

February 18, 2015

# **ANNOUNCEMENT**

The 2015 Weed Control Guide for Ohio, Indiana and Illinois has been published.

The issues concerning the performance of *Metolachlor* products like **Me-Too-Lachlor**<sup>™</sup>, **Me-Too-Lachlor** II and **Trizmet** II vs. *S-Metolachlor* products like Dual 8E, Dual II Magnum and Bicep II Magnum have been resolved.

Based on data published in the 2015 Weed Control Guide for Ohio, Indiana and Illinois, the performance of *Metolachlor* products for weed and grass control are equivalent to products containing *S-Metolachlor*, based on label recommended rates.

**Me-Too-Lachlor**<sup>™</sup> is the generic alternative to Dual<sup>®</sup> 8E

Me-Too-Lachlor<sup>™</sup> II is the generic alternative to Dual II Magnum<sup>®</sup>

**Trizmet**<sup>™</sup> **II** is the generic alternative to Bicep II Magnum<sup>®</sup>

Scroll down to view the Corn and Soybean pages of the 2015 Weed Control Guide for Ohio, Indiana and Illinois, containing the results of the field trials.

ME-TOO-LACHLOR, TRIZMET and the DREXEL logo are either trademarks or registered trademarks of Drexel Chemical Company. All other product names, brand names or trademarks belong to their respective holders.

### Table 3. Weed Response to Preplant/Preemergence Herbicides in Corn—Grasses

This table compares the relative effectiveness of herbicides on individual weeds. Ratings are based on labeled application rate and weed size or growth stage. Performance may be better or worse than indicated in the table, due to weather or soil conditions or other variables. See pages 14-15 for additional information on site of action classification.

Weed control rating: Crop tolerance rating:

9 = 90% to 100% control 0 = Excellent 8 = 80% to 90% control 1 = Good 7 = 70% to 80% control 2 = Fair 6 = 60% to 70% control 3 = Poor

- = less than 60% control, not recommended. Crop injury of 1 or less is rarely significant.

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	Site of Action	Crop Tolerance	Barnyardgrass	Crabgrass	Fall Panicum	Field Sandbur	Giant Foxtail	Yellow Foxtail	Shattercane	Rhizome Johnsongrass	Quackgrass	Woolly cupgrass	Yellow Nutsedge
Preplant or Preemergence	I	l .	I -	l -	I -	Ι _	I -	I -	I	I	I	I _	
Acetochlor1	15	1	9	9	8	7	9	9	-	-	-	7+	8+
Acetochlor+atrazine1	5/15	1	9	9	8	7	9	9	-	-	6	7+	8+
Anthem	15	1	8	8	8	6	9	8	-	-	-	6	-
Anthem ATZ	5/15	1	8	8	8	6	9	8	-	-	6	6	6
Atrazine	5	0	8	-	-	6	7	7	-	-	8	-	7
Balance Flexx	27	1	7	7	7	6	7	6	6	6	-	8	-
Callisto	27	1	-	6	-	-	-	-	-	-	-	-	-
Corvus	2/27	1	8	8+	8+	6	8+	8+	7	7	-	7	7
Fierce <sup>2,3</sup>	14/15	1	8	8	8	6	8	8	-	-	-	6	-
Hornet	2/4	2	-	-	-	-	-	-	-	-	-	-	-
Instigate	2/28	1	7	6	6	-	7	7	-	-	-	6	-
Lumax/Lexar EZ	5/27/15	1	9	9	8+	6	9	9	-	-	6	7	8
Metolachlor <sup>1</sup>	15	1	8	9	8+	6	9	9	-	-	-	7	8+
Metolachlor + atrazine1	5/15	1	9	9	8	6	9	9	-	-	6	7	8
Outlook	15	1	8	8+	8	6	8+	8+	-	-	-	7	8
Prequel <sup>2</sup>	2/27	2	8	7	8	-	8	7	6	6	-	6	-
Python	2	2	-	-	-	-	-	-	-	-	-	-	-
Resolve Q/Crusher	2	1	7	6	6	-	7	7	-	-	-	-	-
Sharpen <sup>2</sup>	14	1	-	-	-	-	-	-	-	-	-	-	- 1
Simazine	5	0	8	7	7	6	8	8	-	-	6	-	-
SureStart/TripleFlex2	2/4/15	2	8	8	8	-	8	8	-	-	-	6	7
Valor <sup>3</sup>	14	1	-	-	-	-	-	-	-	-	-	-	-
Verdict <sup>2</sup>	14/15	1	8	8	8	6	8	8	-	-	-	7	-
Zemax	15/27	1	8	9	8+	6	9	9	-	-	-	7	8+
Zidua	15	1	8	8	8	6	9	8	-	-	-	6	- 1
Preemergence													
Lorox/Linex	7	2	-	-	-	-	-	-	-	-	-	-	-
Pendimethalin	3	2	8	8	8	7	8	8	6	6	-	8	-
1A cotochlor alachlor motolachlor and s	motolochlor	and prop	ives of the	oco with at	razina ara	available	from a nu	mbor of m	anufactura	rc coo co	rn harbiei	do docerin	tions for

