

Metribuzin Tolerance Testing of Soybean Varieties - 2019

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 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) – Do not spray any formulation or rate of metribuzin if these varieties are planted as severe injury and yield loss would be expected.

Please note 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. 2019 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
Armor 42-D27	RR2X	4.2	Slight	Delta Grow DG45E23	E3	4.4	Slight	DONMARIO DM 48E73	E3	4.8	Slight
Armor 44-D92	RR2X	4.4	Slight	Delta Grow DG46E29	E3/STS	4.6	Slight	DONMARIO DM Exper	RR2X	4.9	Slight
Armor 45-D51	RR2X	4.5	Slight	Delta Grow DG46X25	RR2X	4.6	Slight	Dyna-Gro S41XS98	RR2X/STS	4.1	Slight
Armor 46-D30	RR2X	4.6	Slight	Delta Grow DG47E19	E3	4.7	Sight	Dyna-Gro S45XS37	RR2X/STS	4.5	Slight
Armor 47-D86	RR2X	4.7	Slight	Delta Grow DG48E10	E3	4.8	Slight	Dyna-Gro S46EN29	E3	4.6	Slight
Armor 48-D88	RR2X	4.8	Slight	Delta Grow DG48E39	E3	4.8	Slight	Dyna-Gro S46XS60	RR2X/STS	4.6	Slight
Armor 51-D77	RR2X	5.1	Slight	Delta Grow DG48E49	E3/STS	4.8	Slight	Dyna-Gro S47XT20	RR2X	4.7	Slight
Armor 55-D57	RR2X	5.5	Slight	Delta Grow DG48X05	RR2X	4.8	Slight	Dyna-Gro S48XT56	RR2X	4.8	Slight
Asgrow AG47X0	RR2X	4.7	Slight	Delta Grow DG4977LL/STS	LL/STS	4.9	Slight	Dyna-Gro S49EN79	E3	4.9	Sight
Asgrow AG48X9	RR2X	4.8	Slight	Delta Grow DG49X15	RR2X	4.9	Slight	Dyna-Gro S56XT99	RR2X	5.6	Slight
Credenz CZ 4938LL	LL	4.9	Slight	Delta Grow DG52E22	E3	5.2	Slight	Eagle Seed ES4460RYX	RR2X	4.4	Slight
Credenz CZ 5150LL	LL	5.1	Slight	Delta Grow DG54X25	RR2X	5.4	Slight	Eagle Seed ES4680RYX	RR2X	4.6	Slight
Credenz CZ 5299X	RR2X	5.2	Slight	Delta Grow DG5585RR2	RR2	5.5	Slight	Eagle Seed ES4840RYX	RR2X	4.8	Slight

