

## Fallow In Small Grain Stubble

Fallow is a system based on quality winter wheat stubble and timely weed control. Good quality stubble is the result of growing adapted winter wheat varieties competitive with weeds along with good disease and insect resistance. Proper planting date, fertilization according to needs, weed control in the growing wheat, harvest with minimum grain loss and good chaff and long straw distribution all contribute to the success of this program. Herbicides should be applied within 30 days after wheat harvest for wheat grown with a 10-14 month fallow period. If winter wheat is planted after soybean, corn, or grain sorghum, herbicides should be applied within 15-20 days after wheat harvest. Weather and weed conditions need to be correct for good results. Gramoxone SL/SL 2.0 plus atrazine, Cornerstone/Tomahawk, glyphosates or Roundup will control established broadleaf and grass weeds, and volunteer wheat depending on herbicide rate, plant height, density and species. If rain is expected within 6 hours, Gramoxone SL/SL 2.0 plus atrazine is a good choice. The rainfast period required for glyphosate products can be shortened by increasing the rate and not adding atrazine to the tank mix.

Maximum benefits from ecofarming, which include moisture conservation and prevention of weed seed production, usually occur when treatments are timely. This is on the condition the weeds are not under drought stress, the straw has settled, dust is not present on the plants, and good coverage of the plants is possible with the spray solution. Small weeds are easier to control with the nonselective translocating herbicides containing glyphosate. Gramoxone SL/SL 2.0 plus atrazine is usually more effective in controlling larger weeds as they approach maturity.

If weeds recover from initial after-harvest herbicide applications, use glyphosate where Gramoxone was used and use glyphosate or atrazine + Gramoxone plus atrazine where glyphosate was used. More effort is needed to prevent weeds from producing seed in the wheat stubble.

Volunteer winter wheat and/or downy brome or jointed goatgrass are not always controlled with July and early August atrazine treatments. A split after harvest treatment with the early application of glyphosate products such as Roundup or Cornerstone/Tomahawk followed by one lb/acre or more of atrazine plus Gramoxone SL/SL 2.0, if needed, applied in September can be an effective control measure. If maximum rates of atrazine are applied in the fall, do not add additional atrazine in the spring. Lower rates of atrazine (or none at all) need to be used on eroded areas, on soils with less than 1.2% organic matter, on soils with a pH of 7.0 or greater, some terraces, Canyon and Rosebud soils and caliche outcroppings. High atrazine rates may carry over and destroy wheat on these areas. Total atrazine applied between wheat harvest and planting corn or sorghum should not exceed 3.25 lb 90DF or 3 qt 4 L/acre.

In the spring, kill volunteer wheat and annual bromes in March to prevent soil moisture loss. If grasses are less than 1 tall, atrazine will provide acceptable control. Control is improved when COC or UAN is added. When planting corn, 2,4-D ester may also be added for improved weed control. Gramoxone SL/SL 2.0 should be included with a nonionic surfactant to grasses less than 4 tall. If grasses are taller than 4 and are growing vigorously, apply glyphosate products such as FallowStar or Roundup<sup>1</sup>. Mixing atrazine with glyphosate can create antagonism and decrease performance. Consider banding over the row in weedy fields at planting to compensate for disturbing the soil with the planter and removing some of the preplant herbicide.

Fields not treated after harvest with herbicides are not ecofallow. Therefore, herbicides might not be as effective and grain yields may be poorer than fields treated in late summer and fall. If moisture was present after harvest and weeds produced seed, weed density may be great enough that weed control with herbicides at rates that do not cause crop injury may be difficult. Also, the soil moisture lost after harvest may be critical if winter and spring moisture is limiting. If one wishes to try the spring-only treatment, the following is suggested. An early spring treatment of glyphosate with atrazine as soon as good growing conditions exist in the spring is an effective treatment for volunteer wheat and downy brome. Add or increase the Atrazine to the lower of the

<sup>1</sup> For **Gramoxone SL/SL 2.0** add NIS at the rate of 1 pt/100 gal spray solution or 2 pt/100 gal if Gramoxone is applied by air.

**Roundup Ultra RT** contains sufficient surfactant. Add 17 pounds spray grade ammonium sulfate/100 gallons spray.

Dissolve ammonium sulfate completely in water before adding herbicides or surfactant. 2.5-5 gal AMS liquid/100 gal may be substituted for ammonium sulfate.

maximum labeled rate or the amount the crop can tolerate and still not cause damage to the succeeding crop. Be sure to add a grass herbicide. Add Gramoxone SL/SL 2.0 or 4 lb AI glyphosate at 1.5 to 2.0 pt/acre after April 15 depending upon size of weeds. Rates suggested depend on soil type, pH, organic matter, time of application and weed size. For corn or sorghum use 1-2 qt/acre atrazine. Dual Magnum or Bicep Magnum or FulTime NXT should be applied 20 to 30 days before corn or sorghum planting. Balance FLEXX should not be applied > 7 days before corn planting unless a planned sequential application of a POST herbicide is used. For sorghum, use the appropriate seed treatment for Charger MAX, Dual II Magnum, or Bicep II Magnum.

