

Metribuzin Tolerance Testing of Soybean Varieties - 2015

Metribuzin (Sencor, 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 herbicide 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 Division of Agriculture conducted a greenhouse screening of soybean varieties, testing their tolerance to metribuzin at a rate of 0.5 lb ai/ac. 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. 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) – Use of any metribuzin-containing product would likely cause considerable injury to these soybean varieties.

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.

Table 1. Soybean Varieties that Tested Slight Injury to Metribuzin at 0.5 lb ai/ac.

Variety Name	Herbicide Tolerance	MG	Rating	Variety Name	Herbicide Tolerance	MG	Rating	Variety Name	Herbicide Tolerance	MG	Rating
Armor 43-R51	RR2	4.3	Slight	Croplan R2C4873S	RR2/STS	4.8	Slight	Delta Grow DG4985 RR2	RR2	4.9	Slight
Armor 48-C5	Conv./STS	4.8	Slight	Croplan R2C4914S	RR2	4.9	Slight	Delta Grow DG4990 LL	LL	4.9	Slight
Armor 55-R68	RR2	5.6	Slight	Delta Grow DG4670 RR2	RR2	4.6	Slight	Delta Grow DG5170 RR2	RR2/STS	5.2	Slight
Armor AR4615	RR2	4.6	Slight	Delta Grow DG4755 RR2	RR2	4.7	Slight	Delta Grow DG5230 RR2	RR2	5.2	Slight
Armor AR53X	RR2	5.3	Slight	Delta Grow DG4775 RR2	RR2	4.7	Slight	Delta Grow DG5461 LL	LL	5.4	Slight
Asgrow AG4632	RR2/STS	4.6	Slight	Delta Grow DG4825 RR2/STS	RR2/STS	4.8	Slight	Delta Grow DG5575 RR2	RR2	5.5	Slight
Asgrow AG5233	RR2/STS	5.2	Slight	Delta Grow DG4880 RR	RR1	4.8	Slight	Dyna-Gro 31RY45	RR2	4.5	Slight
Asgrow AG5335	RR2/STS	5.3	Slight	Delta Grow DG4940 RR	RR1	4.9	Slight	Dyna-Gro 39RY43	RR2	4.3	Slight
Asgrow AG5535	RR2/STS	5.5	Slight	Delta Grow DG4970 RR	RR1	4.9	Slight	Dyna-Gro S42RY46	RR2	4.2	Slight
Bayer CZ 4540LL	LL	4.5	Slight	Delta Grow DG4977 LL/STS	LL/STS	4.9	Slight	Dyna-Gro S47RY13	RR2	4.7	Slight
Croplan R2C4700S	RR2/STS	4.7	Slight	Delta Grow DG4981 LL/STS	LL/STS	4.9	Slight	Dyna-Gro S52RY75	RR2	5.2	Slight

Table 1 (Continued). Soybean Varieties that Tested Slight Injury to Metribuzin at 0.5 lb ai/ac.

