



UNIVERSITY OF  
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College of Agricultural &  
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**Managing Herbicide-Resistant Palmer Amaranth  
In Field Corn, Grain Sorghum, Peanut, and Soybean - 2017**

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The occurrence of herbicide resistance in Palmer amaranth and other weeds in Georgia is cause for significant concern for the agricultural industry. Changes in cropping practices, specifically the reliance on a limited number of herbicides, have streamlined weed management. However, the consequence has been the development of herbicide resistance. An effective herbicide-resistant weed management plan will require the integration of multiple herbicide chemistries in an effort to minimize selection pressure and delay the occurrence of herbicide resistance in a field. Other control strategies, such as tillage, extreme cover crops, narrow row spacing, hand-weeding, crop rotation, and mechanical cultivation must also be included in an herbicide resistant weed management plan (Table 1). The herbicide recommendations in Tables 2-6 are aimed at preserving the herbicide tools that are available for weed management. For additional information about herbicide resistant weeds, contact your local county extension agent and visit the UGA Weed Science Web-Page at the following web address:  
<http://www.gaweed.com/resistance.html>

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***This version supersedes all previous versions.***

**Table 1. Non-Chemical Control Strategies for the Management of Herbicide-Resistant Palmer Amaranth\*.**

<b>Strategy</b>	<b>Effect</b>
Tillage (moldboard plow)	Burying Palmer amaranth seed at least 4” deep in the soil will provide approximately 50% control of Palmer amaranth.
Extreme Rye Cover Crops	A well-managed rye cover crop, planted in the fall, terminated at its maximum height, and rolled will form a dense mat of residue which will provide approximately 60-90% control of Palmer amaranth.
Decreased row widths	Decreasing row widths results in faster canopy closure and shade formation. Palmer amaranth seed requires light for germination.
Hand-Weeding	Hand-removal of escaped female Palmer amaranth plants before seed production will prevent further seed-rain into a field.
Crop Rotation	Crop rotations that include field corn provide growers with an opportunity to use alternative herbicide modes of action and also provide for additional time in the fall for seed-bank management.
Mechanical Cultivation	No weeds are steel-resistant.

\*An aggressive combination of non-chemical and chemical control tactics will be required to manage herbicide-resistant Palmer amaranth.

**Table 2. Herbicide Programs for Managing Glyphosate and ALS-Resistant Palmer Amaranth in Field Corn.<sup>1</sup>**

Corn Hybrid	Preemergence	Postemergence	Layby/Directed if needed
<b>Conventional</b>	Atrazine**	Prowl <sup>2</sup> + Atrazine + Crop Oil	2,4-D <sup>5</sup> or Banvel/Clarity <sup>4,5</sup> or Status <sup>10</sup>
	Atrazine**	Atrazine + 1 of the following: Callisto, Laudis, Capreno <sup>14</sup> , Steadfast Q <sup>15</sup> , Revulin Q <sup>16</sup>	2,4-D <sup>5</sup> or Banvel/Clarity <sup>4,5</sup> or Status <sup>10</sup>
	Dual II Magnum <sup>6</sup> or Warrant or Zidua or Anthem <sup>12</sup>	Atrazine + 1 of the following: Callisto, Laudis, Capreno <sup>14</sup> , Steadfast Q <sup>15</sup> , Revulin Q <sup>16</sup>	2,4-D <sup>5</sup> or Evik or Banvel/Clarity <sup>4,5</sup> or Status <sup>10</sup>
<b>Liberty-Link</b>	Atrazine**	Liberty <sup>13</sup> + atrazine <sup>7</sup>	2,4-D <sup>5</sup> or Banvel/Clarity <sup>4,5</sup> or Status <sup>10</sup>
	Dual II Magnum <sup>6</sup> or Warrant or Zidua or Anthem <sup>12</sup>	Liberty <sup>13</sup> + atrazine <sup>7</sup>	2,4-D <sup>5</sup> or Evik or Banvel/Clarity <sup>4,5</sup> or Status <sup>10</sup>
<b>Roundup Ready</b>	Atrazine**	1) glyphosate + 1 of the following: atrazine or Dual Magnum <sup>6</sup> or Warrant or Status <sup>10</sup> or Laudis or Capreno <sup>14</sup> or Revulin Q <sup>16</sup> 2) Expert <sup>8</sup> 3) Sequence <sup>9</sup> 4) Halex GT <sup>11</sup>	2,4-D <sup>5</sup> or Banvel/Clarity <sup>4,5</sup> or Status <sup>10</sup>
	Dual II Magnum <sup>6</sup> or Warrant or Zidua or Anthem <sup>12</sup>	1) glyphosate + 1 of the following: atrazine or Status <sup>10</sup> or Laudis or Capreno <sup>14</sup> or Revulin Q <sup>16</sup> 2) Expert <sup>8</sup> 3) Halex GT <sup>11</sup>	2,4-D <sup>5</sup> or Evik or Banvel/Clarity <sup>4,5</sup> or Status <sup>10</sup>