## Planting Row Crops No-Till Into Last Year's Spring Small Grain Stubble

(Oat, Spring Wheat and Spring Barley)

Spring small grains are not as competitive with weeds as winter wheat. This is because the winter wheat is established in the fall and starts growth early in the spring before most weeds germinate. With good stands of winter wheat, most weeds, except for winter annual weeds, are not a problem.

The quality and quantity of winter wheat stubble and straw are also superior and longer lasting than that of the spring grain crops. The winter wheat stubble and straw are more effective in suppressing weeds. Therefore, planting crops no-till into last year's small grain, while it can be successful, can also be a disaster if the herbicide treatments are not timely, properly selected, applied properly, and results are not evaluated to determine if retreatment or other weed control measures are necessary.

The key to this program is weed control after spring small grain harvest. Keeping the weeds from producing seed and using stored soil moisture is done with a timely herbicide treatment after harvest. The herbicide treatments listed for winter wheat after harvest can be used in small grain stubble in most situations (check the label for the recropping intervals for the crops in your rotation). The higher labeled rates of herbicides are usually required. Roundup is usually the choice nonselective herbicides for control of emerged summer annual grass weeds that are growing rapidly. As weeds approach maturity, Gramoxone SL/SL 2.0 plus atrazine may be used. If atrazine is used in the fall treatment, the next crop must be tolerant to it at the rate used (check label).

The spring herbicide treatment is necessary. Again, check the rates, etc., for the crop in the ecofarming section. Check labels and be sure to control volunteer crops. Also, do not disturb the herbicide treatment with tillage if a residual herbicide was applied last fall. Read all the general remarks under ecofarming and see footnotes.

## Continuous Winter Wheat and Winter Wheat Following Soybean

**Continuous Winter Wheat.** Select winter wheat fields that are free of cheat, downy brome, hairy chess, Japanese brome, and jointed goatgrass. Apply Roundup within 30 days after winter wheat harvest but before summer annual weeds head. Apply glyphosate about 10 days before winter wheat planting.

**No-till Wheat Following Soybean Harvest.** Select early maturing soybean cultivars so that winter wheat can be planted in the optimum window. Plant wheat at 90 lb/A dryland and 120 lb/A irrigated with a no-till drill equipped to apply starter fertilizer. Weeds such as kochia are a problem in late planted winter wheat. Therefore, a herbicide treatment is usually needed in the spring. Use Ally or Amber plus 2,4-D or Sterling Blue/Clarifier/Clarity/Banvel/Dicamba Max 4 as 2,4-D is ineffective on kochia.

Adapted from the University of Nebraska Guide for Weed Management.

# FALLOW HERBICIDE PERFORMANCE RATINGS

## WEED RESPONSE TO HERBICIDES APPLIED AFTER WINTER WHEAT HARVEST

- E** EXCELLENT (90 + %)
- G** GOOD (85-90%)
- F** FAIR (70-84%)
- P** POOR (<69%)
- N** NONE
- U** UNKNOWN

### GRASSES | BROADLEAVES

- GRASSES:** Barnyardgrass, Crabgrass, Cupgrass, prairie, Downy brome, Foxtail, green, Foxtail, yellow, Jointed goatgrass, Sandbur, Shattercane, Stinkgrass, Volunteer wheat, Witchgrass
- BROADLEAVES:** Buckwheat, wild, Buffalobur, Horseweed, Knotweed, tall, Kochia, Lambsquarters, Lettuce, prickly, Pigweed<sup>9</sup>, Smartweed, annual, Spurge, toothed, Sunflower, Thistle, Russian

### Herbicides<sup>a</sup> | 4 inches tall | 6 inches tall or less

Herbicide	Barnyardgrass	Crabgrass	Cupgrass, prairie	Downy brome	Foxtail, green	Foxtail, yellow	Jointed goatgrass	Sandbur	Shattercane	Stinkgrass	Volunteer wheat	Witchgrass	Buckwheat, wild	Buffalobur	Horseweed	Knotweed, tall	Kochia	Lambsquarters	Lettuce, prickly	Pigweed <sup>9</sup>	Smartweed, annual	Spurge, toothed	Sunflower	Thistle, Russian
Affinity BroadSpec	N	N	N	N	N	N	N	N	N	N	N	N	G	U	G	U	G	E	G	E	P	U	U	E
Affinity TankMix	N	N	N	N	N	N	N	N	N	N	N	N	G	U	G	U	G	E	G	E	P	U	U	E
Agility SG	N	N	N	N	N	N	N	N	N	N	N	N	E	U	U	U	E	E	U	E	P	U	U	E
Basis Blend	G	E	F	N	N	E	F	G	N	N	N	N	F	U	P	U	E	E	U	E	E	U	U	P
Cornerstone 5 Plus/Tomahawk 5 <sup>Rd</sup>	E	E	E	E	E	E	E	E	E	E	E	E	F	E	G	G	G	E	F	E	E	P	E	G
Cornerstone 5 Plus/Tomahawk 5 <sup>Rd</sup> + atrazine <sup>Rc</sup>	E	E	G	E	E	E	E	E	E	E	E	E	E	E	E	E	F	G	E	E	E	E	E	E
Express	N	N	N	N	N	N	N	N	N	N	N	N	G	U	P	U	G	E	E	E	U	U	U	E
Fallow Star	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Fallow Star + atrazine <sup>R</sup>	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Gramoxone SL/SL 2.0	P	P	P	E	F	P	E	F	F	G	E	G	E	E	E	E	E	E	E	E	F	E	E	E
Gramoxone SL/SL 2.0 + atrazine <sup>Rc</sup>	E	F	F	E	E	E	E	G	F	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E
Harmony SG	N	N	N	N	N	N	N	N	N	N	N	N	G	U	F <sup>R</sup>	U	G	E	G	E	U	U	U	E
Sharpen <sup>e</sup>	P	P	P	P	P	P	P	P	P	P	P	P	G	G	G	P	G	G	G	G	G	P	G	G
Resolve Q	E	F	N	N	E	E	N	N	E	G	E	N	P	U	U	U	E	E	U	E	U	U	U	P

