

Metribuzin (Tricor, Canopy, etc.) is a PSII inhibitor (Group 5) herbicide that provides residual control of an assortment of annual grasses and broadleaf weeds in soybean, including Palmer amaranth. With the extensive use of PPO inhibitors (Group 14) and chloroacetamide (Group 15) herbicides in soybean and rotational crops such as corn and cotton, use of an additional mode of action (MOA) is a sound strategy to reduce the risk of resistance to these other herbicides MOAs.

The handicap to metribuzin use is the sensitivity of soybean varieties to this herbicide. Other environmental factors, including: soil texture, organic matter, rainfall, soil pH, and product use rate, may also play a part in sensitivity. The University of Arkansas System Division of Agriculture conducted a greenhouse screening of soybean varieties, testing their tolerance **to metribuzin at a rate of 0.5 lb ai/ac or 10.67 oz/ac of a 75DF metribuzin product**. In 2021, varieties were screened in a Captina silt loam soil with a soil pH of 6.8. The following tables break down into an injury scale:

- Slight (Table 1)** – Some symptoms observed in the green house but unlikely to injure soybean plants in the field at a 1X rate if applied to the correct soil texture at the appropriate soil pH (**Figure 1**). It is recommended that these soybean varieties be planted if metribuzin is intended to be applied.
- Moderate (Table 2)** – Likely to observe some injury in the field, even when applying a premix product that contains a lower rate of metribuzin.
- Severe (Table 3)** – Do not spray any formulation or rate of metribuzin if these varieties are planted as severe injury and yield loss would be expected. (**Figure 2**).

Please note that most varieties show an acceptable tolerance to metribuzin. Choose a variety with a high level of tolerance. Please read and follow all labels.

**Figure 1. Soybean plants showing slight injury to 0.5 lb ai/ac of metribuzin.**



**Figure 2. Soybean plants showing severe injury to 0.5 lb ai/ac of metribuzin.**



<b>Table 1. 2021 Soybean varieties that tested Slight injury to metribuzin at 0.5 lb ai/ac.</b>											
<b>Variety Name</b>	<b>Herb. Tech.</b>	<b>MG</b>	<b>Rating</b>	<b>Variety Name</b>	<b>Herb. Tech.</b>	<b>MG</b>	<b>Rating</b>	<b>Variety Name</b>	<b>Herb. Tech.</b>	<b>MG</b>	<b>Rating</b>
AgriGold G4615XF	RR2XF	4.6	Slight	DONMARIO DM46F62	RR2XF	4.6	Slight	NK S47-Y9X	RR2X	4.7	Slight
AgriGold G4813XF	RR2XF	4.8	Slight	DONMARIO DM48F61	RR2XF	4.8	Slight	Progeny P4431E3	Enlist E3	4.4	Slight
AgriGold G4900XF	RR2XF	4.9	Slight	Dyna-Gro S43XS70	RR2X	4.3	Slight	Progeny P4505RXS	RR2X	4.5	Slight
Amp 4448X	RR2X	4.4	Slight	Dyna-Gro S46ES91	Enlist E3	4.6	Slight	Progeny P4521XFS	RR2XF	4.5	Slight
Amp 4690XF	RR2XF	4.6	Slight	Dyna-Gro S46XS60	RR2X	4.6	Slight	Progeny P4604XFS	RR2XF	4.6	Slight
Amp 4850XF	RR2XF	4.8	Slight	Dyna-Gro S48XF61S	RR2XF	4.8	Slight	Progeny P4775E3S	Enlist E3	4.7	Slight
Armor 44-D49	RR2X	4.4	Slight	Dyna-Gro S48XT40	RR2X	4.8	Slight	Progeny P5003XF	RR2X	5	Slight
Armor 45-F81	RR2XF	4.5	Slight	Dyna-Gro S48XT90	RR2X	4.8	Slight	R13-13997	Conv	5L	Slight
Armor 46-D09	RR2X	4.6	Slight	Dyna-Gro S56XT99	RR2X	5.6	Slight	R14-1422	Conv	5	Slight
Armor 46-F13	RR2XF	4.6	Slight	Integra 54891NS	RR2X	4.8	Slight	R18-14142	Conv	4.6	Slight
Armor 48-F01	RR2XF	4.8	Slight	Integra 74551NS	RR2XF	4.5	Slight	R18-14147	Conv	4E	Slight
Asgrow AG43XF2	RR2XF	4.3	Slight	Local IS4324E3	Enlist E3	4.3	Slight	R18-14229	Conv	4.3	Slight
Asgrow AG47XF0	RR2XF	4.7	Slight	Local LS4506XS	RR2X	4.5	Slight	R18-14272	Conv	4L	Slight
Asgrow AG48XF2	RR2XF	4.8	Slight	Local LS4517XFS	RR2XF	4.5	Slight	R18C-13283	Conv	4.6	Slight
Asgrow AG52XF0	RR2XF	5.2	Slight	Local LS5418XFS	RR2XF	5.4	Slight	S16-7922C	Conv	4.9	Slight
Axis 4611ES	Enlist E3	4.6	Slight	NK 43-V8XF	RR2XF	4.3	Slight	S17-2243C	Conv	4.5	Slight
Axis 4641XFS	RR2XF	4.6	Slight	NK 44-J4XFS	RR2XF	4.4	Slight	UA46i20C	Conv	4.6	Slight
Delta Grow DG50E10	Enlist E3	5	Slight	NK 45-P9XF	RR2XF	4.5	Slight	USG 7461XFS	RR2XF	4.6	Slight
Delta Grow DG52E80	Enlist E3	5.2	Slight	NK 45-V9E3	Enlist E3	4.5	Slight	XO 4371E	Enlist E3	4.3	Slight
DONMARIO DM45X61	RR2X	4.5	Slight	NK S44-C7X	RR2X	4.4	Slight				

