

Metribuzin Tolerance Testing of Soybean Varieties - 2017

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 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. 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.

Variety Name	Herbicide Technology	MG	Rating	Variety Name	Herbicide Technology	MG	Rating	Variety Name	Herbicide Technology	MG	Rating
AgriGold G4440 RX	RR2Xtend	4.4	Slight	Armor ARX4907	RR2Xtend	4.9	Slight	Bayer CZ 4748 LL	LL	4.7	Slight
AGS GS45R216	RR2Y	4.5	Slight	Armor ARX5107	RR2Xtend	5.1	Slight	Bayer CZ 5147 LL	LL	5.1	Slight
AGS GS46X17	RR2Xtend	4.6	Slight	Armor ARX5607	RR2Xtend	5.6	Slight	Bayer CZ 5150 LL	LL	5.1	Slight
Armor 44-D40	RR2Xtend/STS	4.4	Slight	Asgrow AG43X7	RR2Xtend/SR	4.3	Slight	Delta Grow DG4825	RR2Xtend	4.8	Slight
Armor 44-D51	RR2Xtend	4.4	Slight	Asgrow AG43X8	RR2Xtend	4.3	Slight	Delta Grow DG4880	RR1	4.8	Slight
Armor 44L20	LL	4.4	Slight	Asgrow AG45X8	RR2Xtend/SR	4.5	Slight	Delta Grow DG4967	LL	4.9	Slight
Armor 48L30	LL	4.8	Slight	Asgrow AG46X8	RR2Xtend/SR	4.6	Slight	Delta Grow DG4977	LL/STS	4.9	Slight
Armor 53-D04	RR2Xtend	5.3	Slight	Asgrow AG47X6	RR2Xtend/SR	4.7	Slight	Delta Grow DG5580	RR2Y	5.5	Slight
Armor ARX4507	RR2Xtend	4.5	Slight	Asgrow AG48X8	RR2Xtend/SR	4.8	Slight	Dyna-Gro S44XS57	RR2Xtend/STS	4.4	Slight
Armor ARX4607	RR2Xtend	4.6	Slight	Asgrow AG51X8	RR2Xtend/SR	5.1	Slight	Dyna-Gro S45LL97	LL	4.5	Slight
Armor ARX4807	RR2Xtend	4.8	Slight	Asgrow AG55X8	RR2Xtend/SR	5.6	Slight	Dyna-Gro S45XS66	RR2Xtend/STS	4.5	Slight
Armor ARX4817	RR2Xtend	4.8	Slight	Bayer CZ 4540 LL	LL	4.7	Slight	Dyna-Gro S49LL34	LL	4.9	Slight