### Tillered to boot | 12 inches tall

Herbicide	Barnyardgrass	Crabgrass	Cupgrass, prairie	Downy brome	Foxtail, green	Foxtail, yellow	Jointed goatgrass	Sandbur	Shattercane	Stinkgrass	Volunteer wheat	Witchgrass	Buckwheat, wild	Buffalobur	Horseweed	Knotweed, tall	Kochia	Lambsquarters	Lettuce, prickly	Pigweed <sup>9</sup>	Smartweed, annual	Spurge, toothed	Sunflower	Thistle, Russian	
Cornerstone 5 Plus/Tomahawk 5 <sup>Rd</sup>	G	G	P	E	E	G	E	G	E	E	E	G	P	G	E	F	G	F	G	F	G	E	P	E	F
Cornerstone 5 Plus/Tomahawk 5 <sup>Rd</sup> + atrazine <sup>Rc</sup> + 2,4-Db	F	F	P	E	E	G	E	G	E	E	E	G	E	E	E	E	G	E	G	E	E	E	G	E	E
Fallow Star	G	G	F	E	E	G	E	E	E	E	E	G	G	E	G	E	G	E	G	G	E	F	E	G	
Fallow Star + atrazine <sup>R</sup>	G	F	P	E	E	G	E	G	E	E	E	G	E	E	E	E	E	G	E	E	G	E	E	E	
Gramoxone SL/SL 2.0	P	P	P	F	F	F	F	P	P	P	F	P	G	F	F	F	F	F	F	F	F	P	F	F	F
Gramoxone SL/SL 2.0 + atrazine <sup>Rc</sup> + 2,4-Db	P	P	P	G	E	P	P	G	E	P	P	G	G	E	G	E	E	E	E	E	E	G	E	E	E

### Headed | 24 inches tall

Herbicide	Barnyardgrass	Crabgrass	Cupgrass, prairie	Downy brome	Foxtail, green	Foxtail, yellow	Jointed goatgrass	Sandbur	Shattercane	Stinkgrass	Volunteer wheat	Witchgrass	Buckwheat, wild	Buffalobur	Horseweed	Knotweed, tall	Kochia	Lambsquarters	Lettuce, prickly	Pigweed <sup>9</sup>	Smartweed, annual	Spurge, toothed	Sunflower	Thistle, Russian	
Cornerstone 5 Plus/Tomahawk 5 <sup>Rd</sup>	G	G	P	E	E	G	E	E	E	E	E	G	P	F	F	F	P	P	P	F	F	P	F	F	
Cornerstone 5 Plus/Tomahawk 5 <sup>Rd</sup> + atrazine <sup>Rc</sup> + 2,4-Db	F	G	P	E	E	G	E	G	E	E	E	G	E	E	G	G	F	E	E	E	G	E	F	E	G
Fallow Star	G	G	P	E	E	G	E	E	E	E	E	G	P	G	G	F	F	G	G	G	G	F	E	G	
Fallow Star + atrazine <sup>R</sup>	G	G	P	F	E	E	E	E	E	E	E	G	E	E	G	G	E	E	E	E	E	F	E	G	
Gramoxone SL/SL 2.0	P	P	P	G	F	G	G	F	P	G	G	G	G	F	F	F	F	F	F	F	F	P	F	F	F
Gramoxone SL/SL 2.0 + atrazine <sup>Rc</sup> + 2,4-Db	G	G	P	E	E	E	E	E	F	E	E	E	E	E	E	G	E	E	E	E	E	F	G	E	E
Valor/Rowel + Roundup + 2,4-D	G	G	P	E	E	E	E	E	E	E	E	E	E	E	G	G	E	E	E	E	G	F	P	G	

<sup>a</sup> Rate is 2 pt/acre for **Gramoxone SL/SL 2.0** and 11 oz/acre for **Roundup WeatherMAX**. **Atrazine** rate is 2 qt/acre. Consult label to improve weed control with some herbicides. Example, barnyardgrass, sandbur, witchgrass, yellow foxtail need 16 oz Roundup Power Max alone or 16-22 oz with atrazine. Prairie cupgrass is tolerant to glyphosate.  
<sup>b</sup> Add 2,4-D ester at 1.5 pt/acre.  
<sup>c</sup> Atrazine is less effective applied immediately after harvest than when applied after Sept 1st.

