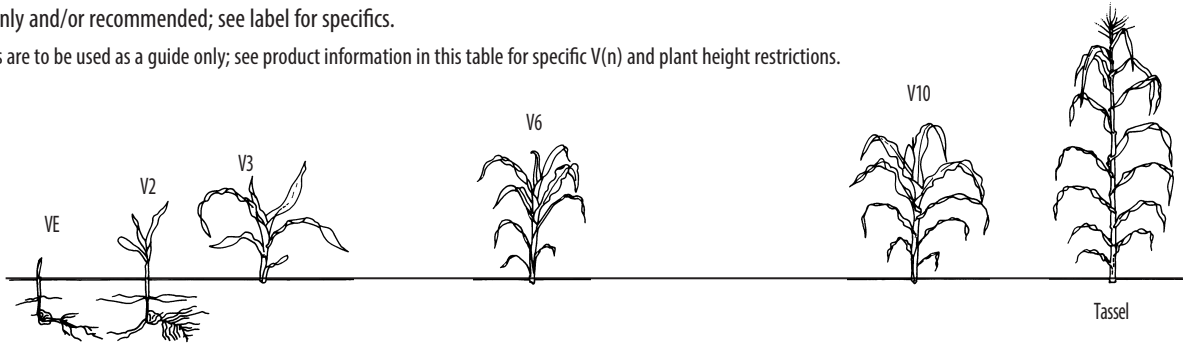
Herbicide	Days before planting (maximum)									
	Fall	**	45	30	21	14	7	0	PRE	
<b>Surpass NXT</b> - field/seed/pop/sweet										
<b>Breakfree NXT</b> - field/seed/pop/sweet										
<b>Breakfree NXT ATZ or NXT Lite</b> - field/seed/pop/sweet										
<b>Breakfree</b> - field/seed/pop/sweet									pre-weed emergence	
<b>Leadoff</b> - field	emerged weeds									
<b>Lexar EZ</b> - field/seed/pop/sweet										
<b>Liberty 280SL</b> - field/seed/pop/sweet										
<b>Lorox DF/Linex 4L</b> - field									E of Rocky Mts. only	
<b>Lumax or Lumax EZ</b> - field/seed/pop/sweet										
<b>Moxy</b> - field/seed/pop									emerged weeds	
<b>Outlook</b> - field/seed/pop/sweet				med. or fine text. soils						
<b>Panoflex</b> - field/seed/pop/sweet		pop/sweet: 45 d; field/seed 21 d on light text. soils or pH >7.9, otherwise 14 d								
<b>Prequel</b> - field										
<b>Princep 4L or Caliber/Simazine 4L</b> - field/sweet						Best if applied within 2 weeks of planting				
<b>Python WDG</b> - field/seed									pre-weed emergence	
<b>Resicore</b> - field/seed/pop						≤28 days				
<b>Resolve Q</b> - field/seed									not to seed corn	
<b>Roundup PowerMax, PowerMax II or WeatherMax</b> - field/seed/pop/sweet										
<b>RT 3</b> - field/seed/pop/sweet										
<b>Rugged</b> - field/seed/pop/sweet							1-2 pt	≤1 pt		
<b>Sequence</b> - field/seed/pop/sweet										
<b>Sharpen</b> - field/seed/pop/sweet										
<b>Shredder E-99</b> - field/seed/pop/sweet										
<b>Starane NXT</b>										
<b>Starane Ultra</b> - field/seed/pop/sweet				emerged weeds						
<b>Tomahawk 4 or 5</b> - field/seed/pop/sweet									emerged weeds	
<b>Thresidual/SureStart II/TripleFLEX II</b> - field										
<b>Valor SX</b> - field					no-till or min. till only; 2-3 oz; 7-d timing for broadleaves, % residue					
<b>Rowel</b> - field										
<b>Verdict</b> - field/seed/pop/sweet										
<b>Warrant</b> - field/seed										
<b>Zemax</b> - field/seed/pop/sweet										
<b>Zidua/Zidua SC</b>										
<b>2,4-D, Amine 4, LV 4 or LV 6</b> - field/seed/pop/sweet				1-1.5 pt LV6; 1-2 pt Amine4 or LV4			≤1 pt			

\*Fall applications may be restricted by harvest date, crop rotation, temperature, soil characteristics, location, state, and date. See the label for detailed instructions.  
 \*\*Days before planting not restricted or specified.

# CORN GROWTH STAGES

- Broadcast and/or Over-the-Top and/or Drops; see label for specifics.
- Drops or Directed Spray only and/or recommended; see label for specifics.

V(n) stages shown below drawings are to be used as a guide only; see product information in this table for specific V(n) and plant height restrictions.

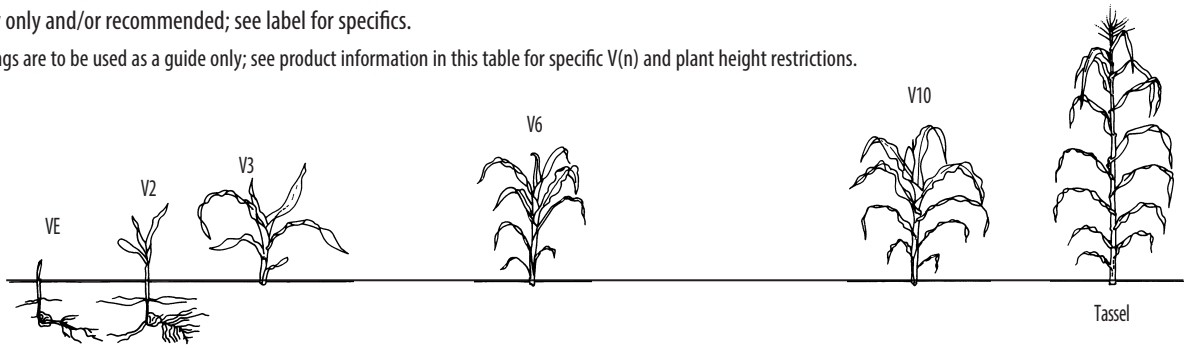


	VE	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11 to Pre-Tassel	Tassel
<b>Balance Flexx/Corvus/Instigate</b>	VE-V2 field/seed; field only, Instigate											
<b>Basis Blend</b>	VE-V2 or <6" field											
<b>Anthem, Anthem MAXX or ATZ/ Zidua/Zidua SC</b>	VE-V4 field*/seed*/pop*/sweet*											
<b>Acuron/Atrazine and all Atrazine Premixes/Callisto Xtra/Lexar EZ/ Lumax EZ</b>	VE-12" field/seed*											
<b>Bicep(s)/Charger MAX ATZ(s)/Cinch ATZ(s)</b>	VE-5" field/sweet; broadcast -12" Bicep II Magnum			drops up to 12"								
<b>Breakfree(s)/Harness 20G</b>	VE-11" field/seed/pop/sweet											
<b>Confidence(s)/Degree Xtra/Ful-Time NXT/Harness, Harness Xtra/ Keystone(s)/Resicore/Surpass NXT/Surestart II/Threesidual/ TripleFLEX II</b>	VE-11" field/seed/pop; field/seed only Surestart II, Threesidual, TripleFLEX II											
<b>Starane NXT</b>	VE-V5, field; >V3-V5, seed*											
<b>Python WDG/Realm Q/Resolve Q/ Steadfast Q</b>	VE-V6 or 20", field/seed*											
<b>Harmony SG</b>		V2-V6 or 16", field*										
<b>Permit Plus</b>		V2-V6 field*										
<b>Capreno</b>	VE-V7 field/seed					drops >V5 through V7						
<b>Armezon/Impact</b>	VE-V8 or 45 days preharvest, Armezon; VE-45 days preharvest, Impact. Field*/seed*/pop*/sweet*											
<b>Curtail</b>	VE-V4 or under 8", field - Supplemental Label				drops to 24" field -- Supplemental Label							
<b>Option</b>	VE-V6 field/seed*					drops -V6 pop*/sweet*; >V6 and <V8 field/seed*						
<b>Acuron Flexi/Zemax</b>	VE-V8 or 30" field/seed/pop; field/seed only, Zemax											
<b>Armezon Pro</b>	VE-12" field/pop/sweet					drops to V8 or 30" or 45 days p reharvest, field/pop						
<b>Callisto/Soltice</b>	VE-V8 or 30" field/seed/pop/sweet; -12" only when mixed with atrazine											
<b>Callisto GT/Halex GT</b>	VE-V8 or 30" - Glyphosate Tolerant; -12" only when mixed with atrazine											
<b>Framework or Prowl(s)</b>	VE-V8 or 30" or cultispray after 4" through layby; VE-20" to 24" seed/pop/sweet											
<b>Revulin Q</b>	VE-V8 or 30" field; -V5 or 20" seed*/pop*; -V6 or 18" sweet*					seed: >V6 or 30", drops >30" or to V8						
<b>Laudis</b>	VE-V9 field/seed*/pop*; -V7 sweet*											
<b>Stinger</b>	VE-24" field and pop (for processing); VE-18" sweet (for processing)											
<b>Warrant</b>	VE-30" field/seed											
<b>Peak</b>		4"-V6 or 20", field				drops >V6 or 20" up to 30"						
<b>Trust/Treflan(s)</b>		V2-30" or 6 weeks preharvest, field										
<b>DiFlexx</b>	VE-V10 or 36" field/seed*/pop*											
<b>Herbivore/Permit</b>	VE-layby field/seed/pop*/sweet*											
<b>Hornet WDG</b>	VE-V6 or 20" broadcast, field/seed*					drops ≥V6 or 20"-36",						
<b>Liberty 280SL</b>	VE-V7 or 24" - Liberty Link					drops only 24"-36"						
<b>Outlook</b>	VE-12" field/seed*/pop*/sweet*					-layby drops ≥12" ≤36"						
<b>Starane Ultra/Widematch</b>	VE-V5 broadcast					drops >V5-90 days preharvest, field; -V4, drops to 31 days Starane Ultra, sweet						
<b>Yukon</b>	VE-20" field					drops rec. after 20"						

■ Broadcast and/or Over-the-Top and/or Drops; see label for specifics.

■ Drops or Directed Spray only and/or recommended; see label for specifics.

V(n) stages shown below drawings are to be used as a guide only; see product information in this table for specific V(n) and plant height restrictions.



	VE	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11 to Pre-Tassel	Tassel	
<b>Accent Q</b>	VE-V6 or 20" field; -V5 or 20" seed/pop; -V5 or 12", sweet						drops >12" or ≤18" or V6 sweet; rescue drops 20"-36" or <V10 field						
<b>Northstar WDG</b>		V2-V6 or 4"-20", field/seed*/pop*					drops 20"-36"						
<b>Resource</b>		V2-V10 field/seed*											
<b>Status</b>		V2 or 4"-V10 or 36"-15 days prior to tassel, field; <72 days preharvest seed*/pop*											
<b>Banvel/Clarifier/Clarity/Sterling Blue</b>	VE-36" or 15 days prior to tasseling field/seed*/pop*												
<b>Dimetric EXT/Metricludox EXT</b>	VE-prior to tassel as tank mix; field and tolerant seed corn												
<b>Cadet</b>	VE-48" but prior to tassel, field/pop/sweet												
<b>Charger Basic or MAX/Cinch/Dual(s)</b>	VE-5" broadcast, field/seed/pop/sweet			drops 5"-40"									
<b>Cornerstone(s)/glyphosate/ Roundup(s)/Tomahawk(s)</b>	VE-V8 or 30" broadcast or drops, - Roundup Ready 2								drops rec. after 24", drops only 30"-48"				
<b>Durango DMA/Duramax</b>	VE-12" hooded spray b/w rows - non-Roundup Ready; VE-V8 or 30" broadcast or drops - Roundup Ready								drops rec. after 24" and drops only 30"-40"				
<b>Moxy</b>	VE-prior to tassel (use only 1 pt prior to V4), field; V3-prior to tassel, seed*/pop*												
<b>Sequence</b>	VE-V8 or 30" - Glyphosate Tolerant									drops to 48"			
<b>Enlist Duo/One - Enlist Corn only</b>	VE-V8 or 30"										drops to 48"		
<b>Gramoxone SL or SL 2.0</b>	All growth stages field/seed/pop/sweet					hooded/shielded spray b/w rows OR >10" use drop spray not exceeding lower 3" of stalk; >20" not exceeding lower 1/3 of stalk							
<b>Beacon</b>		4"-V6 or 20", field; >10" drops only seed*/pop*				drops >V6 or 20", field							
<b>Rugged/2,4-D, Amine 4, LV 4, LV 6 or Shredder E-99</b>		V2-8" field/seed/pop/sweet; -45 days preharvest, sweet				drops 8"-2 weeks prior to tassel; E-99 up to prior to tassel							
<b>Spirit</b>		4"-V6 or 20", field*; drops 10"-20" up to prior to tassel, pop*				drops >V6 or 20" up to 24", field*; from 20"-24" up to prior to tassel, seed*							
<b>Evik DF</b>		drops only 12" to 3 weeks prior to tassel											
<b>Aim EC</b>	VE-V8 field/seed/pop/sweet								drops >V8				
<b>Basagran or Basagran 5L</b>	All Growth Stages field/seed*/pop/sweet												

\* Before making applications to field, seed, pop or sweet as indicated, consult label or contact company, agronomist or University specialists.

# POSTEMERGENCE HERBICIDES

Post Herbicide	Rate/Acre	Comments/Restrictions
<b>ACCENT Q</b>	0.9 oz + 0.5 gal HSOC-COC <sup>1</sup> or HSOC-MSO <sup>1</sup> /100 gal + 2-4 qt 28% N or 2-4 lb AMS	Apply up to and including V6 or 20" FIELD corn. Rescue with drop nozzles 20-36", but <V10 FIELD corn. Apply up to V5 or 12" SWEET corn broadcast or up to V5 or 18" SWEET corn with drop nozzles up to V5 or 20" FIELD, SEED or POP corn. Contains crop safener to reduce risk of corn injury. See insecticide restrictions at the end of this section. Notes 4, 6.
<b>ACURON</b>	< 3% O.M. 2.5 qt > 3% O.M. 3 qt	Up to 12" corn. Do not apply with any organophosphates or carbamates insecticides. Some crop response may occur. May be applied as a split application. Do not apply to SWEET corn or yellow POP. See various states (exp. 12/2019) for tank mix with Northstar or Status for POST control of broadleaves.
<b>ACURON FLEXI</b>	< 3% O.M. 2 qt ≥ 3% O.M. 2.25 qt	Do not make more than 1 POST application. Applications in a tank mix with any organophosphate or carbamate insecticide may result in severe injury. See various states (exp. 12/2019) for tank mix with Northstar or Status for POST control of broadleaves.
<b>AIM EC</b>	0.5-1 fl oz + 1 qt NIS/100 gal	Apply to VE-V14 corn. Aim should be applied with drop nozzles after V8. Apply to 1-4" weeds or up to 36" velvetleaf. Some herbicidal symptoms may appear. For SEED corn production, use only drop nozzles. Broadcast application may concentrate spray in whorl and increase leaf response. Do not apply if foliage is wet from dew, rain, or irrigation. Use on SWEET corn only under the recommendation of the seed company, food processor, or State Agricultural Extension Service. Use only NIS adjuvant with SWEET corn.
<b>AIM EC</b> + <b>ATRAZINE 90DF</b> or <b>ATRAZINE 4L</b> or <b>BANVEL/CLARITY/</b> <b>STERLING BLUE/ CLARIFIER</b>	0.5 fl oz + 9 oz 16 fl oz 0.5 pt + 1 qt NIS/100 gal	Apply up to V5 corn with Banvel/Clarity/Sterling Blue/Clarifier broadcast or <12" with atrazine. Can tank mix with most labeled post herbicides. Crop injury can occur with EC formulations. Avoid tank mixes with bromoxynil. Use additives required by tank mix partner. Can substitute 1 pt HSOC-COC <sup>1</sup> /100 gal for NIS with atrazine or under dry conditions. Some temporary corn leaf burn can occur. Add Aim to tank before other herbicides. Maintain good agitation to avoid settling out. Use on SWEET corn only under the recommendation of the seed company, food processor, or State Agricultural Extension Service. Use only NIS adjuvant with SWEET corn. Note 1.
<b>ANTHEM</b>	4-6 fl oz: < 1% O.M. coarse 4-7 fl oz: > 1% O.M. coarse 5-9 fl oz: medium 7-12 fl oz: fine	Apply POST to VE-V4 corn. May tank mix with many other POST herbicides. For fine textures with >3% OM use up to 13 fl oz. Add NIS at 1 qt/100 gal, COC such as HSOC-COC <sup>1</sup> at 0.5-1 pt/A or MSO such as HSOC-MSO <sup>1</sup> at 0.5-1 pt/A and an AMS source such as a Class Act or Ultra-Lite brand. For rates below 7 oz add up to 0.4 oz Cadet for improved performance.
<b>ANTHEM ATZ</b>	1.5-2 pt: coarse 1.75-2.25 pt: medium 2-3 pt: fine	Apply POST to VE-V4 corn. May tank mix with many other burndown or POST herbicides. Add NIS at 1 qt/100 gal, COC such as HSOC-COC <sup>1</sup> at 0.5-1 pt/A or MSO such as HSOC-MSO <sup>1</sup> at 0.5-1 pt/A and an AMS source such as a Class Act or Ultra-Lite.
<b>ANTHEM MAXX</b>	2-3 fl oz ≤ 1% O.M. coarse 2-3.5 fl oz > 1% O.M. coarse 2.5-4.5 medium 3.5-6 fl oz fine	Apply to VE-V4 corn. For coarse textures use up to 4.5 fl oz/A. All others 8.15 fl oz/A. Add NIS at 1 qt/100 gal, COC such as HSOC-COC <sup>1</sup> at 0.5-1 pt/A or MSO such as HSOC-MSO <sup>1</sup> at 0.5-1 pt/A and an AMS source such as a Class Act Brand or Ultra-Lite.
<b>ARMEZON</b>	SEE IMPACT	
<b>ARMEZON PRO</b>	14-16 fl oz: <3% O.M. coarse 16-20 fl oz: <3% O.M. medium/fine, > 3% O.M. coarse 20-24 fl oz: > 3% O.M. medium/fine	MSO or COC when applied in alone and in most tank-mixes, NIS when applied with dicamba. 20 fl oz/A for all soil types in POP, SEED, and SWEET. Sequential applications must be 2 weeks apart.
<b>ATRAZINE/AATREX 4L</b> or <b>ATRAZINE 90DF/</b> <b>AATREX NINE-O</b>	1.2 qt 1.33 lb + 1 qt NIS/100 gal + 2 qt 28% N or 2.5 lb AMS	For control of broadleaves only. Apply before most weeds are 4" high: pigweed and lambsquarters before 6" high and before corn exceeds 12" high. Note 1.
<b>ATRAZINE/AATREX 4L</b> or <b>ATRAZINE 90DF/</b> <b>AATREX NINE-O</b>	Up to 2 qt 2.2 lb + 1 pt HSOC-COC <sup>1</sup>	Grasses and broadleaves. Apply before weeds are 1.5" high and before corn exceeds 12" high. Note 1.
<b>BALANCE FLEXX</b>	3-6 fl oz	May be applied to corn from spiking through the 2-leaf collar growth stage. In addition to soil residual, it provides POST control of newly emerged weeds. Do not use COC or MSO when applying to emerged FIELD corn. Tank-mixtures with other herbicides (other than atrazine) or adjuvants are not recommended for early POST applications. See in IA, NE, SD (exp. date not given) for tank mix with atrazine + glyphosate and with atrazine + dicamba tank mixes early POST; also see SD (exp. date not given) for tank mix with glyphosate in GT corn. Not labeled in WI. See label for additional state-specific label restrictions.
<b>BALANCE FLEXX</b> + <b>ATRAZINE</b> or <b>DICAMBA</b> or <b>glyphosate</b>	3-6 fl oz + 0.5 lb 8 fl oz 1/2 labeled rate	
<b>BANVEL</b>	SEE STERLING BLUE	

See notes on page 57.

<sup>1</sup> Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

<sup>2</sup> Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*\* May use other glyphosate herbicides: Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.



Post Herbicide	Rate/Acre	Comments/Restrictions
<b>BASAGRAN or BASAGRAN 5L</b>	1.5-2 pt 0.8-1.6 pt	Apply to small weeds. Control of velvetleaf will be improved by using 2-4 qt 28% N instead of COC. May be applied at all stages of corn. Need adjuvant, depends on inclusion of AMS or not, see label. See herbicide labels.
<b>BASAGRAN + ATRAZINE 4L</b>	0.84-1.5 pt + 0.84-1.5 pt + 0.5-1 pt HSOC-COC <sup>1</sup>	Apply to VE-12" corn. Apply to small weeds. 2-4 qt 28% N may be used in place of HSOC-COC <sup>1</sup> . Note 1.
<b>BASIS BLEND</b>	0.825 oz + 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 2 qt UAN or 2 lb AMS	Apply from spike to 4 leaf (2 collar) or 0.5-6" corn and to grasses <3", broadleaves <4" and winter annuals and perennials <6". Do not tank mix with OP insecticides or apply PP or PRE within 60 days of Counter or within 45 days of crop emergence where Counter was applied.
<b>BEACON</b>	0.38-0.76 fl oz	Apply single or 1st split application over-the-top, directed or semi-directed when corn is between 4-10", drops only after 20" or V6 corn, with 2nd of split prior to tassel. Inbred lines, SEED and POP: Drops only 10" up to 48" and prior to tassel.
<b>BICEP II MAGNUM or BICEP LITE II MAGNUM</b>	1.6 qt or 1.1 qt: coarse 2.1 qt or 1.5 qt: medium 2.1-2.58 qt or 1.5-1.9 qt: fine	Apply to corn from VE to 5" and before weeds exceed 2-leaf. Bicep II may be broadcast to corn up to 12", Bicep Lite II up to 5". Directed spray to corn 5-12". POST-directed rate for coarse soil is 1.3 qt Bicep II or 0.9 qt Bicep Lite II. Include UAN or NIS if weeds are present. Notes 1, 3.
<b>CADET</b>	0.6-0.9 fl oz + 1 qt NIS/100 gal or 0.5-1 pt HSOC-COC <sup>1</sup>	Apply up to 48" corn but before tasseling. May tank mix with glyphosate and many other herbicides. Use 0.4-0.6 oz/A in glyphosate tank mixes. UAN at 1-2 pt or AMS may be added.
<b>CALLISTO/INCINERATE (alone or) + ATRAZINE 4L or ATRAZINE 90DF or glyphosate or LIBERTY 280SL</b>	3 fl oz + 0.5-1 pt 0.28-0.56 lb 17-35 fl oz 22 fl oz	Apply to VE-V8 or up to 30" corn Callisto alone or with glyphosate (glyphosate tolerant corn). Apply up to 12" corn in atrazine tank mixes. Apply to labeled broadleaf weeds 5" or less or up to 10" for most species when mixed with atrazine. May use 2.5-3 fl oz/A with atrazine. Do not tank mix with OP or carbamate insecticides. Do not use following soil applied Counter. Do not apply following a PRE-application of Callisto/Lumax EZ/ Lexar EZ. See the label for tank mix partners and restrictions. SWEET and POP: Do not add UAN or AMS. 0.5 gal HSOC-COC <sup>1</sup> + 2.5 gal 28% N or 8.5 lb AMS/100 gal for mixes with Atrazine. Use 8.5 lb AMS/100 gal for mixes with glyphosate. Use Liberty 280SL only on LibertyLink corn. Include AMS with Liberty 280SL. Do not use MSO adjuvants for POST applications. POST aerial application in AL,AR,CO,FL,GA,IL,IN,IA,KS,KY,LA,MN,MO,MS,ND,NE,OH,OK,SD,TN,TX. Notes 1, 4.
<b>CALLISTO GT</b>	2 pt + 1-2 qt NIS or 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 8.5-17 lb AMS or 2.5-5 gal Class Act NG or Ultra-Lite/100 gal	Apply only to GT corn. Do not apply more than one time per year. Do not apply more than 2 pt/A/year. Do not apply by aerial. Do not apply >0.24 lb mesotrione/A/year or >6.0 lb glyphosate/A/year combined with all products. Do not use suspension fertilizers or UAN as a carrier. Note 4.
<b>CALLISTO XTRA</b>	20-24 fl oz + 1 qt NIS or 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 2.5 gal UAN or 8.5-17 lb AMS/100 gal	Apply after crop emergence but before corn exceeds 12". See label for crop sensitivity precautions. SWEET and POP: Do not add UAN or AMS. Notes 1, 3, 4.
<b>CAPRENO</b>	3 fl oz + 0.5 gal HSOC-COC <sup>1</sup> /100 gal	Apply to VE- V7 corn. Provides some residual control. Include COC for maximum control. Minimum of 1.25 pt/A COC. UAN or AMS may be added. Tank mixes include 1 pt/A Atrazine, 6 fl oz/A bromoxynil, glyphosate, 22 fl oz/A Liberty 280SL, 2-3 fl oz/A Laudis and others. 2ee IL, IN, IA, KY, MI, MO, NE, OH (exp. date not given) for tank mix with Status in SEED corn. 2ee AR (exp. 12/2017), SD (exp. 7/2018), MN (exp. 12/2019) for aerial application. See label for OP insecticide restrictions.
<b>CHARGER BASIC or MAX</b>	Up to 2 pt	Broadcast up to 5" corn. Directed spray up to 40" corn. No control of emerged weeds. Do not exceed 3.75 lb a.i. Max or 3.9 pt/A Basic per year.
<b>CHARGER MAX ATZ or CHARGER MAX ATZ LITE</b>	1.6 qt or 1.1 qt: coarse 2.1 qt or 1.5 qt: medium 2.1-2.58 qt or 1.5-1.9 qt: fine	Apply to VE to 5" corn and before weeds exceed 2-leaf. May apply POST directed to corn not exceeding 12 inches. Notes 1, 3.
<b>CLARIFER</b>	SEE STERLING BLUE	
<b>CLARITY</b>	SEE STERLING BLUE	
<b>CONFIDENCE</b>	1.25-1.75 pt: coarse	Apply up to 11" corn. Cultivate or rotary hoe if weeds are emerged to improve performance. May tank mix with glyphosate Atrazine, Sterling Blue, or many other herbicides. See timing restrictions for tank mix partners. Note 2.
<b>TREMOR NXT</b>	1.75-2.25 pt: medium 1.75-2.75 pt: fine 1.5 pt: Roundup Ready rate	1.5 pt/A is the Roundup Ready rate for tank mixes with Roundup on Roundup Ready Corn <sup>2</sup> .
<b>CONFIDENCE XTRA/ TREMOR ATZ LITE NXT</b>	1.8 qt: coarse, 1.8-2.3 qt: medium 2-2.3 qt: fine 1.2 qt: Roundup Ready rate	Apply up to 11" corn and before weeds reach 2-leaf. May tank mix with glyphosate, Sterling Blue and many other herbicides. Notes 1, 2, 3. 1.2 qt/A is the Roundup Ready rate for tank mixes with Roundup on Roundup Ready Corn <sup>2</sup> .
<b>CONFIDENCE XTRA 5.6L/ TREMOR ATZ NXT</b>	1.4-1.7 qt: coarse 1.7-2.6 qt: medium, 2.3-3 qt: fine 1.5 qt: Roundup Ready rate	Use lower rates on soils with < 3% O.M. Apply up to 11" corn. May tank mix with glyphosate, Sterling Blue and many other herbicides. Notes 1, 2, 3. 1.5 qt/A is the Roundup Ready rate for tank mixes with Roundup on Roundup Ready Corn <sup>2</sup> .

