

2011 Soybean Performance Results for Early Planted RoundUp Ready Production Systems in Arkansas (Two-Year Averages)

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Each year, numerous soybean varieties are commercially available to growers in Arkansas. However, only a limited number of soybean varieties have been tested in Arkansas at April plantings. Yield performance in early (April) plantings varies according to location, adaptability to soils, relative maturity, lodging, shattering potential, disease and nematode resistance, as well as herbicide and chloride sensitivity. This update contains information derived from the 2010 and 2011 University of Arkansas System Division of Agriculture soybean variety testing program and is provided as an aid in variety selection for the Early Soybean Production System (ESPS). Typically, ESPS plantings consist of planting very early maturing varieties (generally MG III or early-IV) in April.

Since proper variety selection involves knowledge of yield potential, maturity, disease reaction, herbicide sensitivity, etc., these and many other important characteristics are listed in **Tables 3, 4, 6 and 7**. Varieties are considered adapted to Arkansas conditions based primarily on their yield

performance across the different geographical regions of Arkansas. The location, soil description and cultural information for each of the 2011 soybean early-planted performance trials are found in **Table 1. All varieties listed in this publication have been tested in the University of Arkansas System Division of Agriculture Soybean Performance Trials for at least two years.**

Soybean variety performance may vary from year to year, and two-year averages are better predictors of performance than data from a single year. Superior performance across several locations suggests that a variety has wide adaptability, thus multi-year and multi-location yields are particularly useful for making variety selection decisions.

SOYVA, a University of Arkansas System Division of Agriculture computerized variety selection program, can assist in making these field-specific variety selection decisions. Presently, **SOYVA** sorts through hundreds of adapted soybean varieties in Maturity Groups (MG) III – V, and makes variety

recommendations based on responses to specific conditions described by the user. Soybean producers are encouraged to use this publication and **SOYVA** when selecting varieties for the different production systems. Contact your county extension agent for details concerning SOYVA. Additional information is available at the University of Arkansas System Division of Agriculture Cooperative Extension Service website (<http://www.aragriculture.org/soybean.htm>) under the Computer Programs link.

ADAPTED SOYBEAN VARIETIES FOR EARLY SOYBEAN PRODUCTION

Generally, varieties within MG IV are the best adapted for these early (April) plantings in Arkansas; however, there are situations where varieties from MG III and V may perform well. Recent research indicates that indeterminate MG IV varieties can produce acceptable yield when planted early (April) and will normally mature in August through mid-September. Varieties of differing relative maturity (even within the same MG) are recommended in an attempt to spread out the risk of shattering due to adverse weather conditions or mechanical problems at harvest. In Arkansas, the following designations apply to varieties representing the various MG's: III – very early maturity; IV – early maturity; and V – mid-season maturity.

ABOUT THIS PUBLICATION

Table 1 consists of cultural information that pertains to the 2011 University of Arkansas Soybean Performance Trials (<http://www.arkansasvarietytesting.com>). **Tables 2 and 5** contain varietal information for both 2010 and 2011. **Tables 3, 4, 6 and 7** contain the many varietal characteristics of those varieties designated as being adapted to the Arkansas soybean production environment and are grouped by MG. These adapted varieties are included in **SOYVA** and field specific variety recommendations can be obtained by utilizing this program.

Users of this publication are encouraged to review the “Key Code” page for further explanation regarding varietal rating to disease, herbicide sensitivity and other agronomic considerations.

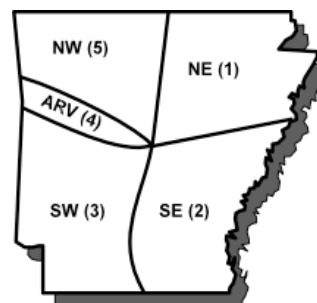


Figure 1. Area of Adaptation for Soybean Maturity Groups for All Production Systems

- Northeast Arkansas (1):** Groups III, IV, or V
- Southeast Arkansas (2):** Groups III, IV, or V
- Southwest Arkansas (3):** Groups III, IV, or V
- Arkansas River Valley (4):** Groups III, IV, or V
- Northwest Arkansas (5):** Groups IV or V

Table 1. Location, Soil Description and Cultural Information of the Arkansas Performance Trials – 2011

Location	Soil Description	Planting Date	Row Width	Harvest Date by MG			Previous Crop
				Early IV	Late IV	Early V	
Keiser – Irrigated	Sharkey silty clay	5/11	Four 7.5-inch rows on two 38-inch beds	10/5	10/6	10/7	Soybean
Marianna – Irrigated	Calloway silt Loam	5/9	Four 7.5-inch rows on two 38-inch beds	10/6	10/10	10/10	Cotton
Rohwer – Irrigated	Sharkey Desha silt loam	5/7	19 in	9/29	9/30	10/11	Corn

The KEY CODE for all the following tables is found on the back page. Refer to the KEY CODE for a description of the abbreviated varietal characteristics.

