# 2011 Soybean Variety Performance Tests – Fort Cobb

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## 2011 Soybean

### Cooperators

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### Information on Soybean Variety Trials

Numerous soybean lines and varieties were evaluated in performance tests during 2011. Commercially available varieties, both public and private, and advanced experimental lines were included within the tests. Tests were designed to provide information to assist producers in identifying superior varieties and make crop management decisions. Tests include both early-season and full-season environments. Early-season tests were planted during April and contained maturity group (MG) III and IV. Full-season test were planted during June and into the beginning of July and included varieties in MG IV, V, and VI.

Public varieties included in tests are considered to be competitive for the region, and are represented by established varieties, new releases, and advanced experimental lines. Varieties of private seed company origin are submitted based on decisions by the respective company.

### Methods

All test plots were planted using four 30-inch rows that were 25 feet long. Plots were seeded at a rate of eight seeds per row foot (139,392 seeds per acre). At planting, *Bradyrhizobium japonicum* in a liquid formulation was applied with the seed. Tests were conducted using randomized complete block design with four replications. Irrigation was used only at the Fort Cobb location. Two rows the entire length of the plot was harvested with a small plot combine to determine grain yield.

### Interpreting Data

Performance of soybean varieties is affected by many factors, including year, location, soil type, and time of planting. Details of establishment and management of each test are listed in footnotes below the tables.

Small differences in yield are usually of little importance. The reason being that two varieties at a single location can differ because of “chance” factors which may include soil fertility, soil type, depth of top soil, etc. To decide if a yield difference is “real”, use the least significant differences (LSD) at the bottom of all tables. Differences between varieties are significant only if they are equal to or greater than the LSD value. If a given variety out yields another variety by as much or more than the LSD value, then we are 95% sure that the yield difference is real, with only a 5% probability that the difference is due to chance alone. For example, if variety X is 5 bushels/acre higher in yield than variety Y, then this difference is statistically significant if the LSD is 5 or less. If the LSD is 5 or greater, then we are less confident that variety X really is higher yielding than variety Y under the conditions of the test.

Results reported here should be representative of what might occur throughout the state but would be most

applicable under environmental and management conditions similar to those of the tests. The relative yields of all soybean varieties are affected by crop management and by environmental factors including soil type, summer conditions, soil moisture conditions, diseases, and insects.

**Additional information on the Web**

A copy of this publication as well as additional variety information and more information on soybean management can be found at