'Acetochlor, alachlor, metolachlor, and s-metolachlor, and premixes of these with atrazine are available from a number of manufacturers - see corn herbicide descriptions for more information. Broadleaf weed control ratings assume an atrazine rate of 1.5 lbs ai/A - the atrazine rate in some premix products may be lower.

2SureStart/TripleFlex, Verdict, Sharpen, Fierce, and Prequel are intended for use in planned preemergence followed by postemergence programs, and ratings indicate early-season effectiveness, not full-season control. PRE application of these products should be followed with a POST application of Liberty, glyphosate, or other herbicides as necessary.

<sup>3</sup>Valor and Fierce must be applied at least 7 days before corn planting. Use only in no-till fields.

### Table 4. Weed Response to Preplant/Preemergence Herbicides in Corn—Broadleaf Weeds

This table compares the relative effectiveness of herbicides on individual weeds. Ratings are based on labeled application rate and weed size or growth stage. Performance may be better or worse than indicated in the table, due to weather or soil conditions or other variables. See pages 14-15 for additional information on site of action classification.

> Weed control rating: **Crop tolerance rating:** 0 = Excellent

9 = 90% to 100% control 8 = 80% to 90% control 1 = Good 7 = 70% to 80% control 2 = Fair 6 = 60% to 70% control 3 = Poor

- = less than 60% control, not recommended.

Crop injury of 1 or less is rarely significant.