HOW TO MAKE YIELD COMPARISONS USING THE FOLLOWING TABLES: The LSD (0.05), Least Significant Difference, represents the minimum yield difference required between two varieties within the same location before concluding that their yields are truly different (while assuming a 5% risk that the yield differences are due to random chance.) Use only the LSD value listed below each column (location-maturity group) to compare variety yield averages among varieties within that column.

Note: “Shading” beside a variety mean indicated that there is no statistical difference between that varietal mean and the highest yielding varietal mean “” at the test location utilizing the appropriate LSD (0.05) value.**

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Table 2. Yields (bu/A) of Maturity Group IV Roundup Ready™ Soybean Cultivars at All Locations, 2011¹.

Variety	Keiser Irrg.	2YR Avg	3YR Avg	Marianna Irrg.	2YR Avg	3YR Avg	Rohwer Irrg.	2YR Avg	3YR Avg	Silt Loam Average ²	All Location Average ³
bu/A											
Maturity Group IV Early (RM 3.9 to 4.6)											
Progeny 4510RY	84.9*	81.1	•	74.7	66.5	•	80.5*	73.6	•	77.6	80.0
REV@ 44R22™	82.1	78.3	•	56.0	50.9	•	72.5	71.4	•	64.2	70.2
REV@ 45R10™	78.1	78.2	74.8	67.9	53.9	55.0	73.1	72.0	73.0	70.5	73.0
Schillinger 457.RCP	75.0	75.2	70.5	55.2	55.1	53.2	74.1	72.0	72.1	64.6	68.1
Schillinger 458.RCS	83.2	81.4	76.7	77.9*	66.5	66.6	76.5	73.8	74.1	77.2	79.2
USG 74A45	72.0	72.5	70.6	73.2	64.5	64.3	72.0	73.0	72.6	72.6	72.4
USG 74C69	69.5	73.0	70.2	59.7	55.9	52.8	68.9	69.9	68.5	64.3	66.0
GRAND MEAN	82.3	•	•	72.7	•	•	77.1	•	•	74.9	77.3
LSD (5%)	5.9	•	•	7.5	•	•	6.1	•	•	6.8	6.5
C.V.	5.1	•	•	7.4	•	•	5.6	•	•	6.5	6.0
Maturity Group IV Late (RM 4.7 to 4.9)											
Armor DK 4744	88.7*	83.7	•	65.8	61.7	•	78.7	69.6	•	72.2	77.7
Armor X1211	72.0	74.9	•	59.8	59.3	•	78.7	70.7	•	69.3	70.2
Croplan R2T4799S	86.0	84.0	•	65.6	61.2	•	82.5	71.3	•	74.1	78.0
Delta Grow DG4770RR	75.0	75.9	68.8	54.6	57.9	57.2	79.0	68.3	64.0	66.8	69.5
Delta Grow DG4880RR	80.2	80.7	•	59.3	58.4	•	83.7*	73.2	•	59.3	74.4
Delta Grow DG4970RR	76.9	79.6	80.6	53.4	55.6	55.1	72.1	66.9	68.2	62.7	67.4
Delta Grow DG4975RR	81.7	80.6	78.7	65.5	64.2	63.6	72.9	66.8	66.8	69.2	73.3
Eagle Seed ES4777	72.7	74.9	•	63.3	62.3	•	75.5	67.0	•	69.4	70.5
Eagle Seed ES4818	75.0	77.1	75.2	52.6	55.4	55.6	72.5	71.3	69.1	62.5	66.7
Eagle Seed ES4998	82.1	80.7	•	53.8	55.0	•	78.2	68.9	•	66.0	71.4
HBK R4729	69.8	70.0	70.1	55.0	55.8	56.5	72.9	65.1	64.5	64.0	65.9
HBK R4829	74.7	81.0	•	54.1	56.5	•	83.5	73.3	•	68.8	70.8
HBK R4924	73.7	71.2	68.8	62.0	58.7	60.5	64.8	62.6	63.1	63.4	66.9
Morsoy Xtra 48X00	83.8	82.8	•	62.4	60.9	•	76.8	70.6	•	69.6	74.3
Progeny 4710RY	78.1	78.7	•	63.1	60.5	•	74.5	72.1	•	68.8	71.9
Progeny 4750RR	80.5	81.5	•	58.2	58.7	•	81.5	70.9	•	69.8	73.4
Progeny 4807RR	82.8	83.3	78.3	64.5	58.2	56.2	80.3	70.0	70.7	72.4	75.9
Progeny 4906RR	85.5	82.7	81.8	60.3	60.9	62.9	74.8	70.0	67.4	67.6	73.5
REV@ 47R22™	79.6	76.9	•	68.1*	60.8	•	82.6	65.7	•	82.6	76.8
REV@ 48R10™	78.7	76.7	71.5	60.9	58.9	59.2	79.5	68.6	68.9	70.2	73.0
REV@ 48R21™	77.8	73.9	•	64.3	63.0	•	70.6	66.7	•	67.5	70.9
REV@ 48R22™	77.2	78.1	•	63.5	60.6	•	75.2	69.7	•	69.3	72.0
REV@ 49R11™	82.5	83.8	•	67.9	61.4	•	83.5	73.9	•	75.7	77.9
REV@ 49R22™	68.3	73.3	•	58.3	59.5	•	74.5	69.1	•	66.4	67.0
Schillinger 478.RCS	75.1	75.2	76.5	61.8	60.3	60.0	75.8	71.0	67.7	68.8	70.9
Schillinger 495.RC	74.1	76.9	78.2	61.8	60.5	59.1	77.7	70.4	70.8	69.7	71.2
Schillinger 4990.RC	76.3	78.3	80.1	57.1	58.2	58.3	70.1	57.3	58.7	63.6	67.8
GRAND MEAN	79.3	•	•	62.1	•	•	76.8	•	•	69.5	72.8
LSD (5%)	6.6	•	•	7.5	•	•	7.6	•	•	7.6	7.2
C.V.	5.9	•	•	8.7	•	•	7.1	•	•	7.9	7.2