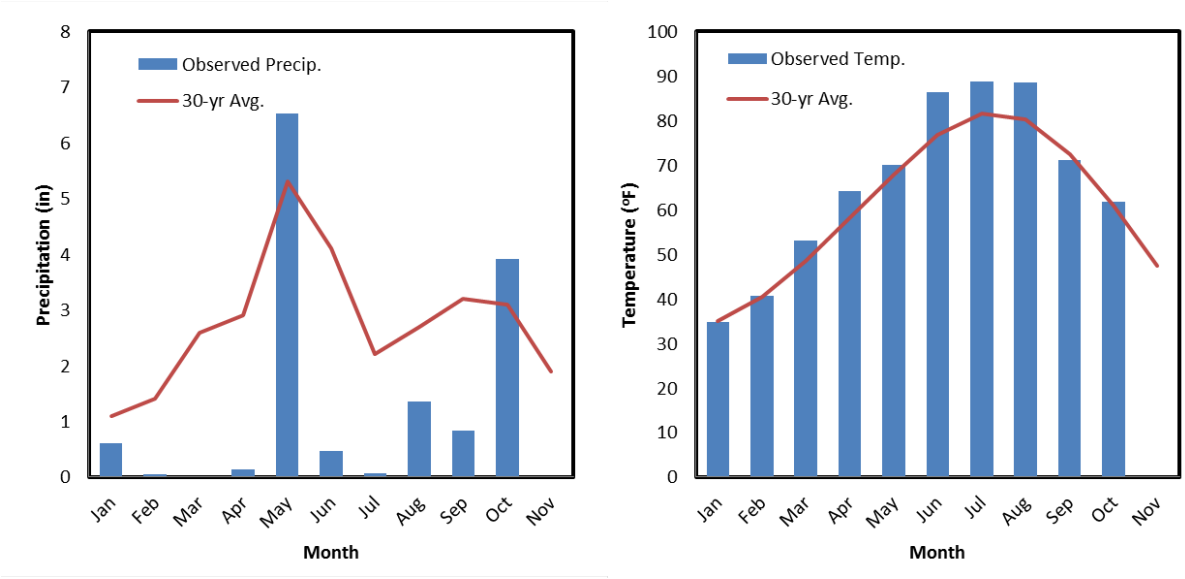
**www.oilseeds.okstate.edu/**

An individual is encouraged to review 2 to 3 years of variety test results before making a variety selection. Because soybean varieties change often multiple years of data are not compared in this publication but previous years data can be found at the previously mentioned website.

Table 1. Sources of seed for the 2011 Southern Oklahoma Soybean Variety Trials.

| Name/Address | Contact | Entries | Maturity Group | Regions Entered | Type | Soybean Cyst Nematode Resistance | Root Knot Nematode Resistance |
|---|---|---|---|---|---|---|---|
| Asgrow | | AG 3830 | 3.8 | All | RR2 | 3 | |
| www.asgrowanddekalb.com | | AG 4730 | 4.7 | All | RR2,STS | | |
| | | AG 4903 | 4.9 | All | RR,STS | | |
| | | AG 5632 | 5.6 | All | RR2,STS | 3, 14 | |
| | | AG 5605 | 5.6 | All | RR | 3 | |
| Progeny Ag Products | 870-238-2079 | Progeny 4910 | 4.9 | All | CONV | 3, 6, 14 | |
| 1529 Hwy 193 | | Progeny 5191 | 5.1 | All | CONV | 2, 3, 5, 14 | I |
| Wynne, AR 72396 | | Progeny 5770 | 5.7 | All | CONV | 3, 6, 9 | |
| http://www.progenyag.com | | Progeny 4908 RR | 4.9 | All | RR | | |
| | | Progeny 4949 RR | 4.9 | All | RR | | |
| | | Progeny 5218 RR | 5.2 | All | RR | 3 | I |
| | | Progeny 5622 RR | 5.6 | All | RR | 2, 3, 6, 9, 14 | |
| | | Progeny 5650 RR | 5.6 | All | RR | 3, 14 | |
| | | Progeny 4911 RY | 4.9 | All | RR2 | | I |
| | | Progeny 5111 RY | 5.1 | All | RR2 | | I |
| | | Progeny 5210 RY | 5.2 | All | RR2 | 3, 14 | I |
| | | Progeny 5321 RY | 5.3 | All | RR2 | | I |
| | | Progeny 5655 RY | 5.6 | All | RR2 | | I |
| | | Progeny 5610 RY | 5.6 | All | RR2 | 3, 14 | I |
| | | Progeny 4928 LL | 4.9 | All | Liberty Link | 3 | |
| | | Progeny 5160 LL | 5.1 | All | Liberty Link | | |
| | | Progeny 5261 LL | 5.2 | All | Liberty Link | | |
| | | Progeny 5460 LL | 5.4 | All | Liberty Link | | I |
| Hornbeck Seed Co. | (870)351-0390 | HBKR4729 | 4.7 | | RR | | I |
| P.O. Box 470 | | HBKR4829 | 4.8 | | RR | 3 | |
| 210 Drier Rd | | HBKR4924 | 4.9 | | RR | 3, 14 | |
| Dewitt,AR.72042 | | HBKC5025 | 5.0 | | CONV | | |
| http://www.hbkseed.com/home.html | | HBKRY5220 | 5.2 | | RR2 | 3, 14 | |
| | | HBKRY5421 | 5.4 | | RR2 | | |
| | | HBKR5425 | 5.4 | | RR | 3 | |
| | | HBKRY5521 | 5.5 | | RR2 | | |
| | | HBKR5525 | 5.5 | | RR | 3, 14 | I |
| | | HBKC5528 | 5.5 | | CONV | 3 | |
| | | HBKR5529 | 5.5 | | RR | 2 | |

## Fort Cobb




*Location Summary:*

An early-season and full season test was planted at Fort Cobb in 2011. The test was planted into a strip-tilled seedbed. This test was irrigated all season but high temperatures decreased yield potential. The average yields were 25 and 36 bu/ac for the early and full-season test, respectively, when averaged across all varieties.