See notes on page 57.

# POSTEMERGENCE HERBICIDES *Continued*

Post Herbicide	Rate/Acre	Comments/Restrictions
<b>CORNERSTONE PLUS</b> or <b>CORNERSTONE 5 PLUS</b>	24-32 fl oz or 18-24 fl oz + 8.5-17 lb AMS/100 gal <sup>a</sup>	Apply only to Roundup Ready corn or Roundup Ready Corn 2 VE-V8 or 30" alone and 30-48" Roundup Ready Corn 2 with drop nozzles. Drops recommended for 24-30" corn. Allow 10 days between sequential applications, total not to exceed 2 qt/A or 1.5 qt/A from emergence to 30" Roundup Ready corn and 3 qt/A or 4.5 pt/A through 48" Roundup Ready Corn 2. Many residual herbicide supplemental labels allow reduced rates followed by glyphosate. Apply early POST with labeled or reduced rates of residual herbicides including Atrazine, Charger products, Confidence/Tremor NXT/Harness, or Confidence/Xtra/Tremor ATZ Lite NXT/Harness Xtra. alclude NIS, WC+NIS <sup>2</sup> as needed.
<b>CORVUS</b>	3.33 fl oz: coarse, ≤ 2% O.M. 5.6 fl oz: other soils	May be applied to corn from spiking through the 2-leaf collar growth stage. In addition to soil residual, it will provide POST control of newly emerged weeds. Do not use COC or MSO when applying to emerged FIELD corn. NIS can improve weed control, particularly of grasses, up to 3-leaf stage but may result in temporary crop injury symptoms including bleaching, chlorosis and temporary stunting. Tank-mixtures with other herbicides (other than atrazine) or adjuvants are not recommended for early POST applications. Not labeled in WI. See label for state-specific restrictions. See in various states (exp. date not given) for tank mix with glyphosate and with atrazine + dicamba early POST. Note 4.
<b>CURTAIL</b>	2 pt	Supplemental label CO, ID, IN, KS, MI, MN, MT, NE, ND, OH, OR, PA, SD, UT, WA, WY (exp. date not given) directed spray to FIELD corn 8" or V5, whichever occurs first up to 24", or broadcast on corn <8" or V4.
<b>DEGREE XTRA</b>	2.9-3.7 qt 2 pt: Roundup Ready rate	Apply up to 11" corn. The 2 pt/A rate is the Roundup Ready rate that can be tank mixed with Roundup WeatherMAX. Emerged weeds will not be controlled by Degree Xtra alone without additives or other herbicides. Notes 1,3.
<b>DICAMBA MAX 4</b>	All Tillage Systems: Early POST 0.5 pt: coarse 1 pt: medium 1pt: fine All Tillage Systems: Late POST 0.5 pt: coarse 0.5 pt: medium 0.5 pt: fine	Early POST through V5 or 8" corn. Late POST 8-36" corn or 15 days pre-tassel; best performance when weeds are < 3". Do not apply when soybeans are nearby and corn is > 24", when soybean are > 10", or soybeans have begun to bloom.
<b>DIFLEXX</b>	8-16 fl oz	Apply from spike to V6 or 36" corn not exceeding 6 true leaves or 15 days prior to tassel. Directed V7-V10, 36" tall or 15 days prior to tassel. 2ee in numerous states (exp. date not given) for reduced rate of 6 fl oz/A in FIELD, POP and SEED, and in IL, IN, IA, KY, MI, MO, NE, OH, SD, TN (exp. date not given) for reduced rate of 6-10 fl oz/A in POP.
<b>DIFLEXX DUO</b>	20-40 fl oz	VE-V6 or 36" tall not exceeding 6 true leaves or 15 days prior to tassel. Directed V7-V10, 36" tall or 15 days prior to tassel.
<b>DIMETRIC EXT</b> + <b>BASAGRAN</b> or <b>BANVEL/CLARITY/ST BLUE</b> or <b>MOXY</b> or <b>2,4-D</b>	2 oz + 1 pt 0.5-1 pt  1 pt 0.33-0.5 pt LV4 / 0.33 pt LV6	May be applied POST in FIELD corn only in tank mixes with Basagran (up to 30"); 2,4-D (up to 8"); Sterling Blue or Banvel (up to 8"); Moxy (4-leaf to before tassel emergence). Use drop nozzles with Moxy, Banvel or 2,4-D on corn over 8" tall. Add 1 qt NIS/100 gal to Sterling Blue or Banvel and Basagran mixes. Use no adjuvant with Moxy or 2,4-D. Note 5.
<b>DUAL II MAGNUM/DUAL MAGNUM</b>	Up to 2 pt	Broadcast up to 5" corn. Directed spray up to 40" corn. No control of emerged weeds. Do not exceed 3.75 lb a.i./A/year.
<b>DURANGO DMA/DURAMAX</b>	Up to 24 fl oz + 8.5-17 lb AMS/100 gal <sup>a</sup>	Apply only to Roundup Ready corn or Roundup Ready Corn 2 VE-V8 or 30" corn. 30-48" Roundup Ready 2 corn with drop nozzles. Drops recommended for 24-30" corn. Allow 10 days between sequential applications with a total not to exceed 1.5 qt/A as an in-crop (1.5 pt/A/application) to Roundup Ready Corn or 2.25 qt/A (2.25 pt/A/application) Durango DMA or 2.25 qt/A (2.25 pt/A/application) of Duramax to Roundup Ready Corn 2. Apply early POST with full or partial rates of residual herbicides including Atrazine, Keystone NXT or Keystone LA NXT. Refer to Annual Weeds Rate Table in the label for specific use rates and weed sizes when applying in spray volumes < 10 GPA. <sup>a</sup> Or WC+NIS <sup>2</sup> .
<b>ENLIST DUO</b>	3.5-4.75 pt	Apply to Enlist corn only. Up to V8 or 30" corn. Use drops on 30-48" corn. Allow 12 days between sequential applications. Apply to weed 3-6" tall. For approved tank mix partners go to Enlisttankmix.com
<b>ENLIST ONE</b>	1.5-2 pt	Apply to Enlist corn only. Up to V8 or 30" corn. Use drops on 30-48" corn. Allow 12 days between sequential applications. Apply to weed 3-6" tall. For approved tank mix partners go to Enlisttankmix.com
<b>EVIK DF</b>	0.75-2.0 lb	Apply to corn 12" to 3 weeks prior to tassel, drops only. Rate dependent on weed species and geographic area; see label.
<b>EXPERT</b>	2.5-3.75 qt: coarse 3-3.75 qt: medium, fine + 17 lb AMS/100 gal	Emergence up to 12" glyphosate tolerant corn. Do not tank mix with other herbicides after corn emergence. Notes 1, 3.
<b>FRAMEWORK</b> or <b>PROWL H20</b>	1.8-2.4 pt or 2-3 pt: coarse 2.4-3.6 pt or 3-4 pt: medium, fine	POST rates same as PRE rates. Rates are lower for southern states. See label. Apply POST alone before 30" (20-24" SEED, SWEET and POP) or V8 corn. Culti-spray apply from 4" to 12" FIELD corn, see culti-spray Note 9 and label for rates.

See notes on page 57.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*\* May use other glyphosate herbicides: Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

Post Herbicide	Rate/Acre	Comments/Restrictions
<b>FRAMEWORK or PROWL H2O</b> + <b>ATRAZINE 4L or ATRAZINE 90DF</b>	1.8-2.4 pt or 2-3 pt: coarse 2.4-3.6 pt or 3-4 pt: medium, fine + 1 qt: coarse 1-1.2 qt: medium, fine 1.1 lb: coarse, 1.1-1.33 lb: medium, fine	See label for soil texture and organic matter restrictions. See label for FIELD corn culti-spray and southern states rates.  Apply before 12" corn. FIELD corn: culti-spray from 4" to 12"; see Note 9. Use lower rate in southern states; see label. Note 1.  Apply before 12" corn. FIELD corn: culti-spray from 4" to 12"; see Note 9. Use lower rate in southern states; see label. Note 1.
<b>FULTIME NXT</b>	2.9-3.7 qt 2 qt: Roundup Ready rate	Apply up to 11" corn. The 2 qt/A rate is the Roundup Ready rate that can be tank mixed with Durango DMA. Emerged weeds will not be controlled by FulTime NXT alone without additives or other herbicides. Notes 1,3.
<b>GRAMOXONE SL/SL 2.0</b>	1-2 pt + 1 pt NIS/100 gal	Apply when corn is at least 10" tall with nozzles DIRECTED spray no higher than lower 3" of corn stalk. For > 20" corn, spray no higher than lower third of stalk.
<b>HALEX GT</b>	3.6-4 pt + 2.5-5 gal Class Act NG or Ultra-Lite/100 gal	Apply up to 30" or V8 corn. For GT corn only. Target 4" or smaller weeds. Adding atrazine allows use on certain broadleaf weeds up to 10". Do not mix with EC formulations of grass herbicides as severe corn injury may occur. 1-2 qt NIS/100 gal plus 8.5-17 lb AMS/100 gal may be used. 2ee in many states (exp. date not given), for POST tank mix with Northstar or Clarity or Distinct or Status. 24c in AR (exp. 7/2019) for aerial application to GT FIELD corn. Note 4.
<b>HARMONY SG</b>	0.125 oz + 1 qt NIS/100 gal	Apply to 2 to 6 leaf (1 to 5 collar up to 16") corn. May tank mix with atrazine. See label for insecticide and hybrid restrictions. Note 4.
<b>HARNESS</b>	1.25-1.75 pt: coarse 1.75-2.25 pt: medium 1.75-2.75 pt: fine 1.5 pt: Roundup Ready rate	Apply up to 11" corn. Cultivate or rotary hoe if weeds are emerged to improve performance. See timing restrictions for tank mix partners. Note 2. 1.5 pt/A is the Roundup Ready rate for tank mixes with Roundup on Roundup Ready Corn 2.
<b>HARNESS XTRA</b>	1.8 qt: coarse, 1.8-2.3 qt: medium 2-2.3 qt: fine 1.2 qt: Roundup Ready rate	Apply up to 11" corn and before weeds reach 2-leaf. Notes 1, 2, 3. 1.2 qt/A is the Roundup Ready rate for tank mixes with Roundup on Roundup Ready Corn 2.
<b>HARNESS XTRA 5.6L</b>	1.4-1.7 qt: coarse 1.7-2.6 qt: medium, 2.3-3 qt: fine 1.5 qt: Roundup Ready rate	Use lower rates on soils with < 3% O.M. Apply up to 11" corn. Notes 1, 2, 3. 1.5 qt/A is the Roundup Ready rate for tank mixes with Roundup on Roundup Ready Corn 2.
<b>HERBIVORE/PERMIT 75WDG</b>	0.67-1.33 oz + 1-2 qt NIS or 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 2-4 qt 28% N or 2-4 lb AMS	Apply to corn from spike to layby. Use 1-1.33 oz for larger weed sizes. For nutsedge use 1.33 oz/A. Add 28% N or AMS for improved control of certain weeds. See label for state restrictions. Notes 4, 8.
<b>HERBIVORE/PERMIT</b> + <b>ATRAZINE 4L or ATRAZINE 90DF</b>	0.67 oz + 1.5-3 pt or 0.83-1.67 lb + 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 2 lb AMS	Broadcast to corn up to 12" tall. Antagonism may occur on larger broadleaves. Notes 1, 4, 8.
<b>HERBIVORE/PERMIT</b> + <b>BANVEL/CLARITY/ST BLUE or MOXY or 2,4-D LV4</b>	0.67 oz + 2-8 fl oz  0.5-1 pt 4-8 fl oz + 1-2 qt NIS/100 gal	Broadcast or drops up to 8". Over 8" drops only. Notes 4, 8.  Up to 36" corn. Use directed spray over 8" corn.  Broadcast up to prior to tassel emergence. Broadcast up to 8" tall. Over 8" drops only, to prior to tassel emergence.
<b>HORNET WDG</b>	2-5 oz + 1 qt NIS or 0.5 gal HSOC-COC <sup>1</sup> /100 gal	Apply when broadleaf weeds are under 8" tall and to corn up to V6 or 20" (use drops up to 36"). Use higher rates for 6-8" weeds. Can use 4 oz on spike stage corn or for biennial and perennial weed control. Do not apply if corn has been previously treated with Counter or Thimet. 28% N or AMS may help under dry conditions. Note 4.
<b>HORNET WDG</b> + <b>AIM EC or ATRAZINE 4L or BANVEL/ CLARITY/ST BLUE or CALLISTO /INCINERATE + ATRAZINE or OPTION</b>	2-5 oz + 0.5 fl oz 1-2 pt 2-4 oz  0.75 oz +  0.25 lb a.i.  1.5 oz	See above Hornet restrictions.  Apply up to V6 or 20" corn. Add NIS. Apply up to 12" corn. Note 1.  Apply up to V6 or 20" or up to 36" with drop nozzles. Use HSOC-COC <sup>1</sup> with 28% or AMS with NIS with dicamba, and HSOC-COC <sup>1</sup> or NIS with atrazine. Apply up to 12" corn. Add COC+UAN or AMS.  Apply up to 16" or V5 corn. Include HSOC-MSO <sup>1</sup> +UAN or AMS.

See notes on page 57.

# POSTEMERGENCE HERBICIDES *Continued*

Post Herbicide	Rate/Acre	Comments/Restrictions
<b>IMPACT/ARMEZON</b> +	0.75 fl oz +	Apply Armezon alone to VE-V8 corn or 45 days PRE HARVEST. Apply Impact up to 45 days PHI. Apply up to 12" corn in atrazine tank-mixes. May be tank-mixed with other herbicides registered for use in corn, with the exception of tank mixes or sequential uses of mesotrione herbicides - see current label (Callisto/Incinerate, Lexar EZ, Lumax EZ). May be applied after isoxaflutole (Balance Flexx) if $\leq 0.0625$ lb a.i./A (2 oz/A Balance Flexx) is used. May be used at 0.5-0.75 fl oz/A in certain tank mixes. Do not apply more than 6 fl oz/A/365 days of Capreno for corn. Use NIS with growth regulator tank mixes in cold, wet or hot, humid conditions for Impact. Include atrazine for best performance. Can apply up to 1 fl oz/A in sequential applications.
<b>ATRAZINE or</b> <b>CAPRENO</b>	0.25-1.5 lb a.i. 3 fl oz + 0.5 gal HSOC-MSO <sup>1</sup> or HSOC-COC <sup>1</sup> + 2.5 gal 28% N/100 gal or 8.5 lb AMS/100 gal	
<b>INCINERATE</b>	SEE CALLISTO	
<b>INSTIGATE</b>	5.25-6 oz	Apply to corn up through two leaf collars. Include a COC, NIS, and UAN/AMS unless prohibited by tank mix partner. Do not make more than 1 application/season. Do not apply another solo HPPD inhibitor (i.e. Callisto/Incinerate, Armezon/Impact, or Laudis) to ground that has been treated with Instigate. Do not tank mix with Basagran or foliar-applied organophosphate insecticides. Aerial application 2 GPA in AL, AR, CO, FL, GA, IL, IN, IA, KS, KY, LA, MN, MS, MO, NE, ND, OH, OK, SD, TN, TX.
<b>KEYSTONE LA NXT/ BREAKFREE NXT LITE</b>	1.8 qt: coarse 1.8-2.3 qt: medium 2-2.3 qt: fine	Apply up to 11" corn and before weeds reach 2-leaf. Notes 1, 2, 3.
<b>KEYSTONE NXT/ BREAKFREE NXT ATZ</b>	1.4-1.7 qt: coarse 1.7-2.6 qt: medium 2.3-3 qt: fine	Use lower rates on soils with < 3% O.M. Apply up to 11" corn. Notes 1, 2, 3.
<b>KOCHIAVORE</b>	Do not use: coarse 1-1.5 pt: medium 1-1.5 pt: fine	V3-V5, broadcast or band, drops after V6 but not from 2 weeks before tasseling to dough stage. Do not use atrazine, crop oils or other adjuvants, such as NIS. Application during high moisture and temperatures may cause crop injury. Do not cultivate for 7-10 days after application. Limit of 1 POST application/season. Maximum 3 pt/A/season.
<b>LAUDIS</b>	3 fl oz + 0.5 gal HSOC-MSO <sup>1</sup> /100 gal	Apply up to V9 on FIELD and POP,V7 on SWEET corn. Apply with HSOC-MSO <sup>1</sup> for maximum weed control at 0.5 gal/100 gal (or other MSO at 1 gal/100 gal, but not less than 1.25 pt/A) or HSOC-COC <sup>1</sup> at 0.5 gal/100 gal and 28% N (1.5 qt/A) or AMS (8.5 lb/100 gal). Apply up to 6" broadleaves and 3-6" grasses. Add Laudis before AMS and other products.
<b>LAUDIS</b> +	3 fl oz +	See adjuvant comments for Laudis alone.
<b>ATRAZINE 4L or</b> <b>CAPRENO or</b> <b>OPTION or</b> <b>glyphosate or</b>	1 pt 3 fl oz 1.5 oz see label	Apply up to 12" corn. Do not apply more than 6 fl oz/A/365 days of Capreno for corn. Apply up to V6. Roundup Ready corn only. Use only AMS at 0.5 lb/A. 2ee (exp. date not given) for use with MSO or surfactant See CO, CT, DE, IL, IN, IA, KS, KY, MI, ME, MD, MA, MN, MO, NE, ND, NJ, OH, PA, SD, RI, VT, VA, WI (exp. date not given) for tank mix with glyphosate from VE-V8 in FIELD corn.
<b>LIBERTY 280SL</b>	22 fl oz	Use 2 fl oz/A Laudis and 1.5 lb/A AMS. Liberty Link corn only. See IL, IN, IA, KY, MI, MO, NE, OH (exp. date not given) for tank mix with Status at 5-10 oz in V2-V9 SEED corn. 2ee CO, IL, IN, IA, KS, KY, MI, MN, MO, MT, NE, N-M, ND, OH, OK, SD, TX, WI (exp. date not given) for tank mix with dicamba from VE-V9 or 36" tall FIELD corn.
<b>LEXAR EZ</b> <b>(alone or) +</b> <b>glyphosate or</b> <b>LIBERTY 280SL</b>	3-3.5 qt + 17-35 fl oz 22 fl oz	Apply up to 12" corn and broadleaf weeds <5" and up to 12" glyphosate tolerant corn when mixed with glyphosate or up to 12" LL corn when mixed with Liberty 280SL. Add 0.25%v/v NIS or 1%v/v COC (0.5% v/v HSOC-COC <sup>1</sup> ). COC may cause temporary crop response. Do not add nitrogen sources (AMS or UAN). Include 8.5 lb AMS/100 gal when mixed with glyphosate or 1.5-3 lb/A AMS with Liberty 280SL. May be tank mixed with Basis Blend to control emerged grasses. Do not apply to corn treated with Counter or tank mix with OP or carbamate insecticides. Do not apply more than 3.5 qt/A Lexar EZ or 2.5 lb/A atrazine or 3.75 lb/A s-metolachlor per year. Do not apply postemergence to SWEET or POP corn. Notes 1, 3, 4.
<b>LIBERTY 280SL</b>	22-29 fl oz + 1.5-3 lb AMS/A (8.5-17 lb/100 gal) or use Class Act Brands or Ultra-Lite	Use only on LIBERTY LINK FIELD corn alone, up to 24" in height or through V7 stage (up to 36" with drop nozzles). Tank mix with atrazine or other corn herbicides for residual control. Contains surfactants. Additional surfactant or crop oil will not enhance weed control. Apply between dawn and 2 hr before sunset for best control of lambsquarter and velvetleaf. Provides control of glyphosate resistant volunteer corn. Can apply POST twice per season if not applied previously as a burndown. Apply in at least 15 GPA of water with 80 or 110° nozzles using 30-60 PSI or greater depending on nozzle used.
<b>LIBERTY 280SL</b> +	22 fl oz +	Use only on Liberty Link Corn. See Liberty 280SL above.
<b>ATRAZINE 4L or 90DF</b> <b>or BICEP II MAGNUM</b> <b>or CALLISTO/INCINERATE</b> <b>or LAUDIS</b>	1-3 pt or 0.55-1.6 lb 1.6-2.6 qt + 1.5-3 lb AMS 1-3 fl oz 2-3 oz	Apply up to 12" corn. Note 1. Apply up to 5" corn. Note 1. Apply up to 30" corn.