Variety Name	Herbicide Tolerance	MG	Rating	Variety Name	Herbicide Tolerance	MG	Rating	Variety Name	Herbicide Tolerance	MG	Rating
Dyna-Gro S54RY43	RR2	5.4	Slight	Mycogen 5N490R2	RR2/STS	4.9	Slight	R09-430	Conv.	5.0	Slight
Dyna-Gro S55LS75	LL/STS	5.5	Slight	Mycogen 5N522R2	RR2	5.2	Slight	R10-197RY	RR2	5.6	Slight
Dyna-Gro S56RY84	RR2	5.6	Slight	NK S41-J6 Brand	RR2	4.1	Slight	R10-230	Conv.	5.6	Slight
Eagle Seed ES4777RR	RR1	4.7	Slight	NK S45-R7 Brand	RR2/STS	4.5	Slight	REV@ 44A14™	RR2	4.4	Slight
Eagle Seed ES4840RY	RR2	4.8	Slight	NK S45-V8 Brand	RR2	4.5	Slight	REV@ 48A46™	RR1	4.8	Slight
Eagle Seed ES5400RR	RR1	5.4	Slight	NK S46-L2 Brand	RR2	4.6	Slight	REV@ 49A14™	RR2/STS	4.9	Slight
Eagle Seed ES5507RR	RR1	5.5	Slight	NK S52-Y2 Brand	RR2	5.2	Slight	REV@ 49A55™	RR1	4.9	Slight
Eagle Seed ES5508RY	RR2	5.5	Slight	NK S55-Q3 Brand	RR2	5.5	Slight	REV@ 49A75™	RR1	4.9	Slight
GoSoy 4714LL	LL	4.7	Slight	Pioneer P47T89R	RR1	4.7	Slight	REV@ 49R94™	RR1	4.9	Slight
GoSoy 5315LL	LL	5.3	Slight	Pioneer P48T53R	RR1	4.8	Slight	REV@ 52A94™	RR1/STS	5.2	Slight
GoSoy Glider	Conv.	4.7	Slight	Pioneer P49T80R	RR1	4.9	Slight	REV@ 54R84™	RR1	5.4	Slight
HALO 4:95	LL	4.9	Slight	Pioneer P50T64R	RR1	5.0	Slight	REV@ 55R53™	RR1	5.5	Slight
HALO 4:98	LL/STS	4.9	Slight	Pioneer P52T50R	RR1	5.2	Slight	REV@ 56R63™	RR1	5.6	Slight
HALO 5:26	LL	5.2	Slight	Pioneer P53T73SR	RR1/STS	5.3	Slight	REV@ 57R21™	RR1	5.7	Slight
HBK 4653LL	LL	4.6	Slight	Progeny P4211RY	RR2	4.2	Slight	S11-16653	Conv.	5.2	Slight
HBK 4950LL	LL	4.9	Slight	Progeny P4214RY	RR2	4.3	Slight	S11-17025	Conv.	5.3	Slight
HBK 4953LL	LL	4.9	Slight	Progeny P4757RY	RR2	4.7	Slight	S11-20124	Conv.	5.2	Slight
Hutcheson	Conv.	5.3	Slight	Progeny P4788RY	RR2	4.7	Slight	S11-20337	RR1	4.9	Slight
JTN-5110	Conv.	5.5	Slight	Progeny P4814LLS	LL/STS	4.8	Slight	S12-3791	Conv.	4.7	Slight
LG Seeds C4322R2	RR2	4.3	Slight	Progeny P4850RYS	RR2/STS	4.8	Slight	Schillinger 495.RC	RR1	4.9	Slight
LG Seeds C4780R2	RR2/STS	4.7	Slight	Progeny P4900RY	RR2	4.9	Slight	UA 5014C	Conv.	4.9	Slight
LG Seeds C4867R2	RR2/STS	4.8	Slight	Progeny P4930LL	LL	4.9	Slight	UA 5213C	Conv.	5.2	Slight
MorSoy Xtra 46X95	RR2	4.6	Slight	Progeny P5460LL	LL	5.4	Slight	UA 5612	Conv.	5.6	Slight
MorSoy Xtra 47X12	RR2/STS	4.7	Slight	Progeny P5555RY	RR2	5.5	Slight	USG 74A74RS	RR2/STS	4.7	Slight
MorSoy Xtra 48X02	RR2	4.8	Slight	Progeny P5610RY	RR2	5.6	Slight	USG 74G99L	LL	4.9	Slight
MorSoy Xtra 55X75	RR2	5.5	Slight	Progeny P5752RY	RR2	5.7	Slight	Willcross WXR2524N	RR2	5.2	Slight
Mycogen 5N452R2	RR2	4.5	Slight	R09-1589	Conv.	4.9	Slight				

Table 2. Soybean Varieties that Tested Moderate Injury to Metribuzin at 0.5 lb ai/ac.