<sup>1</sup> Glyphosate- and ALS-resistant Palmer amaranth are very serious concerns. An aggressive management program is necessary to slow spread of resistant biotypes and to reduce selection pressure in areas currently not infested with resistant biotypes.

<sup>2</sup> Generic brands of Prowl (pendimethalin) are available and perform similarly.

<sup>3</sup> Bicep II Magnum is a pre-mixture of S-metolachlor and atrazine. Less expensive, generic brands containing metolachlor and atrazine are available (Parallel Plus, Stalwart Xtra). These generic brands may not provide the same length of residual control as Bicep II Magnum (which contains S-metolachlor).

<sup>4</sup> Generic brands of Banvel (dicamba-DMA) are available and perform similarly.

<sup>5</sup> Use extreme caution to avoid drift to sensitive crops, such as cotton, tobacco, soybeans, and vegetables. Use only amine formulations of 2,4-D. Follow all label directions for drift management.

<sup>6</sup> Generic brands containing metolachlor are available (Me-Too-Lachlor-II, Parallel, Stalwart-C). However, these generic brands may not provide the same length of residual control as Dual II Magnum (S-metolachlor).

<sup>7</sup> Also available in a pre-mixture sold under the trade name of Liberty ATZ.

<sup>8</sup>Expert is a pre-mixture of glyphosate + S-metolachlor (Dual Magnum) + atrazine.

<sup>9</sup>Sequence is a pre-mixture of glyphosate + S-metolachlor (Dual Magnum).

<sup>10</sup>Status is a pre-mixture of dicamba-Na + diflufenzopyr + isoxadifen (safener).

<sup>11</sup>Halex GT is a pre-mixture of glyphosate + S-metolachlor (Dual Magnum) + mesotrione (Callisto).

<sup>12</sup>Anthem is a pre-mixture of pyroxasulfone (Zidua) + fluthiacet (Cadet).

<sup>13</sup>Generic formulations of glufosinate are also available including Kong and Interline. Generic formulations of glufosinate should be used with caution because limited data has been collected by UGA.

<sup>14</sup>Capreno is a pre-mixture of tembotrione (Laudis) + thiencazone + isoxadifen (safener).

<sup>15</sup>Steadfast Q is a pre-mixture of nicosulfuron (Accent) + rimsulfuron (Matrix) + isoxadifen (safener).

<sup>16</sup>Revulin Q is a pre-mixture of mesotrione (Callisto) + nicosulfuron (Accent) + isoxadifen (safener).

**\*\* When atrazine is applied PRE + POST, a total of 2.5 lb ai/A can be applied per year (2.5 qt/A of 4L or 44 oz/A of 90DF). When atrazine is applied only POST, then a total of 2.0 lb ai/A can be applied per year (2 qt/A of 4L or 36 oz/A of 90DF).**

**SPECIAL NOTE: Anthem, Dual Magnum, Warrant, and Zidua have the same mode of action (inhibit very long chain fatty acids). Multiple applications (> 2) of these herbicides in a single year should be avoided to prevent or delay the evolution of resistance. These herbicides have no postemergence activity.**

**Table 3. Herbicides Programs for Managing Glyphosate, ALS, and Atrazine Resistant Palmer Amaranth in Field Corn.**

Hybrid	Preemergence	Postemergence <sup>1</sup>
Any	Dual II Magnum or Warrant or Zidua or Anthem	Callisto <sup>2</sup> , Capreno, Impact, Armezon, Laudis, Revulin Q, or Status
Liberty-Link	Dual II Magnum or Warrant or Zidua or Anthem	Liberty <sup>3</sup>

<sup>1</sup>Atrazine can be tank-mixed with these herbicides if other weeds are a concern such as sicklepod and morningglory. <sup>2</sup>Callisto Xtra is a pre-mixed formulation of Callisto + Atrazine. <sup>3</sup>Generic formulations of glufosinate are also available including Kong and Interline. Generic formulations of glufosinate should be used with caution because limited data has been collected by UGA.

