

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 2024, 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.



Table 1. 2024 Soybean varieties that tested Slight 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
AE4950	Enlist E3	4.9	Slight	Innvictis A5813XF	RR2XF	5.8	Slight	R19-4593	Conv	5.3	Slight
AG42XF4	RR2XF	4.2	Slight	Innvictis A5994XF	RR2XF	5.8	Slight	R19-46252	Conv	5.4	Slight
AG47XF2	RR2XF	4.7	Slight	Innvictis B4553E	Enlist E3	4.5	Slight	R19C-1001	Conv	4.9	Slight
AG48XF3	RR2XF	4.8	Slight	Innvictis B4574E	Enlist E3	4.5	Slight	R19C-1035	Conv	4.5	Slight
AG52XF0	RR2XF	5.2	Slight	Integra XF4454S	RR2XF	4.4	Slight	R20-1870	Conv	4.3	Slight
Armor 49-F05	RR2XF	4.9	Slight	Integra XF4585S	RR2XF	4.5	Slight	R20-7298	Conv	3.8	Slight
Axis 4625XFS	RR2XF	6.6	Slight	Integra XF4634S	RR2XF	4.6	Slight	R20C-1493	Conv	4.6	Slight
Axis 4815XFS	RR2XF	4.8	Slight	Integra XF4875S	RR2XF	4.8	Slight	R20C-1516	Conv	4.5	Slight
Benson Hill BH37U221	Conv	3.7	Slight	NK42-A6E3S	Enlist E3	4.2	Slight	R21C-00442	Conv	4.1	Slight
Benson Hill BH45Q973	Conv	4.5	Slight	NK44-J4XFS	RR2XF	4.4	Slight	R21C-02207	Conv	4.5	Slight
CT4413E3S	Enlist E3	4.4	Slight	NK47-G5E3S	Enlist E3	4.7	Slight	R21C-02232	Conv	4.6	Slight
DELTA GROW DG43XF65STS	RR2XF	4.3	Slight	NK48-A8XFS	RR2XF	4.8	Slight	R21C-02295	Conv	4.1	Slight
Delta Grow DG46E10	Enlist E3	4.6	Slight	NK49-C2XFS	RR2XF	4.9	Slight	R21C-02922	Conv	4.7	Slight
DELTA GROW DG47E70STS	Enlist E3	4.7	Slight	NK56-Z6XFS	RR2XF	5.6	Slight	R21KB-03657	Conv	5.1	Slight
DELTA GROW DG47XF90STS	RR2XF	4.7	Slight	Pioneer P43Z44SE	Enlist E3	4.3	Slight	R21KB-05522	Conv	5.3	Slight
DELTA GROW DG48XF70STS	RR2XF	4.8	Slight	Pioneer P45A70LX	RR2XF	4.5	Slight	R21KB-06839	Conv	5.0	Slight
DELTA GROW DG48XF80	RR2XF	4.8	Slight	Pioneer P45Z75E	Enlist E3	4.5	Slight	R23PR-00037	Enlist E3	4.9	Slight
DELTA GROW DG52E30	Enlist E3	5.2	Slight	Pioneer P46A90LX	RR2XF	4.6	Slight	R23PR-00068	Enlist E3	4.9	Slight
DELTA GROW DG52XF90STS	RR2XF	5.2	Slight	Pioneer P48Z70BLX	RR2XF	4.8	Slight	R23PR-00089	Enlist E3	4.8	Slight
DELTA GROW DG55XF23	RR2XF	5.5	Slight	Pioneer P49Z02E	Enlist E3	4.9	Slight	Revere 44-F44	RR2XF	4.4	Slight
Dyna-Gro S43XF85S	RR2XF	4.3	Slight	Progeny P4604XFS	RR2XF	4.6	Slight	Revere 46-E67	Enlist E3	4.6	Slight
Dyna-Gro S47XF23S	RR2XF	4.7	Slight	Progeny P4623XF	RR2XF	4.6	Slight	Revere 4826XFS	RR2XF	4.8	Slight
Dyna-Gro S49XF43S	RR2XF	4.9	Slight	Progeny P4691XFS	RR2XF	4.6	Slight	Revere 48-F72	RR2XF	4.8	Slight
Eagle Seed ES4120XF	RR2XF	4.1	Slight	Progeny P4724XFS	RR2XF	4.7	Slight	Revere 49-F36	RR2XF	4.9	Slight
Eagle Seed ES4611XF	RR2XF	4.6	Slight	Progeny P4775E3S	Enlist E3	4.7	Slight	Revere 53-F84	RR2XF	5.3	Slight
Eagle Seed ES56E45	Enlist E3	5.6	Slight	Progeny P4798XF	RR2XF	4.7	Slight	Revere 5735XFS	RR2XF	5.7	Slight
Innvictis A4642XF	RR2XF	4.6	Slight	Progeny P4824XF	RR2XF	4.8	Slight	USG 7435XFS	RR2XF	4.3	Slight
Innvictis A4814XF	RR2XF	4.8	Slight	Progeny P4842XFS	RR2XF	4.8	Slight	USG 7474XFS	RR2XF	4.7	Slight
Innvictis A4862XF	RR2XF	4.8	Slight	Progeny P4848XF	RR2XF	4.8	Slight	USG 7495XFS	RR2XF	4.9	Slight
Innvictis A4924XF	RR2XF	4.9	Slight	Progeny P4947XFS	RR2XF	4.9	Slight	USG 7543XF	RR2XF	5.4	Slight
Innvictis A5124XF	RR2XF	5.1	Slight	R18-14693:0004	Conv	4.5	Slight				
Innvictis A5284XF	RR2XF	5.2	Slight	R18C-1877:0017	Conv	4.2	Slight				