	Broadleaf Weeds																
						<u>&amp;</u>							<u></u>				
	Annual Morningglory	Black Nightshade	Burcucumber	Cocklebur	Common Ragweed	Common ragweed (group 2-R)	Giant Ragweed	Giant ragweed (group 2-R)	Jimsonweed	Kochia	Lambsquarters	Lambsquarters (group 5-R)	Palmer amaranth (group 2-R)	Pigweed (redroot/smooth)	Smartweed	Velvetleaf	Waterhemp (group 2-R)
<b>Preplant or Preemergence</b>																	
Acetochlor <sup>1</sup>	-	8+	-	-	7	7	-	-	-	-	7+	7+	8	8+	-	-	8
Acetochlor+atrazine1	8	9	6	8	9	9	8	8	9	9	9	7+	9	9	9	8	9
Anthem	-	8	-	-	7	7	-	-	ı	7+	8	8	8	8	-	7	8
Anthem ATZ	7	9	6	7	9	9	6	6	7	9	9	8	8+	9	9	8	8+
Atrazine	8	9	6	8	9	9	8	8	9	9	9	-	8	9	9	8	8
Balance Flexx	-	9	7	-	9	9	6	6	9	9	9	9	8	9	8	9	8
Callisto	6	9	7	7	7	7	6	6	-	6	9	9	7	9	9	9	7
Corvus	-	9	7	-	9	9	6	6	9	9	9	9	8	9	8	9	8
Fierce <sup>2,3</sup>	7	9	-	-	8	8	-	-	-	7	9	9	8	9	7	7	8
Hornet	6	8+	-	8	8+	8+	7+	7+	8	8	9	9	-	9	8+	9	-
Instigate	6	9	7	7	8	7	6	6	-	7	9	9	7	9	9	9	7
Lumax/Lexar EZ	8	9	7	8	9	9	8	8	9	9	9	9	9	9	9	9	9
Metolachlor <sup>1</sup>	-	8	-	-	-	-	-	-	-	-	6	6	7	8	-	-	7
Metolachlor + atrazine1	8	9	6	8	9	9	8	8	9	9	9	6	8+	9	9	8	8+
Outlook	-	8+	-	-	-	-	-	-	-	-	6	6	7+	8	-	-	7+
Prequel <sup>2</sup>	7	8	7	-	8	8	6	6	8	9	9	9	8	9	8	9	8
Python	-	8	-	7	7	-	-	-	7	7	9	9	-	9	8	8+	-
Resolve Q/Crusher	7	-	-	-	7	-	-	-	7	8	7	7	-	7	7	6	-
Sharpen <sup>2</sup>	8	8	?	8	8	8	8	8	8	8	9	9	8	9	8	8	8
Simazine	7	9	6	7	9	9	7	7	8	-	9	-	8	9	8+	7	8
SureStart/TripleFlex2	6	8+	-	8	8+	8+	7+	7+	8	9	9	9	7	9	8+	8+	7
Valor <sup>3</sup>	7	9	-	-	7	7	-	-	-	7	9	9	8	9	7	7	8
Verdict <sup>2</sup>	8	9	-	8	9	9	8	8	8	8	9	9	9	9	9	8	9
Zemax	6	9	7	7	7	7	6	6	-	8	9	9	8	9	9	9	8
Zidua	-	8	-	-	7	7	-	-	-	7+	8	8	8	8	-	7	8
Preemergence																	
Lorox/Linex	-	7	-	6	8	8	-	-	6	6	9	9	7	9	9	6	7
Pendimethalin	-	-	-	-	-	-	-	-	-	7	8	8	7	9	-	-	7
1Acatachlar alachlar matalachlar and					نبير مممماة			ملما مانميي	£		- f	f4		بايده ما مسم	ملم ملمنمن	occrintio	f

1Acetochlor, alachlor, metolachlor, and s-metolachlor, and premixes of these with atrazine are available from a number of manufacturers - see corn herbicide descriptions for more information. Broadleaf weed control ratings assume an atrazine rate of 1.5 lbs ai/A - the atrazine rate in some premix products may be lower.

2SureStart/TripleFlex, Verdict, Sharpen, Fierce, and Prequel are intended for use in planned preemergence followed by postemergence programs, and ratings indicate earlyseason effectiveness, not full-season control. PRE application of these products should be followed with a POST application of Liberty, glyphosate, or other herbicides as necessary.

<sup>3</sup>Valor and Fierce must be applied at least 7 days before corn planting. Use only in no-till fields.

## Corn: Soil Applied Herbicides — Preplant or Preemergence

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Herbicide	Formulati
S-metolachlor	7.64E
Metolachlor	7.8E

- S-metolachlor (Dual II Magnum, Cinch) and metolachlor (Stalwart C, Parallel) control annual grasses and pigweed, and control or suppress waterhemp, black nightshade, and yellow nutsedge.
- Site of action: group 15 (see pages 14-15).
- Can be applied preplant or preemergence before the crop and weeds emerge. Can be applied broadcast with atrazine up to 5-inch corn or as a directed spray up to 12-inch corn, and before grass and broadleaf weeds exceed the 2-leaf stage. Do not apply using fertilizer solution as the spray carrier after the corn has emerged.
- May be applied up to 30 days before planting as a single application.
- Incorporation to a depth of 2 inches will improve yellow nutsedge control and reduce dependence upon rainfall.