Table 1 (Continued). 2019 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
Eagle Seed ES5155RYX	RR2X	5.1	Slight	MorSoy 4447 RXT	RR2X	4.4	Slight	R13-13997	Conv	5.4	Slight
GoSoy 44GL18	LLGT27	4.4	Slight	MorSoy 4706 RXT	RR2X	4.7	Slight	R13-14635RR	RR1	5.4	Slight
GoSoy 481E19	E3	4.8	Slight	MorSoy 4846 RXT	RR2X	4.8	Slight	R13-818	Conv	5.3	Slight
GoSoy 49G16	RR1	4.9	Slight	NK S49-F5X	RR2X	4.9	Slight	R14-1422	Conv	5.4	Slight
GoSoy 50G17	RR1	5.0	Slight	Petrus Seed 4916 GT	RR1	4.9	Slight	R15-1587	Conv	5.1	Slight
Hefty H51E9	E3	5.1	Slight	Pioneer P48A60X	RR2X	4.8	Slight	R16-1445	Conv	5.4	Slight
LG Seeds LGS4420RX	RR2X	4.6	Slight	Pioneer P48A99L	LL	4.8	Slight	R16-253	Conv	4.6	Slight
LG Seeds LGS4899RX	RR2X	4.8	Slight	Progeny P4255 RX	RR2X	4.2	Slight	R16-2546C	Conv	5.1	Slight
Local LS3976X	RR2X	3.9	Slight	Progeny P4265 RXS	RR2X/STS	4.2	Slight	R16-259	Conv	4.6	Slight
Local LS4299XS	RR2X	4.2	Slight	Progeny P4291 LR	LLGT27	4.2	Slight	R16-378	Conv	5.4	Slight
Local LS4487XS	RR2X	4.4	Slight	Progeny P4444 RXS	RR2X/STS	4.4	Slight	R16-39	Conv	5.1	Slight
Local LS4583X	RR2X	4.5	Slight	Progeny P4710 E3	E3	4.7	Slight	REV 4310X	RR2X	4.3	Slight
Local LS4596GLS	LLGT27	4.5	Slight	Progeny P4775 E3S	E3/STS	4.7	Slight	REV 4679X	RR2X	4.6	Slight
Local LS4677X	RR2X	4.6	Slight	Progeny P4799 RXS	RR2X/STS	4.7	Slight	REV 4927X	RR2X	4.9	Slight
Local LS4795XS	RR2X	4.6	Slight	Progeny P4821 RX	RR2X	4.8	Slight	REV 4940X	RR2X	4.9	Slight
Local LS4798X	RR2X	4.7	Slight	Progeny P4833 E3	E3	4.8	Slight	S13-2743C	Conv	4.1	Slight
Local LS5087X	RR2X	5.0	Slight	Progeny P4999 RX	RR2X	4.9	Slight	S13-3851C	Conv	4.4	Slight
Local LS5588X	RR2X	5.5	Slight	Progeny P5016 RXS	RR2X/STS	5.0	Slight	Taylor EXP 47-90	RR2X	4.7	Slight
Local ZS4694E3S	E3	4.6	Slight	Progeny P5252 RX	RR2X	5.2	Slight	Taylor EXP 48-80	RR2X	4.8	Slight
Local ZS4797E3	E3	4.7	Slight	Progeny P5554 RX	RR2X	5.5	Slight	USG 7460ET	E3	4.6	Slight
Mission A4448X	RR2X	4.4	Slight	Progeny P5688 RX	RR2X	5.6	Slight	USG 7480ET	E3	4.8	Slight

