


Herbicide	Product/A (ai/A)	Weeds	When to Apply	Remarks and Paragraphs
<b>Refer to page 6 for Fall or Spring Early Preplant Herbicides.</b>				
<b>Callisto</b> (mesotrione)  	<b>3 to 6 fl oz</b> (1.5 to 3 oz)	Many broadleaf weeds including those resistant to other herbicides.	PRE.	Callisto PRE requires rain for activation. For POST application add petroleum oil at 1% v/v or NIS at 0.25% v/v + UAN at 2.5% v/v or AMS at 8.5 lb/100 gal water. Addition of bromoxynil will increase risk of oat injury. Allow a 50 day PHI. A3 A7 D7 X1 Y9 Pages: 108-110
	<b>3 fl oz</b> (1.5 oz)		POST. Weeds: Up to 5 inches tall.	
<b>Aim</b> (carfentrazone)	<b>0.5 fl oz EC</b> (0.128 oz)	Small broadleaf weeds.	Crop: Up to jointing stage. Weeds: Small.	Contact, non-residual herbicide requiring thorough coverage. May cause cosmetic speckling on crop. Add NIS at 0.25% v/v. A3 B4 C4 S1 S3 S5 X1
MCPA amine MCPA ester	<b>0.5 to 1 pt 4SL</b> <b>0.5 to 1 pt 4EC</b> (0.25 to 0.5 lb ae)	Broadleaf weeds.	Oat: Emergence until prior to boot stage.	Possible oat injury at any stage. A3 A6 C1-2 S3 X1 Pages: 102-103, 104-105
Buctril / generic bromoxynil	<b>1 to 1.5 pt EC</b> (0.25 to 0.38 lb)	Small broadleaf weeds including wild buckwheat, and volunteer sunflower.		Bromoxynil is a non-residual, contact herbicide requiring thorough coverage. Most active in hot and sunny conditions. Controls ALS-resistant kochia. Refer to label for tank-mix options. A3 C1-2 S3 S4 X1 Pages: 102-103, 104-105
Bronate / generic bromoxynil & MCPA	<b>1 to 2 pt 4EC</b> <b>0.8 to 1.6 pt 5EC</b> (0.25 to 0.5 lb & 0.25 to 0.5 lb ae)		Oat: 3-leaf until prior to boot stage.	
Banvel / generic dicamba + MCPA	<b>2 to 4 fl oz +</b> <b>0.5 to 0.75 pt 4L</b> (0.06 to 0.12 lb ae + 0.25 to 0.38 lb ae)	Broadleaf weeds.	Oat: 2- through 5-leaf stage.	Use the low dicamba rate and high MCPA rate on 5-leaf oat. Early application increases crop safety. A3 A5-7 C2 C8 S1 S3 X1 Y10 Pages: 102-103, 104-105
Curtail M / generic clopyralid & MCPA	<b>1.75 to 2.33 pt</b> (0.09 to 0.12 lb ae & 0.5 to 0.68 lb ae)	Broadleaf weeds and Canada thistle.	Oat: 3-leaf to jointing.	Apply to Canada thistle at the rosette to early bolting stage. A3 C9 T2 T6 Pages: 102-103, 104-105, 108-110
Starane / generic fluroxypyr	<b>0.5 - 0.67 pt 1.5EC</b> <b>0.25 - 0.35pt 2.8EC</b> <b>3.75 - 5 oz 40WDG</b> (1.5 to 2 oz ae)	Kochia including ALS-resistant and volunteer flax.	Oat: 2-leaf through flag leaf emergence. Weeds: Small.	Non-residual herbicide. Allow a 40 day PHI. Refer to label for tank-mix options. Commercial mixtures with bromoxynil available as Starane NXT and with MCPA as Colt + Sword. A3 C9 S3 Pages: 102-103, 104-105
Widematch / generic clopyralid & fluroxypyr	<b>1 to 1.33 pt</b> (0.09 to 0.125 lb ae & 0.09 to 0.125 lb ae)	Broadleaf weeds including kochia, wild buckwheat, volunteer flax, and Canada thistle.	Oat: 3-leaf through flag leaf emergence. Weeds: Up to 4 inches tall or vining.	An economical formulation of clopyralid. Addition of 2,4-D, MCPA, or thifensulfuron increases broadleaf weed control. Compatible with all POST grass herbicides labeled in small grains. A3 C9 S1 S3 T2 T6 Pages: 102-103, 104-105, 108-110
thifen & tribenuron 1:0 75DF 1:0 50SG 4:1 ratio 75DF <b>Affinity T/M 50SG</b> 3:1 <b>Audit 75DF</b> 2:1 ratio 75DF 1:1 ratio 75DF <b>Affinity B/S 50SG</b>	<b>0.3 to 0.4 oz DF</b> <b>0.45 to 0.6 oz SG</b> <b>0.4 to 0.67 oz DF</b> <b>0.6 to 1 oz SG</b> <b>0.3 to 0.5 oz DF</b> <b>0.3 to 0.66 oz DF</b> <b>0.25 to 0.5 oz DF</b> <b>0.4 to 0.8 oz SG</b>	Provides a broader spectrum of control than either a.i. alone. Choose ratio based on prevalent weeds.	Oat: 3- through 5-leaf stage but before jointing.	Do not use on Ogle, Porter, or Premier oat varieties. Addition of MCPA ester at 0.75 pt/A enhances broadleaf weed control and oat safety. Add NIS at 0.125% v/v except when adding MCPA at 0.75 pt/A. Refer to label for list of tank-mix options. A3 A5-7 C3 S1 S3 X1 Pages: 102-103, 104-105
<b>Orion</b> (florasulam & MCPA ester)	<b>17 fl oz</b> (0.07 oz & 0.31 lb)	Some broadleaf weeds.	Crop: 3-leaf to jointing. Weeds: Small.	Add NIS at 0.25% v/v. Allow a 60 day PHI. Refer to label for application information. A3 C2 X1
<b>Supremacy</b> (fluroxypyr & thifensulfuron & tribenuron) <b>Registration Pending</b>	<b>4 to 6 oz</b> (1 to 1.5 oz ae & 0.18 to 0.27 oz ai & 0.06 to 0.09 oz ai)	Broadleaf weeds including pigweed, buckwheat, kochia, mustard, flax, and Canada thistle.	Wheat: 2-leaf through flag leaf emergence.	Add NIS at 0.25 to 0.5% v/v except when adding an EC or ester formulated herbicide. Use higher rates for larger weeds. A3 C3 C9 S2 S6 X1 Pages: 102-103