Table 2. 2024 Soybean varieties that tested Moderate 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
AG44XF4	RR2XF	4.4	Moderate	DONMARIO DM47F44S	RR2XF	4.7	Moderate	Pioneer P53Z60LX	RR2XF	5.3	Moderate
AG45XF3	RR2XF	4.5	Moderate	DONMARIO DM48F53	RR2XF	4.8	Moderate	Progeny P4524XFS	RR2XF	4.5	Moderate
AG46XF3	RR2XF	4.6	Moderate	Dyna-Gro S48XF35	RR2XF	4.8	Moderate	Progeny P4634E3	Enlist E3	4.6	Moderate
AG49XF4	RR2XF	4.9	Moderate	Innvictis A4503XF	RR2XF	4.5	Moderate	Progeny P4734XFS	RR2XF	4.7	Moderate
AG53XF2	RR2XF	5.3	Moderate	Innvictis A4664XF	RR2XF	4.6	Moderate	Progeny P4806XFS	RR2XF	4.8	Moderate
Armor 46-F35S	RR2XF	4.6	Moderate	Innvictis B5234E	Enlist E3	5.2	Moderate	Progeny P4999E3S	Enlist E3	4.9	Moderate
Benson Hill BH37Q218	Conv	3.7	Moderate	Integra XF4745S	RR2XF	4.7	Moderate	Progeny P5056XFS	RR2XF	5.0	Moderate
Benson Hill BH37U222	Conv	3.7	Moderate	Integra XF4893S	RR2XF	4.8	Moderate	R19C-1081	Conv	4.3	Moderate
Benson Hill BH43Q207	Conv	4.3	Moderate	Integra XF4914S	RR2XF	4.9	Moderate	R20C-2903	Conv	4.3	Moderate
Benson Hill N44D923S	Conv	4.4	Moderate	NK43-W1XFS	RR2XF	4.3	Moderate	R21KB-06852	Conv	5.5	Moderate
CT5293E3	Enlist E3	5.2	Moderate	NK44-Q5E3S	Enlist E3	4.4	Moderate	R23PR-00035	Enlist E3	5.3	Moderate
DELTA GROW DG46XF54STS	RR2XF	4.6	Moderate	NK49-N7XF	RR2XF	4.9	Moderate	R23PR-00100	Enlist E3	3.9	Moderate
DELTA GROW DG48XF33STS	RR2XF	4.8	Moderate	NK52-D6E3	Enlist E3	5.2	Moderate	Revere 47-F77	RR2XF	4.7	Moderate
DELTA GROW DG49XF85STS	RR2XF	4.9	Moderate	NK54-J9XFS	RR2XF	5.4	Moderate	Revere 51-F31	RR2XF	5.1	Moderate
DELTA GROW DG53XF95STS	RR2XF	5.3	Moderate	Pioneer P46Z53E	Enlist E3	4.6	Moderate				
DONMARIO DM46F54S	RR2XF	4.6	Moderate	Pioneer P48A14E	Enlist E3	4.8	Moderate				

Table 3. 2024 Soybean varieties that tested Severe injury to metiribuzin 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 54-F34	RR2XF	5.4	Severe	Innvictis B4904E	Enlist E3	4.9	Severe	Osage	Conv.	5.6	Severe

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