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Table 3. Nematode, Disease, and Chloride Sensitivity Ratings for MG IV Roundup Ready™ Soybean Cultivars, 2011⁴

Variety	Root Knot Nematode ⁵	Soybean Cyst Nematode ⁶				Reniform Nematode	Frogeye	Stem Canker	SDS ⁷	Aerial Blight ⁷	Chloride ⁸	
		2	3	5	14						2010	2011
Maturity Group IV Early (RM 3.9 to 4.6)												
Progeny 4510RY	5	6	6	5	7	3	5	3	•	•	Includer	Includer
REV@ 44R22™	5	5	5	5	7	•	1	1	•	•	Excluder	Excluder
REV@ 45R10™	7	7	5	7	3	7	3	1 ^s	•	•	Includer	Includer
Schillinger 457.RCP	5	6	2	5	5	•	3	1	•	•	Excluder	Excluder
Schillinger 458.RCS	5	6	5	7	7	•	4	1	•	•	Includer	Includer
USG 74A45	7	3	3	7	3	•	2	1	3*	9	Includer	Includer
USG 74C69	7	7	7	7	7	7	1	1\$	•	•	Mixed	Excluder
Maturity Group IV Late (RM 4.7 to 4.9)												
Armor DK 4744	•	•	•	•	•	•	•	–	•	•	Includer	Includer
Armor X1211	5	7	7	5	7	7	7	1	4	•	Includer	Includer
Croplan R2T4799S	4	7	7	5	5	–	5	8	•	•	Includer	Includer
Delta Grow DG4770RR	7	7	5	7	5	–	1	1	5*	4	Includer	Includer
Delta Grow DG4880RR	7	7	•	5 ²	7	–	1	2	3	•	Excluder	Excluder
Delta Grow DG4970RR	7	7	7	3	5	–	1	14	7	8	Includer	Includer
Delta Grow DG4975RR	7	7	5	5	3	–	3	3	3*	4	Includer	Includer
Eagle Seed ES4777	5	7	5	5	s	–	4	1	•	•	Mixed	Mixed
Eagle Seed ES4818	7	7	7	5	3	–	3	1\$	•	8	Includer	Includer
Eagle Seed ES4998	5	7	5	7	5	–	1	1	•	•	Includer	Includer
HBK R4729	5	7	7	5	5	7	4	1\$	•	•	Excluder	Excluder
HBK R4829	5	7	3	7	5	–	1	1	•	•	Excluder	Excluder
HBK R4924	7	7	7	3	5	–	2	1\$	3	8	Includer	Includer
Morsoy Xtra 48X00	5	7	5	3	3	7	6	9	2	•	Includer	Includer
Progeny 4710RY	5	7	7	5	7	–	5	6	4	•	Includer	Mixed
Progeny 4750RR	4	5	3	5	5	–	1	1	6	•	Mixed	Mixed
Progeny 4807RR	7	7	7	5	3	•	1	1	4	4	Mixed	Mixed
Progeny 4906RR	7	7	7	5	5	•	3	5~	4	4	Includer	Mixed
REV@ 47R22™	5	7	5	s	5	•	1	1	•	•	Includer	Includer
REV@ 48R10™	7	7	3	7	1	7	3	1 ^s	•	•	Excluder	Excluder
REV@ 48R21™	5	5	3	5	7	7	6	1	•	•	Excluder	Excluder
REV@ 48R22™	5	s	5	7	7	–	4	1	•	•	Excluder	Excluder
REV@ 49R11™	5	5	3	7	5	–	2	1	•	•	Excluder	Excluder
REV@ 49R22™	5	5	3	5	5	–	4	1	•	•	Excluder	Excluder
Schillinger 478.RCS	7	7	7	7	3	–	4	1	5		Includer	Includer
Schillinger 495.RC	7	7	5	7	3	–	1	1 ^s	5*	4	Includer	Includer
Schillinger 4990.RC	7	7	5	7	3	7	1	–	•	•	Includer	Includer