<b>Table 2. 2021 Soybean varieties that tested Moderate injury to metribuzin at 0.5 lb ai/ac.</b>											
<b>Variety Name</b>	<b>Herb. Tech.</b>	<b>MG</b>	<b>Rating</b>	<b>Variety Name</b>	<b>Herb. Tech.</b>	<b>MG</b>	<b>Rating</b>	<b>Variety Name</b>	<b>Herb. Tech.</b>	<b>MG</b>	<b>Rating</b>
AgriGold G4820RX	RR2X	4.8	Moderate	Delta Grow DG49E20	Enlist E3	4.9	Moderate	NK S51-E3	Enlist E3	5.1	Moderate
Amp 4950X	RR2X	4.9	Moderate	Delta Grow DG51E60	Enlist E3	5.1	Moderate	Pioneer P48A60X	RR2X	4.8	Moderate
Armor 47-E03	Enlist E3	4.7	Moderate	DONMARIO DM46E62	Enlist E3	4.6	Moderate	Progeny P4501XFS	RR2XF	4.5	Moderate
Armor 48-D03	RR2X	4.8	Moderate	DONMARIO DM48E62S	Enlist E3	4.8	Moderate	Progeny P4541E3S	Enlist E3	4.5	Moderate
Armor 48-E82	Enlist E3	4.8	Moderate	Dyna-Gro S45ES10	Enlist E3	4.5	Moderate	Progeny P4806XFS	RR2XF	4.8	Moderate
Armor 48-F22	RR2XF	4.8	Moderate	Dyna-Gro S52XT91	RR2X	5.2	Moderate	Progeny P4931E3S	Enlist E3	4.9	Moderate
Asgrow AG42XF0	RR2XF	4.2	Moderate	Eagle Seed ES4890XF	RR2XF	4.8	Moderate	Progeny P4970RX	RR2X	4.9	Moderate
Asgrow AG45XF0	RR2XF	4.5	Moderate	Integra 54606NS	RR2X	4.6	Moderate	Progeny P5521E3	Enlist E3	5.5	Moderate
Asgrow AG48XF0	RR2XF	4.8	Moderate	Integra 54660NS	RR2X	4.6	Moderate	R13- 14635RR:0010	RR1	4L	Moderate
Asgrow AG55XF0	RR2XF	5.5	Moderate	Integra 54816N	RR2X	4.8	Moderate	R15-1587	Conv	5E	Moderate
Axis 4522XF	RR2XF	4.5	Moderate	Integra 74621NS	RR2XF	4.6	Moderate	R15-2422	Conv	4.7	Moderate
Credenz CZ 4202XF	RR2XF	4.2	Moderate	Integra 74731NS	RR2XF	4.7	Moderate	R15-5695	Conv	5M	Moderate
Credenz CZ 4562XF	RR2XF	4.5	Moderate	Integra 74852NS	RR2XF	4.8	Moderate	R16-253	Conv	4.6	Moderate
Credenz CZ 4742XF	RR2XF	4.7	Moderate	Local IS4684E3S	Enlist E3	4.6	Moderate	R17-283F	Conv	5E	Moderate
Credenz CZ 4892XF	RR2XF	4.8	Moderate	Local IS5067E3	Enlist E3	5	Moderate	R18-14287	Conv	4.3	Moderate
Credenz CZ 4912XF	RR2XF	4.9	Moderate	Local IS5232E3	Enlist E3	5.2	Moderate	R18-14502	Conv	4.9	Moderate
Credenz CZ 5282XF	RR2XF	5.2	Moderate	Local LS4415XF	RR2XF	4.4	Moderate	R18-14753	Conv	4L	Moderate
Delta Grow DG45E10	Enlist E3	4.4	Moderate	Local LS4606XFS	RR2XF	4.6	Moderate	R18-3048	Conv	5E	Moderate
Delta Grow DG46F17/STS	RR2XF	4.6	Moderate	Local LS4707XF	RR2XF	4.9	Moderate	R18-3250	Conv	5E	Moderate
Delta Grow DG46X65/STS	RR2X	4.6	Moderate	Local LS4806XS	RR2X	4.8	Moderate	R18C-1450	Conv	4E	Moderate
Delta Grow DG47E20/STS	Enlist E3	4.7	Moderate	Local LS4919XFS	RR2XF	4.9	Moderate	UA54i19GT	RR1	5.4	Moderate
Delta Grow DG48E49/STS	Enlist E3	4.8	Moderate	Local LS5119XF	RR2XF	5.1	Moderate	USG 7481XF	RR2XF	4.8	Moderate
Delta Grow DG48E59	Enlist E3	4.8	Moderate	NK S45-J3X	RR2X	4.5	Moderate	USG 7489XT	RR2X	4.8	Moderate
Delta Grow DG48F20	RR2XF	4.8	Moderate	NK S46-E3S	Enlist E3	4.6	Moderate	USG 7491XFS	RR2XF	4.9	Moderate
Delta Grow DG48X45	RR2X	4.8	Moderate	NK S49-F5X	RR2X	4.9	Moderate	XO 4681E	Enlist E3	4.6	Moderate

