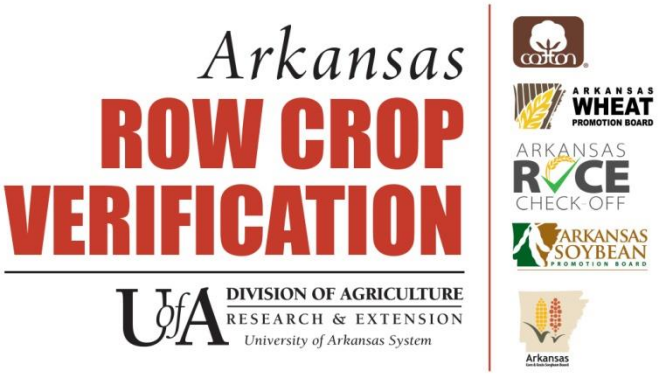
2017
University of Arkansas
Soybean Research Verification Program



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SOYBEAN RESEARCH VERIFICATION PROGRAM, 2017

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INTRODUCTION

The 2017 growing season was the thirty third year for the Soybean Research Verification Program (SRVP). The SRVP is an interdisciplinary effort between growers, county Extension agents, Extension specialists, and researchers. The SRVP is an on-farm demonstration of all the research-based recommendations required to grow soybeans profitably in Arkansas. The specific objectives of the program are:

1. To verify research-based recommendations for profitable soybean production in all soybean producing areas of Arkansas.

2. To develop a database for economic analysis of all aspects of soybean production.

3. To demonstrate that consistently high yields of soybeans can be produced economically with the use of available technology and inputs.

4. To identify specific problems and opportunities in Arkansas soybeans for further investigation.

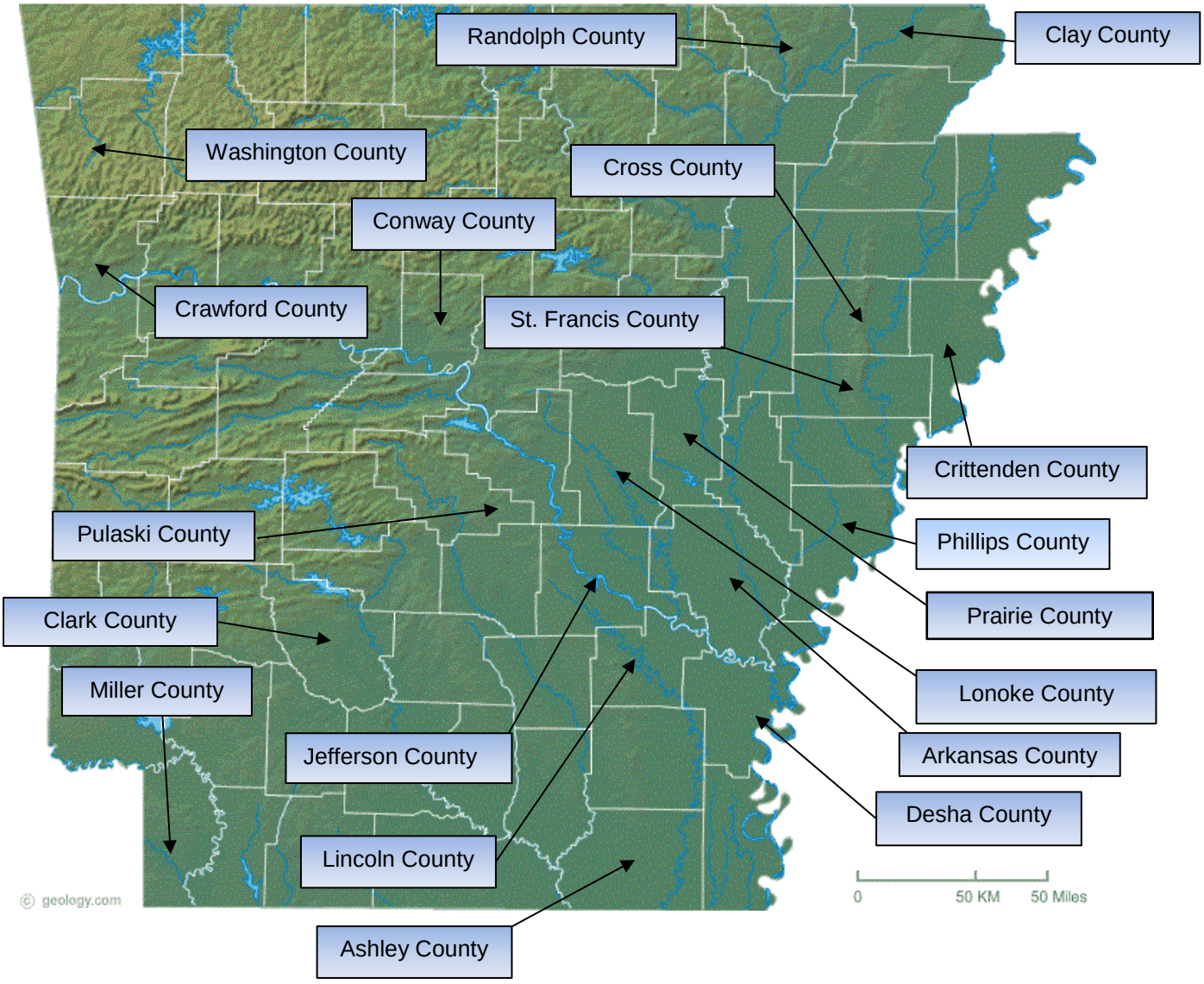
5. To promote timely implementation of cultural and management practices among soybean growers.