See notes on page 57.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*\* May use other glyphosate herbicides: Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

Post Herbicide	Rate/Acre	Comments/Restrictions
<b>LUMAX EZ</b>	<3% O.M. 2.7 qt ≥3% O.M. 3.25 qt + 1 qt NIS/100 gal	Apply up to 12" corn and broadleaf weeds <3". Add 0.25%v/v NIS or 1% v/v COC. COC may cause temporary crop response. Do not add nitrogen sources (AMS or UAN). May be tank mixed with Basis Blend to control emerged grasses. Lumax EZ may be tank mixed with glyphosate, or Roundup brands and Liberty. Follow adjuvant recommendations of Liberty 280SL or the glyphosate tank mix partner. Do not apply to corn treated with Counter or tank mix with OP or carbamate insecticides. Do not apply more than 3.25 qt/A/year Lumax EZ or 2.5 lb/A/year atrazine or 3.75 lb/A/year s-metolachlor. Do not apply POST to SWEET or POP corn. See most states (exp. 5/2019) and in OR (exp. 5/2019) for tank mix for Lumax EZ + Accent Q or Basis Blend or Resolve Q or Steadfast Q states for improved control of emerged grass weeds in FIELD corn. Notes 1, 3, 4.
<b>METRICLUDE EXT</b>	SEE DIMETRIC EXT	
<b>MOXY</b>	1 pt : emergence and up 1.5 pt: 4-leaf stage and up 2 pt: chemigation rate	May be used from corn emergence up to prior to tassel. Apply early to small weeds. Temporary leaf burn can occur under warm, humid conditions. May be tank mixed with many other herbicides.
<b>NORTHSTAR</b>	5 oz + 2 pt NIS/100 gal or 0.75-1 pt HSOC-COC <sup>1</sup> (on corn 4-12" only) + 2-4 qt 28%N or 2-4 lb AMS (optional)	Apply POST to 4-20" (V2-V6) FIELD corn on weeds 1-6" (waterhemp to 4"). Use drops on 20-36" FIELD corn or up to 15 days prior to tassel. Apply as directed spray on 10-36" SEED or POP. Can add 2-4 qt of 28% N or 2-4 lb AMS. Use AMS with COC. See in various states (exp. date not given) for 2.5-5 oz/A in tank mixture with solo glyphosate products on glyphosate tolerant FIELD corn. Note Counter and other organophosphate insecticide restrictions on label. Notes 4, 6.
<b>NORTHSTAR + ATRAZINE 4L or ATRAZINE 90DF</b>	5 oz + 2-3 pt or 1.1-1.67 lb + 0.5-1 pt HSOC-COC <sup>1</sup> + 2-4 qt 28%N or 2-4 lb AMS	Apply with atrazine from V2 up to 12" corn. May use HSOC-MSO <sup>1</sup> instead of HSOC-COC <sup>1</sup> with atrazine. Note 1.
<b>OPTIFY</b>	6-12 fl oz	Plant Growth Regulator. Broadcast: Apply at 8-12 fl oz/A. Via irrigation: Apply at 8 fl oz/A. Foliar: Apply directly to foliage of actively growing plants ≥ 6 fl oz/A in minimum 5 GPA. Best results when applied with nutrients. Repeat application ≥ 7 days. Do not apply >24 oz/A/season.
<b>OPTION</b>	1.5 oz + 0.75 pt HSOC-MSO <sup>1</sup> + 1.5 qt 28% N or 1.5-3 lb AMS	Apply to VE-V6 corn. Drop nozzles > V6 to < V8 corn. Apply to weeds <3" tall for best results. For best control of broadleaves, tank mix with broadleaf herbicides such as dicamba, Sterling Blue or Northstar. Tank mix rates: 1.5-3 fl oz/A Callisto/Incinerate, 1.25-1.75 pt/A Harness, 2-5 oz/A Hornet WDG, 3-5 oz/A NorthStar, Prowl, 1 oz/A Spirit, or 0.5 pt/A Sterling Blue. Observe crop growth or height limits of tank mix partners if more restrictive. See label for atrazine and tank mix comments. Note 4.
<b>OUTLOOK</b>	12-18 fl oz: coarse 14-21 fl oz: medium, fine	Apply up to 12" corn before weeds emerge. Lay-by application from 12-36" FIELD, SEED and POP corn. Use drop nozzles from 30-36". May use lower rates for POST, see label.
<b>PEAK</b>	0.5-1 oz + 1 qt NIS or 0.5 gal HSOC-COC <sup>1</sup> /100 gal	Apply to 4-30" corn, drop nozzles 20" or V6 to 30". Certain broadleaf weed control including POST and residual control of burcucumber. Note 4.
<b>PERMIT</b>	2/3 - 1 1/3 oz (field and seed) 2/3-1 oz (pop and sweet)	Apply over-the-top or with drop nozzles from spike through labyby stage. Up to 2 applications, total not to exceed 2 2/3 oz/A/season.
<b>PERMIT PLUS</b>	0.75 oz + 1-2 qt NIS or 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 2-4 qt 28%N or 2-4 lb AMS	Apply to V2-V6 corn hybrids with relative maturity of >88 days and broadleaf weeds 1-12".
<b>POAST or POAST PLUS</b>	Up to 1.5 pt or 2.25 pt	Apply up to the onset of pollen shed. Poast-Protected corn only.
<b>PROWL H2O</b>	SEE FRAMEWORK	
<b>PYTHON WDG</b>	0.46-0.93 oz + 1 qt NIS/100 gal + 2.5% v/v UAN or 2-4 lb AMS	Apply to FIELD corn up to 20" or through V6. Apply to 1-8" velvetleaf. COC or MSO may be used. See label for extended PRE rates.
<b>REALM Q</b>	4 oz + 0.5 gal HSOC-COC <sup>1</sup> /100 gal + 2 qt UAN or 2 lb AMS	Apply up to 20" FIELD corn. Do not apply to >20" or ≥V7 corn. May tank mix with glyphosate, glufosinate and other herbicides. Contains a safener to reduce crop injury. Do not mix with Basagran, foliar OP insecticides, or use on fields with Counter or Lorsban. Apply to 1-2" grass and <5" broadleaves. 24c in AR,MO (exp. 12/2017), TN (exp. 12/2018), LA (exp. 4/2020), KS (exp. 5/2020) for aerial application at 4 oz/A POST with minimum 5 GPA.
<b>RESICORE</b>	2.25 qt:<3% O.M. coarse 2.5 qt:<3% O.M. medium; ≥3% O.M. coarse 2.75 qt:<3% O.M. fine; ≥3% O.M. medium 3 qt: ≥3% O.M. coarse	Do not apply >3.25 qt/A/year. Up to 11" corn and broadleaf weeds <3". Do not apply POST to yellow popcorn. Add 0.25% v/v NIS or 1% v/v COC; COC may cause temporary crop injury to emerged corn. Do not add MSO, UAN, or AMS if corn is emerged, except for AMS with glyphosate or glufosinate tank mixtures. May be tank mixed with products such as Accent Q and Steadfast Q to control emerged grasses. Do not apply to corn that has received an at-plant application of phorate or terbufos. Do not apply POST in tank mixtures with organo-phosphate or carbamate insecticides and do not make POST applications of organophosphate or carbamate insecticides within 7 days before or after a Resicore application.
<b>RESOLVE Q</b>	1.25 oz	Provides residual control of annual grasses and small-seeded broadleaf weeds. Apply up to 20" (V6). Do not apply to corn >20" or with 7 collars, whichever is more restrictive. May tank mix with glyphosate or glufosinate. NIS, COC, MSO and UAN/AMS are labeled. Contains a safener to reduce crop injury. Do not mix with Basagran or rimsulfuron. Note 4.

See notes on page 57.

# POSTEMERGENCE HERBICIDES *Continued*

Post Herbicide	Rate/Acre	Comments/Restrictions
<b>RESOURCE (alone or) + ATRAZINE 4L or ATRAZINE 90DF or ROUNDUP** or BANVEL/CLARITY/ST BLUE or SPIRIT or LIBERTY 280SL</b>	4-8 fl oz (2-8 fl oz tank mix) + 1-2 pt 0.6-1.2 lb See label 0.5 pt 1 oz See label	Apply alone to 2-10 leaf FIELD corn. Add 0.5 pt/A HSOC-COC <sup>1</sup> and 2-2.5 lb AMS/A to Resource alone broadcast. For late treatment of velvetleaf, use drop nozzles with Resource at 4 oz (6"), 6 oz (8") and 8 oz (10")/A with 1 pt of HSOC-COC <sup>1</sup> + 2-2.5 lb AMS. 8 oz rate with drops only. Nitrogen fertilizer is recommended for velvetleaf. Apply from 2-leaf stage to 12" high corn. Use 0.5 pt/A HSOC-COC <sup>1</sup> with atrazine. May add 2.5 lb AMS. Note 1. Roundup Ready corn only. Reduce Resource rate to 2-4 oz/A (see label). Apply from 2-leaf stage to 36" high corn. (Not over 10 leaves). Over 8" use 2-4 oz Resource with drop nozzles. See label for adjuvants. Note 5. Liberty Link corn only.
<b>REVULIN Q</b>	3.4 - 4 oz	For control of emerged weeds use COC. Weed control better with COC compared to a NIS. Yellow POP or SWEET corn use NIS. Up to 20" or up to V6. Directed up to 30". SEED, POP < 20" or up to V5. SWEET > 18" or V6.
<b>ROUNDUP POWERMAX/ ROUNDUP POWERMAX II/ ROUNDUP WEATHERMAX**</b>	22-32 fl oz + 8.5-17 lb AMS/100 gal <sup>a</sup>	Apply only to Roundup Ready Corn 2 VE-V8 or 30" alone. Drop nozzles are recommended if corn is >24" tall to ensure proper spray coverage. Apply on 30-48" Roundup Ready Corn 2 with drop nozzles. Do not exceed 1 qt/A WeatherMAX or PowerMax, for single in crop application. Apply in 10-20 GPA water. Most applications are generally too early for best control of perennials. Full rate will suppress perennial weeds like hemp dogbane, common milkweed, field bindweed, Johnsongrass and quackgrass. For improved control, follow with a sequen- tial treatment when these perennial weeds are >6" tall or with a PRE-harvest application. Allow 10 days between sequential applications – total not to exceed 2 qt/A from emergence to 48" Roundup Ready Corn 2. Use a nozzle and pressure that give medium to coarse droplets to minimize drift. Many residual herbicide supple- mental labels allow reduced rates followed by Roundup. Apply early POST with labeled or reduced rates of residual herbicides including Atrazine, Charger products, Confidence/Tremor NXT/Harness, or Confidence Xtra/Tremor ATZ Lite NXT/Harness Xtra. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>RUGGED</b>	0.5-1 pt: annuals 1 pt: perennials	Acid formulation of 2,4-D. Apply over-the-top during 2-5 leaf stage of corn, up to 8", and to small broadleaf weeds. Do not apply just after leaves have unfolded. May be applied with drops to corn 8" tall up to 14 days prior to tasseling. Corn becomes brittle after spraying 2,4-D; do not cultivate for 7-10 days after application. Maximum 1 application.
<b>SEQUENCE</b>	2.5 - 3.5 pt + 8.5-17 lb AMS/100 gal <sup>a</sup>	Apply to VE-V8 or 30" (glyphosate tolerant) corn. Use drop nozzles up to 48" corn. See label for states and counties. Avoid application into whorls of plant. Do not exceed 3.5 pt/A/application or 5 pt/A/season. Do not exceed 3.9 pt/A/season from all Sequence and Dual Magnum applications. Do not exceed 1.5 pt/A/season POST from all Sequence and glyphosate applications. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>SOLSTICE (alone or) + ATRAZINE 4L or 90DF</b>	2.5-3.15 fl oz + 0.5 lb ai + 2.5 gal Class Act/Ultra-Lite Brands or 0.5 gal HSOC-COC <sup>1</sup> gal or 1 qt NIS/100 gal + 2.5% v/v 28%N or 8.5 lb/100 gal AMS	Apply to VE-V8 or 30" corn for Solstice alone. Apply to weeds <3-5". Do not apply to corn >12" with atrazine. Do not make second application <14 days apart. Do not include UAN or AMS POST to yellow POP or SWEET corn. Do not apply with suspension fertilizers as the carrier. Do not apply to white POP or ornamental (Indian) corn. Do not apply through irrigation or aerial. Do not exceed 3.15 fl oz/application or 5.25 fl oz/season Solstice POST to corn. Notes 1, 5.
<b>SPIRIT DG (alone or) + ATRAZINE 4L or ATRAZINE 90DF or BANVEL/ CLARITY/ STERLING BLUE/ CLARIFIER</b>	1 oz + 1-4 pt 0.55-2.2 lb 2 oz + 0.5-2 pt HSOC-COC <sup>1</sup> or 0.75-2 pt HSOC-MSO <sup>1</sup> + 2-4 qt 28% N or 2-4 lb AMS	Broadcast to FIELD and SEED corn 4-20" tall from 20-24" use drop nozzles. POP directed from 10-24". Soybean rotation restrictions are 10 months south of I-80 interstate highway and 18 months north of I-80. Use 2-4 pt adjuvant with Sterling Blue, 1-4 pt with Atrazine and 1-2 pt for Spirit alone. Maximum height for Atrazine is 12", Banvel/Clarity/Sterling Blue/Clarifier 12" broadcast, 24" with drops. Notes 1, 4, 7.
<b>STARANE NXT</b>	14 fl oz: up to V4 21-27.4 fl oz: V4 - V5	Supplemental label (exp. 3/2017): Apply to VE-V5 corn in CO, KS, MN, NE, ND, OK, SD, TX, and WY only.
<b>STARANE ULTRA</b>	0.4 pt	Apply to VE-V5 corn (V4 for SWEET), or as directed spray beyond V5 (V4 for SWEET). Apply to weeds up to 8". May be tank mixed with other herbicides unless prohibited by tank mix partner label. Use tank mix partner adjuvant system. Do not make more than 2 applications or apply more than 0.7 pt/A/crop season.
<b>STATUS</b>	5-10 oz	Apply to 4-36" corn (V2-V10 or 15 days before tassel). Include 0.25% v/v NIS or 0.5-1 pt HSOC-COC <sup>1</sup> or 0.75-1 pt HSOC-MSO <sup>1</sup> /A. Include 5 qt 28% N or 5-17 lb AMS/100 gal. Use 2.5-5 oz/A Status in tank mixes. Contains a safener that reduces potential for crop injury from dicamba. Dissolve Status before adding AMS. Status will suppress grasses <3" tall. Note 5.
<b>STEADFAST Q</b>	1.5 oz + 0.5 gal HSOC-COC <sup>1</sup> or HSOC-MSO <sup>1</sup> / 100 gal + 2 qt 28% N or 2 lb AMS	Apply up to 20" or through V6 corn, whichever is most restrictive. See label for tank mixes. Apply when night temperature >40°F and daytime temperature <92°F to maximize performance and minimize potential for crop injury. 2% v/v COC or MSO may be used under arid conditions. Note 4.
<b>STERLING BLUE/ CLARITY/ CLARIFIER or BANVEL</b>	0.5 pt: coarse soils 1 pt: medium, fine soils	EARLY POST. Corn up to 8" high, not exceeding 5 true leaves. DO NOT ADD 2,4-D. Surfactant may be added under dry conditions. Add UAN for velvetleaf. Note 5.

See notes on page 57.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*\* May use other glyphosate herbicides: Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.

Post Herbicide	Rate/Acre	Comments/Restrictions
<b>STERLING BLUE/ CLARITY/ CLARIFIER or BANVEL</b>	0.5 pt	LATE POST. Apply to corn 8-36" tall or 15 days prior to tasseling, whichever comes first. DO NOT apply to corn over 24" tall or if nearby soybeans are over 10" tall or in bloom. For best control, apply when weeds are <3" tall. Note 5.
<b>STERLING BLUE/ CLARITY/ CLARIFIER or BANVEL</b> + <b>2,4-D or</b> <b>ATRAZINE 90DF or</b> <b>ATRAZINE 4L</b>	0.5 pt + 0.25 pt 4# amine or ester 1.4-2.2 lb 1.25-2 qt	With 2, 4-Ds, apply to corn 8-36" tall. Use drop nozzles (directed spray) with 2,4-D when corn leaves prevent proper coverage or when sensitive crops are growing nearby. Do not apply to corn over 24" tall or if nearby soybeans are over 10" tall or in bloom. Apply with Atrazine up to 12" corn. May also be applied with Dual II Magnum, Harness, Outlook, or Prowl. Notes 1, 5.
<b>STINGER</b>	0.25 pt: annuals 0.67 pt: perennials	Apply to actively growing broadleaves VE to 24" tall FIELD and POP, 18" tall SWEET. Apply only to POP and SWEET for processing. See label for additional timing and application recommendations. Treat Canada thistle 6-8" in height or diameter, or to pre-bud stage. Do not cultivate prior to treatment or 14-20 days after.
<b>SURESTART II</b>	SEE THREESIDUAL	
<b>SURPASS NXT</b>	1.25-1.75 pt: coarse 1.75-2.25 pt: medium 1.75-2.75 pt: fine 1.5 pt: Roundup Ready rate	Apply up to 11" corn. Do not apply early POST to SWEET corn. Cultivate or rotary hoe if weeds are emerged to improve performance. See timing restrictions for tank mix partners. Note 2. 1.5 pt/A is the Roundup Ready rate for tank mixes with Durango DMA on Roundup Ready corn.
<b>TOMAHAWK 4 or 5</b>	SEE CORNERSTONE PLUS/CORNERSTONE 5 PLUS	
<b>TREMOR NXT</b>	SEE CONFIDENCE	
<b>TREMOR ATZ LITE NXT</b>	SEE CONFIDENCE XTRA	
<b>TREMOR ATZ NXT</b>	SEE CONFIDENCE XTRA 5.6L	
<b>TRIPLEFLEX II</b>	SEE THREESIDUAL	
<b>THREESIDUAL/ SURESTART II/ TRIPLEFLEX II</b>	1.5-2 pt	Apply up to 11" corn. Does not control emerged grasses. Do not tank mix with liquid OP insecticides or with Basagran herbicide due to the risk of crop injury. See Technical Bulletin for SureStart II 10.5 month rotation interval to certain SWEET corn.
<b>TRUST/TREFLAN</b>	0.75-1 pt: coarse 1-1.5 pt: medium, 1.5-2 pt: fine	Apply to corn from 2 true leaf stage up to 30". May be tank mixed with atrazine. Culti-spray. Note 9.
<b>VIDA</b>	0.5 - 1 fl oz	Apply up to V4. Do not apply to Sweet Corn. Do not make more than 2 applications or exceed 1 fl oz/A. Do not apply directly to the whorl when using drops. Do not use Crop Oil Concentrate with application.
<b>WARRANT</b>	1.5-2 qt: coarse 1.5-2.75 qt: medium 1.5-3 qt: fine	Apply to VE-30" FIELD corn. Drop nozzles recommended from 24-30". See label for rate and soil O.M. Apply before weed emergence. Aerial application in select states; see label. Warrant is a microencapsulated formulation.
<b>WIDEMATCH</b>	1.33 pt	Apply to VE-V5 corn, or as directed spray beyond V5. Apply to weeds up to 8". May be tank mixed with other herbicides unless prohibited by tank mix partner label. Use tank mix partner adjuvant system. Do not make more than 2 applications or apply more than 2.66 pt/A/season.
<b>YUKON</b>	4-8 oz + 1-2 qt NIS/100 gal	Broadcast from spike to 20" and directed or drop nozzles from 20-36" corn. Apply to small weeds for best results. Note 4.
<b>YUKON</b> + <b>ATRAZINE 4L</b>	4-8 oz + 1.5-3 pt	Apply up to 36" corn. Drop nozzles from 20-36" corn. Apply up to 12" corn when mixed with atrazine. Antagonism may occur in larger broadleaves. Note 1. Certain hybrids may be susceptible to injury. Include HSOC-COC <sup>1</sup> with Atrazine tank mix.
<b>ZEMAX</b>	<3% O.M. 2 qt >3% O.M. 2.4 qt + 1 qt NIS or + 1 gal COC or 2 qt HSOC-COC <sup>1</sup> /100 gal	Apply to VE-V8 or 30" tall corn and broadleaf weeds <3". Do not apply POST to SWEET corn or yellow POP. Do not make POST applications with or within 7 days of any organophosphate or carbamate insecticide. May be applied at 1.6 qt/A with glyphosate or Liberty.
<b>ZIDUA/ZIDUA SC</b>	1-2.75 oz/1.75-4.5 fl oz: coarse 1.5-3 oz/ 2.5-5 fl oz: medium 2-4 oz/3.25-6.5 fl oz: fine	Broadcast spray from spiking to V4 corn. Maximum application rate on coarse soils 2.75 oz/A/season and on medium and fine soils 5 oz/A/season. Zidua (pyroxasulfone) has a low water solubility and requires multiple rain events for activation. Note 6.

See notes on page 57.

# POSTEMERGENCE HERBICIDES *Continued*

Post Herbicide	Rate/Acre	Comments/Restrictions
<b>2,4-D AMINE 4 or LV 4 or LV 6 or SHREDDER E-99</b>	<p><b>Annuals</b> 0.5-1 pt Amine 4 0.5 pt LV4 0.33 pt LV6 0.33-0.67 pt E-99</p> <p><b>Perennials</b> 1 pt Amine 4 0.75-1 pt LV4 0.67 pt LV6 0.67 pt E-99</p>	Apply over-the-top during 2-5 leaf stage of corn, up to 8", to small broadleaf weeds. Do not apply just after leaves have unfolded. May be applied with drops to corn 8" tall up to 14 days prior to tasseling for Amine 4, LV4 or LV6 and prior to tasseling for E-99. Use 0.33-0.67 pt E-99 up to 8" corn. Up to 1 pt E-99 above 8" as directed spray. Corn becomes brittle after spraying 2,4-D; do not cultivate for 7-10 days after application. Maximum 1 application.
<b>PREHARVEST</b>		
<b>AIM EC</b>	1-2 fl oz + 0.5 gal HSOC-COC <sup>1</sup> /100 gal	PREHARVEST. PHI 3 days. For FIELD corn, SEED, POP, SWEET corn for processing and fresh market. Apply to mature crop. Do not feed or graze for 14 days.
<b>CORNERSTONE PLUS or CORNERSTONE 5 PLUS</b>	Up to 32 fl oz Up to 24 fl oz + 8.5-17 lb AMS/100 gal <sup>a</sup>	PREHARVEST. GT corn. For conventional corn use up to 3 qt or 4.5 pt by ground and up to 2 qt or 1.5 qt by air. Apply when grain moisture is 35% or less and black layer has formed. Not recommended on SEED corn because of reduced seed germination or vigor. PHI 7 days. <sup>a</sup> Include NIS, WC+NIS <sup>2</sup> as needed.
<b>DURANGO DMA or DURAMAX</b>	Up to 24 fl oz 22 fl oz + 8.5-17 lb AMS/100 gal <sup>a</sup>	PREHARVEST. Apply to GT corn up to V8 or 30". Apply with drop nozzles from 30-48" glyphosate tolerant corn. Apply when grain moisture is 35% or less and black layer has formed. Not recommended on SEED corn because of reduced seed germination or vigor. PHI 7 days. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>GRAMOXONE SL/SL 2.0</b>	1.2-2 pt + 1 pt NIS /100 gal	PREHARVEST. Use 2 pt/A for mature weeds or weeds greater than 18". Apply after the corn is mature and black layer has formed. Use 2 pt NIS by air. PHI 7 days.
<b>ROUNDUP POWERMAX/ ROUNDUP POWERMAX II/ ROUNDUP WEATHERMAX**</b>	Up to 32 oz + 8.5-17 lb AMS/100 gal <sup>a</sup>	PREHARVEST. See label for PREHARVEST rates for corn that is not GT. Apply when grain moisture is 35% or less and black layer has formed. Not recommended on SEED corn because of reduced seed germination or vigor. PHI 7 days. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>RT 3</b>	Up to 64 fl oz + 8.5-17 lb AMS/100 gal <sup>a</sup>	PREHARVEST. Up to 44 fl oz by air. Apply when grain moisture is 35% or less and black layer has formed. Not recommended on SEED corn because of reduced seed germination or vigor. PHI 7 days. For use in CO, ID, KS*, MN*, MT, NE*, NM*, NV, ND, OK*, OR, SD, TX, UT, WA, WY. *See county restrictions on label. <sup>a</sup> Or WC+NIS. <sup>2</sup>
<b>RUGGED</b>	1-2 pt	PREHARVEST. For FIELD and POP corn, apply after silks are completely brown (dent stage) to suppress perennial broadleaves, decrease weed seed production, and control tall weeds and vines that interfere with harvest.
<b>2,4-D AMINE 4/LV4 or LV6 or SHREDDER E-99</b>	1-2 pt 0.66-1.33 pt Up to 2 pt	PREHARVEST. For FIELD and POP corn, apply after silks are completely brown (dent stage) to suppress perennial broadleaves, decrease weed seed production, and control tall weeds and vines that interfere with harvest.

See notes on page 57.

<sup>1</sup> Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

<sup>2</sup> Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

\*\* May use other glyphosate herbicides: Cornerstone brands, Tomahawk brands, Roundup brands, Durango DMA/Duramax, or others at labeled rates.