Table 1 (Continued). 2017 Soybean Varieties that tested Slight injury to metribuzin at 0.5 lb ai/A.											
Variety Name	Herbicide Technology	MG	Rating	Variety Name	Herbicide Technology	MG	Rating	Variety Name	Herbicide Technology	MG	Rating
Dyna-Gro S55LS75	LL/STS	5.5	Slight	NK S45-K5X Brand	RR2Xtend	4.5	Slight	R13-14635RR	RR1	5.5	Slight
Dyna-Gro S56RY84	RR2Y	5.6	Slight	NK S48-R2X Brand	RR2Xtend	4.8	Slight	R13-4638RY	RR2Y	5.6	Slight
Dyna-Gro S56XT98	RR2Xtend	5.6	Slight	Pioneer P42A52X	RR2Xtend	4.2	Slight	R14-14797RR	RR1	5.4	Slight
Dyna-Gro SX17648XT	RR2Xtend	4.8	Slight	Pioneer P46A16R	RR2Y	4.6	Slight	R14-2893RR	RR1	5.4	Slight
Dyna-Gro SX17651XS	RR2Xtend/STS	5.1	Slight	Pioneer P46A93X	RR2Xtend	4.6	Slight	S13-10590C	Conv	4.3	Slight
Dyna-Gro SX17846XS	RR2Xtend/STS	4.6	Slight	Pioneer P48A60X	RR2Xtend	4.8	Slight	S13-1805C	Conv	4.8	Slight
Dyna-Gro SX17852XT	RR2Xtend	5.2	Slight	Pioneer P50T78L	LL	5	Slight	S14-1955C	Conv	5.3	Slight
Eagle Seed ES 4840RY	RR2Y	4.8	Slight	Pioneer P54A54X	RR2Xtend	5.4	Slight	S14-6391C	Conv/STS	4.7	Slight
Eagle Seed ES4460RYX	RR2Xtend	4.4	Slight	Progeny 5157RXS	RR2Xtend/STS	5.1	Slight	S14-9017R	RR1	5.3	Slight
Eagle Seed ES4660RYX	RR2Xtend	4.6	Slight	Progeny P4255RX	RR2Xtend	4.2	Slight	S14-9051R	RR1	4.5	Slight
Eagle Seed ES4772RY	RR2Y	4.7	Slight	Progeny P4444RXS	RR2Xtend/STS	4.4	Slight	Terral REV 45L57	LL	4.5	Slight
Eagle Seed ES4870RYX	RR2Xtend	4.8	Slight	Progeny P4516RXS	RR2Xtend/STS	4.5	Slight	Terral REV 4857X	RR2Xtend	4.8	Slight
Eagle Seed ES5030RYX	RR2Xtend	5	Slight	Progeny P4716LL	LL	4.7	Slight	Terral REV 48A26	RR1	4.8	Slight
Eagle Seed ES5420RYX	RR2Xtend	5.4	Slight	Progeny P4757RY	RR2Y	4.7	Slight	Terral REV 48L63	LL	4.8	Slight
Eagle Seed ES5508RY	RR2	5.5	Slight	Progeny P4851RX	RR2Xtend	4.8	Slight	Terral REV 4927X	RR2Xtend	4.9	Slight
Eagle Seed ES5660RYX	RR2Xtend	5.6	Slight	Progeny P4929RXS	RR2Xtend/STS	4.9	Slight	Terral REV 49L88	LL	4.9	Slight
GoSoy 49L17	LL	4.9	Slight	Progeny P4930LL	LL	4.9	Slight	Terral REV 49R94	RR1	4.9	Slight
GoSoy 5115LL	LL	5.1	Slight	Progeny P5279RXS	RR2Xtend/STS	5.2	Slight	Terral REV 51A56	RR1	5.1	Slight
GoSoy 56C16	Conv	5.6	Slight	Progeny P5414LLS	LL/STS	5.4	Slight	Terral REV 52A98	RR1	5.2	Slight
GoSoy Ireane	Conv	4.9	Slight	Progeny P5417RX	RR2Xtend	5.4	Slight	Terral REV 55A67	RR1	5.5	Slight
GoSoy Leland	Conv	5.1	Slight	Progeny P5555RY	RR2Y	5.5	Slight	Terral REV 56A58	RR1	5.6	Slight
HBK LL 4953	LL	4.9	Slight	Progeny P5623LL	LL	5.6	Slight	Terral REV 56R63	RR1	5.6	Slight
Hefty H45x8s	RR2Xtend	4.4	Slight	Progeny P5688RX	RR2Xtend	5.6	Slight	UA 5014C	Conv	5	Slight
Hefty H46x6	RR2Xtend	4.6	Slight	R09-430	Conv	5.1	Slight	UA 5414RR	RR1	5.4	Slight
JTN-5110	Conv	5.5	Slight	R11-328	Conv	4.9	Slight	UA 5715GT	RR1	5.7	Slight
MorSoy 4426 RXT	RR2Xtend/STS	4.4	Slight	R11-7999	Conv	5.7	Slight	UA 5814HP	Conv	5.8	Slight
MorSoy 4616 RXT	RR2Xtend/STS	4.6	Slight	R12-226	Conv	4.9	Slight	UAX 51010C	Conv	5.2	Slight
MorSoy 4667 RXT	RR2Xtend/STS	4.6	Slight	R12-712	Conv	4.9	Slight	USG 7547XT	RR2Xtend	5.4	Slight
MorSoy 4846 RXT	RR2Xtend	4.8	Slight	R13-1019	Conv	4.9	Slight	USG 7568XT	RR2Xtend	5.6	Slight
MorSoy 4857 RXT	RR2Xtend/STS	4.8	Slight	R13-13433	Conv	4.9	Slight				
NK S43-V3X Brand	RR2Xtend	4.3	Slight	R13-13997	Conv	5.3	Slight				