6. To provide training and assistance to county agents with limited expertise in soybean production.

Each SRVP field and cooperator was selected prior to planting. Cooperators agreed to pay production expenses, provide crop expense data for economic analysis and implement the recommended production practices in a timely manner from seedbed preparation to harvest. Nineteen farms were enrolled in the SRVP in 2017. The fields were located on commercial farms ranging in size from 21 to 100 acres. The average field size was 45 acres.

The 2017 SRVP fields were conducted in Arkansas, Ashley, Clark, Clay, Conway, Crawford, Crittenden, Cross, Desha, Jefferson, Lincoln, Lonoke, Miller, Phillips, Prairie, Pulaski, Randolph, St. Francis and Washington counties. Nine different Roundup Ready varieties (Asgrow AG4632, MorSoy 48X02, Northrup King S47-K5 Brand, Pioneer P41T33R, Pioneer P46T59R, Pioneer P47T36R, Pioneer P47T89R, Pioneer P53T73SR and USG 74A74RS), and six Liberty Link varieties (Bayer HBK LL4953, Cropland LT4885S, Pioneer P49T31L, Pioneer P53T62L, Stine 42LH22 and Stine 49LD02) were planted. Management decisions were based on field history, soil test results, variety, and data collected from each individual field during the growing season.

Figure 1. Location of 2017 Soybean Research Verification Fields



FIELD REVIEWS

Southern Fields – Chad Norton

Arkansas County

The 46 acre field, soil types Stuttgart and Ethel silt loam, was located south of Stuttgart and followed the previous year corn crop. Following corn harvest, a fall herbicide application of 1 quart/acre generic glyphosate plus 8 ounces/acre generic Select plus 8 ounces/acre 2,4-D was utilized for weed control. In addition, an early spring burndown application of 1 quart/acre generic glyphosate plus 8 ounces/acre 2,4-D was applied. Following spring land preparation and fertilizer application of 0-0-120, according to soil test recommendations, the field was planted April 13 with NK S47-K5 Brand, CruiserMaxx seed treatment, at 59 pounds/acre on 30" beds along with a 1 pint/acre generic *S*-metolachlor application for residual weed control. The field emerged April 19 to a plant population was 125,000 plants/acre. A post-emergence application of 22 ounces/acre RoundUp PowerMax plus 2 ounces/acre Zidua was also used for weed control. The field required a 4.26 ounce/acre Reveal plus 1% MSO application on July 14 for green stink bug control and a 1 pound/acre generic acephate application on August 25 for red banded stink bug control. Disease pressure remained below treatment thresholds so no fungicide application was warranted. The field was furrow irrigated 3 times and harvested on September 16 yielding 70 bushels/acre adjusted to 13% moisture. Due to excessive rainfall events in August and growth stage of the field at that time, grain samples averaged 11.1% damage with a 52 pounds/bushel test weight.

Ashley County

The 57 acre field, soil types Calhoun and Henry silt loam, was located west of Hamburg and followed the previous year corn crop. Following an early spring burndown application of 25.6 ounces/acre RoundUp PowerMax plus 1 pint/acre 2,4-D, land preparation and fertilizer application of 0-0-160, according to soil test recommendations, the field was planted April 7 with NK S47-K5 Brand, CruiserMaxx seed treatment, at 62 pounds/acre on 38" twin beds along with a 1 pint/acre generic *S*-metolachlor application for residual weed control. The field emerged April 16 to a plant population was 102,000 plants/acre. Post-emergence applications of 22 ounces/acre RoundUp PowerMax plus 2 ounces/acre Zidua on May 3 and 22 ounces/acre RoundUp PowerMax plus 1 pint/acre Flexstar on June 10 were also used for weed control. The field required a 4.26 ounce/acre Tundra plus .5 pound/acre generic acephate plus 1% MSO application on July 15 for green and red banded stink bug control and a 1 pound/acre generic acephate application on August 20 for red banded stink bug control. Disease pressure remained below treatment thresholds so no fungicide application was warranted. The field was furrow irrigated 3 times and harvested on September 11 yielding 47.9 bushels/acre adjusted to 13% moisture. Due to excessive rainfall events in August and growth stage of the field at that time, grain samples averaged 10.7% damage with a 51 pounds/bushel test weight.

Clark County

The 21 acre field, soil type Sardis silt loam, was located southwest of Arkadelphia and followed the previous year corn crop. Following disking in both the fall and spring, spring fertilizer application of 27-69-60, according to soil test recommendations, and pre-plant application of 1 quart/acre generic glyphosate, the field was flat planted May 15 with Pioneer 47T89R, CruiserMaxx seed treatment, at 55 pounds/acre on 18" centers along with a 1 pint/acre Dual Magnum application for residual weed control. The field emerged May 25 to a plant

population of 136,000 plants/acre. Post-emergence applications of 1 quart/acre generic glyphosate plus 2 ounces/acre Zidua on June 8 and 1 quart/acre generic glyphosate on June 20 were also used for weed control. Neither insects nor diseases reached treatment thresholds so no insecticides or fungicides were used. The field was irrigated 3 times using a walking gun, applying 1.5" each time, and harvested September 28 yielding 67.8 bushels/acre adjusted to 13% moisture.

