

Metribuzin (Tricor, Trivence, Fierce MTZ, etc.) is a PSII inhibitor (HRAC/WSSA 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 (HRAC/WSSA Group 14) and chloroacetamide (HRAC/WSSA Group 15) herbicides in soybean and rotational crops such as corn and cotton, the 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 2023, varieties were screened in 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 greenhouse 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 containing a lower metribuzin rate.
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. 2023 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
Asgrow AG42XF4	RR2XF	4.2	Slight	Dyna-Gro S49XF82	RR2XF	4.9	Slight	Progeny P4623XFS	RR2XF	4.6	Slight
Asgrow AG44XF4	RR2XF	4.4	Slight	Eagle Seed ES4800E3	Enlist E3	4.8	Slight	Progeny P4691XFS	RR2XF	4.6	Slight
Asgrow AG45XF3	RR2XF	4.5	Slight	Eagle Seed ES4875XF	RR2XF	4.8	Slight	Progeny P4755XFS	RR2XF	4.7	Slight
Asgrow AG46XF3	RR2XF	4.6	Slight	Innotech 4233E3S	Enlist E3	4.2	Slight	Progeny P4775E3S	Enlist E3	4.7	Slight
Asgrow AG47XF2	RR2XF	4.7	Slight	Innotech 4545E3S	Enlist E3	4.5	Slight	Progeny P4778XFS	RR2XF	4.7	Slight
Asgrow AG48XF3	RR2XF	4.8	Slight	Innotech 4983E3S	Enlist E3	4.9	Slight	Progeny P4798XF	RR2XF	4.7	Slight
Asgrow AG52XF0	RR2XF	5.2	Slight	Innvictis A5813XF	RR2XF	5.8	Slight	Progeny P4850E3	Enlist E3	4.8	Slight
Asgrow AG56XF2	RR2XF	5.6	Slight	Integra X4660	RR2X	4.6	Slight	Progeny P4947XFS	RR2XF	4.9	Slight
Axis 4613XF	RR2XF	4.6	Slight	Integra XF4142S	RR2XF	4.1	Slight	Progeny P4999E3S	Enlist E3	4.9	Slight
Axis 4641XFS	RR2XF	4.6	Slight	Integra XF4454S	RR2XF	4.4	Slight	Progeny P5441XF	RR2XF	5.4	Slight
Axis 4813XFS	RR2XF	4.8	Slight	Integra XF4621S	RR2XF	4.6	Slight	Progeny P5641XF	RR2XF	5.6	Slight
DELTA GROW 44XF75/STS	RR2XF	4.4	Slight	Integra XF4634S	RR2XF	4.6	Slight	Progeny P5751XF	RR2XF	5.7	Slight
DELTA GROW 46E10	Enlist E3	4.6	Slight	Integra XF4893S	RR2XF	4.8	Slight	R18-10491	Conv.	5.4	Slight
DELTA GROW 46E30	Enlist E3	4.6	Slight	Integra XF4914S	RR2XF	4.9	Slight	R19-410712	Conv.	5.4	Slight
DELTA GROW 47E20/STS	Enlist E3	4.7	Slight	NK44-J4XFS	RR2XF	4.4	Slight	R19-411424	Conv.	5.2	Slight
DELTA GROW 48X45	RR2X	4.8	Slight	NK46-B4XFS	RR2XF	4.6	Slight	R19-42447b	Conv.	5.3	Slight
DELTA GROW 48XF42	RR2XF	4.8	Slight	NK48-A8XFS	RR2XF	4.8	Slight	R19-4593	Conv.	5.3	Slight
DELTA GROW 49E30/STS	Enlist E3	4.9	Slight	NK49-C2XFS	RR2XF	4.9	Slight	R19-45980	Conv.	5.4	Slight
DELTA GROW 49XF85/STS	RR2XF	4.9	Slight	NK49-T6E3S	Enlist E3	4.9	Slight	R19-46252	Conv.	5.4	Slight
DELTA GROW 53XF95/STS	RR2XF	5.3	Slight	NK54-J9XFS	RR2XF	5.4	Slight	R19C-1001	Conv.	4.9	Slight
DELTA GROW 55X25	RR2X	5.5	Slight	NK56-Z6XFS	RR2XF	5.6	Slight	R19C-1012	Conv.	4.4	Slight
DELTA GROW 55XF23	RR2XF	5.5	Slight	Pioneer P44A60LX	RR2XF	4.4	Slight	R19C-1081	Conv.	4.3	Slight
DONMARIO DM48F53	RR2XF	4.8	Slight	Pioneer P45A70LX	RR2XF	4.5	Slight	R19C-2678	Conv.	4.8	Slight
Dyna-Gro S46XF31S	RR2XF	4.6	Slight	Pioneer P47A64X	RR2X	4.7	Slight	R19C-3085	Conv.	5.1	Slight
Dyna-Gro S49XF43S	RR2XF	4.9	Slight	Progeny P4604XFS	RR2XF	4.6	Slight	R19C-3147	Conv.	4.9	Slight
R19C-3194	Conv.	5.3	Slight	Revere 4731XF	RR2XF	4.7	Slight	S18-6328	Conv.	5.0	Slight
Revere 4237XFS	RR2XF	4.2	Slight	Revere 5143E3	Enlist E3	5.1	Slight	S19-10701	Conv.	4.5	Slight
Revere 4415XF	RR2XF	4.4	Slight	S17-17644	Conv.	4.8	Slight	USG 7461XFS	RR2XF	4.6	Slight
Revere 4526XFS	RR2XF	4.5	Slight	S18-6013	Conv.	5.2	Slight	USG 7474XFS	RR2XF	4.7	Slight
Revere 4727XF	RR2XF	4.7	Slight								