## POST-HARVEST (FIELD CORN) MANAGEMENT OF PALMER AMARANTH

After field corn harvest, Palmer amaranth plants that emerge up until 35 days before first frost will have the potential to produce viable seed. Consequently, these post-harvest populations should be managed up until this time using 1 or more of the following strategies:

a) For plants larger than 6” in height:

- 1) Mowing
- 2) Tillage

b) For plants less than 6” in height:

- 1) Tillage or
- 2) Gramoxone SL @ 48 oz/A or Firestorm/Parazone/Helmquat 3SL @ 32 oz/A + 2,4-D **amine** 3.8SC @ 16-24 oz/A + COC (1.0% v/v). If cotton is nearby and drift is a concern, consider using Clarity 4SL @ 8 oz/A instead of 2,4-D. Delay planting of small grains for at least 10 days for each 16 oz/A of 2,4-D applied or 15 days for each 8 oz/A of Clarity applied.
- 3) If residual control is desired and a small grain will **not** be planted in the fall, Dual Magnum/ Stalwart, etc. @ 1 pt/A can be included with the burndown treatment.
- 4) In dairy situations (*i.e. no rotations with peanuts, soybeans, and cotton: no overuse of PPO herbicides*), Valor 51WG (2 oz/A) can be used for the residual control of Palmer amaranth after field corn harvest. Wheat can be planted 30 days after application (*need 1” rainfall/irrigation after application*), cereal rye and barley can be planted 3 months after application, and ryegrass can be planted 4 months after application (with tillage). Valor can be tank-mixed with paraquat.

It is important to remember that viable Palmer amaranth seed can be produced within 2 weeks after pollen shed. Thus, control strategies need to be implemented before this time to be effective in reducing weed-seed rain back into a field.

**Table 4. Herbicide Programs for Managing Palmer Amaranth in Grain Sorghum.**

Preemergence <sup>1</sup>	Postemergence <sup>2</sup> (over the top)	Postemergence <sup>3</sup> (Directed Spray)	Hooded Sprayer
Dual Magnum or Warrant	1) Atrazine 2) Huskie + Atrazine	2,4-D or Clarity	Gramoxone SL or Firestorm or Parazone or Helmquat

<sup>1</sup>Must use Concep treated seed. <sup>2</sup>3-leaf sorghum up until 12” in height. <sup>3</sup>8-15” tall sorghum.

**Table 5. Herbicide Programs for Managing ALS-Resistant Palmer Amaranth in Peanut.<sup>1</sup>**

Preplant Incorporated	Preemergence <sup>2</sup>	Cracking or early postemergence <sup>3</sup> (Palmer < 3 in.)	Postemergence <sup>4</sup> (Palmer < 3 in.)
Prowl <sup>5</sup> or Sonalan	Valor <sup>9</sup> or Spartan Charge <sup>6,7</sup>		Cobra <sup>7</sup> or Ultra Blazer <sup>7</sup> + Dual Magnum <sup>8</sup> or Warrant <sup>8</sup> + 2,4-DB
Prowl <sup>5</sup> or Sonalan		Gramoxone SL or Firestorm or Parazone or Helmquat + Storm + Warrant or Dual Magnum <sup>8</sup>	Cobra <sup>7</sup> or Ultra Blazer <sup>7</sup> + Dual Magnum <sup>8</sup> or Warrant <sup>8</sup> + 2,4-DB

<sup>1</sup>ALS-resistant Palmer amaranth is a very serious concern. An aggressive management program is necessary to slow spread of the resistant biotypes and to reduce selection pressure in areas currently not infested with resistant biotypes. A combination of soil residual and postemergence herbicides will be required for optimum control.

<sup>2</sup>Strongarm is not included in this table because it is an ALS-inhibiting herbicide. However, it can be used for the control of other broadleaf weeds.

<sup>3</sup>Apply cracking or early postemergence treatment only if weeds have emerged.

<sup>4</sup>Cadre may be tank-mixed with Cobra or Ultra Blazer if needed for control of other weed species. Cadre is an ALS- inhibitors. Because of concerns with weed resistance to ALS-inhibitors, a mixture of Cobra or Ultra Blazer with Cadre would be preferred over Cadre alone. When using Cadre , follow all labeled crop rotation restrictions.

<sup>5</sup>Generic brands of Prowl (pendimethalin) are available and perform similarly. Prowl or Sonalan can be used preemergence if 0.5-0.75" of water can be applied within 48 hours of application. They can be tank-mixed with Valor or Spartan Charge in this situation.