Table 2. 2019 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 G4440RX	RR2X	4.4	Moderate	Credenz CZ 4649LL	LL	4.6	Moderate	Local LS5386X	RR2X	5.3	Moderate
AgriGold G4579RX	RR2X	4.5	Moderate	Credenz CZ 4770X	RR2X	4.7	Moderate	Mission A4618x	RR2X	4.6	Moderate
AgriGold G4605RX	RR2X	4.6	Moderate	Credenz CZ 4820LL	LL	4.8	Moderate	Mission A4950X	RR2X	4.9	Moderate
AgriGold G4815RX	RR2X	4.8	Moderate	Credenz CZ 4869X	RR2X	4.8	Moderate	NK S39-G2X	RR2X	3.9	Moderate
AgriGold G5000RX	RR2X	5.0	Moderate	Credenz CZ 4918LL	LL	4.9	Moderate	Pioneer P42A96X	RR2X	4.2	Moderate
AGS GS48X19	RR2X	4.8	Moderate	Credenz CZ 4979X	RR2X	4.9	Moderate	Pioneer P46A57BX	RR2X	4.6	Moderate
AGS GS49X19	RR2X	4.9	Moderate	Delta Grow DG47E25	E3	4.7	Moderate	Progeny P4241 E3	E3	4.2	Moderate
Armor 46-D09	RR2X	4.6	Moderate	Delta Grow DG48X45	RR2X	4.8	Moderate	Progeny P4525 E3	E3	4.5	Moderate
Armor 47-D18	RR2X	4.7	Moderate	Delta Grow DG52X05	RR2X/STS	5.2	Moderate	Progeny P4565 LR	LLGT27	4.5	Moderate
Armor 47-D85	RR2X	4.7	Moderate	DONMARIO DM 47X39	RR2X	4.7	Moderate	Progeny P4620 RXS	RR2X/STS	4.6	Moderate
Armor 48-D25	RR2X	4.8	Moderate	Dyna-Gro S42EN89	E3	4.2	Moderate	Progeny P4670 RX	RR2X	4.6	Moderate
Armor 52-D71	RR2X	5.2	Moderate	Dyna-Gro S45XS66	RR2X/STS	4.5	Moderate	Progeny P4816 RX	RR2X	4.9	Moderate
Asgrow AG43X0	RR2X	4.3	Moderate	Dyna-Gro S49XT39	RR2X	4.9	Moderate	Progeny P4851 RX	RR2X	4.8	Moderate
Asgrow AG46X0	RR2X	4.6	Moderate	Dyna-Gro S49XT70	RR2X	4.9	Moderate	Progeny P4891 E3	E3	4.8	Moderate
Asgrow AG46X6	RR2X	4.6	Moderate	Dyna-Gro S52XS39	RR2X/STS	5.2	Moderate	Progeny P5211 E3	E3	5.2	Moderate
Asgrow AG47X9	RR2X	4.7	Moderate	GoSoy 46GL18	LLGT27	4.6	Moderate	Progeny P5335 RX	RR2X	5.3	Moderate
Asgrow AG52X9	RR2X	5.2	Moderate	GoSoy 482E18	E3	4.8	Moderate	R15-2422	Conv	4.7	Moderate
Asgrow AG53X0	RR2X	5.3	Moderate	GoSoy 48C17S	Conv	4.8	Moderate	R16-2547	Conv	5.2	Moderate
Credenz CZ 3841LL	LL	3.8	Moderate	GoSoy 512E18	E3	5.1	Moderate	S14-15138R	RR1/STS	4.8	Moderate
Credenz CZ 3929GTLL	LLGT27	3.9	Moderate	Hefty H42E9	E3	4.7	Moderate	USG 7470XT	RR2X	4.7	Moderate
Credenz CZ 4222LL	LL	4.2	Moderate	Hefty H46X0S	RR2X	4.6	Moderate	USG 7479ET	E3	4.9	Moderate
Credenz CZ 4280X	RR2X	4.2	Moderate	Hefty H48E0	E3	4.8	Moderate	USG 7480XT	RR2X	4.8	Moderate
Credenz CZ 4539GTLL	LLGT27	4.5	Moderate	Hefty H48E9	E3	4.8	Moderate	USG 7489XT	RR2X	4.8	Moderate
Credenz CZ 4540LL	LL	4.5	Moderate	LG Seeds LGS4931RX	RR2X	4.9	Moderate	USG 7496XTS	RR2X/STS	4.9	Moderate
Credenz CZ 4570X	RR2X	4.5	Moderate	Local LS4407X	RR2X	4.5	Moderate				
Credenz CZ 4600X	RR2X	4.6	Moderate	Local LS4889XS	RR2X	4.8	Moderate				

Table 3. 2019 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
Armor 49-D67	RR2X	4.9	Severe	LG Seeds LG C4845RX	RR2X	4.8	Severe	Progeny P4682 E3	E3	4.6	Severe
Asgrow AG42X9	RR2X	4.2	Severe	Local LS4565XS	RR2X	4.5	Severe	Progeny P5170 RX	RR2X	5.1	Severe
Asgrow AG49X9	RR2X	4.9	Severe	Local LS4894X	RR2X	4.8	Severe	USG 7478XTS	RR2X/STS	4.7	Severe
Delta Grow DG46X65	RR2X/STS	4.6	Severe	Local LS4999X	RR2X	4.9	Severe				
Delta Grow DG49E29	E3	4.9	Severe	NK S44-C7X	RR2X	4.4	Severe				

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