**Note 1:** Do not exceed maximum rate of atrazine allowed per year. **FOR POST- EMERGENCE APPLICATION:** If no atrazine was applied prior to crop emergence, a maximum of 2 lbs. (active ingredient) per acre may be applied. If a postemergence treatment is required following an earlier atrazine application, the total atrazine applied may not exceed 2.5 lbs. (active ingredient) per acre per calendar year. TAKE INTO ACCOUNT COMBINATION PRODUCTS (see note 3). If there are more restrictive state/local regulations, these must be followed. Do not mix, load or apply within 50' of any well or sinkhole. Do not apply within 200' of a natural or impounded lake or reservoir. Do not apply within 66' of points where runoff enters perennial or intermittent streams or rivers. This buffer zone around stand pipes is not required if the atrazine applied in this buffer zone is incorporated into the soil after application, or if area is managed under a no-till system combined with high crop residue management. Mixing, loading, rinsing or washing is permitted within 50' of a well if conducted on an impervious pad constructed to meet standards specified on the label.

**Note 2:** Do not add 2,4-D POST.

**Note 3:** Do not exceed maximum rate of atrazine allowed per year. These combination products contain the following amounts of atrazine: Anthem ATZ (each qt) 1.0015 lb; Bicep II Magnum/Charger MAZ ATZ/Cinch ATZ (each qt) 0.6675 lb; – Bicep Lite II Magnum/Charger MAX ATZ Lite/Cinch ATZ Lite (each qt) 0.4175 lb; – Callisto Xtra (each 24 oz) 0.6 lb; – Confidence Xtra or Tremor ATZ Lite NXT (each qt) 0.625 lb; – Confidence Xtra 5.6L or Tremor ATZ NXT (each qt) 0.425 lb; – Degree Xtra (each qt) 1.34 lb; – Expert (each qt) 0.53 lb; – Harness Xtra 5.6L (each qt) 0.625 lb; – Harness Xtra 6L (each qt) 0.425 lb; FulTime NXT (each qt) 0.335 lb; – Keystone NXT (each qt) 0.625 lb; – Keystone LA NXT (each qt) 0.425 lb; – Lexar EZ (each qt) 0.44 lb; – Lumax EZ (each qt) 0.23 lb.

**Note 4:** See insecticide restrictions in table on the next page.

**Note 5:** Under conditions favoring drift, add 4 oz InterLock, 6.4 oz of Masterlock by ground and 4 oz by air, 4-6 oz. Placement per acre after pesticides are added but before complete filling of spray tank.

**Note 6:** Be sure that boom height for all is such that sulfonylureas spray is not concentrated in the whorl. Check with seed corn supplier or local representative for a listing of such "susceptible" varieties.

**Note 7:** Corn can develop fused tissue in the whorl (rat tail) from dicamba in tank mixes with sulfonylurea herbicides applied to small plants under stressful cool, cloudy conditions.

**Note 8:** Crop injury possible if cold weather occurs before or after application.

**Note 9:** POST-PLANT INCORPORATED (CULTI-SPRAY OR LAYBY) For full-season grass control should combine a preplant soil herbicide(s) with post-plant application of Anthem atrazine, Prowl or Framework (pendimethalin) or Treflan (trifluralin). Post-plant incorporated treatments are designed to enhance late- season control of grasses, including fall panicum, shattercane, crabgrass, woolly cup-grass, wild proso millet and field sandbur. Uniform incorporation in surface soil is required. Prowl (pendimethalin) and Trust (trifluralin) applications will not control emerged broadleaf or grassy weeds. Field must be cultivated and all emerged weeds destroyed prior to application. Cultivate sweep or rolling cultivator operated to throw at least 1" of soil over the base of the crop plants. After application in 10 gallons or more water per acre, incorporate within 24 hours to a depth of 1-2" with sweep or rolling cultivator, or with overhead sprinkler irrigation.

# HERBICIDE-INSECTICIDE RESTRICTIONS IN CORN

## SOIL APPLIED ORGANOPHOSPHATE (OP) INSECTICIDE

Corn Herbicide	Counter 20G <sup>b</sup>	Thimet	Lorsban	Azteca		Non-OP Force	Application of Foliar - OP, Days	
				Furrow	Band		Before	After
<i>nicosulfuron and/or rimsulfuron</i>								
<b>Accent Q</b>	No	UCI	UCI	Yes	Yes	Yes	7	3
<b>Alluvex</b>	SCI <sup>g</sup>	SCI	SCI	Yes	Yes	Yes	—	—
<b>Basis<sup>e</sup></b>	UCI <sup>e</sup>	UCI <sup>e</sup>	UCI <sup>e</sup>				—	—
<b>Basis Blend<sup>f</sup></b>	UCI <sup>f</sup>	UCI	UCI	Yes	Yes	Yes	7	3
<b>Instigate</b>	UCI	UCI	UCI	UCI	UCI	Yes	7	3
<b>Leadoff</b>	TCI <sup>g</sup>	UCI	UCI	Yes	Yes	Yes	—	—
<b>Prequel<sup>e</sup></b>	UCI <sup>e</sup>	UCI <sup>e</sup>	UCI <sup>e</sup>	Yes	Yes	Yes	—	—
<b>Realm Q</b>	SCI	No	SCI	Yes	Yes	Yes	—	—
<b>Resolve Q<sup>e</sup></b>	UCI	UCI	UCI	Yes	Yes	Yes	7	3
<b>Steadfast Q</b>	No	UCI	UCI	Yes	Yes	Yes	7	3
<i>primisulfuron and/or prosulfuron</i>								
<b>Beacon</b>	SCI <sup>h</sup>	TCI <sup>h</sup>	TCI <sup>h</sup>	Yes	Yes	Yes	10	7
<b>NorthStar</b>	No	TCI	TCI	TCI	Yes	Yes	10	7
<b>Peak</b>	No	TCI	TCI	TCI	TCI	Yes	10	7
<b>Spirit</b>	No	TCI	TCI	TCI	Yes	Yes	10	7
<b>Harmony SG</b>	No	UCI	TCI	Yes	Yes	Yes	14	14
<i>flumetsulam</i>								
<b>Python WDG</b>	No	No	TCI *	TCI *	Yes	Yes	7	7
<b>Thresidual/SureStart II/TripleFLEX II, Hornet WDG (Pre)</b>	No	No	TCI	No	Yes	Yes	—	—
<b>Thresidual/SureStart II/TripleFLEX II, Hornet WDG (Post)</b>	No	No	TCI	TCI	TCI	Yes	10	10
<i>fluthiacet and mesotrione</i>								
<b>Solstice</b>	SCI	SCI	SCI	Yes	Yes	Yes	7	7
<i>foramsulfuron</i>								
<b>Option</b>	No	No	TCI	Yes	Yes	Yes	7	7
<i>halosulfuron</i>								
<b>Herbivore or Permit or Yukon</b>	No	Yes	Yes	Yes	Yes	Yes	7	3
<i>mesotrione</i>								
<b>Callisto/Incinerate (Post)</b>	SCI	No	SCI	Yes	Yes	Yes	7	7
<b>Callisto GT (Post)</b>	SCI	No	SCI	No	No	Yes	7	7
<b>Callisto Xtra</b>	SCI	No	SCI	No	No	Yes	7	7
<b>Instigate</b>	UCI	UCI	UCI	UCI	UCI	Yes	7	3
<b>Lumax EZ/Lexar EZ (Post)</b>	No	TCI	TCI	TCI	TCI	Yes	7	7
<b>Halex GT (Post)</b>	SCI	SCI	SCI	SCI	SCI	Yes	7	7
<b>Realm Q</b>	No	No	No	Yes	Yes	Yes	—	—
<b>Resicore (Post)</b>	No	No	TCI	TCI	TCI	Yes	7	7
<b>Zemax (Post)</b>	SCI	SCI	SCI	SCI	SCI	Yes	7	7
<i>safinufenacil</i>								
<b>Verdict</b>	No	No	No	Yes	Yes	Yes	—	—
<b>Sharpen</b>	No	No	No	Yes	Yes	Yes	—	—
<b>OpTill</b>	No	No	No	Yes	Yes	Yes	—	—

## SOIL APPLIED ORGANOPHOSPHATE (OP) INSECTICIDE

Corn Herbicide	Counter 20G <sup>b</sup>	Thimet	Lorsban	Azteca		Non-OP Force	Application of Foliar - OP, Days	
				Furrow	Band		Before	After
<i>tembotrione + dicamba</i>								
<b>DiFlexx DUO</b>	Yes	Yes	No	Yes	Yes	Yes	7	7
<i>thiencarbazono</i>								
<b>Capreno</b>	No	No	No	Yes	Yes	Yes	7	7
<b>Corvus</b>	No	Yes	Yes	Yes	Yes	Yes	7	7
<i>thifensulfuron or tribenuron</i>								
<b>Basis Blend<sup>f</sup></b>	UCI <sup>f</sup>	UCI	UCI	Yes	Yes	Yes	7	3
<b>Leadoff</b>	TCl <sup>g</sup>	UCI	UCI	Yes	Yes	Yes	—	—
<b>Panoflex</b>	Yes	Yes	Yes	Yes <sup>e</sup>	Yes	—	—	—

No – Do not use this herbicide if this soil applied insecticide was previously applied.

Yes – No restrictions.

UCI – Using this herbicide on corn previously treated with this insecticide may result in unacceptable crop injury, particularly on low (<4%) organic matter soils (DuPont).

a Aztec label has no herbicide restrictions.

b May be applied to field corn at cultivation 7 days after application of ALS herbicides.

e Do not apply within 60 days of crop emergence where an OP was used in-furrow; or PP or PRE within 60 days of an OP insecticide.

g Do not apply Counter within 60 days of PP or PRE application.

h Injury will only occur with “normal” corn or hybrids with enhanced imidazoline tolerance; corn with enhanced imidazoline resistance does not experience injury.

\* Do not place Lorsban or Aztec in-furrow with Python.

SCI – Severe crop injury can occur with Counter or Lorsban.

f Do not apply within 45 days of crop emergence where (Dow label)

TCl – Using this herbicide on corn previously treated with this insecticide may result in temporary corn injury. an OP insecticide was applied.

Do not apply Counter within 60 days of a PP or PRE application. Foliar-OP = Dimate, Lorsban Advanced or Malathion .

## BEE ALERT

See Insecticide Classification in the Technical Section for information on insecticide toxicity to bees.

# LABELED INSECTICIDES FOR CORN

Insecticide	LABELED CROP (Pre-Harvest Intervals for grain or fresh ear in days)				RATE PER ACRE	AT PLANTING: PP, PPI or PRE (SOIL TREATMENTS)											AFTER PLANTING (RESCUE)								
	FIELD	POP	SEED	SWEET		Armyworm	Billbug	Corn Rootworm Larvae	Cutworm	Flea Beetle Larvae	Nematode	Seed Corn Beetle	Seed Corn Maggot	Stalk Borer, Common or Lesser	Symphylan	White Grub	Wireworm	Armyworm, True	Armyworm, Fall	Armyworm, Yellow-Striped	Billbug	Chinch Bug	Corn Earworm	Corn Leaf Aphid	
<b>Agri-Mek</b>				Y(7)	1.75-3.5 fl oz																				
<b>Arctic 3.2 EC</b>	Y(30)	Y(30)	Y(30)	Y(1)	4-6 fl oz or 0.3-0.6 fl oz/1000' row: F,P,S	•		•*	•				•				•	•	•						
					4-6 fl oz: F,P,S												•	•	•			•			
					2-4 fl oz: F,P,S																				
					4-8 fl oz: SW													•					•		
<b>Asana XL</b>	Y(21)	Y(1)	Y(1)	Y(1)	0.45 fl oz/1000' row				•																
					5.8-9.6 fl oz: F,P,S												•				•	•	•		
					5.8-9.6 fl oz: SW												•	•	•		•	•	•		
					7.8-9.6 fl oz: F,P,S													•	•	•		•	•	•	
					2.9-5.8 fl oz																				
<b>Avaunt</b>				Y(3)	2.5-3.5 fl oz												•					•			
<b>Aztec 2.1G or 4.67G</b>	Y	Y	Y	Y	6.7 oz or 3 oz/1000' row			•	•		•	•		•	•										
<b>Baythroid XL</b>	Y(21)	Y(21)	Y(21)	Y(0)	0.12-0.16 fl oz/1000' row; 2.0-2.8 fl oz: F,P,S							•		•S	•										
					0.8-1.6 fl oz																				
					1.6-2.8 fl oz												•		•		•	•			
					2.1-2.8 fl oz																				
					2.8 fl oz														•						
<b>Besiege</b>	Y(21)	Y(21)	Y(21)	Y(1)	5-10 fl oz																	•			
					6-10 fl oz													•	•				•S		
					10 fl oz																•				
<b>Bifen 2 AG Gold/Tundra EC/ Brigade 2EC</b>	Y(30)	Y(30)	Y(30)	Y(1)	0.3 fl oz/1000' row			•																	
					0.15-0.3 fl oz/1000' row	•		•			•	•		•	•										
					3-4 fl oz PPI: F,P,S	•		•			•			•	•										
					2.56 fl oz PRE: F,P,S	•		•					•												
					2.1-6.4 fl oz													•	•	•		•	•	•	
					5.12-6.4 fl oz																				
<b>Blackhawk</b>	Y(28)	Y(28)	Y(28)	Y(1)	1.1-3.3 oz												•	•							
					2.2-3.3 oz																		•		

Products may control/suppress many other insects; see label  
 • - control; •S - suppression  
 \* - 24c, 2ee or Supplemental label; see Comments and Restrictions  
 F - field; P - popcorn; S - seed corn; SW - sweet corn  
 PHI - preharvest interval days

For additional insecticides and seed treatment options, see the SEED AND GRAIN section.

AFTER PLANTING (RESCUE) continued												Comments and Restrictions				
Corn Rootworm Beetle/Larvae	Cutworm	European Corn Borer - 1st gen.	European Corn Borer - 2nd gen.	Flea Beetle	Grasshopper	Hopvine Borer	Japanese Beetle	Sod Webworm	Southern Corn Leaf Beetle	Southwestern Corn Borer	Spider Mite	Stalk Borer, Common/Lesser	Stinkbug	Western Bean Cutworm	F - field; P - popcorn; S - seed corn; SW - sweet corn; PHI - preharvest interval days	Insecticide
															Must be mixed with non-ionic activator type wetting, spreading and/or penetrating spray adjuvant approved for sweet corn. PHI 7 for forage/stover. Minimum 10 GPA by ground, 2 GPA by air. Minimum 7-day application interval. Maximum 7 fl oz (0.038 lb a.i.)/A/year	Agri-Mek SC
															At-plant (band, T-band or in-furrow), PPI, PRE or after-plant control as indicated. After-plant in minimum 10 GPA by ground, 2 GPA by air; may be applied through sprinkler irrigation. F,P,S: 7-day retreatment interval; maximum 18 fl oz (0.45 lb a.i.)/A/cutting; PHI 0 for forage, 30 for fodder/stover. SW: Minimum 3-day retreatment interval; maximum 32 fl oz (0.8 lb a.i.)/A/season. 2ee (exp. date not given) for PRE control of Southern corn rootworm in F,P,S at 4-8 fl oz/A as T-band at planting.	Arctic 3.2 EC
															At-plant: Apply as band, T-band or in-furrow in minimum 3 GPA using minimum 4" band. May be applied through sprinkler irrigation. Maximum, including at-plant and foliar applications: F,S 0.25 lb a.i./A/season; P,SW 0.5 lb a.i./A/season.	Asana XL
															Apply from whorl through tassel push. PHI 35 for forage/fodder. May be applied through sprinkler irrigation.	Avaunt
															For use in specific states; see label. Band, T-band, or in-furrow. Optimum control by band or T-band. Must be soil incorporated to depth of at least 1". For applications in no-till corn where runoff drains into adjacent or neighboring aquatic sites, apply as in-furrow or T-band only; for applications within 20 yards of aquatic sites, apply as in-furrow only. Maximum 0.15 lb a.i./A/crop season.	Aztec 2.1G or 4.67G
															At-plant F,P,S: White grub suppressed at 2.5-2.8 fl oz/A. F,P,S: Up to 11.2 oz/A/crop; PHI 21 for fodder, 0 for green forage. SW: Up to 28 fl oz/A/crop; PHI 0 for forage. Minimum 10 GPA by ground, 2 GPA by air. May be applied through sprinkler irrigation.	Baythroid XL
															PHI 1 for grazing/forage, 21 for fodder/silage for meat and dairy animals. Hopvine, Southern Corn Leaf Beetle only listed for F,P,S. Spider Mite only listed for SW.	Besiege
															Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. Minimum 10 GPA by ground, 2 GPA (5 GPA for mites in TX,NM,OK,AZ) by air. May be applied through sprinkler irrigation. F,P,S maximum 0.3 lb a.i./A/season, SW maximum 0.2 lb a.i./A/season, including all other applications of bifenthrin products.	Bifen 2 AG Gold/Tundra EC/Brigade 2EC
															Armyworms: Use 1.1-3.3 oz/A for fall and true armyworms, 2.2-3.3 oz/A for beet armyworm. Armyworms and European corn borer: Applications should be timed to coincide with peak egg hatch. May be applied through sprinkler irrigation. PHI 28 for fodder, 7 for forage.	Blackhawk

# LABELED INSECTICIDES FOR CORN *Continued*

Insecticide	LABELED CROP (Pre-Harvest Intervals for grain or fresh ear in days)				RATE PER ACRE	AT PLANTING: PP, PPI or PRE (SOIL TREATMENTS)											AFTER PLANTING (RESCUE)								
	FIELD	POP	SEED	SWEET		Armyworm	Billbug	Corn Rootworm Larvae	Cutworm	Flea Beetle Larvae	Nematode	Seed Corn Beetle	Seed Corn Maggot	Stalk Borer, Common or Lesser	Symphylan	White Grub	Wireworm	Armyworm, True	Armyworm, Fall	Armyworm, Yellow-Striped	Billbug	Chinch Bug	Corn Earworm	Corn Leaf Aphid	
<b>Capture LFR</b>	Y(30)	Y(30)	Y(30)	Y(1)	0.2-0.98 fl oz/1000' row	•		•			•	•	•		•	•									
					0.39-0.98 fl oz/1000' row	•	•																		
					4-5.3 fl oz PPI	•		•			•	•			•	•									
					3.4 fl oz PRE	•		•			•		•												
					2.8-8.5 fl oz													•	•	•		•	•	•	
					6.8-8.5 fl oz																				
<b>Capture 3Rive 3D</b>	Y	Y	Y	Y	0.23-0.92 fl oz/1000' row; 4-16 fl oz	•	•	•			•	•	•		•	•									
					0.46-0.92 fl oz/1000' row; 8-16 fl oz		•																		
<b>Cobalt Advanced</b>	Y(21)		Y(21)	Y(21)	11-38 fl oz Consv. Tillage	•		•																	
					1.89 fl oz/1000' row			•																	
					2.87 fl oz/1000' row						•	•			•	•									
					6-13 fl oz																				
					11-26 fl oz													•	•	•				•	
					16-38 fl oz																	•	•		
				32-42 fl oz																•					
<b>Comite/Comite II</b>	Y(30)	Y(30)	Y(30)	Y(30)	32-48 fl oz/18-54 fl oz																				
<b>Coragen</b>	Y(14)	Y(14)	Y(14)	Y(1)	3.5-7.5 fl oz												•	•					•		
					2-5 fl oz																				
<b>Counter 20G</b>	Y(0)	Y(0)	Y(0)	Y(60)	4.5-6 oz/1000' row		•	•	•S	•	•	•	•S	•	•	•					•				
					6 oz/1000' row																	•			
<b>Declare</b>	Y(1)	Y(1)	Y(1)	Y(1)	0.26 fl oz/1000' row			•	•		•	•	•		•	•									
					1.02-1.54 fl oz												•	•	•				•S		
					0.77-1.28 fl oz: F,P,S																		•		
					1.54 fl oz: F,P,S																		•		
<b>Delta Gold</b>	Y(21)	Y(21)		Y(1)	1.5-1.9 fl oz: F,P												•	•	•			•	•	•S	
					1.5-2.4 fl oz: SW																		•	•S	
					1-1.5 fl oz																				
<b>Dimate 4E</b>	Y(28)	Y(28)			0.67-1 pt																		•		
<b>Dipel ES</b>	Y(0)	Y(0)	Y(0)	Y(0)	1.5-2.5 pt																				
					2-4 pt												•	•	•				•		
<b>Entrust SC</b>	Y(28)	Y(1)	Y(1)	Y(1)	1.5-6 fl oz												•	•	•						
					3-6 fl oz																		•		

Products may control/suppress many other insects; see label  
 • - control; •S - suppression  
 \* - 24c, 2ee or Supplemental label; see Comments and Restrictions  
 F - field; P - popcorn; S - seed corn; SW - sweet corn  
 PHI - preharvest interval days

For additional insecticides and seed treatment options, see the SEED AND GRAIN section.

AFTER PLANTING (RESCUE) continued													Comments and Restrictions			
Corn Rootworm Beetle/Larvae	Cutworm	European Corn Borer - 1st gen.	European Corn Borer - 2nd gen.	Flea Beetle	Grasshopper	Hopvine Borer	Japanese Beetle	Sod Webworm	Southern Corn Leaf Beetle	Southwestern Corn Borer	Spider Mite	Stalk Borer, Common/Lesser	Stinkbug	Western Bean Cutworm		
															F - field; P - popcorn; S - seed corn; SW - sweet corn; PHI - preharvest interval days	Insecticide
•	•	•	•	•	•		•	•	•	•					Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. At-plant: Apply as T-band over open furrow or in-furrow with seed. For army cutworm, stalkborer, cutworm spp., true armyworm or armyworm spp., may also apply in band over row on soil surface, or broadcast (3.4-13.6 fl oz/A). Foliar: Apply in minimum 2 GPA by air, 10 GPA by ground. F,P,S maximum 0.3 lb a.i./A/season, SW maximum 0.2 lb a.i./A/season, including all other applications of bifenthrin products.	Capture LFR
															Must be applied in-furrow with seed. Maximum 0.2 lb a.i./A/season at-plant. F,P,S: Maximum 0.3 lb a.i./A/season, SW: Maximum 0.2 lb a.i./A/season: Includes all other applications of bifenthrin products.	Capture 3Rive 3D
•	•			•	•				•	•					Do not make second application of this or other chlorpyrifos-containing products within 10 days of first application. See label for maximum annual application rates for products containing lambda- and gamma-cyhalothrin. Maximum 3 applications of this with other chlorpyrifos-containing products/season (including granular applications at 1 lb a.i./A). PHI 1 for grazing/forage for meat and dairy animals.	Cobalt Advanced
															See labels for high infestation rates, early/mid-late season rates, or single application rates. May be applied through sprinkler irrigation.	Comite/Comite II
		•	•		•					•				•	May be applied through sprinkler irrigation. Minimum 10 GPA by ground, 5 GPA by air. Grasshopper: See label for application timing and adjuvant recommendations.	Coragen
•															ALS-inhibiting herbicides should not be used with at-plant. Corn rootworm and nematode (see label for species) suppression only at rates < 6 oz/1000' row. Only a single at-plant, POST incorporated or cultivation-time treatment may be used. Maximum 6.5 lb/A. PHI 30 for grazing/forage.	Counter 20G
•		•	•	•	•	•	•	•		•		•	•	•	At-plant: Reduced rates 0.041-0.018 fl oz/1000' row for certain pests in select states; see label. Foliar: PHI 1 for grazing/forage, PHI 21 days for fodder/silage for meat and dairy animals. F,P,S Foliar: Reduced rates 0.51-0.77 fl oz/A for cutworm in select states (see label). SW Foliar: 0.77-1.02 fl oz/A corn earworm in ID,OR,WA for processing sweet corn; 1.54 fl oz/A for southern corn leaf beetle; 1.02-1.54 fl oz/A for all other pests.	Declare
•		•	•				•	•		•		•	•		Minimum 5 GPA by ground, 2 GPA by air. F,P: PHI 12 for forage. SW: PHI 1 for feed, PHI 21 for stover.	Delta Gold
•				•	•										Maximum 1 pt/A/year. PHI 14 for forage. Grasshopper control: 1 pt/A at 20-40 GPA by ground, ≥1 GPA by air. Do not apply during pollen-shed period shed if bees are visiting the area.	Dimate 4E
	•	•	•				•		•					•	Minimum 5 GPA by ground, apply in 6-8" band directly over whorls. Minimum 2-10 GPA by air.	Dipel ES
		•	•											•	Scout for European corn borer and armyworms to monitor egg laying and hatch. For earworm, 1-2 day retreatment schedule may be necessary at silking. PHI 28 for fodder, 7 for forage. F: Maximum 12 fl oz (0.188 lb a.i.)/A/year, all uses. S,P,SW: Maximum 29 fl oz (0.45 lb a.i.)/A/year, all uses. May be applied by sprinkler irrigation.	Entrust SC

# LABELED INSECTICIDES FOR CORN *Continued*

Insecticide	LABELED CROP (Pre-Harvest Intervals for grain or fresh ear in days)				RATE PER ACRE	AT PLANTING: PP, PPI or PRE (SOIL TREATMENTS)										AFTER PLANTING (RESCUE)									
	FIELD	POP	SEED	SWEET		Armyworm	Billbug	Corn Rootworm Larvae	Cutworm	Flea Beetle Larvae	Nematode	Seed Corn Beetle	Seed Corn Maggot	Stalk Borer, Common or Lesser	Symphylan	White Grub	Wireworm	Armyworm, True	Armyworm, Fall	Armyworm, Yellow-Striped	Billbug	Chinch Bug	Corn-Earworm	Corn Leaf Aphid	
Ethos XB	Y	Y	Y	Y	0.39-0.98 fl oz/1000' row			•																	
					0.2-0.98 fl oz/1000' row	•			•		•	•	•		•	•									
					4-5.3 fl oz PPI	•			•		•	•			•	•									
					3.4 fl oz PRE	•			•		•		•												
Fastac EC/Fastac CS	Y(30)	Y(30)	Y(30)	Y(3)	0.15 fl oz/1000' row				•																
					1.8-3.8 fl oz: F,P,S																	•			
					1.3-2.8 fl oz: F,P,S																				
					3.2-3.8 fl oz: F,P,S													•	•	•		•			
					2.7-3.8 fl oz: F,P,S																			•	
					2.2-3.8 fl oz: SW																		•		
					2.8-3.8 fl oz: SW													•	•	•			•	•	
Force 3G	Y	Y	Y	Y	4-5 oz/1000' row		•S	•			•	•	•		•	•									
					3-5 oz/1000' row				•																
Force CS	Y	Y	Y	Y	0.46-0.57 fl oz/1000' row		•S	•	•		•	•	•		•	•						•S			
Grizzly Too	Y(21)	Y(21)	Y(21)	Y(1)	0.33 fl oz/1000' row			•	•		•	•	•		•	•									
					0.96-1.6 fl oz: F,P,S																		•		
					1.28-1.92 fl oz: F,P,S												•	•	•					•	
					1.92 fl oz: F,P,S																	•			
					1.28-1.92 fl oz: SW																				•
Hero	Y(30)	Y(30)	Y(30)	Y	1-1.03 oz: F,P,S		•		•		•	•			•	•									
					2.6-6.1 oz: F,P,S																				
					4-10.3 oz: F,P,S													•	•	•		•	•	•	
					10.3 oz: F,P,S																				
					4-10.3 oz: SW													•	•	•		•	•	•	
					10.3 oz: SW																				
Intrepid 2F	Y(21)	Y(21)	Y(21)	Y(3)	4-16 fl oz: F,S,SW																				
					4-8 fl oz: P													•							
Intrepid Edge	Y(28)		Y(1)	Y(3)	4-12 fl oz													•							
					8-12 fl oz																		•		

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For additional insecticides and seed treatment options, see the SEED AND GRAIN section.