<sup>6</sup>If Valor or Spartan Charge is properly activated with 0.5-0.75" of rainfall or irrigation within 7 days of application, it is unlikely that an "at-cracking" treatment will be required. However, if control with Valor or Spartan Charge is unacceptable, an "at-cracking" treatment of Gramoxone Inteon or Firestorm or Parazone + Storm + Dual Magnum or Warrant should be applied.

<sup>7</sup>Valor, Cobra, Spartan Charge, Storm, and Ultra Blazer have the same mode of action (PPO inhibitor). Consequently, no more than 2 applications of these herbicides should be used in a season.

<sup>8</sup>Generic brands of metolachlor are available (Stalwart, Parallel PCS, Me-Too-Lachlor). However, these generic brands have not provided the same length of residual control as Dual Magnum (S-metolachlor) in some UGA field trials. When tank-mixing paraquat, Cobra or Ultra Blazer with Dual Magnum/generics, additional spray adjuvants (NIS, COC) are ***not*** recommended and will likely increase peanut injury. When using Warrant with POST application, add NIS.

<sup>9</sup>Generic formulations of Valor 51WG (flumioxazin) are also available including Outflank, Panther, Red Eagle-Flumioxazin, and Rowel. Panther SC and Valor EZ are liquid formulations of flumioxazin but these formulations have not yet been adequately tested by UGA weed scientists. The Red Eagle flumioxazin has also not been tested by UGA

***SPECIAL NOTE: Dual Magnum and Warrant are in the same herbicide family and have the same mode of action (inhibit very long chain fatty acids). Multiple applications (> 2) of these herbicides in a single year should be avoided to prevent or delay the evolution of resistance. These herbicides have no postemergence activity.***

**Table 6. Herbicide Programs for Managing Glyphosate/ALS-Resistant Palmer Amaranth and Delaying PPO/VLCFA Resistance in Soybeans.<sup>1</sup>**

Soybean Variety	Program	Preemergence <sup>2</sup>	Postemergence <sup>3,4</sup>
<b>Roundup Ready</b>	1	TriCor/Metribuzin; or Canopy/Cloak <sup>5</sup> ; or Authority MTZ <sup>7,13</sup>	glyphosate + Reflex <sup>7,20</sup> ; or glyphosate + Prefix <sup>7,8</sup> or Warrant Ultra <sup>17</sup> ; or Flexstar GT <sup>7,10</sup>
	2	Boundary <sup>6</sup>	glyphosate + Reflex <sup>7,20</sup> ; or Flexstar GT <sup>7,10</sup>
	3	Prowl; or Dual Magnum <sup>15</sup> ; or Warrant <sup>15</sup> or Zidua <sup>15</sup> or Anthem <sup>15,17</sup>	glyphosate + Reflex <sup>7,20</sup> ; or Flexstar GT <sup>7,10</sup>
	4	Valor; or Envive <sup>7,11</sup> ; or Authority XL <sup>7,14</sup> ; or Fierce <sup>7,16</sup> or Surveil <sup>22</sup>	glyphosate + Warrant <sup>15</sup> or Dual Magnum <sup>15</sup> or Zidua <sup>15</sup> ; or Sequence <sup>9</sup>
<b>Liberty-Link</b>	1	Prowl; or Dual Magnum <sup>15</sup> ; or Warrant <sup>15</sup> ; or Zidua <sup>15</sup> or Anthem <sup>15,17</sup>	Liberty <sup>19</sup> + Reflex <sup>7,20</sup>
	2	Valor; or Envive <sup>7,11</sup> ; or Authority XL <sup>7,14</sup> ; or Fierce <sup>7,16</sup> ; or Surveil <sup>22</sup>	Liberty <sup>19</sup> + Dual Magnum <sup>15</sup> or Warrant <sup>15</sup> or Zidua <sup>15</sup> or Anthem <sup>15,17</sup>
<b>Dicamba-Tolerant</b>	1	Valor; or Fierce <sup>7,16</sup> ; or Envive <sup>7,11</sup> , or Authority XL <sup>7,14</sup> ; or Canopy <sup>5</sup> ; or Boundary <sup>6</sup> ; or Surveil <sup>22</sup>	Xtendimax <sup>21</sup> or Engenia <sup>23</sup> - repeat application in 7 days (pigweed) or follow with glyphosate (grasses). Dual or Warrant can be tank-mixed with glyphosate for increased residual pigweed control. For a current list of approved tank-mix partners for Xtendimax or Engenia, refer to the following: <a href="http://www.xtendimaxapplicationrequirements.com">www.xtendimaxapplicationrequirements.com</a> <a href="http://www.engeniatankmix.com">www.engeniatankmix.com</a>
	2	Dual Magnum <sup>15</sup> or Warrant <sup>15</sup> or Zidua <sup>15</sup>	Xtendimax <sup>21</sup> or Engenia <sup>23</sup> – repeat application in 7 days (pigweed) or follow with glyphosate (grasses). Reflex can be tank-mixed with glyphosate for increased burndown/residual pigweed control. For a current list of approved tank-mix partners for Xtendimax or Engenia, refer to the following: <a href="http://www.xtendimaxapplicationrequirements.com">www.xtendimaxapplicationrequirements.com</a> <a href="http://www.engeniatankmix.com">www.engeniatankmix.com</a>
<b>Conventional</b>	1	TriCor/Metribuzin; or Canopy <sup>5</sup> ; or Authority MTZ <sup>7,13</sup> (include Prowl for grass control)	Reflex <sup>7,20</sup> ; or Ultra Blazer <sup>7</sup> + Dual Magnum <sup>15</sup> or Warrant <sup>15</sup> ; or Cobra <sup>7</sup> + Dual Magnum <sup>15</sup> or Warrant <sup>15</sup> ; or Prefix <sup>7,8</sup> or Warrant Ultra <sup>17</sup>
	2	Boundary <sup>6</sup>	Reflex <sup>7,20</sup>
	3	Prowl; or Dual Magnum <sup>15</sup> ; or Warrant <sup>15</sup> ; or Zidua <sup>15</sup> or Anthem <sup>15,17</sup>	Reflex <sup>7,20</sup>