Desha County

The 37 acre field, soil types Desha silt loam and Desha clay, was located north of Dumas and followed the previous year soybean crop. Following a fertilizer application of 0-0-60, according to soil test recommendations, and roller/bedding, the field was planted April 7 with NK 47-K5 Brand, CruiserMaxx seed treatment, at 59 pounds/acre on 38" twin beds along with a 1 quart/acre generic paraquat plus 22 ounces/acre BroadAxe application for emerged and residual weed control. The field emerged April 17 to a plant population was 136,000 plants/acre. On May 10, field middles were plowed to clean furrow followed by a post-emergence application of 22 ounces/acre RoundUp PowerMax plus 2 ounces/acre Zidua plus .3 ounce/acre First Rate for weed control. The field required a 4.26 ounce/acre Brigade plus .5 pound/acre generic acephate plus 1% MSO application on July 15 for green and red banded stink bug control and a 1 pound/acre generic acephate application on August 22 for red banded stink bug control. Disease pressure remained below treatment threshold so no fungicide applications were warranted. Three quarts/acre sodium chlorate plus 1% NIS were applied August 25 as a harvest aid. The field was furrow irrigated 3 times and harvested September 9 yielding 75 bushels/acre adjusted to 13% moisture. Due to excessive rain events in August and growth stage of the field at that time, grain samples averaged 9.2% damage with a 50.3 pounds/bushel test weight.

Jefferson County

The 71 acre field, soil types Coushatta, Roxana silt loam and Desha, Portland clay, was located south of Altheimer and followed the previous year corn crop. After spring fertilizer application of 0-0-60, according to soil test recommendations, and land preparation, the field was planted March 24 with Stine 42LH22, Apron Moly Max seed treatment, at 68 pounds/acre on 30" beds along with an application of 1 quart/acre generic glyphosate plus 1.3 pints/acre generic metolachlor for emerged and residual weed control. The field emerged April 5 to a plant population of 80,000 plants/acre. Post-emergence applications on 1 quart/acre Liberty plus 2 ounces/acre Zidua on April 15 and 1 quart/acre Liberty plus 1.3 pints/acre generic metolachlor on May 7 were utilized for weed control. Neither insects nor diseases reached treatment thresholds so no insecticide or fungicide applications were warranted. Generic paraquat at a rate of 1 pint/acre plus 1% NIS was applied as a harvest aid on August 5. The field was furrow irrigated 3 times and harvested on August 24 yielding 73.5 bushels/acre adjusted to 13% moisture. Due to excessive rain events in August and growth stage of the field at that time, grain samples averaged 4.4% damage with a 54.3 pounds/bushel test weight.

Lincoln County

The 71 acre field, soil type Herbert silt loam, was located north of Grady and followed the previous year corn crop. Following fall fertilization of 0-46-90, according to soil test recommendations, ripper/hipper and an early spring burndown of 1 quart/acre RoundUp PowerMax plus 1 quart/acre 2,4-D plus 2.5 ounces/acre Afforia plus 1% MSO, the field was planted March 30 with NK 47-K5 Brand, Vault inoculant and Magnum seed treatment, at 59 pounds/acre on 38" twin beds along with 22 ounces/acre RoundUp PowerMax plus 1.3

pints/acre generic metolachlor for emerged and residual weed control. The field emerged April 11 to a plant population was 103,000 plants/acre. On May 2, 22 ounces/acre RoundUp PowerMax plus 2 ounces Zidua were applied for weed control. Field middles were plowed May 19 to clean furrows followed by an application of 22 ounces/acre RoundUp PowerMax plus 1.5 pints/acre Flexstar plus 1.3 pints/acre generic metolachlor for weed control. Neither insects nor diseases reached treatment thresholds so no insecticide or fungicide applications were made. The field was furrow irrigated 3 times and harvested September 11 yielding 92 bushels/acre adjusted to 13% moisture. Due to excessive rain events in August and growth stage of the field at that time, grain samples averaged 3.7% damage with a 52.7 pounds/bushel test weight.

Lonoke County

The 88 acre field, soil types Immanuel and Calloway silt loam, was located east of Culler and followed the previous year corn crop. Following a fall disking and spring land preparation and fertilizer application of 0-60-60, according to soil test recommendations, the field was planted May 15 with Stine 49LD02, CruiserMaxx seed treatment, at 52 pounds/acre on 30" beds along with an application of 1 pint/acre generic *S*-metolachlor for residual weed control. The field emerged on May 20 to a plant population of 133,000 plants/acre. Post-emergence applications of 1 quart/acre Liberty plus 2 ounces/acre Zidua on June 9 and 1 quart/acre Liberty plus 1.33 pints/acre Dual Magnum on June 28 were also utilized for weed control. The field required a 5.12 ounce/acre Brigade plus 1% MSO application August 31 for stink bug control. Diseases remained below treatment thresholds so fungicide application was unwarranted. The field was furrow irrigated twice and harvested October 6 yielding 67.3 bushels/acre adjusted to 13% moisture.