**ROUNDUP USE TIPS:** Controls grass better than Gramoxone SL/SL 2.0 from tiller to boot stage. Apply in 5-10 gallons of clean water/acre. Use flat nozzles on 20-30 centers. Avoid excessive speeds which create turbulence and dust. Add 17 lbs ammonium sulfate or 2.5-5 gal liquid AMS/100 gal.  
<sup>d</sup> or Roundup, Cornerstone, Tomahawk or Durango DMA/Duramax.  
<sup>e</sup> 2 oz/A + COC.<sup>f</sup> Large crabgrass only.  
<sup>9</sup> See label of pigweed species controlled.

R No control of herbicide resistant weed biotypes. See the list of known resistant weeds on the second page of the technical section.  
**GRAMOXONE USE TIPS:** Gramoxone SL/SL 2.0 requires thorough coverage of weeds. Use flat fan nozzles spaced on 20-30 centers at 35-40 psi. Use a minimum of 10 GPA of clean water but higher volumes preferred. Avoid speeds over 10 mph which create turbulence and dust. Weed control is enhanced by tank mixing with a triazine herbicide. Most effective on small weeds or on weeds that are approaching maturity (less control from tiller to boot stage).

# FALLOW WEED CONTROL

## Preemergence or Postemergence Herbicides

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
<b>AFFINITY BROADSPEC</b>	F,PH	0.4-1 oz			Do not exceed 1 oz/A/crop season. Apply with other fallow herbicides for improved control or if 0.4-0.6 oz rate used. Post-harvest, apply 0.4-1 oz. Apply to emerged actively growing weeds. Include NIS, COC, or MSO plus UAN/AMS <sup>1,2</sup> . PHI 7 days grazing. Note 4.
<b>AFFINITY TANKMIX</b>	F,PH	0.6-1 oz			Do not exceed 1.8 oz/A/crop season. Apply with other fallow herbicides. Apply to emerged actively growing weeds. Include NIS, COC, or MSO plus UAN/AMS <sup>1,2</sup> . PHI is 7 days grazing. Note 4.
<b>AGILITY SG</b>	CS,F,PH	1.6-3.2 oz			Apply post-harvest in fall, spring or summer during fallow period. Include NIS, COC, or MSO plus UAN/AMS <sup>1,2</sup> . PHI 7 days grazing, 30 days hay. Note 4.
<b>AIM EC</b>	F	Up to 2 fl oz			Apply to actively growing weeds up to 4" high or 3" across. Include NIS, COC, or MSO plus UAN/AMS <sup>1,2</sup> . Notes 1, 4.
<b>ALLY EXTRA SG</b>	F	0.3-0.5 oz			Apply with other fallow herbicides in spring, summer or fall to actively growing weeds. PHI 7 days grazing, 30 days hay. Note 4.
<b>ALLY XP</b>	F	0.1 fl oz 0.1-0.2 fl oz in CO,KS,NM,OK,TX			Apply in the spring or fall when majority of weeds have emerged and are actively growing. No grazing restrictions; see label for rotational intervals on wheat that will be grazed out.
<b>AMBER</b>	F,PH	0.28-0.56 oz			Apply as a tank mix or follow with a herbicide having a different mode of action within 12 months. Use only in CO, ID, KS, MN, MT, ND, NE, OK, OR, SD, TX, UT, WA and WY. Use tillage or a herbicide with a different mode of action to control any weeds before they flower in areas treated with Amber. Do not use Amber or other herbicides with the same mode of action within 12 months after application. Add 1-2 pt NIS/100 gal. Notes 1, 4.
<b>ATRAZINE 4L</b>	F,PH	see label			Use for chemical fallow, wheat-sorghum-fallow, wheat-corn-fallow in CO, KS, ND, NE, SD, WY and for wheat-fallow-wheat in CO, KS, ND, NE, SD and WY. See the label for use rates, soil texture and pH restrictions, and maximum rates. Notes 2, 4.
<b>AUDIT 1:1</b>	CS,F	0.4-1 oz			Do not exceed 1 oz/A/crop season.
<b>AUDIT 4:1</b>	CS,F	0.6-1 oz			Do not exceed 1.8 oz/A/crop season.
<b>AUTHORITY MTZ</b>		8-10 oz	<b>1-2% O.M.</b> 8-12 oz	10-12 oz	Excellent for Kochia, R. thistle, pigweeds and lambsquarters. Apply in fall or spring before weed emergence. Add Cornerstone or dicamba for emerged weeds. Corn, Wheat rotation 4 months. Soybean rotation anytime. 24c CO, KS, MT, WY (exp. 12/2019) for fallow or eco-fallow fall or spring applications. 2ee various states (exp. date not given) for fallow fall burndown planted to spring corn or soy.
		8-12 oz	<b>2-4% O.M.</b> 10-14 oz	12-16 oz	
<b>AUTHORITY MTZ DF</b>	EF,F	8-16 oz			24c CO, ID, KS, MT, NE, WY (exp. 12/2019) for kochia, russian thistle, pigweeds and lambsquarters. Soil texture, O.M, and pH influence rate. Maximum 20 oz/A/12-month period.
<b>AUTUMN</b>	PH	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 after harvest or at least 30 days prior to field corn or 90 days prior to sweet corn, popcorn, seed corn or soybean.
<b>AUTUMN SUPER</b>	PH	0.5 oz + 0.5 gal HSOC-COC or HSOC-MSO <sup>1</sup> /100 gal + 1.5-2 qt UAN or 1.5-3 lb AMS			Apply after harvest and at least 30 days prior to field corn or 60 days prior to sweet corn, popcorn, seed corn or soybeans. 2ee various states (exp. date not given) for suppression of certain grasses up to 0.5 oz/A. 2ee CO, IA, KS, MO, ND, and OK (exp. date not given) for application at 0.3-0.5 oz/A on soils with pH 7-8 including restrictions on plant back intervals. 2ee various states (exp. date not given) for fall application rates north/south of I-70.
<b>BANVEL/DICAMBA MAX 4</b>	CS,F,PH	8-64 fl oz			Apply post-harvest in fall, spring or summer to emerged and actively growing weeds during fallow period or to crop stubble. NIS, COC, or MSO may be added. Notes 1, 4.
<b>BASIS BLEND</b>	F	0.825-2.5 oz + 0.5 gal HSOC-COC <sup>1</sup> gal + 2 qt UAN or 2 lb AMS			Apply in spring or fall when a majority of weeds have emerged and are actively growing. May use MSO <sup>1</sup> or NIS. For best control, apply to < 3" weeds. Do not apply to coarse soils with < 1% O.M.