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Table 4. Agronomic Characteristics for MG IV Roundup Ready™ Soybean Cultivars, 2011

Variety	MG	STS	Herbicide Tolerance	Flower Color	Pubescence	Pod Color	Hilum Color	Avg. Days to Maturity ⁹	Avg. Lodging Score ¹⁰	Avg. Shatter Score ¹¹	Avg. Plant Ht. (in) ¹²
Maturity Group IV Early (RM 3.9 to 4.6)											
Progeny 4510RY	4.5	No	RR2	Purple	Tawny	Lt. Tawny	Black	133	2	1	39
REV® 44R22™	4.4	No	RR1	Purple	Lt. Tawny	Brown	Black	128	2.1	2.2	37
REV® 45R10™	4.5	No	RR1	Purple	Lt. Tawny	Brown	Black	131	2.6	1.3	46
Schillinger 457.RCP	4.5	No	RR1	•	•	•	•	130	3.3	1.7	42
Schillinger 458.RCS	4.6	Yes	RR1	•	•	•	•	133	1.3	1.3	38
USG 74A45	4.4	No	RR1	Purple	Lt. Tawny	Brown	Black	131	3.2	1.6	48
USG 74C69	4.6	No	RR1	Purple	Tawny	•	Black	135	3.8	1.2	49
Maturity Group IV Late (RM 4.7 to 4.9)											
Armor DK 4744	4.7	Yes	RR2/STS	Purple	Lt. Tawny	Gray	Black	132	1.3	1.1	38
Armor X1211	4.9	No	RR1	Purple	Lt. Tawny	•	Black	138	2.5	1.3	41
Croplan R2T4799S	4.7	Yes	RR2/STS	Purple	Lt. Tawny	•	Black	133	1.5	1.1	36
Delta Grow DG4770RR	4.7	No	RR1	Purple	Tawny	Tan	Black	131	2.6	1.5	38
Delta Grow DG4880RR	4.8	No	RR1	White	Tawny	•	Black	135	2.7	1.3	45
Delta Grow DG4970RR	4.9	No	RR1	Purple	Lt. Tawny	Brown	Black	140	3.2	1.3	45
Delta Grow DG4975RR	4.9	No	RR1	Purple	Lt. Tawny	Tan	Black	135	2.5	1.0	44
Eagle Seed ES4777	4.7	No	RR1	White	Lt. Tawny	•	Black	139	2.2	1.0	42
Eagle Seed ES4818	4.8	No	RR1	White	•	Brown		139	2.9	1.4	48
Eagle Seed ES4998	4.9	No	RR1	Purple	Lt. Tawny	•	Black	130	2.4	1.4	45
HBK R4729	4.7	No	RR1	Purple	Tawny	•	Brown	132	2.5	1.3	41
HBK R4829	4.8	No	RR1	Purple	Lt. Tawny	Brown	Black	138	3.4	1.1	40
HBK R4924	4.9	No	RR1	Purple	Lt. Tawny	•	•	138	3.4	1.1	47
Morsoy Xtra 48X00	4.8	Yes	RR2/STS	Purple	Lt. Tawny	•	•	133	2.0	1.3	38
Progeny 4710RY	4.7	No	RR2	Purple	Lt. Tawny	Tawny	Black	131	1.5	1.0	35
Progeny 4750RR	4.7	No	RR1	White	Tawny	Brown	Black	136	3.0	1.3	40
Progeny 4807RR	4.8	No	RR1	Purple	Tawny	Brown	•	133	2.1	1.4	41
Progeny 4906RR	4.9	No	RR1	Purple	Tawny	Tan	Black	135	2.8	1.1	46
REV® 47R22™	4.7	No	RR1	White	Lt. Tawny	•	Black	134	2.4	1.4	47
REV® 48R10™	4.8	No	RR1	White	Lt. Tawny	•	Black	132	2.1	1.7	37
REV® 48R21™	4.8	No	RR1	Purple	Tawny	•	Black	136	2.0	1.1	40
REV® 48R22™	4.9	No	RR1	White	Lt. Tawny	•	Black	132	3.1	1.3	40
REV® 49R11™	4.9	No	RR1	White	Tawny	•	Black	131	1.3	1.2	40
REV® 49R22™	4.9	No	RR1	Purple	Lt. Tawny	•	Black	132	2.5	1.8	43
Schillinger 478.RCS	4.7	Yes	RR1/STS	Purple	Lt. Tawny	•	Black	139	2.2	1.3	40
Schillinger 495.RC	4.9	No	RR1	Purple	Lt. Tawny	•	Black	139	3.1	1.3	43
Schillinger 4990.RC	4.9	No	RR1	Purple	Lt. Tawny	•	Black	140	2.3	1.2	42