Dual II Magnum, Cinch, Parallel, and Stalwart Use Rates (pts/A)									
Soil Texture Group	Less than 3% OM	3% or Greater OM							
Coarse	1 to 1.33	1.33							
Medium	1.33 to 1.67	1.33 to 1.67							
Fine	1.33 to 1.67	1.67 to 2							

Herbicide	Formulation
S-metolachlor + atrazine	5.5L
Metolachlor + atrazine	5.5L

- S-metolachlor plus atrazine (Bicep II Magnum, Brawl II ATZ, Cinch ATZ) and metolachlor plus atrazine (Stalwart Xtra, Parallel Plus, Trizmet) control annual grass and broadleaf weeds in corn.
- Site of action: group 5 (atrazine), group 15 (s-metolachlor/metolachlor). See pages 14-15.
- Can be applied preplant, preemergence, and after corn emergence until corn plants are 5 inches tall and before weeds exceed the 2-leaf stage. Do not apply using fertilizer solution as the spray carrier after the crop emerges.

Bicep II Magnum, Cinch ATZ	Bicep II Magnum, Cinch ATZ, and Stalwarta Use Rates Up to 14 Days Before Planting (qts/A)										
Soil Texture Group	Less than 3% OM	3% or Greater OM									
Coarse	1.3	1.6									
Medium	1.6	2.1									
		2.1b									
Fine	2.1	or 2.1 to 2.58									

a. When using Stalwart, use 2.1 to 2.6 gts/A on fine-textured soils when applying on non-erodible land with 30% or more residue cover.

b. Do not exceed this rate on highly with less than 30% plant residue cover.

Herbicide	Formulation	Product Rate Range
Metribuzin	75DF	2 - 5 1/3 oz
	4L	3 - 8 oz

- Metribuzin (Dimetric, Tricor) is labeled in combination with other corn herbicides to improve residual control of broadleaf weeds, including lambsquarters, pigweed, common ragweed, Pennsylvania smartweed, and velvetleaf. In mixtures with 2,4-D, Gramoxone, and/or atrazine, metribuzin can also improve burndown of emerged weeds in no-till.
- Site of action: group 15 (see pages 14-15).
- Apply before or after planting, but before corn emergence. Application rates increase when applied more than 10 days before planting.

### Table 13. Weed Response to Preplant/Preemergence Herbicides in Soybeans—Grasses

This table compares the relative effectiveness of herbicides on individual weeds. Ratings are based on labeled application rate and weed size or growth stage. Performance may be better or worse than indicated in the table, due to weather or soil conditions or other variables. See pages 14-15 for more information on herbicide site of action classification and description of site of action groups.

**Weed control rating:** 9 = 90% to 100% control

8 = 80% to 90% control 7 = 70% to 80% control 6 = 60% to 70% control **Crop tolerance rating:** 0 = Excellent

1 = Good 2 = Fair 3 = Poor

- = less than 60% control, not recommended. Crop injury of 1 or less is rarely significant.