\* CS – crop stubble, EF – eco-fallow, F – fallow, FB – fallow beds, PH – post-harvest.

SEE NOTES AT END OF SECTION.

<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.

# FALLOW WEED CONTROL

## Preemergence or Postemergence Herbicides (continued)

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
<b>CHARGER MAX ATZ/ BICEP II MAGNUM</b>	EF	see label			Apply in fall following wheat harvest and before soil freeze-up to untilled stubble in eco-fallow (no-till) areas of NE and KS where corn will be planted in spring. Soil must remain untilled through establishment of corn crop. PHI 60 days all corn, except 45 days sweet corn. Note 4.
<b>CORNERSTONE 5 PLUS/ TOMAHAWK 5</b>	F	see label			See label for annual and perennial weed rates. Apply to actively growing weeds. Fallow rates may vary by crop- see the label. Apply at least 30 days before planting to to any crop not on the label. PHI 56 days grazing. Include AMS. Note 4.
<b>CURTAIL</b>	F,PH	2-4 pt			Apply post-harvest to spring or summer fallow or set-aside to actively growing weeds. Limit to 2 pt/A if Curtail was or will be applied to small grain crop in a 12 month period. PHI 7 days hay. No other grazing restrictions. Notes 3, 4.
<b>CURTAIL M</b>	F,PH	up to 5 pt			Apply to actively growing weeds. NIS may be added. PHI 7 days hay. No other grazing restrictions. Notes 3, 4.
<b>DICAMBA MAX 4</b>		SEE BANVEL			
<b>DIMETRIC EXT/ METRICLUDE EXT</b>	F,PH	<b>Spring</b> 0.5-0.67 lb <b>Fall: ID, OR, UT, WA</b> 0.67-0.83 lb <b>Fall: CO, KS, MT, NE, WY</b> 0.83-1 lb			Apply in fall or spring before weeds emerge. For wheat-fallow-wheat rotation in ID, OR, UT, and WA. For fallow-barley or wheat in CO, KS, MT, NE, and WY. Do not apply in spring if applied in fall. Notes 2, 4.
<b>DISTINCT</b>	F	4-6 oz			Do not apply to desirable grass species. Maximum of 10 oz/A/season. Include 0.25% v/v NIS + 5 qt UAN or 5 lb AMS per 100 gallons <sup>2</sup> .
<b>ENGENIA</b>	CS, F,PH	3.2-12.8 fl oz			Do not apply >12.8 fl oz/A/single application, or >2 lb dicamba a.e./A from all product sources/cropping season.
<b>ENVOKE</b>	F	0.1-0.15 oz + 1 qt NIS/100 gal			Fall applied, fallow seedbed applications (AL, AR, FL, GA, IL (South of I-70), IN (South of I-70), KS (South of I-70, East of US Highway 281), KY, LA, MO (South of I-70), MS, NC, SC, TN, VA and OK/TX (East of I-35). See label for tank mix partners.
<b>EPTAM 7E</b>	F	3.5-7 pt			Apply and incorporate immediately 2-4". Irrigating at least 30 days prior to planting is Recommended. Notes 1, 4.
<b>EXPRESS</b>	F,PH	0.25-0.5 oz			Apply to crop stubble after harvest or to fallow to actively growing weeds. Maximum of 0.5 oz/A and 2 applications per crop season. PHI 7 days grazing, 30 days hay. Note 4.
<b>FACET L + 2,4-DAMINE 4 or CORNERSTONE 5 PLUS/ TOMAHAWK 5 or CLARITY</b>	F	22 fl oz + 1-4 pt or 9-12 fl oz or  4-16 fl oz			Apply to fallow/PP grain sorghum/PP wheat. Add 1 pt HSOC-COC <sup>1</sup> or 0.5-1 pt HSOC-MSO <sup>1</sup> . WC+NIS <sup>2</sup> or a UAN can be added for better efficacy. Add InterLock at 4-6 oz/A. In ID, MT, NV, OR, UT, WA, WY wheat may be planted 6 months after application. Note 5.
<b>FALLOW MASTER BROADSPECTRUM</b>	F,PH	32-44 fl oz			For CO, ID, KS*, MT, NE*, NV, NM*, ND, OK, OR, SD, TX*, UT, WA, and WY. *See label for county restrictions. Apply to vigorously growing emerged weeds. Use up to 52 fl oz/A for post-harvest and apply prior to grass heading or 24 inch broadleaf. Include AMS. Notes 1, 4.
<b>FALLOW STAR</b>	F	22-44 fl oz			Apply to emerged weeds in fallow. Notes 1, 4.
<b>FIERCE</b>	F	3-4.5 oz			PRE. May be applied in combination with labeled burndown herbicides for residual weed control. Apply with NIS at 0.25 qt/100 gal or 0.5 qt/A HSOC-COC <sup>1</sup> .
<b>FINESSE</b>	F	0.2-0.4 oz			Apply in fallow from spring through fall to emerged and actively growing weeds. Include NIS. Notes 1, 4.
<b>FINESSE CEREAL AND FALLOW</b>	F	0.2-0.4 oz + 1-2 qt NIS/100 gal			Apply in spring through fall to emerged actively growing weeds. Apply 0.2-0.5 oz/A for control of broadleaf weeds in field borders and fence lines. Notes 1, 4.