Miller County

The 40 acre dryland field, soil types Rilla silt loam and Billyhaw clay, was located south of Fouke and followed previous year fallowing. According to soil test recommendations, no fertilizer was applied. Following an early spring burndown of 1 quart/acre generic glyphosate, the field was flat drill planted April 3 with Pioneer 41T33R, Cruiser Max seed treatment, at 55 pounds/acre using a 7.5" drill along with an application of 1 pint/acre Dual Magnum for residual weed control. The field emerged April 20 to a plant population of 110,000 plants/acre. Post-emergence applications of 1 quart/acre generic glyphosate plus 2 ounces/acre Zidua on May 8 and 1 quart/acre generic glyphosate plus 1 quart Prefix on May 30 were utilized for weed control. The field required a 4.26 ounce/acre Brigade plus .5 pound/acre generic acephate application on July 18 and 5.12 ounces/acre Brigade plus .75 pound/acre generic acephate on July 27 for red banded stink bug control. Diseases remained below treatment thresholds so fungicide application was unwarranted. The field was harvested September 21 yielding 42.7 bushels/acre.

Phillips County

The 20 acre field, soil type Dubbs silt loam, was located southwest of Turner and followed the previous year soybean crop. Cereal rye was utilized as a winter cover crop drill seeded the previous fall at 84 pounds/acre. Following a spring burndown of 1 quart/acre generic glyphosate plus 8 ounces/acre dicamba and fertilizer application of 0-38-75, according to soil test recommendations, the field was drill planted April 15 with USG 74A74RS, CruiserMaxx seed treatment, at 55 pounds/acre using 7.5" drill on 38" beds, along with an application of 1 quart/acre generic glyphosate plus 1.5 pints/acre Boundary for emerged and residual weed control. Due to stand failure in middle third of the field, 6 acres had to be replanted April 26

using same seeding rate as original planting. The field emerged to an acceptable plant population of 115,000 plants/acre May 1. A post-emergence application on May 18 of 1 quart/acre generic glyphosate plus 1 quart/acre Prefix plus 6 ounces/acre Flexstar was used for weed control. The field required a 10 ounce/acre Besiege plus 1% MSO application August 10 for corn earworm and stink bug control. Diseases remained below treatment threshold so fungicide application was unwarranted. One pint/acre generic paraquat plus 1% NIS was applied September 1 as a harvest aid. The field was furrow irrigated 3 times and harvested September 21 yielding 60 bushels/acre adjusted to 13% moisture.

Prairie County

The 25 acre field, soil types Calhoun and Stuttgart silt loam, was located south of Slovak and followed the previous year corn crop. Following a fall harrowing, 1 ton/acre lime and 0-45-90, according to soil test recommendations, were applied in the spring. The field was bedded and drill planted May 11 with Pioneer 47T36R, CruiserMaxx seed treatment, using 7.5" drill on 30" beds. The field emerged to a plant population of 140,000 plants/acre. Wind conditions delayed herbicide applications until 1 pint/acre Dual Magnum was applied May 21. Luckily, field remained very clean from land preparation. Another post-emergence application of 1 quart/acre generic glyphosate plus 1.2 pints/acre generic metolachlor applied June 20. The field required a 14 ounce/acre Prevathon plus 1 % MSO application August 1 for corn earworms. Diseases remained below treatment thresholds so fungicide application was unwarranted. The field was furrow irrigated 2 times and harvested September 26 yielding 77.3 bushels/acre adjusted to 13% moisture.

Pulaski County

The 54 acre field, soil types Rilla silt loam and Rilla-Perry complex, was located west of England and followed the previous year corn crop. After sub-soiling in the fall and spring poultry litter application of 2 tons/acre and land preparation, the field was planted May 11 with Pioneer 46T59R, CruiserMaxx seed treatment, at 59 pounds/acre along with an application of 25 ounces/acre RoundUp PowerMax plus 1.25 pint/acre Boundary for emerged and residual weed control. The field emerged May 18 to a plant population of 139,000 plants/acre. A post-emergence application of 1 quart/acre generic glyphosate plus 1.33 pints/acre Dual Magnum was also used for weed control. The field received an 8 ounce/acre Besiege application on July 24. Diseases remained below treatment threshold so no fungicide application was warranted. The field was furrow irrigated 4 times and harvested October 5 yielding 70.7 bushels/acre adjusted to 13% moisture.

Northern Fields – Christopher Elkins

Clay County

The 15 acre field, soil type Falaya Silt Loam and Crowley Silt Loam, was located north of Piggott and followed the previous year corn crop. Following an early spring burndown of 22 ounces/acre Roundup PowerMax plus .5 ounces/acre of First Shot and land preparation, the field was planted May 7 with MorSoy 48X02, Inovate seed treatment, at 69 pounds/acre on 38" beds along with an application of 3 ounces/acre Fierce for residual weed control. The field emerged May 16 to a plant population of 149,000 plants/acre. Post-emergence application of 22 ounces/acre of RoundUp PowerMax plus 2.3 pints/acre Prefix was applied May 30 for weed control. On May 31 a fertilizer application of 0-0-60 was applied, according to soil sample recommendations. Manual cultivation was used on July 7 to control escaped palmer amaranth on 8 acres. Neither insects nor diseases reached treatment thresholds, so no insecticide or fungicide application were made. The field was furrow irrigated 5 times and harvested on October 2 yielding 60.3 bushels/acre adjusted to 13% moisture.

