



[WWW.MSSOY.ORG](http://WWW.MSSOY.ORG) ⇒ MSPB WEBSITE WITH  
UP-TO-DATE SOYBEAN PRODUCTION  
INFORMATION

---

## 2017 MISS. SOYBEAN VARIETY TRIAL STEM CANKER RATINGS

All entries in the 2017 Mississippi State University Official Variety Trials (OVT) were evaluated for their reaction to the stem canker fungus by Dr. Tom Allen, Extension Plant Pathologist at the MSU-DREC. Additional varieties (n=19) that were not entered in the Miss. OVT were also evaluated.

Trials consisted of four replicates of single rows of each cultivar planted in 10-foot-long plots. Within each row, 8 plants were inoculated with a single toothpick that contained the fungus that causes stem canker (four isolates of the fungus were used for a fungal cocktail on toothpicks). Plants were inoculated approximately 8 weeks post-planting. Evaluations of stem canker severity were conducted between R6 and R6.5 by observing the stem of each inoculated plant for the presence of a canker. Ratings of each variety were made using a modified 0-9 scale (see each table's footnote for rating scale).

Information within each table contains the analyzed stem canker rating as an average of all inoculated plants within a single plot. In addition, each cultivar includes a stem canker susceptibility designation; i.e., R = resistant, MR = moderately resistant, MS = moderately susceptible, and S = susceptible.

In fields where stem canker has been documented, soybean cultivars that are resistant to stem canker have been observed. In addition, keep in mind that observations of stem canker tend to be more obvious when the environment is conducive for disease development. Therefore, over time, and in years when the environment may not be conducive for the development of stem canker, it is possible that stem canker designations could change among years. Moreover, as additional fungal isolates are added to the collection, it is possible that the rating as well as the designation for any cultivar can change accordingly.

Please note: The statistical analysis used on these data—a rank transformation prior to the means analysis—may make some values appear skewed. The letter groupings listed after values are for the rank transformed values, but the non-transformed data are presented to present the true mean of the scores assigned in the field.

**Table 1. Response of Maturity Group IV conventional soybean cultivars to stem canker, 2017.**

<b>Company/Cultivar</b>	<b>Stem canker rating<sup>1,2</sup></b>	<b>Cultivar designation<sup>3</sup></b>
J77-339 (check)	8.0 a	S
Go Soy Irene	0.3 d	R
Univ. of Arkansas 4805	4.0 bc	MR
Univ. of Missouri S11-20337	5.8 ab	MS
Univ. of Missouri S12-2418	2.5 cd	R
Univ. of Missouri S12-3782	3.1 c	MR
Univ. of Missouri S13-10590C	3.2 c	MR
Univ. of Missouri S13-1805C	4.9 bc	MR
Univ. of Missouri S13-2743C	3.3 bc	MR
Univ. of Missouri S13-3851C	4.6 bc	MR
Univ. of Missouri S14-6391C	8.2 a	S
MSE (0.05)	69.54	-
CV (%)	37.06	-
<i>P</i> -value for F-statistic	<0.0001	-

<sup>1</sup>Stem canker reaction: 8 plants per plot were inoculated with infested toothpicks. Ratings are individual plant reaction using a modified 0-9 scale based on lesion severity and are presented as the average of the eight plants across four replicates. Where a lesion did not appear, a rating of 0 (resistant) was assigned. Ratings were assigned based on the presence of a lesion where a reaction that produced a visible lesion that did not expand up the length of the stem was assigned a 1. Dead plants with lesions that extended up most of the plant's stem received a score of 9.

<sup>2</sup>Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD ( $P=0.05$ ).

<sup>3</sup>By using the Mean Disease Rating, a standardized designation is as follows: 1 = Resistant; 3 = Moderately Resistant; 5 = Moderately Susceptible; and 7 = Susceptible.