Table 2. Information on soil chemical properties and management practices for the Soybean Production Test at Fort Cobb, OK in 2011.

| Soil Properties | Result | Cultural Practice | Information |
|---|---|---|---|
| pH | 6.9 | Planting Date | 5/5 and 6/9/2011[1] |
| Soil Test P Index | 32 | Seeding Rate (seeds/foot of row) | 8 |
| | 18 | | |
| Soil Test K Index | 9 | Seeding Depth (in) | 1 |
| | | Harvest Dates | 10/25 and 11/16/2011 |
| Previous Crop | Peanut | Irrigation | as needed |

[1] Planting date for early-season test and full-season test, respectively.

Table 3. Early-season glyphosate resistant soybean production variety trial Fort Cobb, OK 2011.

| Variety | Company | Maturity Group | Height | Shattering[1] Score | Lodging[1] Score | Seed/Lb | Yield | Percent Yield of Trial Average |
|---|---|---|---|---|---|---|---|---|
| | | | - in - | | | | - bu/acre - | - - % - - |
| AG 3830 | Asgrow | 3.8 | 27 | 1 | 0 | 3950 | 41.3 | 165% |
| AG 4903 | Asgrow | 4.9 | 27 | 1 | 0 | 3650 | 34.0 | 136% |
| S47-R3 Brand | Syngenta | 4.7 | 30 | 1 | 0 | 4300 | 27.7 | 111% |
| S49-A5 Brand | Syngenta | 4.9 | 29 | 2 | 0 | 4000 | 20.2 | 81% |
| AG 4730 | Asgrow | 4.7 | 19 | 3 | 0 | 3300 | 16.6 | 66% |
| S46-A1 Brand | Syngenta | 4.6 | 27 | 2 | 0 | 3400 | 13.0 | 52% |
| LSD (P=0.05) | | | | | | | 2.9 | |

[1]0 = no shattering or lodging, 5 = very severe shattering or lodging.

[2]Liberty Link soybean variety

Table 4. Full-season soybean production variety trial near Fort Cobb, OK 2011.