Conway County

The 50 acre field, soil type Dardanelle silt loam, was located south of Blackwell and followed the previous year corn crop. According to soil test recommendations, no fertilizer was applied. Following land preparation, the field was planted May 10 with Pioneer 49T31L, Cruiser Maxx seed treatment, at 62 pounds/acre on 30" beds along with an application of 1.25 pints/acre generic metolachlor for residual weed control. Heavy rains after planting resulted in crusting and a rotary hoe was used to assist with emergence. The field emerged May 18 to a plant population of 134,000 plants/acre. Post-emergence application of 1 quart/acre Liberty plus 2 ounces/acre Zidua on May 26 and 29 ounces/acre Liberty plus 1 pint/acre generic metolachlor on June 16 were utilized for weed control. Neither insects nor diseases reached treatment thresholds, so no insecticide or fungicide applications were made. Lodging was an issue with 40% lodged at R4 growth stage and 95% of the field lodged at harvest. The field was furrow irrigated 4 times and harvested on October 6 yielding 58.3 bushels/acre adjusted to 13% moisture.

Crawford County

The 68 acre field, soil type Roxana Silt Loam and Gallion Silt Loam, was located south of Alma and followed the previous year soybean crop. Following spring tillage, fertilizer application of 0-0-120 was applied according to soil test recommendations. The field was planted on May 24 with Pioneer 53T62L, Cruiser Maxx plus Vault seed treatment, at 57 pounds/acre on 30" rows. On May 25 and application of 3 ounces/acre Fierce was applied for residual weed control. The field emerged June 1 to a plant population of 108,000 plants/acre. Post-emergence application of 1 quart/acre Liberty plus 1.25 pints/acre generic metolachlor was applied June 28 for weed control. Neither insects nor diseases reached treatment thresholds, so no insecticide or fungicide application were made. The field was unable to be irrigated due to equipment issues and was treated as dryland. Harvested on October 19 yielding 58.5 bushels/acre adjusted to 13% moisture.

Crittenden County

The 28 acre field, soil type Tunica Clay and Bowdre Silty Clay and Sharkey Silty Clay, was located south of West Memphis and followed the previous year soybean crop. According to soil test recommendation, no fertilizer was applied. Early spring burndown of 1 quart/acre of generic glyphosate plus .33 pounds/acre generic metribuzin was applied to control cover crop and provide residual. The field was planted on April 20 with Bayer HBK 4953, Cruiser Maxx seed treatment, at 58 pounds/acre on 20" row spacing. The field emerged May 1 to a plant population of 115,000 plants/acre. Post-emergence applications of 1 quart/acre Liberty plus 8 ounces/acre Anthem on May 8 and 29 ounces/acre Liberty plus 1.25 pints/acre generic metolachlor on June 8 were utilized for weed control. Neither insects nor disease reached treatment thresholds, so no insecticide or fungicide application were made. The field was dryland and harvested on October 4 yielding 63.3 bushel/acre adjusted to 13% moisture.

Cross County

The 108 acre field, soil type Henry Silt Loam, was located west of Wynne and followed the previous year rice crop. Following spring tillage, fertilizer application of 0-40-81 was applied according to soil test recommendations. The field was drilled on June 8 with Pioneer 47T89R with Cruiser Maxx seed treatment at 65 pounds/acre on 38' beds on 7.5" seed spacing. On June 9, 24 ounces/acre generic glyphosate plus 1.3 pints/acre generic metolachlor were applied for weed control and residual. On June 29 the field was re-planted with Pioneer 47T89R at 65 pounds/acre and 1 quart/acre generic glyphosate was applied for weed control. The field emerged on July 3 to a plant population of 82,000 plants/acre. Post-emergence application of 1 pint/acre Ultra Blazer plus 1 quart/acre generic glyphosate plus 1.9 ounces/acre Lambda-cyholthrin were applied for weed control and bollworm control on Aug 8. On September 29 bollworm numbers surpassed threshold and 5 ounces/acre of Intrepid Edge was applied. The field was furrow irrigated 1 time and harvested on October 14 yielding 35.2 bushels/acre adjusted to 13% moisture. Flooding early in the growing season delayed planting. Flooding during season, from Hurricane Harvey, resulted in greater than 35 percent of the field being submerged for 7 plus days. Excess rain had the greatest impact on yield.

Randolph County

The 28 acre field, soil type Bosket Fine Sandy loam, was located north of Biggers and followed the previous year corn crop. Following spring tillage, fertilizer application of 0-0-60 was applied according to soil test recommendations. The field was drilled on May 18 with Pioneer 53T73SR at 66 pounds/acre on 60" beds on 7.5" seed spacing, and 2 ounces/acre Valor was applied for residual weed control. The field emerged on May 26 to a plant population of 120,000 plants/acre. Post emergence application of 2.3 pints/acres Prefix plus 1 quart/ acre generic glyphosate on June 24 were utilized for weed control. Neither insects nor disease reached treatment thresholds so no insecticide or fungicide applications were made. The field was furrow irrigated 4 times and harvested on October 24 yielding 61.8 bushels/acre adjusted to 13% moisture.