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SEE NOTES AT END OF SECTION.

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<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.

# FALLOW WEED CONTROL

## Preemergence or Postemergence Herbicides (continued)

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
<b>FIRSTSHOT</b>	F	0.5-0.8 oz			Apply to emerged actively growing weeds prior to planting. Do not exceed 1 oz/A/ preplant crop season. Allow at least 30 days between applications. Include NIS, COC, MSO plus UAN/AMS <sup>1,2</sup> . Notes 2, 4.
<b>FUSILADE DX</b>	F	16-24 fl oz			Apply to actively growing annual grasses 2-8" or perennial grasses. See the label for perennial grass growth stages. Maximum of 72 fl oz/A/year. Include COC or NIS. Notes 1, 4.
<b>GOAL 2XL</b>	FB	1-2 pt			Provides PRE and POST control of winter annual broadleaves < 4" tall. Thoroughly till prior to planting, to a depth of at least 2.5". Allowed on fallow beds planted to corn in AR, LA, MS. 2ee VA, NC, SC, GA, AL, TN, FL, MS, LA, AR, OK, MO (exp. date not given) for weed control in fallow beds to be planted to soybeans, corn or cotton. 2ee TX (exp. date not given) for ground or aerial application on fallow beds to be planted to cotton or soybeans. Notes 2, 4.
<b>GOALTENDER</b>	FB	0.5-1 pt			Provides PRE and POST control of winter annual broadleaves < 4" tall. Thoroughly till prior to planting, to a depth of at least 2.5". Allowed on fallow beds planted to corn in AR, LA, MS. 2ee VA, NC, SC, GA, AL, TN, FL, MS, LA, AR, OK, MO (exp. date not given) for weed control in fallow best to be planted to soybeans, corn or cotton. Notes 2, 4.
<b>GRAMOXONE SL/SL 2.0</b>	F	1.5-4 pt + 1 pt NIS/100 gal			Apply from immediately after harvest up to emergence of newly seeded crop. Do not apply to emerged crops. See label for rates for certain weed heights. Include COC, MSO <sup>1</sup> , or NIS. Use 2 pt NIS by air. Notes 1, 4.
<b>HARMONY EXTRA SG</b>	F	0.45-0.9 oz			Apply with other fallow herbicides in spring or fall when most weeds are emerged and actively growing. Maximum of 2 applications and 1.5 oz/A/season. Include NIS, COC, MSO plus UAN/AMS <sup>2</sup> . PHI 7 days grazing or forage, 30 days hay. Note 4.
<b>HARMONY SG</b>	F, PH	0.45-0.9 oz			Apply with other fallow herbicides in spring or fall when most weeds are emerged and actively growing. Maximum of 2 applications and 1.5 oz/A/season. Include NIS, COC, MSO plus UAN/AMS <sup>1,2</sup> . PHI 7 days grazing or forage, 30 days hay. Note 4.
<b>HERBIVORE/PERMIT</b>	F	0.67-1.33 oz + 1-2 qt NIS or 0.5 gal HSOC-COC <sup>1</sup> /100 gal			May be applied by air. Maximum 2 applications/season.
<b>HUSKIE</b>	F	11-15 fl oz			For broadleaf weed control. Apply to young weeds in good growing conditions. Include NIS plus UAN/AMS <sup>2</sup> . Tank mix with glyphosate or glufosinate for improved control. PHI 25 days grazing. Note 4.
<b>KOCHIAVORE</b>	F	1.25-2.5 pt			Apply to broadleaf weeds are up to 8-leaf stage, 4" high or 2" in diameter; to grasses from 3-leaf stage. Use COC or MSO <sup>1</sup> . Control kochia <4" (including ALS resistant types) with 1.25 pt/A, unless conditions for control are less favorable, then use 1.5 pt/A for seedlings 1-4" tall. For consistent control, apply when plants are at least 1" tall.
<b>LANDMASTER II</b>	F	27-80 fl oz			Apply to vigorously growing emerged weeds. See label for maximum weed height. Use up to 64 fl oz for post-harvest and apply prior to grass heading or 24 inch broadleaf. Maximum of 2 treatments per year, with 30 days between. Include AMS. PHI 56 days grazing. Note 4.
<b>LIBERTY 280SL</b>	F	22-29 fl oz			Tank mixes with 2,4-D, atrazine, or glyphosate are recommended. Include AMS or WC+NIS <sup>2</sup> . May also be used up to 43 fl oz/A for post-harvest in cotton. Seasonal total maximum for cotton is 72 fl oz/A. Notes 1, 4.
<b>MCPA AMINE</b>	CS, F	6 pt			Apply to young weeds and continue for 2-3 years. Labeled for Canada thistle, hoary cress, field bindweed and Texas blueweed. Notes 1, 4.
<b>PEAK</b>	PH	0.38-0.5 oz			Small grains: wheat, barley, rye, oat, triticale. Do not use more than 1 oz per cropping season. Use tillage or a herbicide with a different mode of action to control any weeds before they flower in areas treated with Peak. Include NIS or COC <sup>1</sup> plus UAN/AMS <sup>2</sup> . PHI 30 days grazing. Note 4.
<b>POAST</b>	F	up to 2.5 pt			Apply to actively growing grasses. Include COC or MSO <sup>1</sup> plus UAN/AMS. Notes 2, 4.