AFTER PLANTING (RESCUE) continued													Comments and Restrictions				
Corn Rootworm Beetle/Larvae	Cutworm	European Corn Borer - 1st gen.	European Corn Borer - 2nd gen.	Flea Beetle	Grasshopper	Hopvine Borer	Japanese Beetle	Sod Webworm	Southern Corn Leaf Beetle	Southwestern Corn Borer	Spider Mite	Stalk Borer, Common/Lesser	Stinkbug	Western Bean Cutworm			
																<p>F - field; P - popcorn; S - seed corn; SW - sweet corn; PHI - preharvest interval days</p>	<b>Insecticide</b>
																<p>Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. F,S,P: Maximum 0.3 lb bifenthrin a.i./A/season, all uses. SW: Maximum 0.2 lb bifenthrin a.i./A/season, all uses. F,P,S maximum 0.3 lb a.i./A/season, SW maximum 0.2 lb a.i./A/season, including all other applications of bifenthrin products. Product contains fungicide; see Corn Disease Control and label for diseases suppressed at indicated rates.</p>	<b>Ethos XB</b>
	•													•		<p>Do not apply &gt; 11.4 fl oz (0.075 lb a.i.)/A/season, including at-plant and foliar. F,P,S: PHI 30 for stover, 60 for forage; at-plant in furrow, band or T-band using minimum 4" band; after plant minimum 10 GPA by ground, 2 GPA by air. SW: PHI 3 forage/ grazing; minimum 3- to 5-day application interval; minimum 20 GPA by ground, 2 GPA by air.</p>	<b>Fastac EC/Fastac CS</b>
	•	•		•			•										
																<p>For applications in no-till corn where runoff drains into adjacent or neighboring aquatic sites, apply as in-furrow. At-plant: In furrow, banded or T-banded (billbug, chinchbug - banded or T-banded only; cutworm - banded or T-banded only on first year corn). Do not apply as T-band unless incorporated to 1". May also obtain rootworm control with application at cultivation within 30 days after seedling emergence. Do not follow at-plant application with lay-by application; use Force 3G only once/crop. Maximum 10.9 (0.327 lb a.i.)/A/year.</p>	<b>Force 3G</b>
																<p>For applications in no-till corn where runoff drains into adjacent or neighboring aquatic sites, apply as in-furrow. At-plant: In furrow or T-banded (billbug - T-banded only). Do not apply as T-band unless incorporated to 1". Wireworm and white grub control best with in furrow treatment. Maximum 20 fl oz (0.327 lb a.i.)/A/year. Make only one application/year.</p>	<b>Force CS</b>
		•												•		<p>At-plant: In furrow, banded or T-banded. F,P,S: Maximum 7.68 fl oz/A/crop, at-plant and foliar uses. SW: Minimum 2 GPA by air; maximum 30.72 fl oz/A/crop, at-plant and foliar uses. PHI 1 for forage/feed, 21 for fodder/silage to meat and dairy animals.</p>	<b>Grizzly Too</b>
	•	•	•	•	•	•	•	•		•				•	•		
														•*		<p>Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. F,P,S: Maximum 41.2 oz/A/season, at-plant and foliar uses; PHI 30 for grazing/feed/stover, 60 for forage. SW: Maximum 27.39 oz/A/season; PHI 3 for grazing/feed. F,P,S maximum 0.3 lb a.i./A/season, SW maximum 0.2 lb a.i./A/season, including all other applications of bifenthrin products. May be applied by sprinkler irrigation. 2ee in all states (exp. date not given) for control of brown marmorated stink bug at 7.1-10.3 fl oz/A.</p>	<b>Hero</b>
	•	•	•	•	•	•	•	•	•	•				•	•		
	•	•	•	•	•	•	•	•	•	•				•	•	<p>F,S: Minimum 5 GPA by ground or air. PSW: Minimum 10 GPA by ground or air. Do not apply &gt; 64 fl oz (1 lb a.i.)/A/year. SW: PHI 21 for dry fodder, 3 for forage.</p>	<b>Intrepid 2F</b>
		•	•							•						<p>F: Maximum 32 fl oz/A/year, 3 applications/year. S,SW: Maximum 51 fl oz/A/year, 6 applications/year. Not for use in AZ, CA. S: PHI 28 for fodder, 7 for forage. SW: PHI 21 for dry fodder, 3 for forage.</p>	<b>Intrepid Edge</b>

# LABELED INSECTICIDES FOR CORN *Continued*

Insecticide	LABELED CROP (Pre-Harvest Intervals for grain or fresh ear in days)				RATE PER ACRE	AT PLANTING: PP, PPI or PRE (SOIL TREATMENTS)										AFTER PLANTING (RESCUE)									
	FIELD	POP	SEED	SWEET		Armyworm	Billbug	Corn Rootworm Larvae	Cutworm	Flea Beetle Larvae	Nematode	Seed Corn Beetle	Seed Corn Maggot	Stalk Borer, Common or Lesser	Symphylan	White Grub	Wireworm	Armyworm, True	Armyworm, Fall	Armyworm, Yellow-Striped	Billbug	Chinch Bug	Corn Earworm	Corn Leaf Aphid	
<b>Karate Z/Warrior II</b>	Y(21)	Y(21)	Y(21)	Y(1)	0.33 fl oz/1000' row			•	•			•	•	•		•	•								
					0.96-1.6 fl oz: F,P,S																		•		
					1.28-1.92 fl oz: F,P,S													•	•	•				•	
					1.92 fl oz: F,P,S																	•			
					1.28-1.92 fl oz: SW																				•
<b>Lambda-Cy Ag/Paradigm</b>	Y(21)	Y(21)	Y(21)	Y(1)	0.66 fl oz/1000' row			•	•			•	•	•		•	•								
					1.92-3.20 fl oz: F,P,S																		•		
					2.56-3.84 fl oz: F,P,S													•	•	•				•S	
					3.84 fl oz: F,P,S																	•			
					2.56-3.84: SW														•	•			•	•	•S
<b>Lannate LV</b>	Y(21)	Y(21)	Y(21)	Y(0)	0.75-1.5 pt												•	•					•	•	
					1.5 pt																				
<b>Malathion 5</b>	Y(7)			Y(5)	1.6 pt												•	•	•					•	
<b>Malathion 5EC</b>	Y(7)	Y(5)		Y(5)	1.5 pt: F; 1.6 pt: SW												•	•	•				•		
<b>Malathion 8 Flowable</b>	Y(7)			Y(5)	0.61 pt																			•	
					1 pt																				
<b>Manticor LFR</b>	Y	Y	Y	Y	0.49-1.09 fl oz/1000' row	•	•	•	•	•		•	•	•	•	•									
<b>Microthiol Dispers</b>	Y				8-15 lb																				
<b>Mustang Maxx</b>	Y(7)*	Y(7)*	Y(7)*	Y(3)	0.16 fl oz/1000' row: F,P,S				•																
					1.28-2.8 fl oz: F,P,S																				
					1.76-4 fl oz: F,P,S																			•	
					2.72-4 fl oz: F,P,S																			•	
					3.2-4 fl oz: F,P,S													•	•	•			•		
					2.24-4 fl oz: SW																	•			
					2.8-4 fl oz: SW													•	•	•			•	•	
<b>Oberon 2 SC</b>	Y(30)	Y(30)		Y(5)	5.7-16 fl oz																				
<b>Onager</b>	Y(30)			Y(28)	12-24 fl oz																				

Products may control/suppress many other insects; see label  
 • - control; •S - suppression  
 \* - 24c, 2ee or Supplemental label; see Comments and Restrictions  
 F - field; P - popcorn; S - seed corn; SW - sweet corn  
 PHI - preharvest interval days

For additional insecticides and seed treatment options, see the SEED AND GRAIN section.

AFTER PLANTING (RESCUE) <i>continued</i>														Comments and Restrictions			
Corn Rootworm Beetle/Larvae	Cutworm	European Corn Borer - 1st gen.	European Corn Borer - 2nd gen.	Flea Beetle	Grasshopper	Hopvine Borer	Japanese Beetle	Sod Webworm	Southern Corn Leaf Beetle	Southwestern Corn Borer	Spider Mite	Stalk Borer, Common/Lesser	Stinkbug	Western Bean Cutworm			
																F - field; P - popcorn; S - seed corn; SW - sweet corn; PHI - preharvest interval days	Insecticide
	•													•		At-plant: In furrow, banded or T-banded. F,P,S: Maximum 7.68 fl oz/A/crop, at-plant and foliar uses. SW: Minimum 2 GPA by air; maximum 30.72 fl oz/A/crop, at-plant and foliar uses. PHI 1 for forage/feed, 21 for fodder/silage to meat and dairy animals.	Karate Z/Warrior II
	•	•	•	•	•	•	•	•	•								
	•	•	•	•	•	•	•	•	•								
	•													•		At-plant: In furrow, banded or T-banded. F,P,S: Maximum 15.36/A/crop, at-plant and foliar uses; see label for maximums at specific corn growth stages. SW: Minimum 2 GPA by air; maximum 61.44 fl oz/A/crop, at-plant and foliar uses. PHI 1 for forage/feed, 21 for fodder/silage to meat and dairy animals.	Lambda-Cy Ag/Paradigm
	•	•	•	•	•	•	•	•	•								
	•															F,P,S maximums: 5 applications/crop; 7.5 pt/A/crop; no more than 2 applications prior to tassel push. SW maximums: 28 applications/crop; 21 pt/A/crop. Certain SW varieties susceptible to injury. PHI 21 for stover, 3 for forage.	Lannate LV
						•	•					•				Maximum 2 applications/year. Minimum application interval: 7 days for F, 5 days for SW. Japanese beetle control for SW only.	Malathion 5
	•				•											Maximum 2 applications/year. Minimum application interval: 7 days for F, 5 days for P,SW.	Malathion 5EC
	•				•											Injury may occur in whorl and silk stages. Maximum 2 applications/year. Minimum application interval: 7 days for F, 5 days for SW.	Malathion 8 Flowable
							•									Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. Apply with minimum 3 GPA seed safe starter fertilizer or water in furrow or as 5-7" T-band over open furrow. Product contains fungicide; see Corn Disease Control and label for diseases suppressed at indicated rates.	Manticor LFR
												•				Apply when mites first appear. Product is a fungicide with insecticidal properties; see label for diseases controlled/suppressed at indicated rates.	Microthiol Disperss
	•													•		At-plant: In furrow, banded or T-banded. F,P,S: PHI 7 for stover/forage. SW: PHI 3 for grazing/forage. F,P,S maximum 16 fl oz (0.01 lb a.i.)/A/season, SW maximum 24 fl oz (0.15 lb a.i.)/A/season, including all other applications. 24c NE (exp. 3/2018) for 1-day PHI grain/seed in F,S,P and in IL (exp. 2/2018) for 7-day grain/seed PHI in F,S.	Mustang Maxx
	•	•		•			•										
			•	•	•					•						Maximum 17 fl oz (0.27 lb a.i.)/A. Minimum 10 GPA by ground, 5 GPA by air. F,P: PHI 5 for forage/silage; SW: PHI 5 for forage/silage, 30 for stover. May be applied by sprinkler irrigation.	Oberon 2 SC
														•		Only one application/year. May be applied by sprinkler irrigation. F: 15-20 GPA by ground, minimum 5 GPA by air; PHI 30 for forage and stover. SW: May only be applied in Western U.S. (see label); minimum 20 GPA by ground, 10 GPA by air; PHI 28 for forage.	Onager

# LABELED INSECTICIDES FOR CORN *Continued*

Insecticide	LABELED CROP (Pre-Harvest Intervals for grain or fresh ear in days)				RATE PER ACRE	AT PLANTING: PP, PPI or PRE (SOIL TREATMENTS)											AFTER PLANTING (RESCUE)							
	FIELD	POP	SEED	SWEET		Armyworm	Billbug	Corn Rootworm Larvae	Cutworm	Flea Beetle Larvae	Nematode	Seed Corn Beetle	Seed Corn Maggot	Stalk Borer, Common or Lesser	Symphylan	White Grub	Wireworm	Armyworm, True	Armyworm, Fall	Armyworm, Yellow-Striped	Billbug	Chinch Bug	Corn-Earworm	Corn Leaf Aphid
Pounce 1.5G	Y(30)	Y(30)	Y(30)	Y(1)	8-12 oz/1000' row or 6.7-10 lb PP, PPI,PRE: F,P,S	•			•				•											
					8-16 oz/1000' row or 6.7-13 lb PP,PPI,PRE: SW	•			•				•											
					8 oz/1000' row: at-plant	•			•				•			•								
					6.7-10 lb: F,P,S													•	•	•				
					6.7-13 lb: SW													•	•	•				
Precept	Y	Y	Y	Y	4-5 oz/1000' row		•	•				•	•	•		•	•							
					3-4 oz/1000' row				•															
Prevathon	Y(14)	Y(14)	Y(1)		14-20 fl oz												•	•				•		
					8-20 fl oz																			
Radiant SC	Y(28)	Y(1)	Y(1)	Y(1)	3-6 fl oz												•	•				•		
Radico LFR	Y	Y	Y	Y	0.2-0.78 fl oz/1000' row	•			•			•	•	•		•	•							
					0.39-0.98 fl oz/1000' row			•																
					3.4 fl oz: PRE	•			•			•	•											
					4-5.3 fl oz: PPI	•			•			•	•			•	•							
Sevin XLR Plus	Y(48)	Y(48)		Y(2)	1-2 qt												•	•	•		•	•		
					1.5-2 qt																			
					2 qt																			
Sivanto 200 SL/Sivanto prime	Y(21)	Y(21)	Y(21)	Y(7)	7-14 fl oz																		•	
Smart Choice 5G	Y(30)	Y	Y	Y	4.5-5 oz/1000' row				•			•			•	•								
Stallion Brand	Y(30)		Y(30)	Y(21)	11.75 fl oz;				•															
					3.75-11.75 fl oz																			
					5-11.75 fl oz																			
					9.25-11.75 fl oz													•	•	•		•	•	•

Products may control/suppress many other insects; see label  
 • - control; •S - suppression  
 \* - 24c, 2ee or Supplemental label; see Comments and Restrictions  
 F - field; P - popcorn; S - seed corn; SW - sweet corn  
 PHI - preharvest interval days

For additional insecticides and seed treatment options, see the SEED AND GRAIN section.

AFTER PLANTING (RESCUE) <i>continued</i>													Comments and Restrictions			
Corn Rootworm Beetle/Larvae	Cutworm	European Corn Borer - 1st gen.	European Corn Borer - 2nd gen.	Flea Beetle	Grasshopper	Hopvine Borer	Japanese Beetle	Sod Webworm	Southern Corn Leaf Beetle	Southwestern Corn Borer	Spider Mite	Stalk Borer, Common/Lesser	Stinkbug	Western Bean Cutworm	F - field; P - popcorn; S - seed corn; SW - sweet corn; PHI - preharvest interval days	Insecticide
															Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. PP,PPI,PRE: Apply as broadcast by ground or air, or in 4-15 inch band. At-plant: In furrow, banded or T-banded in minimum 4" band. Foliar: Direct granule into whorl. F,P,S: PHI 0 for forage, 30 for fodder/stover.	Pounce 1.5G
	•														At-plant: In furrow, banded or T-banded (billbug - banded or T-banded only; cutworm banded or T-banded only on first year corn). White grub and wireworm control best with in-furrow treatment. May also obtain rootworm control with application at cultivation within 30 days after seedling emergence. Do not follow at-plant application with lay-by application; use Force 3G only once/crop. Maximum 10.9 (0.327 lb a.i.)/A/year.	Precept
		•	•							•				•	No more than 4 applications/A/crop. Maximum 60 fl oz (0.2 lb a.i.)/A/crop. Minimum application interval 7 for F,P; 1 for S. For grasshopper control, add MSO at 1 gal/100 gal, applied when populations reach economic thresholds; see label for timing.	Prevathon
		•	•											•	Maximum applications/year: 3 for F; 6 for P,S,SW. May be applied by sprinkler irrigation. PHI 3 for forage/fodder.	Radiant SC
															Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. F,P,S maximum 0.3 lb a.i./A/season, SW maximum 0.2 lb a.i./A/season, including all other applications of bifenthrin products.	Radico LFR
	•			•			•			•					Hand harvesting is prohibited. F,P: maximum 8 qt/A/crop/year; PHI 48 for fodder, 14 for grazing/forage. SW: maximum 16 qt/A/crop/year; PHI 48 for fodder, 14 for grazing/forage. Product is highly toxic to bees: Notify beekeepers within 1 mile of treatment area at least 48 hours before application; if applications cannot be avoided during crop bloom, limit to times when bees are least active, e.g., within 2 hours of sunrise or sunset, to minimize risk to bees.	Sevin XLR Plus
		•	•											•	PHI 7 for hay, forage; PHI 21 for stover, straw. Minimum 7-day application interval. Minimum 10 GPA by ground, 3 GPA by air. Do not exceed 28 fl oz (0.365 lb a.i.)/A/year.	Sivanto 200 SL/Sivanto prime
															Apply in-furrow at-plant; do not apply as surface band behind the press wheel. Also labeled at 3-3.5 lb/1000' row, a rate at which rootworm larvae are controlled when used in combination with corn hybrids containing in-plant protection against corn rootworm larvae. Make only one application/year.	Smart Choice 5G
		•												•	Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. At-plant in minimum 20 GPA by ground or air: May be applied PPI with incorporation in up to 2" soil; PRE broadcast within 7 days of planting; or as in-furrow, band or T-band using a minimum 4" band. Apply only one at-plant application (may be followed by foliar applications). Foliar: In minimum 15 GPA by ground, 2 GPA by air. Maximum of 35.25 fl oz/A/season at-plant plus foliar application; see label for additional maximum application restrictions for product and for a.i. May be applied by sprinkler irrigation. F,P: PHI 30 for stover, 60 for forage.	Stallion Brand
•		•	•	•	•	•	•	•	•	•		•	•			

# LABELLED INSECTICIDES FOR CORN *Continued*

Insecticide	LABELLED CROP (Pre-Harvest Intervals for grain or fresh ear in days)				RATE PER ACRE	AT PLANTING: PP, PPI or PRE (SOIL TREATMENTS)											AFTER PLANTING (RESCUE)							
	FIELD	POP	SEED	SWEET		Armyworm	Billbug	Corn Rootworm Larvae	Cutworm	Flea Beetle Larvae	Nematode	Seed Corn Beetle	Seed Corn Maggot	Stalk Borer, Common or Lesser	Symphylan	White Grub	Wireworm	Armyworm, True	Armyworm, Fall	Armyworm, Yellow-Striped	Billbug	Chinch Bug	Corn Earworm	Corn Leaf Aphid
Steed	Y(30)	Y(30)	Y(30)	Y(3)	2.5-3.5 fl oz: F,P,S																			
					3.5-4.7 fl oz: F,P,S													•	•	•		•	•	•
					3.5-4.7 fl oz: SW													•	•	•		•	•	•
Thimet 20G	Y(30)			Y(30)	4.5-6 oz/1000' row			•	•	•		•	•			•	•				•			
Tundra Supreme	Y(30)		Y(30)	Y(30)	6.7 fl oz Consv. Tillage	•			•								•	•	•	•	•	•	•	
					0.4-0.8 fl oz/1000' row			•																
					0.8 fl oz/1000' row	•			•			•	•			•	•							
					5.6-16.8 fl oz													•	•	•	•	•	•	•
					13.5-16.8 fl oz																			
Xpedient Plus	Y	Y	Y	Y	0.15-0.6 fl oz/1000' row	•			•		•	•	•		•	•								
					0.3-0.74 fl oz/1000' row			•																
					3-4 fl oz PPI: F,P,S	•			•			•			•	•								
					2.56 fl oz PRE: F,P,S	•			•				•	•										
Yuma 4E/Lorsban Advanced	Y(21)		Y(21)	Y(21)	1-2 pt: Consv. Tillage	•			•															
					1-2 pt													•	•	•		•		
					1.5-2 pt																		•	
					2 pt																•			
					0.5-1 pt																•			
Zeal/Zeal SC	Y(21)	Y(21)	Y(21)		1-3 oz/2-6 fl oz																			

Products may control/suppress many other insects; see label  
 • - control; •S - suppression  
 \* - 24c, 2ee or Supplemental label; see Comments and Restrictions  
 F - field; P - popcorn; S - seed corn; SW - sweet corn  
 PHI - preharvest interval days

For additional insecticides and seed treatment options, see the SEED AND GRAIN section.