**Table 2. Response of Maturity Group V conventional soybean cultivars to stem canker, 2017.**

<b>Company/Cultivar</b>	<b>Stem canker rating<sup>1,2</sup></b>	<b>Cultivar designation<sup>3</sup></b>
J77-339 (check)	5.5 b-d	MS
Go Soy 56C16	0.5 e	R
LSU LA560512	7.8 ab	S
Univ. of Arkansas Osage (R98-1821)	6.5 a-c	MS
Univ. of Arkansas R09-430	3.6 de	MR
Univ. of Arkansas R11-7999	6.8 a-c	MS
Univ. of Arkansas R11-8346	4.1 c-e	MR
Univ. of Arkansas UA 5014C(R05-3239)	5.1 c-e	MS
Univ. of Arkansas UA 5814HP(R09-3789)	6.5 a-d	MS
Univ. of Missouri S11-17025	8.5 a	S
Univ. of Missouri S11-20124	7.7 ab	S
Univ. of Missouri S13-1955C	5.8 a-d	MS
USDA-ARS JTN-5110	6.8 a-c	MS
MSE (0.05)	119.82	-
CV (%)	42.93	-
<i>P</i> -value for F-statistic	0.0008	-

<sup>1</sup>Stem canker reaction: 8 plants per plot were inoculated with infested toothpicks. Ratings are individual plant reaction using a modified 0-9 scale based on lesion severity and are presented as the average of the eight plants across four replicates. Where a lesion did not appear, a rating of 0 (resistant) was assigned. Ratings were assigned based on the presence of a lesion where a reaction that produced a visible lesion that did not expand up the length of the stem was assigned a 1. Dead plants with lesions that extended up most of the plant's stem received a score of 9.

<sup>2</sup>Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD ( $P=0.05$ ).

<sup>3</sup>By using the Mean Disease Rating, a standardized designation is as follows: 1 = Resistant; 3 = Moderately Resistant; 5 = Moderately Susceptible; and 7 = Susceptible.

**Table 3. Response of Maturity Group IV LibertyLink soybean cultivars to stem canker, 2017.**

<b>Company/Cultivar</b>	<b>Stem canker rating<sup>1,2</sup></b>	<b>Cultivar designation<sup>3</sup></b>
Dyna-Gro 4567LL (check)	7.6 a	S
Armor47-L10	0.6 b-d	R
Credenz CZ 3841 LL	0.2 b-d	R
Credenz CZ 3945 LL	0.0 d	R
Credenz CZ 4044 LL	0.0 d	R
Credenz CZ 4105 LL	0.0 cd	R
Credenz CZ 4222 LL	1.8 a-c	R
Credenz CZ 4540 LL	0.4 b-d	R
Credenz CZ 4748 LL	0.4 cd	R
Credenz CZ 4818 LL	0.5 b-d	R
Credenz CZ 4820 LL	0.0 cd	R
Credenz HBK LL4953	0.0 d	R
Delta Grow DG4587 LL/STS	0.3 cd	R
Delta Grow DG4781 LL	1.4 ab	R
Delta Grow DG4967 LL	0.0 d	R
Delta Grow DG4977 LL/STS	0.0 d	R
Dyna-Gro S42LL63	0.0 d	R
Dyna-Gro S45LL97	0.4 cd	R
Dyna-Gro S49LL34	0.8 b-d	R
Go Soy 4714LL	0.5 b-d	R
GoSoy 4912LL	0.7 ab	R
Terral REV 45L57	1.1 a-c	R
Terral REV 48L63	0.0 d	R
Terral REV 49L88	0.0 cd	R
MSE (0.05)	401.32	-
CV (%)	42.17	-
<i>P</i> -value for F-statistic	0.0017	-

<sup>1</sup>Stem canker reaction: 8 plants per plot were inoculated with infested toothpicks. Ratings are individual plant reaction using a modified 0-9 scale based on lesion severity and are presented as the average of the eight plants across four replicates. Where a lesion did not appear, a rating of 0 (resistant) was assigned. Ratings were assigned based on the presence of a lesion where a reaction that produced a visible lesion that did not expand up the length of the stem was assigned a 1. Dead plants with lesions that extended up most of the plant's stem received a score of 9.

<sup>2</sup>Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD ( $P=0.05$ ).

<sup>3</sup>By using the Mean Disease Rating, a standardized designation is as follows: 1 = Resistant; 3 = Moderately Resistant; 5 = Moderately Susceptible; and 7 = Susceptible.