| Variety | Company | Maturity Group | Height | Shattering[1] Score | Lodging[1] Score | Seed/Lb | Yield | Percent Yield of Trial Average |
|---|---|---|---|---|---|---|---|---|
| | | | - in - | | | | - bu/acre - | - - % - - |
| Progeny 5770[2] | Progeny Ag Products | 5.7 | 24 | 0 | 0 | 2650 | 49.0 | 134% |
| HBK C5025[2] | Hornbeck Seed Co. | 5.0 | 32 | 0 | 0 | 2950 | 47.5 | 130% |
| HBK RY5421 | Hornbeck Seed Co. | 5.4 | 23 | 0 | 0 | 2800 | 44.6 | 122% |
| HBK C5528[2] | Hornbeck Seed Co. | 5.5 | 26 | 1 | 0 | 2850 | 44.2 | 121% |
| Progeny 5610 RY | Progeny Ag Products | 5.6 | 24 | 1 | 0 | 2750 | 43.4 | 119% |
| Progeny 5655 RY | Progeny Ag Products | 5.6 | 29 | 0 | 0 | 2800 | 42.3 | 116% |
| Progeny 5210 RY | Progeny Ag Products | 5.2 | 31 | 1 | 0 | 2900 | 41.8 | 115% |
| AG 5632 | Asgrow | 5.6 | 23 | 0 | 0 | 3000 | 41.8 | 115% |
| HBK 4729 | Hornbeck Seed Co. | 4.7 | 18 | 2 | 0 | 2700 | 41.7 | 115% |
| Progeny 5261 LL[3] | Progeny Ag Products | 5.2 | 24 | 0 | 0 | 2850 | 41.1 | 113% |
| Progeny 5160 LL[3] | Progeny Ag Products | 5.1 | 24 | 1 | 0 | 2800 | 39.4 | 108% |
| HBK R5425 | Hornbeck Seed Co. | 5.4 | 28 | 0 | 0 | 2650 | 39.2 | 108% |
| Progeny 5218 RR | Progeny Ag Products | 5.2 | 22 | 1 | 0 | 2850 | 39.0 | 107% |
| Progeny 5622 RR | Progeny Ag Products | 5.6 | 26 | 2 | 0 | 2950 | 38.3 | 105% |
| Progeny 5460 LL[3] | Progeny Ag Products | 5.4 | 25 | 2 | 0 | 2800 | 37.7 | 103% |
| HBK RY5521 | Hornbeck Seed Co. | 5.5 | 27 | 1 | 0 | 2750 | 37.7 | 103% |
| HBK R5525 | Hornbeck Seed Co. | 5.5 | 22 | 1 | 0 | 2900 | 36.4 | 100% |
| AG 4903 | Asgrow | 4.9 | 24 | 1 | 0 | 2700 | 35.7 | 98% |
| Progeny 5321 RY | Progeny Ag Products | 5.3 | 25 | 0 | 0 | 2900 | 34.2 | 94% |
| HBK RY5220 | Hornbeck Seed Co. | 5.2 | 28 | 1 | 0 | 2700 | 33.6 | 92% |
| Progeny 4908 RR | Progeny Ag Products | 4.9 | 23 | 3 | 0 | 3050 | 33.3 | 91% |
| Progeny 5650 RR | Progeny Ag Products | 5.6 | 27 | 0 | 0 | 2950 | 32.8 | 90% |
| AG 4730 | Asgrow | 4.7 | 20 | 1 | 0 | 2950 | 32.6 | 90% |
| Progeny 4910[2] | Progeny Ag Products | 4.9 | 23 | 0 | 0 | 2900 | 31.7 | 87% |
| Progeny 5111 RY | Progeny Ag Products | 5.1 | 29 | 0 | 0 | 3000 | 31.6 | 87% |
| AG 5605 | Asgrow | 5.6 | 24 | 0 | 0 | 3100 | 30.6 | 84% |
| HBK 4924 | Hornbeck Seed Co. | 4.9 | 29 | 1 | 0 | 2800 | 30.2 | 83% |
| Progeny 5191[2] | Progeny Ag Products | 5.1 | 26 | 0 | 0 | 3200 | 30.1 | 83% |
| Progeny 4928 LL[3] | Progeny Ag Products | 4.9 | 25 | 2 | 0 | 2700 | 29.7 | 82% |
| Progeny 4949 RR | Progeny Ag Products | 4.9 | 27 | 1 | 0 | 2750 | 29.2 | 80% |
| HBK R5529 | Hornbeck Seed Co. | 5.5 | 22 | 1 | 0 | 3200 | 28.7 | 79% |
| Progeny 4911 RY | Progeny Ag Products | 4.9 | 23 | 1 | 0 | 3000 | 28.5 | 78% |
| HBK 4829 | Hornbeck Seed Co. | 4.8 | 27 | 3 | 0 | 2850 | 24.0 | 66% |
| LSD (P=0.05) | | | | | | | 7.3 | |

[1]0 = no shattering or lodging, 5 = very severe shattering or lodging.