AFTER PLANTING (RESCUE) <i>continued</i>													Comments and Restrictions			
Corn Rootworm Beetle/Larvae	Cutworm	European Corn Borer - 1st gen.	European Corn Borer - 2nd gen.	Flea Beetle	Grasshopper	Hopvine Borer	Japanese Beetle	Sod Webworm	Southern Corn Leaf Beetle	Southwestern Corn Borer	Spider Mite	Stalk Borer, Common/Lesser	Stinkbug	Western Bean Cutworm	F - field; P - popcorn; S - seed corn; SW - sweet corn; PHI - preharvest interval days	Insecticide
	•			•		•							•	•	Coverage essential for control of fall armyworm and corn earworm (under heavy outbreaks, tank mix with another product labeled for control). When applying by air, 1-2 qt emulsified oil may be substituted for 1-2 qt water to achieve thorough coverage. F,P,S: Apply in minimum 10 GPA by ground, 2-5 GPA by air; minimum 3-day application interval; maximum 18.7 fl oz (0.22 lb a.i.)/A/season; PHI 30 for grazing/stover, 60 for grain/forage. SW: Apply in minimum 20 GPA by ground, 2 GPA by air; minimum 3- to 5-day application interval; maximum 28.1 fl oz (0.33 lb a.i.)/A/season; PHI 3 for grazing/feed.	Steed
•		•	•		•		•	•	•	•						
•	•	•	•	•	•		•	•	•	•			•	•	Maximum one application/crop/season. At-plant: Do not apply in-furrow. After-plant: Control corn rootworm at cultivation by applying granules to base of plants ahead of cultivation shovels; control of chinch bug nymphs at cultivation limited to AK, CO,KS,LA,MS,NE,OK,TN,TX.	Thimet 20G
•	•	•	•	•	•		•	•	•	•	•	•	•	•	Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. Consv. Tillage: Apply PRE as broadcast in 20 GPA. At-plant: Apply as 5- to 7-inch T-band over open seed furrow in minimum 3 GPA by ground; incorporate into top 1" of soil; maximum at-plant 16.84 fl oz/A/season. POST: Apply in minimum 15 GPA by ground, 2-5 GPA by air. May be applied by sprinkler irrigation. Do not make second application of this or other chlorpyrifos-containing products within 10 days of first application. Chlorpyrifos: No more than 3 applications of this or other chlorpyrifos-containing products/season (including granular applications at 1 lb a.i./A). Bifenthrin: F,S maximum 0.3 lb a.i./A/season, SW maximum 0.2 lb a.i./A/season, including all other applications of bifenthrin products.	Tundra Supreme
•	•	•	•	•	•		•	•	•	•			•	•	Cultivation within 10' of a water body prohibited to allow for growth of a vegetative filter strip. At-plant: Apply as 5- to 7-inch T-band over open furrow, or in-furrow with seed (or banded over soil surface/broadcast for army cutworm, armyworms, stalk borer, cutworms or true armyworm). F,P,S maximum 0.3 lb a.i./A/season, SW maximum 0.2 lb a.i./A/season, including all other applications of bifenthrin products.	Xpedient Plus
•	•	•	•	•				•	•					•	Consv. Tillage: Apply PP, at-plant or PRE as broadcast to surface trash and exposed soil in 20 GPA. POST: Apply as broadcast in minimum 15 GPA by ground, 2-5 GPA by air (for billbug, minimum 20-40 GPA at 40 psi); may also be applied by sprinkler irrigation; 1-2 pt/A for corn rootworm adults, 2 pt/A for larvae. Do not make second application of this or other chlorpyrifos-containing products within 10 days of first application. No more than 3 applications of this or other chlorpyrifos-containing products/season (including granular applications at 1 lb a.i./A).	Yuma 4E/Lorsban Advanced
•					•								•		Apply in minimum 10 GPA by ground, 3 GPA by air. Use rate below minimum may result in poor control and contribute to resistance development. S: Apply before or at tasseling, with 14 day interval before second application, if needed.	Zeal/Zeal SC

 **BEE ALERT**

See Insecticide Classification in the Technical Section for information on insecticide toxicity to bees.

# INSECTICIDES AT PLANTING BAND OR IN-FURROW

After-plant labeled crops, insects, rates, methods and restrictions differ; see label

CORN INSECTS

TYPE OF INSECTICIDE AND BASE	ARCTIC 3.2EC	AZTEC 2.1G/ AZTEC 4.67G (apply 4.67G with SMARTBOX)	BAYTHROID XL	BIFEN 2 AG GOLD***/ TUNDRA/ BRIGADE 2EC***	CAPTURE LFR***	CAPTURE 3RIVE 3D	COBALT ADVANCED	COUNTER 20G	DECLARE	ETHOS XB**	FASTAC EC/ FASTAC CS	
	PYR	OP-PYR	PYR	PYR	PYR	PYR	OP-PYR	OP	PYR	PYR	PYR	
	Liquid	Granular	Liquid	Liquid	Liquid	Liquid	Liquid	Granular	Liquid	Liquid	Liquid	

## LABELED FOR AT-PLANT USE ON

	ARCTIC 3.2EC	AZTEC 2.1G/ AZTEC 4.67G	BAYTHROID XL	BIFEN 2 AG GOLD***/ TUNDRA/ BRIGADE 2EC***	CAPTURE LFR***	CAPTURE 3RIVE 3D	COBALT ADVANCED	COUNTER 20G	DECLARE	ETHOS XB**	FASTAC EC/ FASTAC CS
FIELD CORN	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
POPCORN	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
SWEET CORN	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO
SEED CORN	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

## LABELED APPLICATION METHODS

	ARCTIC 3.2EC	AZTEC 2.1G/ AZTEC 4.67G	BAYTHROID XL	BIFEN 2 AG GOLD***/ TUNDRA/ BRIGADE 2EC***	CAPTURE LFR***	CAPTURE 3RIVE 3D	COBALT ADVANCED	COUNTER 20G	DECLARE	ETHOS XB**	FASTAC EC/ FASTAC CS
PLANTING – 7" BAND	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO
PLANTING – T-BAND	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
PLANTING – IN-FURROW	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES
CULTIVATION – OVERTOP	NO	NO	NO	NO	NO	NO	NO	NO	NO	YES	YES
CULTIVATION – BASAL	NO	NO	NO	NO	NO	NO	NO	YES	NO	NO	NO

## RESTRICTIONS

	ARCTIC 3.2EC	AZTEC 2.1G/ AZTEC 4.67G	BAYTHROID XL	BIFEN 2 AG GOLD***/ TUNDRA/ BRIGADE 2EC***	CAPTURE LFR***	CAPTURE 3RIVE 3D	COBALT ADVANCED	COUNTER 20G	DECLARE	ETHOS XB**	FASTAC EC/ FASTAC CS
CONTACT WITH SEED	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES
MAX.# APPLICATIONS/YEAR:	NR	1	4	NR	NR	NR	3	30/30	NR	NR	NR

## DAYS BEFORE

	ARCTIC 3.2EC	AZTEC 2.1G/ AZTEC 4.67G	BAYTHROID XL	BIFEN 2 AG GOLD***/ TUNDRA/ BRIGADE 2EC***	CAPTURE LFR***	CAPTURE 3RIVE 3D	COBALT ADVANCED	COUNTER 20G	DECLARE	ETHOS XB**	FASTAC EC/ FASTAC CS
FODDER-STOVER / GRAZING-FORAGE LIVESTOCK	0/0	NR	21/0	30/30	NR	NR	21/21	30/30	21/1	NR	30/60

## Soil Insects Labeled for Control or Suppression – Rate/Acre or Rate/1000' row (30" rows)

INSECT	fl oz/1000'	oz/1000'	fl oz/A	fl oz/1000'	fl oz/A	fl oz/1000'	fl oz/1000'	oz/1000'	fl oz/1000'	fl oz/1000'	oz/1000'
some insects best controlled by specific banding, placement or incorporation/cultivation; see label											
ARMYWORM	0.3-0.6			0.15-0.3	3.4-13.6	0.23-0.92				0.2-0.98	
BILLBUG											
C.ROOTWORM LARVAE	4.0-8.0 fl oz/A*	6.7/3.0		0.3	6.8-17	0.46-0.92		6	0.26	0.39-0.98	
CUTWORM	0.3-0.6	6.7/3.0		0.15-0.3	3.4-13.6	0.23-0.92	1.89	4.5-6.0	0.26	0.2-0.98	0.15
FLEA BEETLE LARVAE								4.5-6.0			
LESSER C.STALK BORER	0.3-0.6				3.4-13.6			4.5-6.0	0.26	0.2-0.98	
NEMATODE											
SEED CORN BEETLE		6.7/3.0		0.15-0.3		0.23-0.92	2.87	4.5-6.0	0.26	0.2-0.98	
SEED CORN MAGGOT		6.7/3.0	2.0-2.8	0.15-0.3	3.4-13.6	0.23-0.92	2.87	4.5-6.0	0.26	0.2-0.98	
SYMPHYLAN								4.5-6.0			
WHITE GRUB		6.7/3.0	2.5-2.8	0.15-0.3	3.4-13.6	0.23-0.92	2.87	4.5-6.0	0.26	0.2-0.98	
WIREWORM		6.7/3.0	2.0-2.8	0.15-0.3	3.4-13.6	0.23-0.92	2.87	4.5-6.0	0.26	0.2-0.98	
RATE: OZ/1000' OF ROW	0.3-0.6	6.7/3.0	0.12-0.16	0.15-0.3	0.2-0.49		1.89-2.87	4.5-6.0	0.26	0.2-0.98	

## RATE/ACRE – based on row spacing

ROW SPACING	fl oz	lb	fl oz	fl oz	fl oz	fl oz	fl oz	lb	fl oz	fl oz	oz/1,000'
40"	4.0-6	5.5/2.45	1.6-2.1	2-3.9	5.2	3.0-12.0	26-38	4.9	3.4		1.8
38"	4.1-6	5.8/2.58	1.7-2.2	2.1-4.1	5.4	3.2-12.7	27-40	5.2	3.6		2.1
36"	4.4-6	6.1/2.72	1.7-2.3	2.2-4.4	5.7	3.3-13.4	28-42	5.4	3.8		2.2
34"	4.6-6	6.5/2.89	1.8-2.5	2.3-4.6	6.1	3.5-14.1		5.6	4		2.3
32"	4.9-6	6.9/3.06	2-2.6	2.5-4.9	6.5	3.8-15		6.1	4.3		2.5
30"	6.0	7.3/3.27	2.1-2.8	2.6-5.12	6.8	4.0-16	33-50	6.5	4.6	3.4-17	2.6
22"		No	2.8	3.6-6.5	8.522	5.5-16		8.9			3.6
20"		No	2.8	3.9-6.5	8.522	6.0-16		9.8			3.8

OP = Organic phosphate. PYR = Pyrethroid. S = Suppression. NR = Not restricted.

\* 24c, 2ee or Supplemental label.

\*\* Product contains fungicide (see Corn Disease Control and label for diseases controlled/suppressed at indicated rates).

\*\*\* May be used with liquid fertilizer

For label restrictions of soil insecticides and herbicides applied to different corn types, see pages 58-59



# INSECTICIDES AT PLANTING BAND OR IN-FURROW

	FORCE 3G	FORCE CS	GRIZZLY TOO	LAMBDA-CY AG/ PARADIGM	MANTICOR LFR***	MUSTANG MAXX	POUNCE 1.5G	PRECEPT 3G	RADICO LFR***	SMART CHOICE 5G (apply with SMARTBOX)	STALLION BRAND	THIMET 20G	WARRIOR II/ KARATE Z	XPEDIENT PLUS	YUMA 4E***/ LORSBAN ADVANCED***
	PYR	PYR	PYR	PYR	PYR	PYR	PYR	PYR	PYR	OP-PYR	OP-PYR	OP	PYR	PYR	OP
	Granular	Liquid	Liquid	Liquid	Liquid	Liquid	Granular	Granular	Liquid	Granular	Liquid	Granular	Liquid	Liquid	Liquid
	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	YES	YES	NO
	YES	YES	YES	YES	YES	NO	NO	YES	YES	YES	NO	YES	YES	YES	YES
	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES
	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO
	YES	YES	YES	YES	YES	YES	YES	NO	YES	NO	YES	NO	YES	YES	NO
	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	NO
	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
	YES	YES	NO	NO	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO
	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	YES	NO	YES	YES	YES
	1	1	NR	NR	NR	4	NR	1	NR	1	1	1	NR	NR	3
	NR	NR	21/21	21/1	NR	7/7	NR	NR	NR	NR	30/60	30/30	21/21	NR	21/21
	oz/1000'	fl oz/1000'	fl oz/1000'	fl oz/1000'	fl oz/1000'	fl oz/1000'	oz/1000'	oz/1000'	fl oz/1000'	oz/1000'	fl oz/A	oz/1000'	fl oz/1000'	fl oz/1000'	pt/A
					0.49-1.09		8.0		0.2-0.78	4.5-5.0				0.15-0.6	1-2
	4.0-5.0				0.49-1.09			4-5							
	4.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09			4-5	0.39-0.98	4.5-5.0		4.5-6	0.33	0.3-0.74	
	3.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09	0.16	8.0	3-4	0.2-0.78	4.5-5.0	11.75		0.33	0.15-0.6	1-2
					0.49-1.09							4.5-6			
	4.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09			4-5	0.2-0.78	4.5-5.0			0.33	0.15-0.6	
	4.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09			4-5	0.2-0.78	4.5-5.0		4.5-6	0.33	0.15-0.6	
	4.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09		8.0	4-5	0.2-0.78	4.5-5.0		4.5-6	0.33	0.15-0.6	
	4.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09					4.5-5.0					
	4.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09			4-5	0.2-0.78			4.5-6	0.33	0.15-0.6	
	4.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09		8.0	4-5	0.2-0.78	4.5-5.0		4.5-6	0.33	0.15-0.6	
	4.0-5.0	0.46-0.57	0.33	0.66	0.49-1.09	0.16	8.0	3-5	0.2-0.98	4.5-5.0	0.51-0.81	4.5-6	0.33		
	lb	fl oz	fl oz	fl oz	fl oz	fl oz	lb	lb	fl oz	lb	fl oz	lb	fl oz	fl oz	pt
			4.3	8.6		1.92	6.7		3.4-17	3.9-4.3		3.7-4.9	4.3		
	2.6-4.3	6.5-8.0	4.6	9.1					3.4-17			3.9-5.2	4.55		
	2.7-4.5	7.0-8.5	4.8	9.6	see label				3.4-17	4.1-4.5	0.81	4.1-5.4	4.8		
		7.1-8.8	5.05	10.1					3.4-17	4.3-4.8		4.3-5.8	5.05		
		7.5-9.4	5.4	10.8					3.4-17			4.6-6.1	5.4		
	3.3-5.5	8.0-10.0	5.75	11.5	8.5-19.0	2.88	10	3.3-5.5	3.4-17	4.9-5.4	0.68	4.9-6.5	5.75	2.56-12.8	
	4.5-7.4	11.0-13.5	5.75						3.4-17	6.7-7.4		6.7			
	4.9-8.2	12.0-15.0	5.75		see label	3.84	10	2.5-4.1	3.4-17	7.3-8.2	0.51	7.4			

# MANAGEMENT WORKSHEET FOR EUROPEAN CORN BORER

EUROPEAN CORN BORER – To decide whether it will be profitable to treat a field to control 1st generation corn borers, the following information is needed: **1)** Average percentage of plants with whorl feeding; **2)** Average number of live larvae per infested plant; **3)** Expected yield per acre; **4)**

Value of grain per bushel; **5)** Cost per acre for insecticide treatment. Enter these data into the worksheet below to calculate the gain or loss for applying an insecticide to control corn borer.

## Management Worksheet for First-Generation Corn Borer

\_\_\_\_\_ % (Expressed as a decimal) of 100 Plants Infested x \_\_\_\_\_ Average No. Borers/Infested Plant = \_\_\_\_\_ Borers/Plant  
(determined by checking whorls from 10 plants)

\_\_\_\_\_ Borers/Plant x 5-7 % Yield Loss/Borer\* = \_\_\_\_\_ % Yield Loss

\_\_\_\_\_ % Yield Loss x \_\_\_\_\_ Expected Yield (Bu/A) = \_\_\_\_\_ Bu/A Loss

\_\_\_\_\_ Bu/A x \$ \_\_\_\_\_ Price/Bu = \_\_\_\_\_ Loss/A

\$ \_\_\_\_\_ Loss/A x \_\_\_\_\_ % Control = \$ \_\_\_\_\_ Preventable Loss/A  
(0.7-0.9 for granules)  
(0.4-0.7 for sprays)  
(0.75-0.95 for insectigation)

\$ \_\_\_\_\_ Preventable Loss/A - \$ \_\_\_\_\_ Cost of Control/A =

* Infestation Period	
Early Whorl .....	5.5% Loss
Late Whorl .....	4.4% Loss
Pretassel .....	6.6% Loss

\$ \_\_\_\_\_ **Gain (+) or Loss (-) per acre if treatment is applied.**

To determine whether it will be profitable to treat a field to control 2nd generation corn borers, the following information is needed: **1)** Average number of ECB egg masses per plant;

**2)** Crop maturity; **3)** Expected yield per acre; **4)** Value of corn per bushel; **5)** Cost per acre for insecticide treatment. Enter these data into the worksheet below.

## Management Worksheet for Second-Generation Corn Borer

\_\_\_\_\_ Number of Egg Masses/Plant x 2 Borers/Egg Mass\* = \_\_\_\_\_ Borers/Plant  
(cumulative counts, taken 7 days apart)

\_\_\_\_\_ Borers/Plant x 3-4.4 % Loss/Borer\*\* = \_\_\_\_\_ % Yield Loss

\_\_\_\_\_ % Yield Loss x \_\_\_\_\_ Expected Yield = \_\_\_\_\_ Bu/A Loss

\_\_\_\_\_ Bu/A x \$ \_\_\_\_\_ Price/Bu = \_\_\_\_\_ Loss/A

\$ \_\_\_\_\_ Loss/A x 0.6-0.8 (0.7-0.9 insectigation) Control = \$ \_\_\_\_\_ Preventable Loss/A

\$ \_\_\_\_\_ Preventable Loss/A - \$ \_\_\_\_\_ Cost of Control/A =

** Infestation Period	
Pollen Shed .....	4.0% Loss
Kernel Set .....	3.0% Loss
Dough .....	2.0% Loss
Does not include yield loss due to stalk breakage or ear drop.	

\$ \_\_\_\_\_ **Gain (+) or Loss (-) per acre if treatment is applied.**

\* Assumes survival rate of 2 borers/egg mass.

For best results, treatment should be applied soon after egg hatch to kill the young larvae before they bore into the plant. The larvae begin tunneling into the stalks about 10 days after hatching. Occasionally, two treatments may be necessary for satisfactory control if egg laying extends over a 3- to 4-week period.



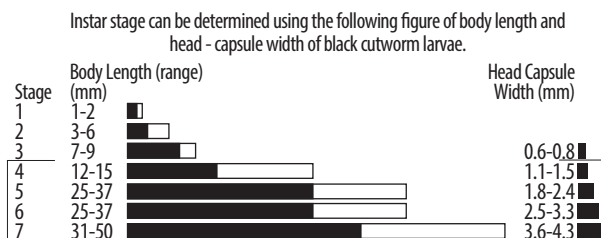
\_\_\_\_\_ Yield Loss Factor (Table 1) X \_\_\_\_\_ %  
 (expressed as a decimal) of Plants cut X \_\_\_\_\_ Expected  
 Yield X \_\_\_\_\_ price per bushel.

1. Determine instar of larvae present.
2. Determine the average number of leaves per plant.
3. Assess soil moisture conditions: a) adequate – soil moisture not limiting, rain fore-

Average Instar	Approximate Days Left to Feed	Average moisture conditions Number of leaves (collar visible)					Inadequate Moisture conditions Number of Leaves (collar visible)				
		1	2	3	4	5	1	2	3	4	5
3	21	2.4	1.8	0.8	0.7	0.7	1.6	1.2	0.4	0.4	0.2
5	14	1.2	1.4	0.6	0.3	0.3	0.8	0.9	0.3	0.2	0.2
6	5	0.7	0.2	0.1	0.1	0.1	0.5	0.2	0.1	0.0	0.0

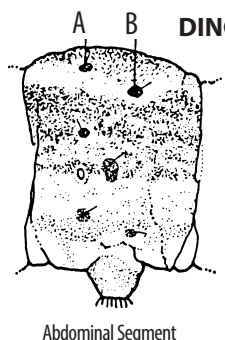
↑ YIELD LOSS FACTORS ↓

cast within 24 to 48 hours; b) inadequate – top three to four inches of soil very dry, rain not forecast for two to four days. **4.** Use Table 1 to determine yield loss factor. **5.** Use above formula and calculate yield loss. **6.** If the result is larger than the cost of insecticide treatment per acre, an insecticide treatment is warranted.



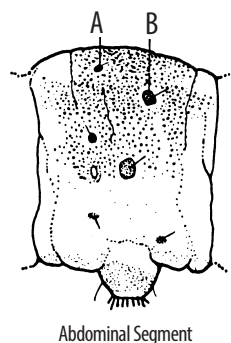
Adapted from University of Illinois

## Comparison of Dingy and Black Cutworms



**DINGY CUTWORM**

- Overwinters as small larva.
- Associated with legumes.
- Pale gray to reddish brown with mottled pigmentation.
- Light gray V-shaped markings on back.
- Tubercles A and B of about equal size.**



**BLACK CUTWORM**

- Doesn't overwinter in Northern States; migrates.
- Found on many crops, particularly in flooded or weedy areas.
- Light gray to nearly black with skin granulations.
- Indistinct pale stripe on back.
- Tubercle A much smaller than tubercle B.**

## BT CORN HYBRID TECHNOLOGY

Bt corn hybrids have been genetically modified to produce an insecticidal protein derived from the soilborne bacterium, *Bacillus thuringiensis*. The crystalline Bt protein structure found in Bt hybrids acts as a stomach poison to specific insect groups. For control, insects must actually ingest or feed on various parts of the corn plant that contain the Bt protein. Once ingested, cells within the intestine of the insect begin to rupture. The insect stops feeding within 2-3 hours of first ingesting any Bt protein; however, the insect may not die for several days. Several companies have successfully inserted a specific Bt gene into a corn plant's DNA. This successful insertion is referred to as an "event". Shown on page 76 is a list of various Bt events which includes dropped and currently available events. New events are constantly being developed and evaluated for efficacy. Since different Bt events express themselves in different parts of the corn plant, eventual control of a particular insect or the type of insect controlled or suppressed varies. For example, older hybrids that used the 176 event expressed the Bt only in the green tissue and pollen on a corn plant. This worked well for 1st generation corn borer, but some of the later hatching 2nd generation ECB larvae which fed on corn silks and kernels survived. Some eventually tunneled into the ear, shanks and stalks (there was no toxicant in the pith, kernels or silks with the 176 event). Newer events like BT11, MIR162, MON810, MON89034, and TC1507 express the Bt gene throughout the plant, effectively controlling susceptible insects that feed on any above ground part of the corn plant. Below ground corn rootworm Bt events include such events as: DAS-59122-7, MIR604, MON863, and MON88017.

The development of insect resistance to a specific Bt event or events is a concern. Resistance management tools must be used if Bt hybrids are to remain effective against European corn borer, corn rootworm and other susceptible insects. Until recently EPA required a 20% non-Bt refuge on every farm that plants corn hybrids with above ground and/or below ground Bt events and in areas of the south where

cotton is grown above ground insect non-Bt refuge requirements were more restrictive requiring a 50% refuge area. Recently approved technology which combine multiple Bt proteins and mode-of-actions allow for a reduction in required refuge area. Genuity SmartStax RIB Complete and Refuge Advanced powered by SmartStax has 5% refuge corn in-the-bag and does not require a separate refuge area when planted in the Corn Belt; however, it still requires a 20% separate refuge when planted in cotton areas. Syngenta is waiting on approval of a 5% refuge in-the-bag which will be called "E-Z Refuge". Genuity SmartStax, Genuity VT Double Pro, and SmartStax hybrids allow for an insect refuge of 5% in the Corn Belt or a 20% refuge in cotton regions. Agrisure Viptera 3111, Genuity VT Triple Pro, and YieldGard VT Triple hybrids require a 20% non-Bt refuge in both the Corn Belt and in cotton regions. The refuge may be planted in a variety of configurations such as separate fields or blocks within fields. However, non-Bt corn refuges for Agrisure CB, Genuity VT Double Pro, Herculex I, YieldGard Corn Borer, and YieldGard VT Pro are required to be within 0.5 mile of the Bt corn borer field and is encouraged to be within 0.25 miles of the Bt corn field. Agrisure 3000GT, Agrisure Artesian 4011, Agrisure CB/LL, Agrisure CB/LL/RW, Agrisure RW, Agrisure 3122, Agrisure Viptera 3111, Agrisure Viptere 3220, Genuity SmartStax, Genuity VT Triple PRO, Quad-Stack, SmartStax, YieldGard VT Rootworm, YieldGard VT Triple and YieldGard VT Triple PRO must have a non-Bt rootworm refuge within the field or immediately adjacent with the same crop history. CROPLAN GENETICS has some of the most recent Bt and Bt stacked corn hybrids available. For more information, contact your CROPLAN GENETICS seed representative, read the CROPLAN GENETICS 2016 Seed Guide or you can visit their web site at: <http://www.croplan.com>.