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Table 5. Yields (bu/A) of Maturity Group V Roundup Ready™ Soybean Cultivars at All Locations, 2011¹.

Variety	Keiser Irrg.	2YR Avg	3YR Avg	Marianna Irrg.	2YR Avg	3YR Avg	Rohwer Irrg.	2YR Avg	3YR Avg	Silt Loam Average ²	All Location Average ³
bu/A											
Maturity Group V (RM 5.0 to 5.3)											
Delta Grow DG5275R2Y	72.4	67.9	•	52.9	48.9	•	57.9	55.9	•	55.4	61.1
Delta Grow DG5280RR	76.0	70.9	69.9	58.8	53.2	50.0	62.4	53.7	59.2	60.6	65.7
Delta Grow DG5300RR/STS	76.1	65.5	68.6	61.6	56.2	54.3	62.5*	56.0	59.1	62.1	66.7
Dyna-Gro 37RY52	76.4*	69.7	•	59.4	52.0	•	59.4	56.8	•	59.4	65.1
HBK R5226	72.5	70.4	75.5	59.4	54.2	55.3	62.5	54.3	57.1	60.9	64.8
Progeny 5210RY	69.6	67.1	•	58.8	53.9	•	61.0	54.5	•	59.9	63.2
Progeny 5330RR	75.0	72.4	•	63.1*	59.8	•	62.5	58.9	•	62.8	66.9
GRAND MEAN	74.5	•	•	60.5	•	•	64.4	•	•	62.5	66.5
LSD (5%)	6.2	•	•	7.0	•	•	6.0	•	•	6.5	6.4
C.V.	5.8	•	•	8.1	•	•	6.5	•	•	7.3	6.8

Table 6. Nematode, Disease, and Chloride Sensitivity Ratings for MG V Roundup Ready™ Soybean Cultivars, 2011⁴