Table 2. 2017 Soybean Varieties that tested Moderate injury to metribuzin at 0.5 lb ai/A.											
Variety Name	Herbicide Technology	MG	Rating	Variety Name	Herbicide Technology	MG	Rating	Variety Name	Herbicide Technology	MG	Rating
AgriGold G4380RX	RR2Xtend	4.3	Moderate	Delta Grow DG5067	LL	5	Moderate	MorSoy 4777 RXT	RR2Xtend	4.7	Moderate
AgriGold G4685RX	RR2Xtend	4.6	Moderate	Delta Grow DG5170	RR2Y/STS	5.1	Moderate	MorSoy 4807 RXT	RR2Xtend	4.8	Moderate
AgriGold G4835RX	RR2Xtend	4.8	Moderate	Delta Grow DG5585	RR2Y	5.6	Moderate	MorSoy 4997 RXT	RR2Xtend/STS	4.9	Moderate
AgriGold G4990RX	RR2Xtend	4.9	Moderate	Dyna-Gro 31RY45	RR2Y	4.5	Moderate	MorSoy 5050 RXT	RR2Xtend/STS	5	Moderate
AgriGold G5000RX	RR2Xtend	5	Moderate	Dyna-Gro S43RY95	RR2Y	4.3	Moderate	Petrus Seed 479 GTS	RR1/STS	4.7	Moderate
AGS GS48R216	RR2Y	4.8	Moderate	Dyna-Gro S45XS37	RR2Xtend/STS	4.5	Moderate	Petrus Seed 4916 GT	RR1	4.9	Moderate
Armor 46-D08	RR2Xtend/STS	4.6	Moderate	Dyna-Gro S48XT56	RR2Xtend	4.8	Moderate	Pfister 48RS01	RR2Y	4.8	Moderate
Armor ARX4827	RR2Xtend	4.8	Moderate	Dyna-Gro S49XS88	RR2Xtend/STS	4.9	Moderate	Progeny P4247LL	LL	4.2	Moderate
Asgrow AG46X6	RR2Xtend	4.6	Moderate	Dyna-Gro S52RY75	RR2Y	5.2	Moderate	Progeny P4620RXS	RR2Xtend/STS	4.6	Moderate
Asgrow AG46X7	RR2Xtend/SR	4.6	Moderate	Eagle Seed ES4680RYX	RR2Xtend	4.6	Moderate	Progeny P4799RXS	RR2Xtend/STS	4.7	Moderate
Asgrow AG53X6	RR2Xtend	5.3	Moderate	Eagle Seed ES4998RR	RR1	4.9	Moderate	Progeny P4816RX	RR2Xtend	4.8	Moderate
Asgrow AG55X7	RR2Xtend	5.5	Moderate	GoSoy 43L16	LL	4.3	Moderate	Progeny P5016RXS	RR2Xtend/STS	5	Moderate
Bayer CZ 4222 LL	LL	4.2	Moderate	GoSoy 47B17	Balance GT	4.7	Moderate	Progeny P5752RY	RR2Y	5.7	Moderate
Croplan R2C4775	RR1	4.7	Moderate	GoSoy 49G16	RR1	4.9	Moderate	S13-2743C	Conv	4.1	Moderate
Croplan RX4817	RR2Xtend	4.8	Moderate	GoSoy 54G16	RR1	5.4	Moderate	S13-3851C	Conv	4.3	Moderate
Croplan RX4825	RR2Xtend	4.8	Moderate	HBK LL 4950	LL	4.9	Moderate	S14-15146R	RR1/STS	4.7	Moderate
Delta Grow DG4587	LL/STS	4.5	Moderate	Hefty H29x7s	RR2Xtend	5	Moderate	Terral REV 48A76	RR1	4.8	Moderate
Delta Grow DG4670	RR2Y	4.6	Moderate	Hefty H43x8	RR2Xtend	4.3	Moderate	Terral REV 50A47	RR1	5	Moderate
Delta Grow DG4680	RR2Y	4.6	Moderate	Hefty H47L5	LL	4.8	Moderate	USG 7478XTS	RR2Xtend/STS	4.7	Moderate
Delta Grow DG4781	LL	4.7	Moderate	Hefty H48L3	LL	4.8	Moderate	USG 7487XTS	RR2Xtend/STS	4.8	Moderate
Delta Grow DG4790	RR2Y	4.7	Moderate	Hefty H49x7	RR2Xtend	4.9	Moderate	USG 7496XTS	RR2Xtend/STS	4.9	Moderate
Delta Grow DG4835	RR2Xtend	4.8	Moderate	LG C4710RX	RR1/STS	4.7	Moderate	USG 7497XT	RR2Xtend	4.9	Moderate
Delta Grow DG4845	RR2Xtend	4.8	Moderate	LG C4845RX	RR1	4.8	Moderate	USG 74K95RS	RR2Y/STS	4.9	Moderate
Delta Grow DG4940	RR1	4.9	Moderate	LG C4922RX	RR1/STS	4.9	Moderate	USG Ellis	Conv	4.9	Moderate
Delta Grow DG4970	RR1	4.9	Moderate	MorSoy 3907 RXT	RR2Xtend	3.9	Moderate				
Delta Grow DG4995	RR1	4.9	Moderate	MorSoy 4535 RXT	RR2Xtend/STS	4.5	Moderate				

Table 3. 2017 Soybean Varieties that tested Severe injury to metribuzin at 0.5 lb ai/A.											
Variety Name	Herbicide Technology	MG	Rating	Variety Name	Herbicide Technology	MG	Rating	Variety Name	Herbicide Technology	MG	Rating
Bayer CZ 4044 LL	LL	4	Severe	Eagle Seed ES5225RY	RR2Y	5.2	Severe	R11-8346	Conv	5.6	Severe
Bayer CZ 5242 LL	LL	5.2	Severe	OSAGE	Conv	5.6	Severe	USG 75B75R	RR2Y	5.7	Severe
Dyna-Gro S49XS76	RR2Xtend/STS	4.9	Severe	Progeny P5376RX	RR2Xtend	5.3	Severe				

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