Table 2. 2023 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
Asgrow AG43XF2	RR2XF	4.3	Moderate	Dyna-Gro S47XF23S	RR2XF	4.7	Moderate	Progeny P5056XFS	RR2XF	5.0	Moderate
Asgrow AG48XF2	RR2XF	4.8	Moderate	Innvictis A5003XF	RR2XF	5.0	Moderate	R18-10919	Conv.	5.4	Moderate
Asgrow AG53XF2	RR2XF	5.3	Moderate	NK42-A6E3S	Enlist E3	4.2	Moderate	R18C-13665	Conv.	4.9	Moderate
DELTA GROW 46X65/STS	RR2X	4.6	Moderate	NK44-Q5E3S	Enlist E3	4.4	Moderate	R19-424115b	Conv.	5.2	Moderate
DELTA GROW 46XF54	RR2XF	4.6	Moderate	NK52-D6E3	Enlist E3	5.2	Moderate	R19C-1035	Conv.	4.5	Moderate
DELTA GROW 47XF38	RR2XF	4.7	Moderate	Pioneer P44A21X	RR2X	4.4	Moderate	Revere 4826XF	RR2XF	4.8	Moderate
DELTA GROW 48E59	Enlist E3	4.8	Moderate	Pioneer P46A20LX	RR2XF	4.6	Moderate	Revere 4925XFS	RR2XF	4.9	Moderate
DELTA GROW 48XF33/STS	RR2XF	4.8	Moderate	Pioneer P46A90LX	RR2XF	4.6	Moderate	Revere 4934XF	RR2XF	4.9	Moderate
DELTA GROW 52XF22	RR2XF	5.2	Moderate	Pioneer P48A04LX	RR2XF	4.8	Moderate	Revere 5029XF	RR2XF	5.0	Moderate
DONMARIO DM45F23	RR2XF	4.5	Moderate	Progeny P4665XFS	RR2XF	4.6	Moderate	USG 7463XF	RR2XF	4.6	Moderate
Dyna-Gro S42XF93S	RR2XF	4.2	Moderate	Progeny P4806XFS	RR2XF	4.8	Moderate				

Table 3. 2023 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
Asgrow AG47XF4	RR2XF	4.7	Severe	Innvictis B4903E	Enlist E3	4.9	Severe	Osage	Conv.	5.6	Severe
Innvictis B4603E	Enlist E3	4.6	Severe	Innvictis B5013E	Enlist E3	5.0	Severe	R19-39444	Conv.	4.8	Severe

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