St. Francis County

The 40 acre field, soil type Loring Silt Loam and Calloway Silt Loam, was located south of Palestine and followed the previous year soybean crop. Following spring burndown application of 1 quart/acre of generic glyphosate plus 1 pint/acre of 2,4-D, fertilizer application of 0-60-120 was applied according to soil test recommendations. The field was drilled on May 16 with Asgrow 4632, Cruiser Maxx seed treatment, at 63 pounds/acre on 7.5" seed spacing. On May 18, 1 quart/acre Liberty plus 1.5 pints/acre Boundary was applied for weed control and residual. The field emerged on May 25 to a plant population of 81,000 plants/acre. Post emergence application of 1 quart/acre generic glyphosate plus 1.2 pints/ acre generic metolachlor plus .3 ounces/acre FirstRate on June 10 and 1 quart/acre glyphosate plus .33 ounces/acre Classic on July 11 were applied for weed control. On August 25 Stink bug numbers reached threshold and 1.9 ounces/acre lambda-cyhalothrin plus .5 pounds/acre acephate were used for control. Disease levels did not reach threshold and no fungicide applications were made. The field was furrow irrigated 2 times and harvested on October 3 yielding 58.1 bushels/acre adjusted to 13% moisture.

Washington County

The 43.5 acre field, soil type Summit Silty Clay and Samba Silt Loam and Savannah Fine Sandy Loam, was located south of Prairie Grove and followed the previous year soybean crop. Following spring burndown application of 1 quart/acre generic glyphosate and spring tillage, 2 tons of poultry litter was applied. The field was planted on June 15 with Cropland LT 4885S, Cruiser Maxx seed treatment, at 63 pounds/acre on 30" seed spacing along with an application of 3 ounces/acre Fierce for residual weed control. 50% of field received reduced pre-emerge herbicide rate due to equipment error. On June 21, 4 acres required replanting at 63 pounds/acre. The field emerged on June 22 to a plant population of 97,000 plants/acre. Post emergence application of 1 quart/acre Liberty plus 1.3 pints/acre generic metolachlor was applied to half the field on July 7. Equipment malfunction delayed finishing herbicide application until July 27, when it was treated with 1 quart/acre Liberty plus 16 ounces/acre Select. Neither insects nor disease reached treatment thresholds, so no insecticide or fungicide applications were made. The field was dryland and harvested on October 25 yielding 46.6 bushels/ acre adjusted to 13% Moisture.

Table 1. Agronomic information for the 2017 Soybean Research Verification Fields.

County	Variety	Field size (ac)	Previous crop	Production system[1]	Seeding rate (lb/acre)	Stand density (plants/ac)	Planting date	Emergence date	Harvest date	Yield adj. to 13% moisture (bu/ac)
Arkansas	NK S47-K5	46	Corn	ESI	59	125K	4/13	4/19	9/16	70
Ashley	NK S47-K5	57	Corn	ESI	62	102K	4/7	4/16	9/11	47.9
Clark	Pioneer P47T89R	21	Corn	FSI	55	136K	5/18	5/25	9/28	67.8
Clay	MorSoy 48X02	27	Corn	FSI	69	149K	5/7	5/16	10/2	60.3
Conway	Pioneer P49T31L	50	Corn	FSI	62	134k	5/10	5/18	10/6	58.3
Crawford	Pioneer P53T62L	45	Soybeans	FSNI	57	108k	5/24	6/1	10/19	58.5
Crittenden	Bayer HBK LL4953	35	Soybeans	FSNI	58	115K	4/20	5/1	10/4	63.3
Cross	Pioneer P47T89R	100	Rice	FSI	65	82k	6/29	7/3	10/14	35.2
Desha	NK S47-K5	37	Soybeans	ESI	59	136K	4/7	4/17	9/9	75
Jefferson	Stine 42LH22	71	Corn	ESI	68	80K	3/24	4/5	8/24	73.5
Lincoln	NK S47-K5	71	Corn	ESI	59	103K	3/30	4/11	9/11	92
Lonoke	Stine 49LD02	88	Corn	FSI	52	133K	5/15	5/20	10/6	67.3
Miller	Pioneer P41T33R	40	Fallow	ESNI	55	110K	4/10	4/20	9/21	42.7
Phillips	USG 74A74RS	20	Soybeans	FSI	55	115K	4/15 & 4/26	4/23 & 5/1	9/21	60
Prairie	Pioneer P47T36R	25	Corn	FSI	42	140K	5/11	5/20	9/26	77.3
Pulaski	Pioneer P46T59R	54	Corn	FSI	59	139K	5/11	5/18	10/5	70.7
Randolph	Pioneer P53T73SR	40	Corn	FSI	66	120K	5/18	5/26	10/24	61.8
St. Francis	Asgrow 4632 RR/STS	45	Soybeans	FSI	63	81K	5/16	5/25	10/3	58.1
Washington	Cropland LT4885S	40	Soybeans	FSNI	63	97K	6/15	6/22	10/25	46.6
Average		**45**			**59.4**	**116K**	**5/3**	**5/12**	**9/29**	**62.4**

[1]Production Systems: ESI = Early Planted Irrigated; FSI = Full Season Irrigated; FSNI = Full Season Non-irrigated; ESNI = Early Season Non-irrigated