# BT TECHNICAL INFORMATION

Brand Name	Event	Gene(s)	Traits				Insects <sup>1</sup>										Refuge			Notes			
			BT	Glufosinate Tolerant	Glyphosate Tolerant	2,4-D Tolerant	Black Cutworm	Dingy Cutworm	Common Stalk Borer	Corn Earworm	Corn Rootworm Larva	ECB-1st gen.	ECB-2nd gen.	Fall Armyworm	Southwestern Corn Borer	Western Bean Cutworm	Required Refuge (%) Corn Belt	Required Refuge (%) Cotton Region	Refuge Location Within:				
Agrisure CB/LL	BT-11	cry1Ab, pat	✓	✓					S	S		C	C	S	C			20	50	0.5	Note 3.		
Agrisure CB/LL/RW <sup>(2)</sup>	BT-11, MIR604	cry1Ab, pat, mcry3A	✓	✓					S	S	C	C	C	S	C			20	50	W/A	Note 3, 4.		
Agrisure Duracade 5122 E-Z Refuge	GA21, Event 5307, BT-11, MIR604,TC1507	mEPSPS, ecry3.1Ab, cry1Ab, pat, mcry3A, cry1F	✓		(6)	✓		C	S	S	C	C	C	C	C	C	5	(4)	20	W/A	Note 3, 4, 5.		
Agrisure Duracade 5222 E-Z Refuge	MIR162, GA21, Event 5307, BT-11, MIR604,TC1507	VIP3A, mEPSPS, ecry3.1Ab, cry1Ab, pat, mcry3A, cry1F	✓		(6)	✓		C	C	C	C	C	C	C	C	C	5	(4)	20	W/A	Note 3, 4, 5.		
Agrisure GT / Agrisure GTA	GA21	mEPSPS			✓																		
Agrisure GT/CB/LL	GA21, BT-11	mEPSPS, cry1Ab, pat	✓	✓	✓				S	S		C	C	S	C			20	50	0.5	Note 3.		
Agrisure GT/RW <sup>(2)</sup>	GA21, MIR604	mEPSPS, mcry3A	✓		✓							C						20	20	W/A	Note 4.		
Agrisure RW <sup>(2)</sup>	MIR604	mcry3A	✓		✓							C						20	20	W/A	Note 4.		
Agrisure Viptera 3110	MIR162, GA21, Bt11	VIP3A, mEPSPS, cry1Ab, pat	✓	✓	✓			C	C	C	C	C	C	C	C	C		20	20	0.5	Note 3, 5.		
Agrisure Viptera 3111	MIR162, GA21, Bt11, MIR604	VIP3A, mEPSPS, cry1Ab, pat, mcry3A	✓	✓	✓			C	C	C	C	C	C	C	C	C		20	20	W/A	Note 3, 4, 5.		
Agrisure Viptera 3220 E-Z Refuge	MIR162, GA21, Bt11,TC1507	VIP3A, mEPSPS, cry1Ab, cry1F, pat	✓		(6)	✓		C	C	C	C	C	C	C	C	C	5	(4)	20	0.5	Note 3, 5.		
Agrisure 3000 GT	GA21, BT-11, MIR604	mEPSPS, cry1Ab, pat, mcry3A	✓	✓	✓				S	S	C	C	C	S	C			20	50	W/A	Note 3, 4.		
Agrisure 3011	GA21, BT-11, MIR604	mEPSPS, cry1Ab, pat, mcry3A	✓	✓	✓				S	S	C	C	C	S	C			20	50	W/A	Note 3, 4.		
Agrisure 3122 E-Z Refuge	GA21, BT-11, MIR604, TC1507, DAS-59122-7	mEPSPS, cry1Ab, pat, mcry3A, cry1F, cry34Ab1+cry35Ab1	✓		(6)	✓		C	S	S	C	C	C	C	C	C	5	(4)	20	W/A	Note 3, 4, 5.		
Bt-Xtra <sup>(2)</sup>	DBT418	cry1Ac	✓									C	S								Note 1.		
Genuity SmartStax RIB Complete	Mon89034, Mon88017, TC1507, DAS-59122-7	cry1A.105+cry2Ab2, cry3Bb1+CP4 EPSPS, cry1F, cry34Ab1+cry35Ab1, pat	✓	✓	✓			C	S	C/S	C	C	C	C	C	C	5	(4)	20	W/A	Note 3, 4, 5.		
Genuity SmartStax	Mon89034, Mon88017, TC1507, DAS-59122-7	cry1A.105+cry2Ab2, cry3Bb1+CP4 EPSPS, cry1F, cry34Ab1+cry35Ab1, pat	✓	✓	✓			C	S	C/S	C	C	C	C	C	C	5		20	W/A	Note 3, 4, 5.		
Genuity VT Double PRO	Mon89034, NK603	cry1A.105+cry2Ab2, CP4 EPSPS	✓		✓				S	C/S	C	C	C	C	C			5	20	0.5	Note 3.		
Genuity VT Double PRO RIB Complete	Mon89034, NK603	cry1A.105+cry2Ab2, CP4 EPSPS	✓		✓				S	C/S	C	C	C	C	C			5	(4)	20	0.5	Note 3.	
Genuity VT Triple PRO	Mon89034, Mon88017	cry1A.105+cry2Ab2, cry3B-b1+CP4 EPSPS	✓		✓				S	C/S	C	C	C	C	C			20	20	W/A	Note 3, 4.		
Genuity VT Triple PRO RIB Complete	Mon89034, Mon88017	cry1A.105+cry2Ab2, cry3B-b1+CP4 EPSPS	✓		✓				S	C/S	C	C	C	C	C			10	(5)	20	W/A	Note 3, 4.	
Herculex I	TC1507	cry1F, pat	✓	✓				C		S	C	C	C	C	C			20	50	0.5	Note 3, 5.		
Herculex I/RR2	TC1507, NK603	cry1F, pat, CP4 EPSPS	✓	✓	✓			C		S	C	C	C	C	C			20	50	0.5	Note 3,5.		
Herculex RW <sup>(2)</sup>	DAS-59122-7	cry34Ab1+cry35Ab1, pat	✓	✓							C							20	20	W/A	Note 4.		
Herculex RW/RR2 <sup>(2)</sup>	DAS-59122-7, NK603	cry34Ab1+cry35Ab1, pat, CP4 EPSPS	✓	✓	✓						C							20	20	W/A	Note 4.		
Herculex Xtra	TC1507, DAS-59122-7	cry1F, cry34Ab1+cry35Ab1, pat	✓	✓				C		S	C	C	C	C	C			20	50	W/A	Note 3, 4, 5.		
Herculex Xtra/RR2	TC1507, DAS-59122-7, NK603	cry1F, cry34Ab1+cry35Ab1, pat, CP4 EPSPS	✓	✓	✓			C		S	C	C	C	C	C			20	50	W/A	Note 3,4,5.		
KnockOut <sup>(2)</sup>	176	cry1Ab, bar	✓	✓								C	S								Note 2.		
Liberty Link	T25	pat			✓																		
Liberty Link <sup>(2)</sup>	T14	pat			✓																		
Liberty Link <sup>(2)</sup>	B16 (DLL25)	bar			✓																		
NatureGard <sup>(2)</sup>	176	cry1Ab, bar	✓	✓								C	S								Note 2.		
Optimum AcreMax above	TC1507, Mon810, NK603	cry1F, pat, cry1Ab, CP4 EPSPS	✓		(6)	✓		C	S	S	C	C	C	C	C			5	(4)	20	0.5	Note 3, 5.	
Optimum AcreMax 1 above/below	TC1507, DAS-59122-7, NK603	cry1F, cry34Ab1+cry35Ab1, pat, CP4 EPSPS	✓	✓	✓			C		S	C	C	C	C	C			20	(3)	50	(3)	0.5	Note 3, 4, 5.

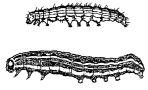
Brand Name	Event	Gene(s)	Traits			Insects <sup>1</sup>											Refuge			Notes	
			BT	Glufosinate Tolerant	Glyphosate Tolerant	2,4-D Tolerant	Black Cutworm	Dingy Cutworm	Common Stalk Borer	Corn Earworm	Corn Rootworm Larva	ECB - 1st gen.	ECB - 2nd gen.	Fall Armyworm	Southwestern Corn Borer	Western Bean Cutworm	Required Refuge (%) Corn Belt	Required Refuge (%) Cotton Region	Refuge Location Within:		
Optimum AcreMax RW below	DAS-59122-7, NK603	cry34Ab1+cry35Ab1, pat, CP4 EPSPS	✓	—	(6)	✓													10 (5)	Bag	Note 4
Optimum AcreMax Xtra above/below	TC1507, DAS-59122-7, Mon810, NK603	cry1F, cry34Ab1+cry35Ab1, pat, cry1Ab, CP4 EPSPS	✓	—	(6)	✓	C		S	S	C	C	C	C	C	C	C	10 (3)	20 (3)	0.5	Note 3, 4, 5.
Optimum AcreMax Xtreme above/below	TC1507, DAS-59122-7, Mon810, NK603, MIR604	cry1F, cry34Ab1+cry35Ab1, pat, cry1Ab, CP4 EPSPS, mcr3A	✓	✓	✓	✓	C		S	S	C	C	C	C	C	C	C	5 (4)	20	0.5	Note 3,4,5.
Optimum Intrasect above	TC1507, Mon810, NK603	cry1F, pat, cry1Ab, CP4 EPSPS	✓	✓	✓	✓	C		S	S		C	C	C	C	C	C	5	20	0.5	Note 3, 5.
Optimum Intrasect Max Xtra above/below	TC1507, DAS-59122-7, Mon810, NK603	cry1F, cry34Ab1+cry35Ab1, pat, cry1Ab, CP4 EPSPS	✓	✓	✓	✓	C		S	S	C	C	C	C	C	C	C	20	20	W/A	Note 3,4,5.
Optimum Intrasect Xtreme above/below	TC1507, DAS-59122-7, Mon810, NK603, MIR604	cry1F, cry34Ab1+cry35Ab1, pat, cry1Ab, CP4 EPSPS, mcr3A	✓	✓	✓	✓	C		S	S	C	C	C	C	C	C	C	5	20	W/A	Note 3,4,5.
Optimum Leptra	MIR162,TC1507, Mon810, NK603	VIP3A, cry1F, pat, cry1Ab, CP4 EPSPS	✓	✓	✓	✓	C		C	C		C	C	C	C	C	C	5	20	0.5	Note 3, 5.
Optimum TRlsect above/below	TC1507, NK603, MIR604	VIP3A, cry1F, pat, CP4 EPSPS, mcr3A	✓	✓	✓	✓	C			S	C	C	C	C	C	C	C	20	50	W/A	Note 3,4,5.
PowerCore Enlist	MON 89034, TC1507, NK603, DAS 40278-9	cry1A.105, Cry2Ab2, Cry1F	✓	✓	✓	✓	C			C		C	C	C	C	C	C	5	20	0.5	
Quad-Stack <sup>(2)</sup>	TC1507, DAS-59122-7, Nk603	cry1F, cry34Ab1+ cry35Ab1, CP4 EPSPS, pat	✓	✓	✓	✓	C			S	C	C	C	C	C	C	C	20	50	W/A	Note 3,4,5.
Refuge Advanced powered by SmartStax	Mon89034, Mon88017, TC1507, DAS-59122-7	cry1A.105+cry2Ab2, cry3Bb1+CP4 EPSPS, cry1F, cry34Ab1+cry35Ab1,pat	✓	✓	✓	✓	C		S	C	C	C	C	C	C	C	C	5 (4)	20	W/A	Note 3,4,5.
Roundup Ready Corn 2	NK603	CP4 EPSPS		✓	✓	✓															
SmartStax	Mon89034, Mon88017, TC1507, DAS-59122-7	cry1A.105+cry2Ab2, cry3Bb1+CP4 EPSPS, cry1F, cry34Ab1+cry35Ab1,pat	✓	✓	✓	✓	C		S	C	C	C	C	C	C	C	C	5	20	W/A	Note 3,4,5.
StarLink <sup>(2)</sup>	CBH-351	cry9C	✓	✓	✓	✓	S			S		C	C	S	C						Note 3.

- (1) C - Control, S - Suppression.
- (2) New hybrids with this brand name and/or traits are no longer available for sale.
- (3) Contains 10% corn rootworm refuge in the bag, but must have additional 20% - Corn Belt (50% - Cotton Regions) above ground insect refuge within 0.5 miles.
- (4) Contains a 5% refuge in-the-bag approved for the Corn Belt, but must have additional 20% refuge (Cotton Regions) for above ground insect refuge within 0.5 miles.
- (5) Contains a 10% refuge in-the-bag approved for the Corn Belt.
- (6) Refuge component does not have tolerance to glufosinate. Do not spray herbicide products like Liberty or Ignite. W/A - within/adjacent, 0.5 - 0.5 miles, Bag - in bag.

Note 1 - Green tissue only.  
 Note 2 - Green tissue and pollen only.  
 Note 3 - Green tissue, tassels, silks, and grain.  
 Note 4 - Entire plant, but toxic only on rootworm larvae.  
 Note 5 - Also southern cornstalk borer, lesser cornstalk borer, and sugarcane borer.

**For more information:**

**Agrisure Corn Traits:** <http://www.agrisuretraits.com/traits.aspx>  
**Crop traits detection database:** <http://detection-methods.com/advanced-search/>  
**Dow - Mycogen:** <http://www.dowagro.com/herculex/>  
<http://www.mycogensmartstax.com/na/usa/en/>  
<http://www.refugeadvanced.com/>  
**Genuity and SmartStax:** <http://www.aganytime.com/>  
**GM Crop Data Base:** [http://cera-gmc.org/index.php?action=gmc\\_crop\\_database](http://cera-gmc.org/index.php?action=gmc_crop_database)  
**Monsanto - Dekalb:** <http://www.monsanto.com/products/Pages/plant-traits-technologies.aspx>  
**NCGA:** <http://www.ncga.com/for-farmers/know-before-you-grow/trait-table>  
**Syngenta - NK:** <http://www3.syngenta.com/country/us/en/agriculture/seeds/corn/nk/Pages/nk-corn-new.aspx>  
**WinField United:** <http://www.winfieldunited.com>  
**Croplan:** <https://www.croplan.com>



**ARMYWORMS FALL, TRUE, YELLOW STRIPED:** See Bt control table. For fall armyworms, Herculex I hybrids have provided some protection. **ETs:** treat whorl stage of corn when 25% of plants have 2 or more larvae or 75% of plants are infested with 1 larva. Ground sprays directed over the row are more effective than broadcast treatments. Treat tasseled corn if defoliation enters the ear zone and larvae are still present on plants or underground debris. Treat only infested portion of field. Problems are expected to increase with reduced tillage when grassy weed control is not adequate. Migration into corn from surrounding grain or grassy areas may be controlled with border treatments if detected promptly. Use higher rate for larger larvae. **SWEETCORN ET:** treat when 25-30% of plants have 2 or more worms or 75% of plants have 1 or more worms. Migrating army worms: Treat a couple of swaths ahead of the infestation in the direction of movement to form a barrier strip. Treat when tassels are just beginning to emerge.



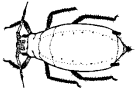
**BILLBUG:** Damage occurs early in season usually in low lands near creeks. The adults destroy the growing point in the stalks just below or above the growing point. Infested plants become twisted and distorted. Usually associated with nutsedge infested areas. Cruiser and Poncho seed treatments are labeled.



**CHINCH BUG:** Refrain from planting corn in wheat stubble or adjacent to wheat fields. Treat border rows at the start of migration. In treating infested fields or border rows, use drop nozzles, high gallonage, and direct spray on either side of the plants near the base. Be aware that there may be state emergency exemptions (EE) labels. Another option is to drill or plant a 50 ft barrier strip of sorghum or sudan between corn and wheat. This will temporarily reduce the amount of migration into the corn and concentrate on spraying this barrier. **False chinch bugs:** Adults and nymphs are similar in appearance to chinch bug but gray to brown in color. Somewhat easier to control than true chinch bug not included on any insecticide label. Cruiser and Poncho seed treatments provide early season control.



**CORN EARWORM:** See Bt control chart. Damage occurs June to frost. Use of an insecticide to control ear damage in corn is impractical in field corn. Control difficulty is great as moths lay eggs on freshly emerged silks. **SWEETCORN ET:** more than 5 moths per night in pheromone traps and green silks present. Begin spraying when ears begin to silk. Stop spraying when 90% of silks are brown. For sweet corn, sprays are applied every 2-3 days.



**CORN LEAF APHID: Corn Belt ET:** on whorl or pre-tassel stage corn, if colonies are present on 50% of plants and the crop is under stress; 3 weeks before tasseling, 15 or more aphids per whorl; 30 or more aphids 2 weeks before tasseling. If treatment is considered, it should be applied before tassels emerge. **SWEETCORN ET:** apply during late whorl to early tassel if 50% of plants have light to moderate infestations (50-400 aphids/plant) and plants are drought stressed. May treat if corn is not drought stressed when aphid density exceeds 400/plant.



**CORN ROOTWORM BEETLE: Corn Belt ET:** control when silk clipping is occurring on 25-50% of plants during pollen shed. Can interfere with pollination by chewing silks to less than 1/2" in length. **Great Plains ET:** 8-10 beetles per plant when 0% of the silks have emerged. Once silks are brown, treatment is not necessary. Controlling rootworms to prevent egg laying and controlling beetles to prevent silk clipping do not overlap in time. Beware of spidermite outbreaks when foliar insecticides are applied for rootworm control in Great Plains. Do not apply foliar insecticides during bees' normal foraging hours. **SWEETCORN ET:** when an average of 5 or more beetles per silk mass are found during the first week of pollen shed, before 75% silking, control may be necessary. Another management threshold uses silk clipping. When silk clipping is occurring on 25 to 50% of the plants during pollen shed, control would be justified. If few or no rootworm beetles were present in the field the previous year, or if sweetcorn was grown in the field the previous year and a regular spray schedule was followed during silking, there is less chance of a damaging infestation.

Control for next year **ET:** Use of a soil-applied insecticide the following year may be economical if beetles exceed the following levels. Average number of beetles per plant in corn expected to produce an economical loss in corn the following year. \* \*Multiply thresholds by 50% for ear zone counts.

Average Number of Rootworm Beetles Per Plant  
Multiply by 0.5 for ear zone counts. The whole-plant sampling method has proven to be more reliable than ear zone counts.

Plants/Acre	Continuous Corn	First Year Corn
20,000	0.90	0.68
24,000	0.75	0.56
28,000	0.64	0.48
32,000	0.56	0.42



**CUTWORM:** See Bt control chart. See management worksheet on the following page. Late planting, early infestations of weeds, especially winter annuals such as chickweed, prior to planting and an abundance of crop residue attract cutworm egg laying. Controlling emerged weeds 8 or more days prior to planting allows vegetation to dry out and larvae starve before corn emerges. Preventive planting time soil insecticide treatments provide erratic control. Usually cutworms are best controlled by prompt rescue treatments after plants are up and early damage signs detected. Dry soil reduces effectiveness of sprays. If soil is crusted, use higher rate and GPA. Spray in early evening, if possible. For black cutworm, Herculex I hybrids have provided some protection. **Black cutworm ET:** Black cutworm larva begin cutting at 4th instar stage. Plants that are cut below ground are less likely to survive. (% plants wilted or cut) 2-3% if larvae 0.5 - 0.75" long or 5% if larvae 1.0" long. ETs are lowered with corn prices over historical levels. If corn is \$5-6, lower ET from 2-3% to 1% cutting for black cutworm larva <3/4" and from 5% to 2-3% for 1" larva. **Sandhill cutworm** - Rescue treatments are less effective than for black cutworm. Apply at planting insecticides in-furrow or T-band. **SWEETCORN ET:** begin scouting as corn emerges and continue until mid-June. Treat when 3-6% of the plants are cut and small larvae (<3/4") are present.



**EUROPEAN CORN BORER FIRST GENERATION:** \*See Bt control chart. Scout earliest planted fields during moth flight and into egg laying and early - hatching period. Hybrids with tolerance to leaf and sheath-collar feedings are becoming available. Ear droppage is becoming less common even though significant loss can occur. Timing of treatment is critical. Tendency is to treat too late. ECB survival is weather dependent. Scouting should begin when extended leaf height is 17 inches. Granular formulations are preferred for management of ECB in whorl stage of corn. **ET:** use "Management Worksheet" that follows.



**EUROPEAN CORN BORER SECOND GENERATION:** \*See Bt control chart. Scout fields at green silk and first pollen shed when second flight begins. Use – previous “Management Worksheet”. Try to prevent stalk and leaf sheath tunneling for maximum net return. Field corn infested at blister stage may be past effective treatment. Granular formulations are more effective than liquid formulations of the same product when comparing control of later generations of ECB. Be aware of spider mite species and their mite and insect predators when managing ECB control.



**FLEA BEETLE: ET:** 4-5 beetles per plant from corn emergence to 4-leaf stage and leaves are severely damaged and plants are being killed. Also, see seed treatment section. **SWEETCORN ET:** use resistant varieties for Stewart’s Wilt which is vectored by the beetle.



**GRAPE COLASPIS:** A 1/8” grub-like larva that prunes roots. Rootworm insecticides are generally ineffective. Smart Choice 5G is labeled for control. Cruiser seed treatment also is labeled. No effective rescue treatment. Larva overwinter in the soil.



**GRASSHOPPER: Corn Belt ET:** 8-14 hoppers per square yard within field or 21-40 in field margins or if clipping silks, ear tip damage, or defoliation has progressed above the ear. Treat when hoppers are small. **Great Plains ET:** 5 to 8 per square yard are present during the period from just before pollination until pollination is complete. Use high rates when controlling large hoppers.



**HOP VINE BORER:** Where repeated infestations occur along field margins, fence rows or waterways, apply Arctic 3.2 EC/Permethrin 3.2 AG, Warrior II, or Grizzly Too at the high rate used for cutworm when stand loss is first noticed. Spray before larva bores into plant. Within fields, spot treat grassy trouble spots at emergence. Long term elimination of infield trouble spots depends on control of grassy weeds (e.g. quack grass, wirestem muhly, woolly cupgrass). Corn rootworm insecticides will not prevent stand loss.



**JAPANESE BEETLE: ET:** treatment during silking if 3 or more beetles/ear are present and pollination <50% complete or silks are clipped to < 0.5”. Adult ID aid is five prominent white tufts of hair on margins of wing covers.



**NEMATODE:** Nematode feeding on corn can stunt plants and cause leaves to turn pale green or yellow and wilt. Damage is rarely field wide, more often occurring in patches that have non-discrete edges that fade into healthy-looking plants. Nematode damage can occur on all soil textures. Continuous corn favors nematode survival. Nematicides should be used only when soil analysis shows high numbers of parasitic nematodes. Check with laboratory on sampling procedures and timing. Currently only Counter banded or in-furrow is labeled to provide limited control. Also, see Avicta Duo Corn seed treatment.



**SEED CORN BEETLE:** Apply seed treatment containing imidacloprid (Gaucho), thiamethoxam (Cruiser), or clothianidin (Poncho), if a banded or in-furrow insecticide is not used.



**SEED CORN MAGGOT:** Apply seed treatment containing imidacloprid (Gaucho), thiamethoxam (Cruiser), or clothianidin (Poncho), if a banded or in-furrow insecticide is not used. Most common in fields with decaying organic residue that attracts fly (spring tilled sod or manure).



**SLUGS:** Slugs are invertebrates. Lay eggs in moist concealed locations on and under plant debris. Cool moist conditions and plant residues are favorable for slug development. Damage corn by rasping stem and leaf tissue. They are capable of consuming young plants. To find them you will have to dig in the planter slot as well as search through plant residue. They do not actively feed during the day but you should be able to find dried, silver-to-white slime trails on damaged leaves. Metaldehyde bait is the material registered for slug control. Research indicates that while these baits are effective, continuance of climatic conditions favorable to slugs will result in sporadic control. Deadline (metaldehyde) bullets are another treatment: cost >\$30/A.



**SOD WEBWORM: ET:** None developed. Refer to cutworm thresholds.



**SOUTHERN CORN LEAF BEETLE:** Gray to bronze adult (3/16”). Shield behind the head has 3 “teeth” on each side. Chews holes in leaves or notches on margins in spring. Most common in no-till or following sod. Cruiser and Poncho are labeled for early season control. **ET:** no economic threshold established but 25% of seedlings with leaf feeding or 3% stem feeding suggested.



**SOUTHWESTERN CORN BORER:** \*See Bt control chart. Bt corn hybrids with resistance throughout the plant provides some control. YieldGard and Herculex I hybrids have provided season long protection. **ET:** scout fields to verify egg laying – first application when 50% adult emergence then make second application 14 days later. Treat before larva bores into plant. Egg mass has 2-3 orange-red lines. Treat when 20-25% of plants have eggs or small larvae. Second generation feeding is most damaging.