\* CS – crop stubble, EF – eco-fallow, F – fallow, FB – fallow beds, PH – post-harvest.

SEE NOTES AT END OF SECTION.

<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.

# FALLOW WEED CONTROL

## Preemergence or Postemergence Herbicides (continued)

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
<b>RAVE</b>	F	2-4 oz			Apply to actively growing weeds. 5 oz may be used for improved residual. Apply before weeds are exposed to extended freezing temperatures. Do not exceed 5 oz/A/year. Include NIS. PHI 7 days lactating dairy. Remove at least 30 days before slaughter. No other grazing restrictions. Note 4.
<b>RESOLVE Q</b>	F	1.25 oz			Apply in spring or fall when most weeds are emerged and actively growing. Maximum of 2.5 oz/A/season. Do not apply to coarse soils with <1% O.M. Include NIS, COC, MSO plus UAN/AMS <sup>1,2</sup> . PHI 30 days grazing. Note 4.
<b>ROUNDUP POWERMAX/ WEATHERMAX</b>	F,PH	Up to 32 fl oz			Apply up to 44 fl oz by air. See label for perennial weed rates. Apply to actively growing weeds. Fallow rates may vary by crop- see the label. Apply at least 30 days before planting to any crop not on the label. PHI 56 days grazing. Include AMS. Note 4.
<b>ROWEL</b>		SEE VALOR			
<b>RT 3</b>	F,PH,FB	see label			Apply up to 44 fl oz by air. See label for annual and perennial weed rates. Apply to actively growing weeds. Fallow rates may vary by crop- see the label. Apply at least 30 days before planting to any crop not on the label. See label for instructions for preplant fallow beds. Note 4.
<b>RUGGED</b>	F,PH	1-4 pt			Apply 1-2 pt for annual broadleaves and 2-4 pt for biennial and perennials. Note 1.
<b>SCOPARIA</b>	CS, F, EF	1.5-2.4 fl oz			24c CO,KS,NE,OK,TX,WY (exp. 12/2019) and NM (specific counties; exp. 12/2020) for control of kochia and Russian thistle in fallow or eco-fallow fields: Apply in fall or spring to stubble of harvested crops, stubble or fallow/eco-fallow fields for control of kochia and Russian thistle prior to emergence in no-till or conservation tillage systems. Do not apply to frozen soils. Tankmix with other herbicides (Autumn Super, atrazine, metribuzin, dicamba, 2,4-D, Gramoxone or glyphosate) to enhance burndown activity.
<b>SECTION THREE</b>	F	4-10.67 fl oz			Do not plant any crop for 30 days after application, unless Section Three is labeled for that crop. Use 1 pt/A of HSOC-COC or HSOC-MSO <sup>1</sup> , WC+NIS <sup>2</sup> or 8.5-17 lb/100 gallons of AMS.
<b>SELECT 2 EC/CLEANSE</b>	F	6-16 fl oz			Apply to actively growing emerged grasses. Include COC. Do not plant any other crop for 30 days unless it is labeled for that crop. Notes 1, 4.
<b>SHARPEN</b>	F,PH	1-2 fl oz + 0.75 pt HSOC-MSO <sup>1</sup>			Apply to actively growing small broadleaf weeds after harvest and prior to planting the next crop. Do not exceed 6 fl oz/crop season. Use 2-4 fl oz for residual. Tank-mix for broad spectrum control. Note 4.
<b>SHREDDER E-99</b>	CS, F, PH	0.67-2.67 pt			Apply to actively growing weeds. Use 0.67-1.33 pt for annual broadleaves and 1.33-2.67 pt for biennial or perennial broadleaves. Maximum 2.67 pt/A/season. Minimum 30 days between applications. Maximum 2.67 pt/A in grazed areas. PHI 7 days forage or hay. If grazed within 30 days of application, withdraw meat animals at least 3 days before slaughter. No other grazing restrictions. Note 4.
<b>SPARTAN CHARGE</b>	F	3.75-10.2 fl oz			Soil texture, organic matter, and pH influence rate. Maximum of 10.2 fl oz per twelve months. Thorough coverage is needed for POST weed control. Moisture is required for activation. Include MSO or COC. Note 4.
<b>STERLING BLUE/ CLARIFIER/CLARITY</b>	CS, F, PH	4-64 fl oz			Apply to actively growing weeds and before a killing frost. Notes 1, 4.
<b>STINGER</b>	F,PH	0.25-0.67 pt			Apply after or preceding dryland small grains (wheat, barley, oats). Apply to young actively growing broadleaf weeds. No other grazing restrictions. Notes 3, 4.
<b>TORDON 22K</b>	F,PH	0.25-1 pt			Use 0.25-0.5 pt for annuals and 0.5-1 pt for perennials. Tank mix with 1 lb ae 2,4-D or other herbicides. Maximum of 1 pt per annual growing season. Do not apply to land rotated to broadleaf crops. PHI 14 days for lactating dairy or meat animals prior to slaughter; no restrictions for others. Note 4.