Pages 102-103 = Herbicide resistance, Pages 104-105 = Generic and commercial names, Pages 108-110 = Crop rotation restrictions.

# SMALL GRAIN PRE-HARVEST

Herbicide	Product/A (ai/A)	Weeds	When to Apply	Remarks and Paragraphs																									
Roundup / generic glyphosate  <b>For HRS, Durum and Winter Wheat and Feed Barley Only.</b>	Up to 0.75 lb ae <b>See Remarks.</b>	Annual and perennial grass and broadleaf weeds including Canada thistle.	Wheat and barley: Hard-dough stage, 30% or less grain moisture. Allow a 7 day PHI.	<table border="0"> <tr> <td>lb ae/gal</td> <td>lb ai/gal</td> <td>0.38 ae</td> <td>0.57 ae</td> <td>0.75 ae</td> </tr> <tr> <td>3</td> <td>4</td> <td>= 16 fl oz</td> <td>24 fl oz</td> <td>32 fl oz</td> </tr> <tr> <td>4/4.17</td> <td>5.4/5.1</td> <td>= 12 fl oz</td> <td>18 fl oz</td> <td>24 fl oz</td> </tr> <tr> <td>4.5</td> <td>5.5</td> <td>= 11 fl oz</td> <td>16 fl oz</td> <td>22 fl oz</td> </tr> <tr> <td>5</td> <td>6.1</td> <td>= 10 fl oz</td> <td>15 fl oz</td> <td>20 fl oz</td> </tr> </table> <p>Do not apply more than 0.75 lb ae/season. <b>Do not apply on wheat or barley grown for seed because reduced germination/vigor may occur.</b> Apply 0.75 lb ae/A or more for Canada thistle control. May be applied with 2,4-D or dicamba for improved broadleaf weed control. Add AMS fertilizer at 4 lb/100 gal, or more for hard water. Refer to label for adjuvant use and application information. A3-7 B2 C22-26 T2 T6-7 X1</p>	lb ae/gal	lb ai/gal	0.38 ae	0.57 ae	0.75 ae	3	4	= 16 fl oz	24 fl oz	32 fl oz	4/4.17	5.4/5.1	= 12 fl oz	18 fl oz	24 fl oz	4.5	5.5	= 11 fl oz	16 fl oz	22 fl oz	5	6.1	= 10 fl oz	15 fl oz	20 fl oz
lb ae/gal	lb ai/gal	0.38 ae	0.57 ae	0.75 ae																									
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5	6.1	= 10 fl oz	15 fl oz	20 fl oz																									
2,4-D ester  <b>For HRS, Durum, and Winter Wheat, Barley, and Rye</b>	<b>1.5 to 3 pt 4EC/SL</b> (0.75 to 1.5 lb ae)	Broadleaf weeds.	Wheat: Dough stage to harvest.	Use only when the weeds will interfere with harvest operations. Do not feed straw to livestock. Use only 2,4-D brands labeled for preharvest application. CAUTION: Drift to broadleaf crops is especially hazardous at this time. C22-26 T4-6 X1																									
Banvel / generic dicamba + 2,4-D  <b>For HRS, Durum, and Winter Wheat Only</b>	<b>0.5 to 1 pt + 1 to 2 pt 4EC/SL</b> (0.25 to 0.5 lb ae + 0.5 to 1 lb ae)		Wheat: Hard-dough stage and green color is gone from the nodes (joints) of the stem.	Allow a 7 day PHI. Do not feed treated straw to livestock. CAUTION: Drift to broadleaf crops is especially hazardous at this time. A3 A6 C2 C22-26 T5-6 X1 Y10																									
thifen & tribenuron 4:1 ratio 75DF <b>Affinity T/M 50SG</b> 3:1 <b>Audit 75DF</b> 2:1 ratio 75DF 1:1 ratio 75DF <b>Affinity B/S 50SG</b>	<b>0.6 to 1 oz DF</b> <b>0.4 to 0.66 oz SG</b> <b>0.3 to 0.5 oz DF</b> <b>0.3 to 0.66 oz DF</b> <b>0.25 to 0.5 oz DF</b> <b>0.4 to 0.8 oz SG</b>	Provides a broader spectrum of control than either a.i. alone. Choose ratio based on prevalent weeds.	Wheat and barley: Dough stage. Allow a 10 day PHI.	May be applied with glyphosate, 2,4-D, Aim, or fluroxypyr. Add NIS at 0.25% v/v. Refer to label for grazing restrictions. Use only registered brands for preharvest application. A3 A5-6 C3																									