**Table 3. 2021 Soybean varieties that tested Severe injury to metribuzin at 0.5 lb ai/ac.**

Variety Name	Herb. Tech.	MG	Rating	Variety Name	Herb. Tech.	MG	Rating	Variety Name	Herb. Tech.	MG	Rating
Armor 48-D25	RR2X	4.8	Severe	Local LS4795XS	RR2X	4.7	Severe	Progeny P4921XFS	RR2XF	4.9	Severe
Asgrow AG53XF2	RR2XF	5.3	Severe	Local LS4805XFS	RR2XF	4.8	Severe	Progeny P5121E3S	Enlist E3	5.1	Severe
Asgrow AG54XF0	RR2XF	5.4	Severe	Local LS5009Xs	RR2X	5	Severe	Progeny P5424XF	RR2X	5.4	Severe
Delta Grow DG46E10	Enlist E3	4.6	Severe	Local LS5614XF	RR2XF	5.6	Severe	R16-1445	Conv	5M	Severe
Delta Grow DG49E90	Enlist E3	4.9	Severe	NK 42-T5XF	RR2XF	4.2	Severe	R17-3488	Conv	5M	Severe
Delta Grow DG49F22/STS	RR2XF	4.8	Severe	NK S48-2E3S	Enlist E3	4.8	Severe	R17-4177	Conv	5L	Severe
Delta Grow DG53E30	Enlist E3	5.3	Severe	Pioneer P47A64X	RR2X	4.7	Severe	S16-14801C	Conv	5	Severe
Delta Grow DG54F20	RR2XF	5.4	Severe	Progeny P4816RX	RR2X	4.8	Severe				
Dyna-Gro S46XF31S	RR2XF	4.6	Severe	Progeny P4821RX	RR2X	4.8	Severe				

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