<sup>1</sup>Glyphosate- and ALS-resistant Palmer amaranth are very serious concerns. An aggressive management program is necessary to slow spread of resistant biotypes and to reduce selection pressure in areas currently not infested with resistant biotypes.

<sup>2</sup>Generic brands of Prowl (pendimethalin) are available and perform similarly. When using Authority MTZ, Boundary, TriCor/Metribuzin or Canopy, follow label for appropriate rates, soil pH restrictions, and soybean variety tolerance. Dryland growers should consider mechanically incorporating Authority MTZ, Metribuzin, Canopy, Boundary, and Prowl. If mechanically incorporating herbicides, Treflan can be used instead of Prowl if preferred. If Envive or Authority XL are used, consider planting an STS/ST soybean variety to help minimize potential early-season Classic injury caused by cool, wet weather.

<sup>3</sup>**Postemergence applications **MUST** be made before the largest Palmer amaranth plant in the field exceeds 3" in height. If a preemergence herbicide is used but not moisture activated, this could occur as early as 10-14 days after planting depending upon the time of year. Palmer amaranth plants can grow from 1-3" per day.** When applied in combination with glyphosate, use either 16-24 oz/A of Reflex, 24 oz/A of Ultra Blazer, or 12.5 oz/A of Cobra.

<sup>4</sup>If residual herbicides are activated by a timely rainfall or irrigation event, a second postemergence application may not be needed. The total amounts of these herbicides that can be applied per acre per year are as follows: Cobra - 25 oz/A; Reflex – 24 oz/A; and Ultra Blazer – 32 oz/A. Reflex may be preferred because of residual control of Palmer amaranth. On Roundup Ready soybean, glyphosate can be included in the second application if needed for the control of other weeds.

<sup>5</sup>Canopy/Cloak is a pre-mixture of metribuzin + chlorimuron (Classic).

<sup>6</sup>Boundary is a pre-mixture of metribuzin and S-metolachlor (Dual Magnum).

<sup>7</sup>Authority MTZ, Authority XL, Cobra, Envive, Flexstar GT, Prefix, Reflex, Ultra Blazer, Valor, Valor XLT, and Fierce have the same mode of action (PPO inhibitor). More than 1 application of these herbicides in a single season should be avoided if at all possible to prevent/delay the development of PPO resistance.

<sup>8</sup>Prefix is a pre-mixture of fomesafen (Reflex) and S-metolachlor (Dual Magnum).

<sup>9</sup>Sequence is a pre-mixture of glyphosate and S-metolachlor (Dual Magnum). **Sequence will not control emerged glyphosate-resistant pigweed.**

<sup>10</sup>Flexstar GT is a pre-mixture of fomesafen (Reflex) and glyphosate (Touchdown).