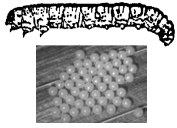
**SPIDER MITES:** Banks grass mite is easier to control than 2-spotted mite. Generally, registered miticides will not control 2-spotted spider mite in tassel-stage corn in Texas. MSR, Dimate only give temporary suppression of mite populations. Repeat applications are not recommended if the first failed to give reasonable control. Insecticides give reasonable control. Insecticides applied for corn borers can kill mite predators. **Spider mite ET:** Treatment should be based on how long the field has been infested, mite density including eggs, mite location on the plant, moisture conditions and plant symptoms. Foliar insecticides are recommended from R1 to R4 (silking to dough) when plants have mites at or around the ear leaf and 15-20% leaf discoloration. Note: With aerial application use 3-5 GPA of spray. **Great Plains ET:** prior to dent = 15-20% or more of the total leaf area is covered with active mite colonies and moderate damage is apparent.



**STALK BORER, COMMON OR LESSER:** Insects over-winter in grassy field margins. Grasses should be killed with glyphosate (11 days) or with Gramoxone SL/SL 2.0 (3-5 days) and insecticide applied after the interval indicated following herbicide treatment but before borers enter corn plants. Insecticide treatment only reduces, not eliminates, stand loss. Long term elimination of in-field trouble spots requires control of grassy weeds. Corn rootworm insecticides at planting will not prevent stand loss. Border row infestations will occur as worms migrate from grass terraces and fence lines. Scout these areas at 1,300-1,400 degree days (Base 41° F) and treat between 1,400 and 1,700 degree days. Mowing or burndown of grass will initiate movement. Current Bt hybrids offer no protection.



**STINKBUG: ET:** Seedling corn - treat when corn emerging from poorly closed seed slots show feeding damage. Corn <2' tall: treat if 10% of plants have >1 stink bugs. Pre-silk: treat if 5% of plants infested. Grain fill to hard dough: 10% of plants infested.



**WESTERN BEAN CUTWORM:** Chances of control will be reduced if applications are delayed till silks turn brown. Apply before larva bores into stalks or ear. Sevin, permethrin, and many pyrethroids on corn may promote mite infestations. Hybrids with Herculex, Herculex Xtra and Smart Stax provide control - see page 76. **Great Plains ET:** 8% of field corn plants (5% of seed or popcorn plants, 4% for processing sweet corn) are infested with newly hatched and/or eggs on upper surface of upper-most leaves or look for larvae in the tassel. ET based on \$2/bu corn.



**WHITE GRUBS:** Row crop damage is generally worse the first and second year after a sod or forage crop. Use in-furrow treatments of Aztec, Capture/Tundra/Bifen 2 AG Gold, Cobalt Advanced, Warrior II, Grizzly Too, Force, Smart Choice 5G, or Counter. Do not confuse annual grubs which do little or no damage with True grubs which cause severe injury. True grubs have two rows of parallel bristles on the underside of the tip the abdomen (raster). White Grub Species Identification: The potential for crop injury depends on the species of white grub present. The true white grub as the May Beetle will cause corn injury. The other two species shown will rarely cause injury unless corn is planted early. To determine which species is present in the field, one must look at the "raster" area at the tail-end of the grub. True white grub has a "zipper." Fields near cottonwoods or willows may have increased risk of grubs. See at-planting treatments at the beginning of this section and seed treatment section. **Texas ET:** 1 sq ft soil sample contains 1 grub; if grubs exceed more than 2/sq ft, broadcast insecticide.



**WIREWORM:** Wireworm control must be accomplished at planting time because rescue treatments are ineffective. Wireworms start their movement upward to germinating seeds as the soil temperature rises to 55°F and migrate down from the root system into the cool soil as the temperature exceeds 75°F. Two to six years may be required to complete their life cycle. Row crop damage is generally worse the first and second year after a sod or forage crop. Research indicates best control involves the use of an insecticide seed treatment plus an in-furrow treatment. Light infestations can be controlled with thiamethoxam, or imidacloprid seed treatments. Wireworm potential can be assessed using "Bait Station Technique"; however, it is

very labor intensive. An average of one wireworm per station represents an economic infestation and a planting time control treatment should be considered. See At-Planting table in beginning of this section or seed treatment section.



• - control  
 •S - suppression

Fungicide

Fungicide	Field Corn	Popcorn	Seed Corn	Sweet Corn	Aflatoxin producing fungus	Anthraxnose	Bacterial Stalk Rot	Eye Spot	Gray Leaf Spot <sup>1</sup>	Helminthosporium Leaf Blight <sup>1</sup>	Northern Corn Leaf Blight <sup>1</sup>	Northern Corn Leaf Spot <sup>1</sup>	Physoderma Brown Spot	Rhizoctonia	Rust (Puccinia genera) <sup>2,3</sup>	Southern Corn Leaf Blight	Yellow Leaf Blight
Absolute Maxx	Y	Y	Y	Y		•		•	•		•				•	•	
Affiance	Y	Y	Y			•		•	•		•	•			•	•	
Afla-Guard GR	Y	Y		Y	•												
Approach	Y		Y	Y		•	•	•	•		•	•	•		•		•
Approach Prima	Y		Y			•		•	•		•	•	•		•	•	•
Astera Co-Pack	Y	Y	Y					•	•	•					•		
Badge SC/Badge X2	Y	Y	Y	Y			•										
Bravo Ultrex/Bravo Weather Stik or Praiz			Y	Y						•					•		
Delaro 325 SC	Y	Y	Y			•		•	•		•	•	•		•	•	
Dithane F-45 Rainshield		Y		Y		•		•		•	•	•	•		•	•	•
Domark 230 ME	Y	Y	Y					•							•		
Elatus				Y		•		•	•		•	•					•
Ethos XB <sup>4</sup>	Y	Y	Y	Y										•			
Evito 480 SC	Y		Y			•		•	•		•	•			•	•	
Evito T	Y		Y	Y		•		•	•		•	•			•	•	
Headline SC	Y	Y	Y	Y		•		•	•		•	•	•		•	•	•
Headline AMP	Y	Y	Y	Y		•		•	•		•	•	•		•	•	•
Kocide 2000 or Kocide 3000	Y	Y	Y	Y			•										
Mantikor LFR <sup>4</sup>	Y	Y	Y	Y										•			
Manzate Max	Y	Y	Y	Y					•	•					•		
Manzate Pro-Stick	Y	Y	Y	Y					•	•					•		
Onset 3.6L	Y	Y	Y	Y					•		•	•			•	•	
Penncozeb 75DF	Y	Y	Y	Y		•		•	•						•		
Preemptor SC	Y		Y			•		•	•		•	•			•	•	
Priaxor	Y	Y	Y	Y		•		•	•		•	•	•		•	•	•
Proline 480 SC	Y	Y	Y	Y		•		•	•		•	•			•	•	
Quilt/Quilt Xcel	Y	Y	Y	Y	•	•		•	•	•	•	•	•		•	•	
Serenade ASO	Y	Y	Y	Y										•	•	•	
Stratego YLD	Y	Y	Y	Y		•		•	•	•	•	•			•	•	
Tetraban	Y	Y		Y		•		•	•		•	•		•	•	•	
Topaz/Tilt/PropiMax	Y	Y	Y	Y				•	•	•	•	•			•	•	
Topguard	Y	Y	Y					•	•		•	•			•		•
Topguard EQ	Y	Y	Y			•		•	•		•	•			•	•	
Trivapo	Y	Y		Y		•		•	•		•	•	•		•	•	•
Trivapro A+B (Co-Pack)	Y	Y		Y		•		•				•			•		
Vertisan	Y	Y	Y			•		•		•		•			•	•	
Xanthion	Y	Y		Y										•			

Products may control/suppress many other diseases; see label and Fungicide Resistance Management in the TECHNICAL INFORMATION section

\* - 24c, 2ee or Supplemental label; see Comments and Restrictions in Disease Treatment Guidelines

1 These diseases are caused by various Helminthosporium fungi. To reduce incidence, plant resistant hybrids, use tillage to bury crop residues and rotate crops.

Application of fungicide is most economical for seed corn or other high value corn.

2 Spores of rust (Puccinia genera) are carried in southerly winds.

3 To reduce incidence, plant resistant hybrids. Tillage and crop rotation are not effective.

4 Product contains insecticide (see Corn Insect Control and label for diseases controlled/suppressed at indicated rates).

# DISEASE TREATMENT GUIDELINES

Fungicide	Labeled Crops	Rate/Acre	PHI (grain-ear)	G/F	Comments/Restrictions
<b>ABSOLUTE MAXX</b>	F, P, S SW	5-6 fl oz	21 7	21/36 7/49	Apply when disease first appears. For optimum disease control, the lowest labeled rate of a spray surfactant, such as MasterLock or PowerLock may be tank-mixed.
<b>AFFIANCE</b>	F, P, S	10-17 fl oz	7	21/NL	Application between V4-V8: Early season disease control/suppression; if disease pressure develops later in season, apply again between VT-R3. Application between V8-R3: Apply prior to disease development; a second application may be made no fewer than 7 days later; do not exceed 17.06 fl oz/A/year. Make no more 2 applications/year, or more than 2 sequential applications before switching MOA. Do not tank mix with adjuvant or COC between V8 and VT. May be applied by air or chemigation.
<b>AFLA-GUARD GR</b>	F, P, S	Up to 20 lb	NR	NR	Apply between V10-V12 and R1 by ground or air.
<b>APROACH</b>	F, S, SW	3-4 fl oz (Low rate) or 6-12 fl oz (High rate)	7	0/NL	Low rate: Make a single application between V4 to V7 for early season disease control/suppression. High rate: Make additional 6 to 12 fl oz applications at 7- to 14-day intervals. For best results apply between VT to R3 and make applications prior to disease development. Use higher rate and shorter interval with high disease pressure. Make no more than 2 sequential applications before switching MOA. Do not tank mix with adjuvant or COC between V8 and VT. Do not exceed 36 fl oz/A/crop. May be applied by air or chemigation.
<b>APROACH PRIMA</b>	F, S	3.4-6.8 fl oz	30	21/NL	Apply lower rate early season for preventative control/suppression. Apply rate range prior to disease development, using higher rate and shorter interval when disease pressure is high. Do not tank mix with adjuvant or crop oil between V8 and VT. Do not exceed 6.8 fl oz/A/crop. May be applied by air or chemigation.
<b>ASTERA Co-Pack</b>	F, P, S	4 fl oz of Astera (Component A) + 0.5 oz of aβpro (Component B)	30	30/30	Apply after complete emergence during vegetative growth phase. For best results, early applications at initial disease onset perform better and continue on 14-day schedule. Maximum of 16 fl oz/A/year or 8 fl oz/A/year for field corn harvested for forage. Do not mix with Syllit. Do not use in tank mixes or water below pH 5 or above pH 10. May be applied by air or chemigation.
<b>BADGE SC/BADGE X2</b>	F, P, S, SW	0.5-2.5 lb	NL	NL/NL	Begin treatment when conditions first favor disease development and repeat every 7 to 10 days. Maximum 15 lb/A/year.
<b>BRAVO ULTREX/BRAVO WEATHER STIK or PRAIZ</b>	S, SW	0.7-1.8 lb or 0.75-2 pt	14	NO/NO	Use sufficient water for adequate coverage. Repeat at 4- to 7-day intervals or as needed for control. Do not apply to processing sweet corn. May be applied by air or chemigation.
<b>DELARO 325 SC</b>	F, P, S	4-6 fl oz: Early Season 8-12 fl oz: Season Long	14	0/14	Early Season: Control anthracnose, eyespot and gray leaf spot, with broadcast foliar spray at V4-V7 when conditions are favorable for disease development. For season-long control of these and other listed diseases, apply a sequential treatment at 8-12 fl oz/A from VT through R2. Or apply when disease first appears and continue on 7- to 14-day interval if disease persists. Do not tank mix with adjuvants between V8 and VT. Maximum 24 fl oz/A/year. May be applied by air or chemigation.
<b>DITHANE F-45 RAINSHIELD</b>	P, S, SW	1.2 qt	7	NO/NO	Start applications when disease symptoms first appear and, depending on severity of infection, continue on a 4- to 14-day schedule. Use sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4- to 7-day intervals. East of the Mississippi River, AR and LA, do not apply more than 18 qt/A/crop. West of the Mississippi River, except AR and LA, do not apply more than 6 qt/A/crop to livestock. May be applied by air or chemigation.
<b>DOMARK 230 ME</b>	F, P, S	4-6 fl oz	NR	NR/NR	Early (V4-V8) or Late (VT-R3) application. Maximum 1 application/year. Do not tank mix with adjuvants between V8 and VT. May be applied by air or chemigation.
<b>ELATUS</b>	SW	5-7.3 oz	7	NL/NL	Apply prior to disease onset when conditions are conducive for disease. Apply no closer than 14 days apart. Resistance management: No more than 2 applications before switching to non-Group 7 or 11 fungicide. See label for recommended use of adjuvants/surfactants. Do not apply more than 14.6 oz/A/year, or more than 0.136 lb a.i./A/year of benzovindiflupyr-containing products, or 2.0 lb a.i./A/year of azoxystrobin-containing products. May be applied by chemigation.
<b>ETHOS XB</b>	F, P, S, SW	0.2-0.98 fl oz/1000' row/3.4-5.3 fl oz	NL	NL/NL	Can be mixed with liquid fertilizer. 3.4 fl oz for PRE and 4-5.3 fl oz for PPI. Also controls seedling diseases: Fusarium, Phytophthora, Pythium, Rhizoctonia. Product contains insecticide; see Corn Disease Control and label for diseases suppressed at indicated rates.
<b>EVITO 480 SC</b>	F, S SW	2-5.7 fl oz 2-3.8 fl oz	30 7	NL/NL 23/7	Maximum 2 applications, no later than R4. Use 0.16-0.24 fl oz/1000' row for rhizoctonia. May be applied by air or chemigation.
<b>EVITO T</b>	F, S SW	4-9 fl oz	36 7	NL/7 7/49	Maximum 2 applications, no later than R4 field or seed corn. May be applied by air or chemigation.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

Fungicide	Labeled Crops	Rate/Acre	PHI (grain-ear)	G/F	Comments/Restrictions
<b>HEADLINE SC</b>	F, P, S, SW	6-12 fl oz; 0.1-0.8 fl oz/1000' row	7	NL/NL	Apply prior to disease development and continue at 7- to 14-day intervals if needed. COC or adjuvant may be used. No adjuvants allowed after V8 and prior to VT stage corn. In-furrow 0.1 to 0.8 fl oz/1000' row in 2.5 GPA of water. Do not apply more than 12 fl oz/A. May be applied by air or chemigation.
<b>HEADLINE AMP</b>	F, P S SW	10-14.4 fl oz	20 7 7	7/20 7/7 7/NL	Apply prior to disease development and continue at 7- to 14-day intervals if needed. No adjuvants allowed after V8 and prior to VT stage corn. NIS, HSOC-COC, <sup>1</sup> HSOC-MSO <sup>1</sup> and/or drive control agents may be used when allowed. May be applied by air or chemigation.
<b>KOCIDE 2000 or KOCIDE 3000</b>	F, P, S, SW	1-3 lb or 0.5-1.75 lb	NL	NL/NL	Begin when diseases first appear and repeat every 7-10 days or as needed. May be applied by air or chemigation.
<b>MANTICOR LFR</b>	F, P, S, SW	0.49-1.09 fl oz/1000' row	NL	NL/NL	Can apply with liquid fertilizer. See label for recommendations when <i>R. solani</i> seedling disease pressure is expected to be severe or field has disease history. Do not apply within 25' of aquatic habitats. Cultivation within 10' of a water body is prohibited to allow for growth of a vegetative filter strip. Do not apply >0.2 lb bifenthrin a.i./A from all bifenthrin-containing products used at planting. Do not apply >0.3 lb (F) or >0.2 lb (SW) bifenthrin a.i./A/year including PPI, PP, PRE and foliar applications of this and other bifenthrin-containing products. Product contains insecticide; see Corn Disease Control and label for diseases suppressed at indicated rates.
<b>MANZATE MAX</b>	F, S P, SW	0.8-1.2 qt	40 7	NL/NL NO/NL	Start when disease first appears. A spreader stricker may be used for better coverage/weatherability. F,S: Repeat at 4- to 14-day intervals. P,SW: Repeat at 4- to 7-day intervals; east of the Miss. River (including AR and LA), do not apply more than 18 qt/A/crop; west of the Miss. River (except AR and LA), do not apply more than 6 qt/A/crop. May be applied by air or chemigation.
<b>MANZATE PRO-STICK</b>	F P, S, SW	1.5 lb	40 7	NL/NL NL/NL	Start when disease first appears and repeat at 4- to 7-day intervals. P,SW: east of the Miss. River (including AR and LA), do not apply more than 22.5 lb/A/crop; west of the Miss. River (except AR and LA), do not apply more than 7.5 lb/A/crop. May be applied by air or chemigation.
<b>ONSET 3.6L</b>	F, P, S SW	4-6 fl oz	36 7	21/36 7/49	Apply as a protective spray when weather is favorable for disease and repeat at 7- to 14-day intervals.
<b>PENNCOZEB 75DF</b>	F, S P, SW	1-1.5 lb	40 7	NL/NL NO/NO	May be applied by air or chemigation. F,S: Start application at the onset of disease and repeat as needed; do not apply more than 16 lb/season. P,SW: Apply in sufficient water for thorough coverage; start applications when disease first appears and repeat at 4- to 7-day intervals; East of the Miss. River (including AR and LA), do not apply more than 24 lb/A/crop; West of the Miss. River (except AR and LA), do not apply more than 8 lb/A/crop.
<b>PREEMPTOR SC</b>	F, S	4-6 fl oz	30	30/30	Apply when disease first appears and continue 7-10 days. Apply no later than R4. No more than 2 applications/year. Do not use an adjuvant after V8 stage and prior to VT stage.
<b>PRIAXOR</b>	F, P, S SW	4-8 fl oz	21 7	7/NL 7/NL	Apply prior to when conditions favor disease development and continue on 7- to 14-day schedule. Maximum 16 fl oz/A/season. Maximum 2 applications before rotating to another mode of action. No adjuvants allowed after V8 and prior to VT stage corn, unless grower/user contacts the adjuvant source for advice and confirmation that the adjuvant has been tested and proven to be safe for application. Always follow most restrictive label .May be applied by air.
<b>PROLINE 480 SC</b>	F, P, S	5.7 fl oz	14	0/14	Apply at the first sign of disease and repeat on a 7- to 14-day interval. Maximum 22.8 fl oz/A/crop. Supplemental label in ID, IL, IN, IA, and NE (exp. date not given) for control of anthracnose, eye spot, gray leaf spot, leaf blights, and rusts. 2ee in all states except AZ, CA, IA, NE (exp. 1/2018) for suppression of Fusarium and Gibberella ear rots. May be applied by air or chemigation.
<b>QUILT</b>	F, P, S SW	7-14 fl oz	30 14	30/30 14/NL	Apply when disease first appears. Use 10.5-14 fl oz for gray leaf spot, rust, anthracnose, and eye spot. Do not apply adjuvants after V8 and prior to VT stage corn. Do not apply >2 applications or any other Group 11 fungicide/year. May be applied by air or chemigation.
<b>QUILT XCEL</b>	F, P, S SW	10.5-14 fl oz	30 14	30/30 14/NL	Apply when disease first appears. Use 10.5-14 fl oz for gray leaf spot, rust, anthracnose, ear rot, and eye spot. Do not apply adjuvants after V8 and prior to VT. May be applied for early season disease control and plant performance benefits from V4-V8 at 10.5 fl oz. May be applied by air or chemigation.
<b>SERENADE ASO</b>	F, P, S, SW	0.5-2 qt	0	0/0	<i>Bacillus subtilis</i> is a biological fungicide. Soil drench, shanked-in, side-dress, injected and in-furrow at any time, or foliar spray. Adjust application interval as needed based on disease pressure. 2ee all states except NH (exp. date not given) for control of <i>Rhizoctonia</i> spp., <i>Pythium</i> spp. and <i>Fusarium</i> spp. in-furrow at 0.5-1 qt/A. May be applied by air or chemigation.

1 Between and Superb HC (COC) and Succeed/Ultra and Destiny HC (MSO) are HSOC adjuvants, generally used at half standard COC or MSO rates.

2 Class Act NG or Flex, Alliance, or Ultra-Lite may be used where herbicides require NIS and AMS or a water conditioner.

Fungicide	Labeled Crops	Rate/Acre	PHI (grain-ear)	G/F	Comments/Restrictions
<b>STRATEGO YLD</b>	F, P, S SW	2-5 fl oz	14 0	0/14 0/14	F,P,S- Apply 2-5 fl oz as a broadcast foliar spray at V4-V7 and in SW at 4-5 fl oz when conditions are favorable for disease development. For season-long control of labeled diseases apply a sequential treatment at 4-5 fl oz from VT through R2. F,P,S-Max 10 fl oz/A/season, SW-Maximum 20 fl oz; 2 sequential applications. Do not apply adjuvants after V8 and prior to VT stage corn. 2ee in numerous states (exp. date not given) for control of anthracnose leaf blight and eye spot at 2-5 fl oz/A. May be applied by air or chemigation.
<b>TETRABAN</b>	F, P, S, SW	0.4-0.8 fl oz/1000' row; 6-15.5 fl oz	7	NL/NL	For soil borne/seedling disease control, see label. For gray leaf spot, apply at onset of disease; a second application may be required 14 days later. For all other diseases, apply by ground, air or irrigation prior to disease development and continue every 7- to 14-days following resistance management guidelines. No more than 2 sequential applications of this or other Group 11 fungicides before alternating with a non-Group 11 fungicide. F,S: No more than 2 applications/season.
<b>TOPAZ/TILT/PROPIMAX</b>	F, P, S SW	2-4 fl oz: leaf blight 4 fl oz: others	30 14	30/30 14/NL	Apply when disease first appears and reapply at 7- to 14-day intervals. Do not apply to field or seed corn after silking. Maximum application 16 oz/A/season. Use a minimum of 5 GPA aerial or 20 GPA by ground. For Topaz, use a minimum of 2 GPA aerial and 10 GPA by ground. May be applied by air or chemigation.
<b>TOPGUARD</b>	F, P, S	7-14 oz	7	0/7	Apply preventatively when conditions are favorable for disease development. Do not apply more than 14 oz in a single application. Apply no later than the R4 (early dough) stage. Do not make more than 2 applications per year. Do not apply more than 28 oz/A per year. No adjuvants allowed after V8 and prior to VT stage. May be applied by air.
<b>TOPGUARD EQ</b>	F, P, S	5-7 fl oz	7	NL/NL	Begin applications when disease first appears, then as needed on 7- to 10-day interval. Do not apply after R4 (early dough stage). No more than 2 applications/season. Adjuvant may be used prior to V8 and after VT.
<b>TRIVAPRO</b>	F, P SW	13.7 fl oz	30 14	NL/NL NL/NL	F,P,S: Apply V4-V8 for early-season disease control; continue on 14-day interval; later season when disease first appears and as favorable conditions persist; continue on 14-day interval; avoid use of adjuvants or other additives after V8 and prior to VT. SW: Begin applications prior to disease development, continue on 14-day interval; adjuvant may be added at recommended rates. Make no more than 2 applications in a row before alternating to a fungicide not in Group 7 or 11. May be applied by air or chemigation. Yellow leaf blight control in SW only.
<b>TRIVAPRO A + TRIVAPRO B</b>	F, P, S, SW F, P, S SW	4 fl oz + 10.5	7(A) 30(B) 14(B)	NL/NL(A) 30/30(B) 14/NL(B)	Co-Pack. Apply prior to disease onset. Make no more than 2 applications in a row before alternating to a fungicide not in Group 7 or 11. May be applied by air or chemigation.
<b>VERTISAN</b>	F, P, S, SW	10-24 fl oz	7	0/7	Apply before disease development and continue on 7- to 14-day intervals. Maximum 2 sequential applications before switching to a different mode of action. Maximum 48 fl oz/A/year. May be applied by air or chemigation.
<b>XANTHION</b>	F, S, SW	0.6-1.2 fl oz component A + 3-6 fl oz component B	NL	NL/NL	In-furrow application only. Always apply at a ratio of 1:5 component A and component B on a per acre basis. See label for rates per 1000'row.

\* F – field, S – seed, P – pop, SW – sweet corn.  
 G/F – grazing-forage/fodder-stover interval days.  
 NL – no grazing or feeding information on label.  
 NO – do not graze or feed.  
 NR – no restrictions.  
 PHI – preharvest interval days.

 **BEE ALERT**

See Insecticide Classification in the Technical Section for information on insecticide toxicity to bees.