[2]Conventional variety

[3]Liberty Link soybean variety

Table 5. Two year average yield (2010-2011) results for Fort Cobb, OK.

| Variety | Company | Maturity Group | 2010 Yield | 2010 Percent Yield of Trial Average | 2011 Yield | 2011 Percent Yield of Trial Average | 2-yr Average | Percent Yield of Trial Average |
|---|---|---|---|---|---|---|---|---|
| | | | -bu/acre- | | -bu/acre- | | -bu/acre - | - - % - - |
| HBK C5025[2] | Hornbeck Seed Co. | 5.0 | 50 | 105 | 47.5 | 130% | 49 | 125% |
| Progeny 5218 RR | Progeny Ag Products | 5.2 | 48 | 126 | 39.0 | 107% | 44 | 112% |
| Progeny 5650 RR | Progeny Ag Products | 5.6 | 54 | 142 | 32.8 | 90% | 44 | 112% |
| Progeny 5622 RR | Progeny Ag Products | 5.6 | 49 | 127 | 38.3 | 105% | 43 | 111% |
| HBK C5528[2] | Hornbeck Seed Co. | 5.5 | 40 | 84 | 44.2 | 121% | 42 | 108% |
| HBK R5529 | Hornbeck Seed Co. | 5.5 | 51 | 133 | 28.7 | 79% | 40 | 102% |
| HBK R5425 | Hornbeck Seed Co. | 5.4 | 39 | 102 | 39.2 | 108% | 39 | 100% |
| HBK 4729 | Hornbeck Seed Co. | 4.7 | 35 | 91 | 41.7 | 115% | 38 | 98% |
| Progeny 4949 RR | Progeny Ag Products | 4.9 | 47 | 122 | 29.2 | 80% | 38 | 98% |
| Progeny 4908 RR | Progeny Ag Products | 4.9 | 38 | 100 | 33.3 | 91% | 36 | 92% |
| HBK R5525 | Hornbeck Seed Co. | 5.5 | 34 | 87 | 36.4 | 100% | 35 | 90% |
| HBK 4924 | Hornbeck Seed Co. | 4.9 | 33 | 85 | 30.2 | 83% | 31 | 81% |
| Progeny 5770[2] | Progeny Ag Products | 5.7 | | | 49.0 | 134% | | |
| HBK RY5421 | Hornbeck Seed Co. | 5.4 | | | 44.6 | 122% | | |
| Progeny 5610 RY | Progeny Ag Products | 5.6 | | | 43.4 | 119% | | |
| Progeny 5655 RY | Progeny Ag Products | 5.6 | | | 42.3 | 116% | | |
| Progeny 5210 RY | Progeny Ag Products | 5.2 | | | 41.8 | 115% | | |
| AG 5632 | Asgrow | 5.6 | | | 41.8 | 115% | | |
| Progeny 5261 LL[3] | Progeny Ag Products | 5.2 | | | 41.1 | 113% | | |
| Progeny 5160 LL[3] | Progeny Ag Products | 5.1 | | | 39.4 | 108% | | |
| Progeny 5460 LL[3] | Progeny Ag Products | 5.4 | | | 37.7 | 103% | | |
| HBK RY5521 | Hornbeck Seed Co. | 5.5 | | | 37.7 | 103% | | |
| AG 4903 | Asgrow | 4.9 | Varieties not tested in 2010 | | 35.7 | 98% | | |
| Progeny 5321 RY | Progeny Ag Products | 5.3 | | | 34.2 | 94% | | |
| HBK RY5220 | Hornbeck Seed Co. | 5.2 | | | 33.6 | 92% | | |
| AG 4730 | Asgrow | 4.7 | | | 32.6 | 90% | | |
| Progeny 4910[2] | Progeny Ag Products | 4.9 | | | 31.7 | 87% | | |
| Progeny 5111 RY | Progeny Ag Products | 5.1 | | | 31.6 | 87% | | |
| AG 5605 | Asgrow | 5.6 | | | 30.6 | 84% | | |
| Progeny 5191[2] | Progeny Ag Products | 5.1 | | | 30.1 | 83% | | |
| Progeny 4928 LL[3] | Progeny Ag Products | 4.9 | | | 29.7 | 82% | | |
| Progeny 4911 RY | Progeny Ag Products | 4.9 | | | 28.5 | 78% | | |
| HBK 4829 | Hornbeck Seed Co. | 4.8 | | | 24.0 | 66% | | |
| LSD (P=0.05) | | | 7.0 | | 7.3 | | | |

[1]0 = no shattering or lodging, 5 = very severe shattering or lodging.

[2]Conventional variety

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