Variety Name	Herbicide Tolerance	MG	Rating	Variety Name	Herbicide Tolerance	MG	Rating	Variety Name	Herbicide Tolerance	MG	Rating
Agventure AvDx-D415	RR1	4.4	Moderate	Delta Grow DG4765 RR2/STS	RR2/STS	4.7	Moderate	NK S58-Z4 Brand	RR2	5.8	Moderate
Agventure AvDx-D514	RR1	4.5	Moderate	Delta Grow DG4967 LL	LL	4.9	Moderate	Pioneer P41T33R	RR1	4.1	Moderate
Agventure AvDx-D714	RR1	4.7	Moderate	Delta Grow DG5128	Conv.	5.1	Moderate	Pioneer P47T36R	RR1	4.7	Moderate
Agventure AvDx-D814	RR1	4.8	Moderate	Delta Grow DG5267 LL	LL	5.1	Moderate	Pioneer P49T09BR	RR1/BOLT	4.9	Moderate
Agventure AvDx-D914	RR1	4.9	Moderate	Delta Grow DG5625 RR2	RR2	5.6	Moderate	Pioneer P50T15BR	RR1/BOLT	5.0	Moderate
Armor 41X5L	LL	4.1	Moderate	Dyna-Gro S43RY95	RR2	4.3	Moderate	Progeny P4613RYS	RR2/STS	4.6	Moderate
Armor 44X5L	LL	4.4	Moderate	Dyna-Gro S44LS76	LL/STS	4.4	Moderate	Progeny P5333RY	RR2	5.3	Moderate
Armor 47-L10	LL	4.7	Moderate	Dyna-Gro S46RY85	RR2	4.6	Moderate	Progeny P5414LL	LL	5.4	Moderate
Armor 47-R10	RR2	4.7	Moderate	Dyna-Gro S48RS53	RR2/STS	4.8	Moderate	REV® 47R34™	RR1	4.7	Moderate
Armor 49-R44	RR2	4.9	Moderate	Dyna-Gro S49LL34	LL	4.9	Moderate	REV® 47R53™	RR1	4.7	Moderate
Armor 49X5L	LL	4.9	Moderate	Eagle Seed ES4772RY	RR2	4.7	Moderate	REV® 49L29™	LL	4.9	Moderate
Armor 57-R17	RR2	5.7	Moderate	Eagle Seed ES4960RY	RR2	4.9	Moderate	REV® 51A56™	RR1	5.1	Moderate
Armor AR4205	RR2	4.2	Moderate	Eagle Seed ES4998RR	RR1	4.9	Moderate	REV® 55L95™	LL	5.5	Moderate
Armor AR4504	RR2	4.5	Moderate	Eagle Seed ES5225RY	RR2	5.2	Moderate	S11-20195	RR1	5.3	Moderate
Armor AR49-X	RR2	4.9	Moderate	Eagle Seed ES5335RY	RR2	5.3	Moderate	UA 5414RR	RR1	5.4	Moderate
Armor AR5205	RR2	5.2	Moderate	Eagle Seed ES5650RR	RR1	5.6	Moderate	UA 5814HP	Conv.	5.8	Moderate
Armor AR5605	RR2	5.5	Moderate	GoSoy 4415LL	LL	4.4	Moderate	USG 74B83RS	RR2/STS	4.8	Moderate
Asgrow AG4835	RR2/STS	4.8	Moderate	GoSoy 483C	Conv.	4.8	Moderate	USG 74D95RS	RR2/STS	4.9	Moderate
Asgrow AG4934	RR2/STS	4.9	Moderate	GoSoy 5115LL	LL	5.1	Moderate	USG 74F24RS	RR2/STS	4.2	Moderate
Bayer CZ 4105LL	LL	4.1	Moderate	GoSoy 5515LL	LL	5.5	Moderate	USG 74F53RS	RR2/STS	4.5	Moderate
Bayer CZ 4181RY	RR2	4.1	Moderate	GoSoy Ireane	Conv.	4.9	Moderate	USG 74K95RS	RR2/STS	4.9	Moderate
Bayer CZ 4818LL	LL	4.8	Moderate	HALO 4:80	LL	4.8	Moderate	USG 75G24L	LL	5.2	Moderate
Bayer CZ 5147LL	LL	5.1	Moderate	LG Seeds C4994R2	RR2	4.9	Moderate	USG 75J45R	RR2	5.4	Moderate
Bayer CZ 5150LL	LL	5.1	Moderate	MorSoy Xtra 49X85	RR2/STS	4.9	Moderate	USG Ellis	Conv.	4.9	Moderate
Bayer CZ 5445LL	LL	5.4	Moderate	Mycogen 5N404R2	RR2	4.0	Moderate	Willcross WXE2495N	RR2	4.9	Moderate
Croplan R2C4654	RR2	4.6	Moderate	Mycogen 5N433R2	RR2	4.3	Moderate	Willcross WXE2535NS	RR2/STS	5.3	Moderate
Delta Grow DG4567 LL	LL	4.5	Moderate	Mycogen 5N479R2	RR2/STS	4.7	Moderate	Willcross WXR2494NS	RR2/STS	4.9	Moderate
Delta Grow DG4587 LL/STS	LL/STS	4.5	Moderate	Mycogen 5N501R2	RR2	5.0	Moderate				

Table 3. Soybean Varieties that Tested Severe Injury to Metribuzin at 0.5 lb ai/ac.

Variety Name	Herbicide Tolerance	MG	Rating	Variety Name	Herbicide Tolerance	MG	Rating	Variety Name	Herbicide Tolerance	MG	Rating
Armor 50-R21	RR2	5.0	Severe	Delta Grow DG4790 RR2	RR2	4.7	Severe	GoSoy Leland	Conv.	5.0	Severe
Armor 51X5L	LL	5.1	Severe	Delta Grow DG4935 RR2/STS	RR2/STS	4.9	Severe	NK S47-K5 Brand	RR2	4.7	Severe
Armor 53-L55	LL/STS	5.2	Severe	Delta Grow DG4995 RR	RR1	4.9	Severe	NK S48-D9 Brand	RR2	4.8	Severe
Asgrow AG4135	RR2/STS	4.1	Severe	Delta Grow DG5067 LL	LL	5.2	Severe	OSAGE	Conv.	5.5	Severe
Bayer CZ 4044LL	LL	4.0	Severe	Delta Grow DG5367 LL	LL	5.3	Severe	Progeny P5160LL	LL	5.1	Severe
Bayer CZ 4590RY	RR2	4.5	Severe	Dyna-Gro S49RY25	RR2	4.9	Severe	Progeny P5213RY	RR2	5.2	Severe
Bayer CZ 4748LL	LL	4.7	Severe	Dyna-Gro S52LL66	LL	5.2	Severe	Progeny P5226RYS	RR2/STS	5.2	Severe
Bayer CZ 4959RY	RR2	4.9	Severe	GoSoy 4714GTS	RR1	4.7	Severe	R11-89RY	RR2	5.4	Severe
Bayer CZ 5225LL	LL/STS	5.2	Severe	GoSoy 4914GTS	RR1	4.9	Severe	USG 75B75R	RR2	5.7	Severe
Bayer CZ 5242LL	LL	5.2	Severe	GoSoy 4915R2	RR1	4.9	Severe	USG 75T40R	RR1	5.4	Severe
Delta Grow DG4781 LL	LL	4.7	Severe	GoSoy 5215LL	LL	5.2	Severe				

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