Ally / generic metsulfuron + 2,4-D  <b>For HRS, Durum, and Winter Wheat and Barley Only</b>	<b>0.1 oz DF + 1.5 to 3 pt 4EC/SL</b> (0.06 oz + 0.75 to 1.5 lb ae)			For use in wheat/fallow or continuous wheat. Do not use if crop was treated previously with an ALS herbicide. Add NIS at 0.25% v/v. May be tank-mixed with dicamba in wheat for resistant weed management. Metsulfuron has no grazing restrictions. Refer to 2,4-D label for grazing restrictions and for brands labeled for preharvest application. A3 A5-6 C5 C24 Y3 Pages: 102-103, 108-110																									

Pages 102-103 = Herbicide resistance, Pages 104-105 = Generic and commercial names, Pages 108-110 = Crop rotation restrictions.

# HERBICIDES REGISTERED ON SMALL ACREAGE CROPS AND TURF

The following chart is only an aid to identify registered herbicides on the following crops. Not all labels of similar active ingredients cover identical crops. Not all formulations are registered in the state of North Dakota. Refer to the ND Dept of Ag web site for formulations registered in the state. Many products require specific application instructions and not all formulations can be used in-crop with adequate crop tolerance. For example, glyphosate is registered on most crops listed as a PRE or directed application between rows but glyphosate applied POST on crop foliage will kill crop plants. Refer to Herbicide Compendium for additional information on products listed. User must follow label directions. Refer to label of specific product:

1. To determine what crops are registered.

2. For application instructions.

3. For all other restrictions and use information.

## Herbicides registered on small acreage crops.

BUCKWHEAT	
<b>Aim</b> (carfentrazone) - Preplant <b>ET</b> (pyraflufen)	<b>Poast</b> (sethoxydim) Roundup/glyphosate* - Preplant
JUNEBERRY	
<b>Chateau</b> (flumioxazin) <b>Poast</b> (sethoxydim)	Roundup/glyphosate* - Preplant
MILLET	
<b>Aim</b> (carfentrazone) Banvel / dicamba* <b>Callisto</b> - Pearl millet	Starane / fluroxypyr* <b>Peak</b> (pro sulfuron) 2,4-D
MINT	
<b>Assure II / Targa</b> (quizalofop) Basagran / bentazon* Buctril / bromoxynil* <b>Chateau</b> (flumioxazin) <b>Goal</b> (oxyfluorfen) Karmex / diuron* paraquat* - Preplant	<b>Poast</b> (sethoxydim) <b>Prowl H2O</b> (pendimethalin) Roundup/glyphosate* - Preplant Select / clethodim* Stinger / clopyralid* <b>Spartan</b> (sulfentrazone)
ONION	
Buctril / bromoxynil* <b>Dacthal</b> (DCPA) Outlook / dimethenamid* <b>Fusilade DX</b> (fluazifop) <b>Goal</b> (oxyfluorfen) paraquat* - Preplant	<b>Poast</b> (sethoxydim) <b>Prefar</b> (bensulide) <b>Prowl H2O</b> (pendimethalin) Roundup/glyphosate* - Preplant Select / clethodim* Treflan / trifluralin*