Variety	Root Knot Nematode ⁵	Soybean Cyst Nematode ⁶				Reniform Nematode	Frogeye	Stem Canker	SDS ⁷	Aerial Blight ⁷	Chloride ⁸	
		2	3	5	14						2010	2011
Maturity Group V Early (RM 5.0 to 5.3)												
Delta Grow DG5275R2Y	•	7	7	5	7	•	2	*	3	•	Includer	Includer
Delta Grow DG5280RR	1	7	5	7	5	•	1	1~	2	5	Excluder	Excluder
Delta Grow DG5300RR/STS	7	7	3	7	3	•	2	1~	5*	8	Includer	Includer
Dyna-Gro 37RY52	7	7	5	7	7	•	1	1	1	6	Includer	Includer
HBK R5226	3	3	7	5	5	•	1	1 ^s	7*	8	Mixed	Excluder
Progeny 5210RY	•	7	7	5	7	•	4	1	•	•	Includer	Includer
Progeny 5330RR	•	7	7	7	5	•	0	5	•	•	Mixed	Mixed

Table 7. Agronomic Characteristics for MG V Roundup Ready™ Soybean Cultivars, 2011

Variety	MG	STS	Herbicide Tolerance	Flower Color	Pubescence	Pod Color	Hilum Color	Avg. Days to Maturity ⁹	Avg. Lodging Score ¹⁰	Avg. Shatter Score ¹¹	Avg. Plant Ht. (in) ¹²
Maturity Group V Early (RM 5.0 to 5.3)											
Delta Grow DG5275R2Y	5.2	No	RR2	Purple	Gray	Tan	Imp. Black	139	1.9	1.0	30
Delta Grow DG5280RR	5.2	No	RR1	Purple	Tan	Brown	Black	144	1.7	1.2	32
Delta Grow DG5300RR/STS	5.3	Yes	RR1	White	Gray	Tan	Black	139	1.6	1.2	35
Dyna-Gro 37RY52	5.2	No	RR2	•	Gray	Tan	Black	140	1.6	1.0	31
HBK R5226	5.2	No	RR1	Purple	Tawny	Tan	Black	142	1.7	1.0	30
Progeny 5210RY	5.2	No	RR2	Purple	Tan	Lt. Tawny	Black	139	1.4	1.0	29
Progeny 5330RR	5.3	No	RR1	Purple	Tan	Tawny	Black	140	1.9	1.2	39

Key Codes for All Tables

- “ _ ” **No disease data available**
“ . ” **Information not available**
“ \$ ” **Information provided by Mississippi State University**

1. Many of the test yields this year are lower than expected due to extended periods of hot and dry weather.
Keiser Irrigated = Northeast Research and Extension Center
Marianna Irrigated = Lon Mann Cotton Research Station
Rohwer Irrigated = Southeast Research and Extension Center – Rohwer Division
2. Average yield of Keiser Irrigated and Rohwer Irrigated locations.
3. Average yields from All Locations.
4. Soybean disease and nematode ratings were conducted by Drs. Kirkpatrick and Monfort with support from the Arkansas Soybean Promotion Board. Disease ratings are characterized by the following scale:

0-1 = Resistant 2-3 = Moderately Resistant 4-5 = Moderately Susceptible
6-7 = Susceptible 8-9 = Very Susceptible

Additional soybean disease data can be accessed at the following website:

<http://comp.uark.edu/~avrtest/index.php?sb&content>

5. Root-knot nematode ratings refer to the Southern Root-Knot Nematode, *Meloidogyne incognita* (see <http://comp.uark.edu/~avrtest/index.php?sb&content> for additional information on experimental methods.)
6. Ratings for soybean cyst nematode were evaluated at the Southwest Research and Extension Center, Hope. Only races 2, 3, 5 and 14 are currently being evaluated.
7. Ratings for SDS and Aerial Blight are from 2009 data.
8. Chloride Sensitivity – Excluder varieties accumulate chloride and restrict it to the roots. Includer varieties accumulate chloride throughout the plants. Varieties with a Mixed population have both Includer and Excluder plants. Don't assume that high soluble salts constitute a chloride ion problem. Chloride levels should be determined by irrigation water tests and/or plant tissue analysis.
9. Days to maturity represent the average number of days (of all locations) from planting until 80% of the soybeans in the plot were thought to be mature.
10. Soybean lodging is an average of all locations and is reported using the following criteria: **1** = all plants erect, **2** = all plants slightly leaning or a few plants down, **3** = all plants moderately leaning or 25-50% of the plants are down, **4** = all plants considerably leaning or 50-80% of the plants are down, **5** = all plants down.
11. Soybean shattering is an average of all locations and is reported by using the following criteria: **1** = no shattering, **2** = 1-3% shattered, **3** = 4-8% shattered, **4** = 9-19% shattered, **5** = 20% or more shattered.
12. Soybean plant height reported in inches and is an average of all locations.

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