	Grasses												
	Site of Action	Crop Tolerance	Barnyardgrass	Crabgrass	Fall Panicum	Field sandbur	Giant Foxtail	Yellow Foxtail	Shattercane	Seedling Johnsongrass	Woolly cupgrass	Yellow Nutsedge	
Preplant Incorporated Only													
Trifluralin	3	1	9	9	9	8+	9	9	7	7	8+	-	
Preplant or Preemergence													
Authority Assist	2/14	2	6	7	7	-	7	7	6	6	-	8	
Authority First/Sonic	2/14	2	-	7	-	-	-	-	-	-	-	-	
Authority MTZ	5/14	2	-	-	-	-	-	-	-	-	-	6	
Authority MAXX/XL	2/14	2	-	-	-	-	-	-	-	-	-	8	
Boundary/Ledger/Tailwind	5/15	1	8	9	8+	6	8+	8+	-	-	7	8	
Canopy DF/Cloak DF	2/5	2	-	-	-	-	-	-	-	-	-	-	
Canopy/Cloak EX, Fallout	2	2	-	-	-	-	-	-	-	-	-	-	
Command	13	0	9	9	9	7	9	9	6	6	7	-	
Envive/Enlite	2/14	2	-	-	-	-	-	-	-	-	-	-	
Fierce <sup>3</sup>		2	8	8	8	6	8	8	-	-	6	-	
Fierce XLT	2/14/15	2	8	8	8	6	8	8	-	-	6	-	
FirstRate	2	0	-	-	-	-	-	-	-	-	-	-	
Flumioxazin	14	2	-	-	-	-	-	-	-	-	-	-	
Gangster/Surveil	2/14	2	-	-	-	-	-	-	-	-	-	-	
Intimidator	5/14/15	1	8	9	8+	6	8+	8+	-	-	7	8	
Latir	2/14	2	6	7	7	-	7	7	6	6	-	-	
Lorox	7	2	-	-	-	-	-	-	-	-	-	-	
Matador	2/5/15	1	9	9	8+	6	8+	8+	-	-	7	8	
Metolachlor/s-metolachlor1	15	1	8	9	8+	6	8+	8+	-	-	7	8	
Metribuzin	5	2	6	5	6	-	6	6	-	-	-	-	
Optill PRO	2/14/15	2	8	8	8	-	8	8	6	6	-	6	
Outlook	15	1	8	9	8	6	8	8	-	-	7	8	
Pendimethalin	3	2	8	9	9	8	8	8	7	7	8+	-	
Prefix/Vise/Statement3	14/15	1	8	8	8	6	8	8	-	-	7	-	
Pursuit	2	1	6	7	7	-	7	7	6	6	-	-	
Pummel	2/15	1	9	9	9	6	9	9	-	-	7	8	
Python	2	1	-	-	-	-	-	-	-	-	-	-	
Scepter	2	1	-	-	-	-	-	-	-	-	-	6	
Spartan	14	2	7	7	7	-	7	7	-	-	-	8	
Torment	2/14	1	6	7	7	-	7	7	6	6	-	-	
Trivence	2/5/14	2	-	-	-	-	-	-	-	-	-	-	
Valor XLT	2/14	2	-	-	-	-	-	-	-	-	-	-	
Warrant	15	1	8	8	8	7	8	8	-	-	7	7	
Zidua, Anthem	15	1	8	8	8	6	9	8	-	-	6	-	

1Warrant is labeled only for POST use in soybeans, and provides residual weed control only (does not control emerged weeds).

<sup>2</sup>Marestail ratings are for residual control only (not burndown), and are based on a weedfree start at planting through use of an effective burndown treatment.

<sup>&</sup>lt;sup>3</sup>PRE rates are not intended to provide season-long control. Should be used only where it will be followed with a broad-spectrum POST herbicide treatment (such as glyphosate in Roundup Ready soybeans or Ignite on Liberty Link soybeans).

### Table 14. Weed Response to Preplant/Preemergence Herbicides in Soybeans—Broadleaf Weeds

This table compares the relative effectiveness of herbicides on individual weeds. Ratings are based on labeled application rate and weed size or growth stage. Performance may be better or worse than indicated in the table, due to weather or soil conditions or other variables. See pages 14-15 for more information on herbicide site of action classification and description of site of action groups.

Weed control rating:

**Crop tolerance rating:** 0 = Excellent

9 = 90% to 100% control 8 = 80% to 90% control 7 = 70% to 80% control

1 = Good 2 = Fair 3 = Poor

6 = 60% to 70% control -= less than 60% control, not recommended.

Crop injury of 1 or less is rarely significant.