**Table 4. Response of Maturity Group V LibertyLink soybean cultivars to stem canker, 2017.**

<b>Company/Cultivar</b>	<b>Stem canker rating<sup>1,2</sup></b>	<b>Cultivar designation<sup>3</sup></b>
Dyna-Gro 4567LL (check)	7.6 a	S
Armor 53-L55	2.5 b-d	R
Credenz CZ 5147 LL	7.3 a	S
Credenz CZ 5150 LL	0.3 d	R
Credenz CZ 5242 LL	4.7 ab	MR
Credenz CZ 5515 LL	2.9 b-d	R
Credenz CZ 5727 LL	3.4 bc	MR
Delta Grow DG 5067LL	3.1 b-d	MR
Dyna-Gro S52LL66	4.4 a-c	MR
Dyna-Gro S55LS75	4.5 ab	MR
Go Soy 5115LL	1.4 cd	R
Go Soy 5215LL	3.3 bc	MR
Go Soy 5515LL	2.5 b-d	R
MSE (0.05)	146.22	-
CV (%)	45.63	-
<i>P</i> -value for F-statistic	0.0038	-

<sup>1</sup>Stem canker reaction: 8 plants per plot were inoculated with infested toothpicks. Ratings are individual plant reaction using a modified 0-9 scale based on lesion severity and are presented as the average of the eight plants across four replicates. Where a lesion did not appear, a rating of 0 (resistant) was assigned. Ratings were assigned based on the presence of a lesion where a reaction that produced a visible lesion that did not expand up the length of the stem was assigned a 1. Dead plants with lesions that extended up most of the plant's stem received a score of 9.

<sup>2</sup>Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD ( $P=0.05$ ).

<sup>3</sup>By using the Mean Disease Rating, a standardized designation is as follows: 1 = Resistant; 3 = Moderately Resistant; 5 = Moderately Susceptible; and 7 = Susceptible.

**Table 5. Response of Maturity Group IV early soybean cultivars to stem canker, 2017.**

<b>Company/Cultivar</b>	<b>Stem canker rating<sup>1,2</sup></b>	<b>Cultivar designation<sup>3</sup></b>
Dyna-Gro 39RY43 (Check)	7.1 a-c	MS
AgriGold G4380RX	0.8 kl	R
AgriGold G4440RX	7.2 ab	MS
AgriGold G4685RX	0.7 l	R
AGS GS45R216	4.7 a-g	MR
Armor 44-D40	3.4 b-j	MR
Armor 46-D08	5.8 a-d	MS
Armor ARX4607	7.5 a	S
Asgrow 4632	3.6 b-j	MR
Asgrow AG43X7	4.0 a-h	MR
Asgrow AG45X8	2.4 e-l	MR
Asgrow AG46X6	0.5 l	R
Asgrow AG46X7	1.8 g-l	R
Asgrow AG46X8	1.4 h-l	R
Credenz CZ 4181 RY	5.1 a-e	MS
Credenz CZ 4590 RY	2.1 f-l	R
Croplan RX4516S	3.6 b-j	MR
Delta Grow DG4670 RR2	4.1 a-h	MR
Delta Grow DG4680 RR2	4.2 a-g	MR
Dyna-Gro 31RY45	4.3 a-g	MR
Dyna-Gro S43RY95	3.4 b-j	MR
Dyna-Gro S44XS57	4.7 a-h	MR
Dyna-Gro S45XS37	2.7 d-l	R
Dyna-Gro S45XS66	2.4 f-l	R
Dyna-Gro SX17846XS	4.2 a-i	MR
Great Heart Seed GT-4540XS	5.5 a-f	MS
NK S41-A1X	5.1 a-g	MS
NK S43-V3X	1.8 g-l	R
NK S45-K5X	0.9 j-l	R
Pioneer P40T26X	1.1 i-l	R
Pioneer P41T33R	3.8 a-i	MR
Pioneer P45T74X	1.3 h-l	R
Progeny P4255RX	4.7 a-g	MR
Progeny P4444RXS	2.2 f-l	R
Progeny P4516RXS	3.8 b-j	MR
Progeny P4620RXS	2.5 e-l	R
Univ. of Missouri S14-9051R	0.6 l	R
MSE (0.05)	1,216.52	-
CV (%)	46.82	-
P-value for F-statistic	<0.0001	-

<sup>1</sup>Stem canker reaction: 8 plants per plot were inoculated with infested toothpicks. Ratings are individual plant reaction using a modified 0-9 scale based on lesion severity and are presented as the average of the eight plants across four replicates. Where a lesion did not appear, a rating of 0 (resistant) was assigned. Ratings were assigned based on the presence of a lesion where a reaction that produced a visible lesion that did not expand up the length of the stem was assigned a 1. Dead plants with lesions that extended up most of the plant's stem received a score of 9.

<sup>2</sup>Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD (P=0.05).

<sup>3</sup>By using the Mean Disease Rating, a standardized designation is as follows: 1 = Resistant; 3 = Moderately Resistant; 5 = Moderately Susceptible; and 7 = Susceptible.