State Avg. – 50

Table 2. Soil tests results, applied fertilizer and soil classification for the 2017 Soybean Research Verification Fields

	Applied Fertilize N-P-K (lb/acre)				Soil Classification
County	pH	P	K	Pre-plant	
Arkansas	6.7	54	166	0-0-120	Stuttgart, Ethel silt loam
Ashley	7.7	58	120	0-0-160	Calhoun, Henry silt loam
Clark	5.9	48	290	27-69-60	Sardis silt loam
Clay	6.4	90	254	0-0-60	Falaya silt loam
Conway	6.6	280	552	0-0-0	Dardanelle silt loam
Crawford	6.0	92	180	0-0-120	Roxana silt loam
Crittenden	6.1	68	520	0-0-0	Tunica clay
Cross	6.6	100	228	0-40-81	Henry silt loam
Desha	6.8	74	218	0-0-60	Desha silt loam
Jefferson	5.6	120	252	0-0-60	Coushatta, Roxana silt loam, Desha, Portland clay
Lincoln	6.8	60	186	0-46-90	Herbert silt loam
Lonoke	6.3	30	276	0-60-60	Immanuel, Calloway silt loam
Miller	7.6	74	910	0-0-0	Rilla silt loam, Billyhaw clay
Phillips	7.0	114	488	0-38-75	Dubbs silt loam
Prairie	6.4	28	272	0-60-60	Calhoun, Stuttgart silt loam
Pulaski	5.7	72	184	2 ton poultry litter	Rilla silt loam, Rilla-Perry complex
Randolph	5.8	76	188	0-0-60	Bosket fine sandy loam
St. Francis	6.8	30	164	0-60-120	Loring silt loam, Calloway silt loam
Washington	5.6	74	214	2 ton poultry litter	Summit silty clay, Samba silt loam

Table 3. Herbicide rates and timings for 2017 Soybean Research Verification Program fields by county.

	Herbicide	
County	Burndown/Pre-emergence	Post-emergence
Arkansas	Burndown; 1 qt. generic glyphosate + 1 qt. 2,4-D Pre-emerge; 1 pt. generic *S*-metolachlor	1 qt. generic glyphosate + 2 oz. Zidua
Ashley	Burndown; 25.6 oz. RoundUp PowerMax + 1 pt. 2,4-D Pre-emerge; 1 pt. generic *S*-metolachlor	1st; 22 oz. RoundUp PowerMax + 2 oz. Zidua 2nd; 22 oz. RoundUp PowerMax + 1 pt. Flexstar
Clark	Burndown; 1 qt. generic glyphosate Pre-emerge; 1 pt. Dual Magnum	1st; 1 qt. generic glyphosate + 2 oz. Zidua 2nd; 1 qt. generic glyphosate
Clay	Burndown; 22 oz. RoundUp PowerMax +.5 oz. FirstShot Pre-emerge; 3 oz. Fierce	2.3 pts. Prefix + 22 oz. RoundUp PowerMax
Conway	Pre-emerge; 1.25 pts. generic metolachlor	1st; 1 qt. Liberty + 2 oz. Zidua 2nd; 29 oz. Liberty + 1pt. generic metolachlor
Crawford	Pre-emerge; 3 oz. Fierce	1 qt. Liberty + 1.25 pts. generic metolachlor
Crittenden	Pre-emerge; 32 oz. generic glyphosate +.33 lbs.generic metribuzin	1st; 1 qt. Liberty + 8 oz. Anthem 2nd; 29 oz. Liberty +1.25 pts. generic metolachlor
Cross	Pre-emerge; 1.5 pts. generic glyphosate + 1.3 pts. generic metolachlor	1st; 1 qt. generic glyphosate 2nd;1 pt. Ultra Blazer + 1 qt. generic glyphosate
Desha	Pre-emerge; 1 qt. generic paraquat + 22 oz. BroadAxe	22 oz. RoundUp PowerMax + 2 oz. Zidua + .3 oz. First Rate Pre-harvest; 3 qts. sodium chlorate + 1% NIS
Jefferson	Pre-emerge; 1 qt. generic glyphosate + 1.3 pt. generic metolachlor	1st; 1 qt. Liberty + 2 oz. Zidua 2nd; 1 qt. Liberty + 1.3 pt. generic metolachlor Pre-harvest; 1 pt. generic paraquat + 1% NIS
Lincoln	Burndown; 2.5 oz. Afforia + 1 qt. 2,4-D + 1 qt. RoundUp PowerMax + 1% MSO Pre-emerge; 22 oz. RoundUp PowerMax + 1.3 pt. generic metolachlor	1st; 22 oz. RoundUp PowerMax + 2 oz. Zidua 2nd; 22 oz. RoundUp PowerMax + 1.5 pt. Flexstar + 1.3 pt. generic metolachlor
Lonoke	Pre-emerge; 1 pt. generic *S*-metolachlor	1st; 1 qt. Liberty + 2 oz. Zidua 2nd; 1 qt. Liberty + 1.33 pt. Dual Magnum
Miller	Burndown; 1 qt. generic glyphosate Pre-emerge; 1 pt. Dual Magnum	1st. 1 qt. generic glyphosate + 2 oz. Zidua 2nd; 1 qt. generic glyphosate + 1 qt. Prefix
Phillips	Burndown; 1 qt. generic glyphosate + 1 qt. 2,4-D Pre-emerge; 1 qt. generic glyphosate + 1.5 pt. Boundary	1 qt. generic glyphosate + 1 qt. Prefix + 6 oz. Flexstar Pre-harvest; 1 pt. generic paraquat + 1% NIS
Prairie	Pre-emerge; 1 pt. Dual Magnum	1 qt. generic glyphosate + 1.2 pt. generic metolachlor
Pulaski	Pre-emerge; 25 oz. RoundUp PowerMax + 1.25 pt. Boundary	1 qt. generic glyphosate + 1.33 pt. Dual Magnum
Randolph	Pre-emerge; 2 oz. Valor	2.3 pts. Prefix + 1 qt. generic glyphosate
St. Francis	Burndown; 1 qt. generic glyphosate + 1 pt. 2,4-D Pre-emerge; 1 qt. Liberty + 1.5 pts. Boundary	1st; 1 qt. generic glyphosate +1.2 pts. generic metolachlor +.3 oz. First Rate 2nd; 1 qt. generic glyphosate +.33 oz. Classic
Washington	Burndown; 1 qt. generic glyphosate Pre-emerge; 3 oz. Fierce	1qt. Liberty + 1.3 pts. generic metolachlor