	Crop figury of For less is fallery significant.																				
			,						Bı	oadl	eaf \	Wee	ds								
	Annual Morningglory	Black Nightshade	Burcucumber	Cocklebur	Common Ragweed	Common Ragweed (group 2-R)	Common Ragweed (group 2+9-R)	Giant Ragweed	Giant Ragweed (group 2-R)	Jimsonweed	Kochia	Lambsquarters	Lambsquarters (group 5-R)	Marestail (group 9-R) <sup>2</sup>	Marestail (group 2+9-R) <sup>2</sup>	Palmer Amaranth (group 2-R)	Pigweed (redroot/smooth)	Smartweed	Velvetleaf	Waterhemp (group 2-R)	Waterhemp (group 2+14-R)
Preplant Incorporated Only																		,			
Trifluralin	-	-	-	-	-	-	-	-	-	-	7+	8+	8+	-	-	8	9	-	-	8	8
Preplant or Preemergence																					
Authority Assist	8+	9	-	7	6	-	-	1	1	8	9	9	9	8	8	8+	9	9	8	8+	-
Authority First/Sonic	8+	8	-	8	9	-	-	7	-	8	9	9	9	9	8	8+	9	9	8	8+	-
Authority MTZ	7	8	-	-	-	-	-	-	-	6	9	9	8	8	8	8	9	9	7	8	6
Authority MAXX/XL	8+	8	-	8	9	-	-	7	-	9	9	9	9	9	8	8+	9	9	8+	8+	-
Boundary/Ledger/Tailwind	3	8	-	-	6	6	6	-	-	6	-	8	6	6	6	7+	9	8	6	7+	7+
Canopy DF/Cloak DF	7+	-	6	8	9	-	-	7	-	9	7	9	9	9	6	6	9	9	8+	6	6
Canopy/Cloak EX, Fallout	7+	-	6	8	9	-	-	7	-	9	7	9	9	9	-	-	9	9	8+	-	-
Command	-	6	-	6	7	7	-	-	-	8	9	9	9	-	-	-	-	8	9	-	-
Envive/Enlite	8	9	6	8	9	7	-	7	-	9	8	9	9	9	8	8+	9	9	8+	8+	-
Fierce <sup>3</sup>	7	9	-	-	8	8	6	-	-	-	7+	9	9	8	8	9	9	7	7	9	7
Fierce XLT	8	9	6	8	9	7	-	7	-	9	7+	9	9	9	8	9	9	9	8+	9	7
FirstRate	7+	-	-	8	9	-	-	7	-	-	-	9	9	9	-	-	9	8	8+	-	-
Flumioxazin	7+	9	-	-	7	7	-	-	-	-	7+	9	9	8	8	8+	9	7	7	8+	-
Gangster/Surveil	8	9	-	8	9	7	-	7	-	9	8	9	9	9	8	8+	9	9	8+	8+	-
Intimidator	-	9	-	-	8	8	-	-	-	-	7+	9	7	6	6	8	9	9	6	8	7
Latir	8	9	-	7	8	7	-	6	-	8	9	9	9	8	8	8+	9	9	9	8+	-
Lorox	-	7	-	6	8	8	8	-	-	6	6	9	9	-	-	7	9	9	6	7	7
Matador	7	9	-	7	7	-	-	-	-	8	8	9	9	6	-	7	9	9	8	7	7
Metolachlor/s-metolachlor <sup>1</sup>	-	8	-	1	-	-	-	1	1	-	1	6	6	-	-	7	8	-	-	7	7
Metribuzin	-	-	-	-	6	6	6	1	1	7	8	9	-	8	8	7+	9	9	7	7+	7+
Optill PRO	7	9	-	7	7	-	-	-	-	8	8	9	9	7	-	7	9	9	9	7	-
Outlook	-	8	-	-	-	-	-	-	1	-	-	6	6	-	-	7+	8	-	-	7+	7+
Pendimethalin	-	-	-	-	-	-	-	-	-	-	7+	8+	8+	-	-	7	9	-	-	7	7
Prefix/Vise/Statement <sup>3</sup>	-	8	-	-	8	8	-	-	-	-	-	7	7	-	-	8	8	-	-	8	7
Pursuit	7	9	-	7	6	-	-	6	-	8	8	9	9	-	-	-	9	9	8	-	-
Pummel	7	9	-	7	6	-	-	6	-	8	8	9	9	-	-	7	9	9	8	7	7
Python	-	8	-	7	7	-	-	-	-	7	8	9	9	9	-	-	8	8+	-	-	-
Scepter	7	9	6	8	8	-	-	7	-	9	-	9	9	6	-	-	9	9	7	-	-
Spartan	8	9	-	-	-	-	-	-	-	-	8+	9	9	8	8	8+	9	8	7	8+	-
Torment	7	9	-	7	8	8	-	6	-	8	8	9	9	-	-	6	9	9	8	6	6
Trivence	8	9	6	8	9	7	-	7	-	9	8+	9	9	9	8	9	9	9	8+	9	6
Valor XLT	8	9	6	8	9	7	-	7	-	9	7+	9	9	9	8	8+	9	9	8+	8+	-
Warrant	-	8	-	-	-	-	-	-	-	-	-	8	8	-	-	8	8	6	-	8	8
Zidua, Anthem	-	8	-	-	7	7	7	-	-	-	8	8	8	-	-	8	8	-	7	8	8
<sup>1</sup> Warrant is labeled only for POST	use in	soybea	ans, and	d provi	des res	idual v	veed c	ontrol	only (do	oes not	contro	ol emer	ged w	eeds).							