<sup>11</sup>Envive is a pre-mixture of chlorimuron (Classic), flumioxazin (Valor) and thifensulfuron (Harmony).

<sup>12</sup>Valor XLT is a pre-mixture of flumioxazin (Valor) and chlorimuron (Classic).

<sup>13</sup>Authority MTZ is a pre-mixture of sulfentrazone (Spartan) and metribuzin.

<sup>14</sup>Authority XL is a pre-mixture of sulfentrazone (Spartan) and chlorimuron (Classic).

<sup>15</sup>Dual Magnum and Warrant are members of the same herbicide family (chloroacetamide) and have the same mode of action (inhibit very long chain fatty acids). Multiple applications (>2) of these herbicides in a single year should be avoided to prevent or delay the evolution of resistance. Anthem and Zidua are not in the same herbicide family as Dual or Warrant but do have the same mode of action. These herbicides have no postemergence activity except Anthem.

<sup>16</sup>Fierce is a pre-mixture of flumioxazin (Valor) and pyroxasulfone (Zidua)

<sup>17</sup>Anthem is a pre-mixture of pyroxasulfone (Zidua) + fluthiacet (Cadet).

<sup>18</sup>Warrant Ultra is a pre-mixture of fomesafen (Reflex) and acetochlor (Warrant)

<sup>19</sup>Generic formulations of glufosinate are also available including Cheetah, Kong, and Interline. Cheetah Max is a combination of glufosinate + fomesafen. Generic



formulations of glufosinate should be used with caution because limited data has been collected by UGA.

<sup>20</sup>Generic formulations of Reflex 2SL (fomesafen) are also available including Dawn and TopGun. Sinister contains 2.87 lb ai/gal of fomesafen.

<sup>21</sup>Xtendimax with Vapor Grip Technology (dicamba-DGA).

<sup>22</sup>Surveil is a pre-mixture of flumioxazin (Valor) + chloransulam (FirstRate).

<sup>23</sup>Engenia (dicamba-BAPMA)

### SOYBEAN VARIETY TOLERANCE TO METRIBUZIN HERBICIDES

Soybean varieties that have exhibited acceptable tolerance to metribuzin herbicides (i.e. Authority MTZ, Boundary, Canopy, TriCor, etc.) based on multiple sources include the following:

Group IV	Group V	Group VI	Group VII	Group VIII
Asgrow AG42X6 Asgrow AG4336 Asgrow AG44X6 Asgrow AG45X6 Asgrow AG47X6 Pioneer 94Y23 Pioneer P42T71PR Pioneer P43T14L Pioneer P44T82SR Pioneer P45T39L Pioneer P45T48R Pioneer 45T74X Pioneer 46T01R Pioneer P46T30X Pioneer P46T59R Pioneer P47T44X Pioneer P48T27X Pioneer 49T09BR Pioneer 49T31L Southern States LL423N Southern States 4514NR2 Southern States LL473N Southern States 4714NSR2	Asgrow AG53X6 Asgrow AG5535 Asgrow AG5732 Asgrow AG5831 AGS 568RR Hutcheson Pioneer 95Y70 Pioneer P50T15BR Pioneer P50T56X Pioneer P50T92X Pioneer P53T18X Pioneer P53T62L Pioneer P52T73SR Pioneer P55T81R Pioneer P56T03R2 Pioneer P56T12SR Pioneer P56T29R2 Southern States 5215NSR2 Southern States 5511NR2 Southern States 5615NR2	Asgrow AG6931 Asgrow AG69X6 Pioneer P67T90R2 Southern States 6810NR2 Vigoro V61N9 Northrup King NKS-67R6	AGS 758RR Asgrow AG7231 Asgrow AG7535 Benning Northrup King NK-74M3 Northrup King NK-78G6 Pioneer P73T38X Pioneer P76T54R2 Santee Stonewall Southern States 7215NSR2 Vigoro V74N9 Woodruff	Prichard RR

\*\* Metribuzin herbicides are NOT recommended for use on sands or other coarse soils with less than 1% OM.

**\*\*\*METRIBUZIN HERBICIDE SHOULD NOT BE USED ON THE FOLLOWING SOYBEAN VARIETIES: Asgrow AG4232, AG4835, AG49X6, AG5332, AG5935, AG6130, AG6730, AG75X6, AG7934; AGS LL5911; Pioneer P47T06X, P47T36R, P48T53R, P49T80R, P49T97R, P60T95X, P67T25R2; Southern States LL511N and LL595N.**