**Table 6. Response of Maturity Group IV late soybean cultivars to stem canker, 2017.**

<b>Company/Cultivar</b>	<b>Stem canker rating<sup>1,2</sup></b>	<b>Cultivar designation<sup>3</sup></b>
Dyna-Gro 39RY43 (Check)	6.6 a-d	MS
AgriGold G4835RX	4.8 a-j	MR
AgriGold G4990RX	6.5 a-c	MS
AGS GS48R216	5.4 a-i	MS
Armor 4744	6.3 a-c	MS
Armor 47-R70	6.3 a-f	MS
Armor ARX4807	5.9 a-g	MS
Armor ARX4817	3.8 c-p	MR
Asgrow AG47X6	1.5 o-v	R
Asgrow AG48X8	1.6 o-v	R
Croplan R2C4775	4.1 b-m	MR
Croplan RX4825	0.8 r-v	R
Delta Grow DG4790 RR2	3.5 g-s	MR
Delta Grow DG4825 RR2/STS	1.1 p-v	R
Delta Grow DG4835 RR2X	5.6 a-h	MS
Delta Grow DG4845 RR2X	0.6t-v	R
Delta Grow DG4880 RR	3.6 e-r	MR
Delta Grow DG4970 RR	1.9 m-v	R
Delta Grow DG4995 RR	3.6 d-q	MR
Dyna-Gro S48XT56	0.4 v	R
Dyna-Gro S49XS88	7.7 a	S
Dyna-Gro SX17648XT	2.4 j-v	R
Go Soy 49G16	5.7 a-g	MS
Great Heart Seed GT-4721X	3.4 d-r	MR
Great Heart Seed GT-477CR2	4.6 a-j	MR
Great Heart Seed GT-4817XS	4.3 b-m	MR
Great Heart Seed GT-5022XS	5.3 a-i	MS
NK S48-R2X	3.1 h-t	MR
Petrus Seed 479 GTS	6.8 ab	MS
Petrus Seed 4916 GT	6.4 a-d	MS
Pioneer P46A16R	1.0 q-v	R
Pioneer P47T89R	1.2 p-v	R
Pioneer P48T27X	2.9 i-u	R
Progeny P4757RY	4.4 b-m	MR
Progeny P4799RXS	0.5 uv	R
Progeny P4816RX	0.9 r-v	R
Progeny P4851RX	2.3 k-v	R
Progeny P4929RXS	5.1 a-j	MS
Progeny P4996RXS	6.7 a-d	MS
Terral REV 47R34	6.1 a-f	MS
Terral REV 4857X	3.7 f-r	MR
Terral REV 48A26	4.6 b-j	MR
Terral REV 48A76	3.9 c-o	MR
Terral REV 4927X	2.1 l-v	R
Terral REV 49R94	4.4 b-m	MR
Univ. of Missouri S14-15146R	2.8 i-v	R
USG 7487XTS	3.8 c-o	MR
USG 7496XTS	1.0 p-v	R
USG 7497XT	6.1 a-e	MS
USG 74K95RS	0.8 s-v	R
MSE (0.05)	1,689.24	-
CV (%)	41.31	-
P-value for F-statistic	<0.0001	-

<sup>1</sup>Stem canker reaction: 8 plants per plot were inoculated with infested toothpicks. Ratings are individual plant reaction using a modified 0-9 scale based on lesion severity and are presented as the average of the eight plants across four replicates. Where a lesion did not appear, a rating of 0 (resistant) was assigned. Ratings were assigned based on the presence of a lesion where a reaction that produced a visible lesion that did not expand up the length of the stem was assigned a 1. Dead plants with lesions that extended up most of the plant's stem received a score of 9.

<sup>2</sup>Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD (P=0.05).

<sup>3</sup>By using the Mean Disease Rating, a standardized designation is as follows: 1 = Resistant; 3 = Moderately Resistant; 5 = Moderately Susceptible; and 7 = Susceptible.