<sup>2</sup>Marestail ratings are for residual control only (not burndown), and are based on a weedfree start at planting through use of an effective burndown treatment.

<sup>&</sup>lt;sup>3</sup>PRE rates are not intended to provide season-long control. Should be used only where it will be followed with a broad-spectrum POST herbicide treatment (such as glyphosate in Roundup Ready soybeans or Ignite on Liberty Link soybeans).

# Soybeans: Soil-Applied Herbicides — Preplant or Preemergence

- Site of action: group 2 imazethapyr; group 5 metribuzin; group 15 metolachlor. See pages 14-15.
- Matador use rates for reduced or no-tillage soybeans: coarse-textured soils 1.6 to 2.7 pts; medium-textured soils 2.7 to 4 pts; fine-textured soils 4 pts. With a rate range, use the lower rates where soil OM is less than 3%, and the higher rares where soil OM is greater than 3%.
- Injury to soybeans may occur where soil pH is 7.5 or greater, when heav rains occur soon after application, or when soybeans are planted less than 1.5 inches deep.

Herbicide	Formulation	
s-Metolachlor	7.64E	
Metolachlor	7.8E	

- S-metolachlor (Dual II Magnum/Cinch) and metolachlor (Parallel/Stalwart) control annual grasses and pigweed, and control or suppress yellow nutsedge and black nightshade.
- Site of action: group 15 (see pages 14-15).
- Use rates for most products are similar: coarse-textured soils 1 to 1.33 pt/A; all medium-textured soils, and fine-textured soils with less than 3% OM 1.33 to 1.67 pt/A; fine-textured soils, less than 3% 1.67 to 2 pt/A.
- May be applied up to 30 days before planting as a single application.
- Can be applied postemergence (up to 90 days before harvest), for residual control of weeds only. Mix with herbicides with postemergence activity to control emerged weeds.
- Incorporation to a depth of 2 inches will improve yellow nutsedge control and reduce dependence upon rainfall.

Dual II Magnum, Parallel, and Stalwart Use Rates (pts/A)										
Soil Texture Group	Less than 3% OM	3% or Greater OM								
Coarse	1 to 1.33	1.33								
Medium	1.33 to 1.67	1.33 to 1.67								
Fine	1.33 to 1.67	1.67 to 2								

Herbicide	Formulation	
Metribuzin	4F	
	75DF	

- Metribuzin (Dimetric, Tricor, Glory) controls annual broadleaf weeds, including Pennsylvania smartweed, pigweeds, waterhemp, lambsquarters, and marestail (emerging from seed). Control of common ragweed and velvetleaf is variable. Metribuzin does not adequately control annual morningglory, giant ragweed, cocklebur, or black nightshade.
- Site of action: group 5 (see pages 14-15).
- Preplant applications of metribuzin, paraquat, and 2,4-D ester can provide effective burndown in many no-till situations.
- May injure soybeans when applied at high rates. Injury may be greater where soil pH is over 7.5, and where seed-ling diseases, weather stress, or atrazine carryover occur. Soybean varieties vary in tolerance to metribuzin. Selection of a variety with above-normal tolerance to metribuzin will reduce the risk of crop injury.
- To avoid soybean injury, accurately apply the correct rate based on soil type. Do not use on sandy soil that is low in organic matter.
- Can be applied in the fall with 2,4-D ester for control of winter annual weeds, including marestail, mustards, purple deadnettle, and common chickweed.