\* CS – crop stubble, EF – eco-fallow, F – fallow, FB – fallow beds, PH – post-harvest.

SEE NOTES AT END OF SECTION.

<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.

# FALLOW WEED CONTROL

## Preemergence or Postemergence Herbicides (continued)

Herbicide	Labeled Crops*	Rate/Acre			Comments/Restrictions
		Coarse**	Medium	Fine	
<b>TRUST/TREFLAN HFP or TREFLAN TR-10</b>	F	1.5-2 pt/7.5-10 lb			Use 1.5 pt/7.5 lb for coarse or medium and 2 pt/10 lb for fine soils. Incorporate 1-2" within 24 hr. For WA, ID, OR up to 4 months prior to planting winter wheat. Treflan TR-10 may also be applied to summer fallow followed by spring seeded wheat, durum or barley. Use 5-10 lb. Rate depends on rainfall and application date. Notes 1, 4.
<b>VALOR/ROWEL</b>	F, EF, CS	2-4 oz			Apply Oct 15 or later in Region 2 and Nov 15 or later in Region 1 or when soil temperature falls below 50°F at 2". See label for states within the regions. Use 1-2 oz in spring with burndown herbicides. Add a burndown herbicide if weeds have emerged. Include NIS, COC, or MSO plus UAN/AMS <sup>1,2</sup> for emerged weeds. Notes 1, 4.
<b>VERDICT</b>	F	5-10 fl oz + 0.75 pt HSOC-MSO <sup>1</sup> + 8.5-17 lb AMS/100 gal			Apply after harvest and before the next crop is planted. May be applied up to 25 fl oz for residual control. Notes 1, 4.
<b>VIDA</b>	CS, EF, FB	0.5-2 fl oz			Apply to actively growing weeds up to 4" high or 3" across. Include NIS, COC, or MSO plus UAN/AMS <sup>1,2</sup> . Notes 1, 4.
<b>WEEDMASTER</b>	CS, F, PH	0.5-6 pt			Apply to emerged and actively growing weeds. Do not exceed 8 pt/A/growing season. NIS or COC and 1 qt/A UAN may be added. Notes 2, 4.
<b>ZIDUA</b>	F	1-4 oz			Best performance when weeds are not emerged before application. Allow a minimum of 30 days between sequential applications. Maximum of 5 oz (0.266 lb a.i.)/A/year.
<b>ZIDUA SC</b>	F	1.75-6.5 fl oz			Best performance when weeds are not emerged before application. Allow a minimum of 30 days between sequential applications. Maximum of 8.25 fl oz (0.269 lb a.i.)/A/year.
<b>2,4-D AMINE 4 or LV 4 4 or LV 4 or LV 6</b>	CS, F, PH	1-4 pt	1-4.2 pt	0.67-2.67 pt	Apply to actively growing weeds. Use 1-2 pt Amine 4 or LV 4 or 0.67-1.67 pt LV 6 for annual broadleaves and 2-4 pt Amine 4 or 2-4.2 pt LV 4 or 1.67-2.67 pt LV 6 for biennial or perennial broadleaves. Maximum 2 applications. Minimum 30 days between applications. Notes 1, 4.

\* CS – crop stubble, EF – eco-fallow, F – fallow, FB – fallow beds, PH – post-harvest.

\*\*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.

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

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<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.

**Note 1:** No restrictions for grazing.

**Note 2:** Do not graze.

**Note 3:** Do not transfer livestock to sensitive broadleaf crops without 7 days of grazing an untreated pasture or feeded untreated hay.

**Note 4:** See the label and rotational restriction tables for replant or follow crop restrictions.

**Note 5:** Do not cut treated area within 7 days after treatment.