**Table 7. Response of Maturity Group V early soybean cultivars to stem canker, 2017.**

<b>Company/Cultivar</b>	<b>Stem canker rating<sup>1,2</sup></b>	<b>Cultivar designation<sup>3</sup></b>
DG 5128 (check)	4.2 a-c	MR
AG 53X6	3.5 a-g	MR
AgriGold G5000RX	1.7 a-g	R
Armor 53-D04	2.8 a-g	R
Armor 55-R68	4.4 a-d	MR
Armor ARX5107	3.8 a-d	MR
Armor ARX5607	3.6 a-e	MR
Asgrow AG51X8	5.1 ab	MS
Asgrow AG55X7	2.5 a-g	MR
Asgrow AG55X8	0.0 h	R
Credenz CZ 5375 RY	0.8 d-h	R
Delta Grow DG 5128	3.9 a-d	MR
Delta Grow DG5170 RR2/STS	1.4 b-h	R
Delta Grow DG5555 RR	1.6a-h	R
Delta Grow DG5580 RR2	2.1 a-h	R
Dyna-Gro S52RY75	2.2 b-h	R
Dyna-Gro S56RY84	2.3 c-h	R
Dyna-Gro S56XT98	5.6 a-d	MS
Dyna-Gro SX17651XS	0.0 h	R
Go Soy 54G16	4.5 a-f	MR
Great Heart Seed GT-5324X	1.7 c-h	R
NK S52-Y7X	3.3 a-g	MR
Pioneer P50T56X	1.9 c-h	R
Pioneer P50T92X	3.3 a-g	MR
Pioneer P52A26R	0.3 gh	R
Pioneer P54A54X	2.0 a-h	R
Pioneer P55A49X	5.5 a-d	MS
Progeny P 5555 RY	2.1 a-h	R
Progeny P5016RXS	0.2 gh	R
Progeny P5157RXS	0.0 h	R
Progeny P5376RX	4.5 a-d	MR
Progeny P5417RX	3.9 a-g	MR
Progeny P5688RX	6.3 a	MS
Terral 55A67	0.5 e-h	R
Terral REV 50A47	1.7 b-h	R
Terral REV 51A56	0.5 e-h	R
Terral REV 56A58	3.3 a-f	MR
Terral REV 56R63	0.6 e-h	R
Univ. of Arkansas UA 5414RR(R04-1268RR)	4.0 a-d	MR
Univ. of Missouri S14-9017R	0.6 e-h	R
USG 7547XT	1.1c-h	R
USG 7568XT	5.3 a	MS
MSE (0.05)	720.16	-
CV (%)	40.66	-
P-value for F-statistic	0.0016	-

<sup>1</sup>Stem canker reaction: 8 plants per plot were inoculated with infested toothpicks. Ratings are individual plant reaction using a modified 0-9 scale based on lesion severity and are presented as the average of the eight plants across four replicates. Where a lesion did not appear, a rating of 0 (resistant) was assigned. Ratings were assigned based on the presence of a lesion where a reaction that produced a visible lesion that did not expand up the length of the stem was assigned a 1. Dead plants with lesions that extended up most of the plant's stem received a score of 9.

<sup>2</sup>Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD (P=0.05).

<sup>3</sup>By using the Mean Disease Rating, a standardized designation is as follows: 1 = Resistant; 3 = Moderately Resistant; 5 = Moderately Susceptible; and 7 = Susceptible.



**Table 8. Response of Maturity Group V late soybean cultivars to stem canker, 2017.**

<b>Company/Cultivar</b>	<b>Stem canker rating<sup>1,2</sup></b>	<b>Cultivar designation<sup>3</sup></b>
Dyna-Gro S57RY26 (check)	3.5	MR
Asgrow AG59X7	1.3	R
Progeny P5752RY	4.6	MR
Univ. of Arkansas UA 5715GT(R07-6614RR)	4.5	MR
USG 75B75R	6.4	MS
MSE (0.05)	23.69	-
CV (%)	46.36	-
<i>P</i> -value for F-statistic	0.1123	-

<sup>1</sup>Stem canker reaction: 8 plants per plot were inoculated with infested toothpicks. Ratings are individual plant reaction using a modified 0-9 scale based on lesion severity and are presented as the average of the eight plants across four replicates. Where a lesion did not appear, a rating of 0 (resistant) was assigned. Ratings were assigned based on the presence of a lesion where a reaction that produced a visible lesion that did not expand up the length of the stem was assigned a 1. Dead plants with lesions that extended up most of the plant's stem received a score of 9.

<sup>2</sup>Means followed by the same letter(s) within a column are not significantly different according to Fisher's Protected LSD (P=0.05).

<sup>3</sup>By using the Mean Disease Rating, a standardized designation is as follows: 1 = Resistant; 3 = Moderately Resistant; 5 = Moderately Susceptible; and 7 = Susceptible.