RYE	
<b>Aim</b> (carfentrazone) Buctril / bromoxynil* Roundup/glyphosate* - Preplant <b>Orion</b> (florasulam & MCPA)	MCPA <b>Peak</b> (pro sulfuron) <b>Sharpen</b> (saflufenacil) 2,4-D
SORGHUM	
<b>Aim</b> (carfentrazone) atrazine Banvel / dicamba* Basagran / bentazon* Buctril / bromoxynil* <b>Callisto</b> (mesotrione) Dual / S/metolachlor* <b>G-Max Lite</b> (atra&dimethenmd) Lasso / alachlor* <b>Outlook</b> / dimethenamid* paraquat* - Preplant	<b>Paramount</b> (quinclorac) <b>Peak</b> (pro sulfuron) <b>Permit</b> (halosulfuron) <b>Priority</b> (carfentrzn&halosulfrn) <b>Prowl H2O</b> (pendimethalin) <b>Sequence</b> (glyt & metolachlor) <b>Sharpen</b> (saflufenacil) Starane / fluroxypyr* <b>Yukon</b> (dicamba&halosulfuron) 2,4-D
TRITICALE	
<b>Affinity</b> / thifen & triben* <b>Aim</b> (carfentrazone) Ally / Ally Extra* Banvel / dicamba* Buctril / bromoxynil* <b>DoubleUp B+G</b> (brmxynil&2,4-D) Express / tribenuron* <b>FirstStep</b> (florasulam&glyt) <b>Far-Go</b> (trillate) Finesse / chlor & metsulfuron*	<b>GoldSky</b> (pyrox&flurslm&flurox) <b>Huskie</b> (bromox&pyrasulfatole) <b>Olympus</b> (propoxycarbazone) <b>Orion</b> (florasulam & MCPA) <b>Peak</b> (pro sulfuron) <b>PowerFlex</b> (pyrox) Wntr-triticale <b>Rhomene</b> (MCPA) <b>Sharpen</b> (saflufenacil) Starane / fluroxypyr* 2,4-D

\* Or generic equivalent

LAWN (Grass weed control)											
<b>Acclaim Extra</b> (fenoxaprop), <b>Certainty</b> (sulfosulfuron), <b>Dimension/Ultra</b> (dithiopyr), <b>Drive</b> (quinclorac), <b>Pendulum</b> (pendimethalin), <b>Weed B Gon Max + Crabgrass Control</b> .											
LAWN (Broadleaf weed control)											
	MCP	2,4-D	dic	tric	other		MCP	2,4-D	dic	tric	other
<b>All in One Weed Killer</b>	MCPP	+	+	-	MSMA	<b>Turflon Ester</b>	-	-	-	+	-
<b>Brush Killer</b>	DCPP	+	+	-	-	<b>Vengeance Plus</b>	MCPA	-	-	+	diclo
<b>Coolpower</b>	MCPA	-	+	+	-	<b>WBG/Chickweed, clover...</b>	-	-	-	+	-
<b>Horsepower</b>	MCPA	-	+	+	-	<b>WBG Max</b>	MCPP	+	+	-	-
<b>Tenacity</b>	-	-	-	-	meso	<b>WBG Max - 25% more..</b>	MCPA	-	+	+	-
<b>Trimec Classic</b>	MCPP	+	+	-	-	<b>WBG Max + Crabgrass</b>	MCPP	+	+	-	quin
<b>Trimec Plus</b>	MCPP	+	-	-	MSMA	<b>Weed Stop for Lawns2X</b>	MCPP	+	+	-	sulf
<b>Trimec 889</b>	MCPA	+	+	-	-	<b>WS for L + Crabgrass</b>	-	+	+	-	sulf+quin
Abbreviation: dic=dicamba, diclo=diclorprop, meso=mesotrione, quin=quinclorac, sulf=sulfentrazone, tric=triclopyr, WBG=Weed B Gon.											