Table 4. Fungicide and insecticides applications in 2017 Soybean Research Verification fields by county.

County	Aerial Web Blight	Frogeye	Bollworm/Defoliators	Stink Bug
Arkansas				1st; 4.26 oz. Reveal + 1% MSO 2nd; 1 lb. acephate
Ashley				1st; 4.26 oz. Tundra + .5 lb. acephate + 1% MSO 2nd; 1 lb. acephate
Clark				
Clay				
Conway				
Crawford				
Crittenden				
Cross			1.9 oz. Lambda-cyhalothrin + 5 oz. Intrepid Edge	
Desha				1st; 4.26 oz. Brigade + .5 lb. acephate + 1% MSO 2nd; 1 lb. acephate
Jefferson				
Lincoln				
Lonoke				5.12 oz. Brigade + 1% MSO
Miller				1st: 4.26 oz. Brigade + .5 lb. acephate 2nd: 5.12 oz. Brigade + .75 lb. acephate
Phillips			10 oz. Besiege + 1% MSO	
Prairie			14 oz. Prevathon + 1% MSO	
Pulaski			8 oz. Besiege	
Randolph				
St. Francis				1.9 oz. Lambda-cyhalothrin + .5 lbs. acephate
Washington				

Table 5. Irrigation information and rainfall for the 2017 Soybean Research Verification Fields.

County	Irrigation Type	Number of Irrigations	Rainfall (in)
Arkansas	Furrow	3	24.0
Ashley	Furrow	3	23.8
Clark	Walking Gun	3	17.2
Clay	Furrow	6	14.8
Conway	Furrow	4	20.2
Crawford	Dryland	N/A	16.4
Crittenden	Dryland	N/A	28.7
Cross	Furrow	1	19.1
Desha	Furrow	3	26.6
Jefferson	Furrow	3	22.6
Lincoln	Furrow	3	18.8
Lonoke	Furrow	2	19.7
Miller	Dryland	N/A	14.0
Phillips	Furrow	3	23.6
Prairie	Furrow	2	13.1
Pulaski	Furrow	4	16.4
Randolph	Furrow	4	14.4
St. Francis	Furrow	2	21.3
Washington	Dryland	N/A	12.1

ECONOMIC ANALYSIS

This section provides information on production costs and returns for the 2017 SRVP. Records of field operations on each field provided the basis for estimating production costs. The field records were compiled by the SRVP coordinators, county extension agents, and cooperators. Production data from the 19 fields were applied to determine costs and returns above operating costs, as well as total specified costs. Operating costs and total costs per bushel indicate the commodity price needed to meet each costs type.

Operating costs are those expenditures that would generally require annual cash outlays and would be included on an annual operating loan application. Actual quantities of all operating inputs as reported by the cooperators are used in this analysis. Input prices are determined by data from the 2017 Crop Enterprise Budgets published by the Cooperative Extension Service, a Southeast Arkansas input provider survey, and information provided by producer cooperators. Fuel and repair costs for machinery are calculated using a budget calculator based on parameters and standards established by the American Society of Agricultural and Biological Engineers. Machinery repair costs should be regarded as estimated values for full service repairs, and actual cash outlays could differ as producers provide unpaid labor for equipment maintenance.

Fixed costs of machinery are determined by a capital recovery method, which determines the amount of money that should be set aside each year to replace the value of equipment used in production. Machinery costs are estimated by applying engineering formulas to representative prices of new equipment. This measure differs from typical depreciation methods, as well as actual annual cash expenses for machinery.

Operating costs, fixed costs, costs per bushel, and returns above operating and total specified costs are presented, by field, in Table 6. Costs in this report do not include management, land costs, or other expenses and fees not associated with production. Averages in the final row of Table 6 are simple averages across all SRVP fields.
Operating costs per acre range from $191.37/acre for Miller County to $362.73/acre for Phillips County, while operating costs per bushel range from $3.05/bu. for Lincoln County to $6.05/bu. for Phillips County. Total costs per acre (operating plus fixed) range from $244.25/acre for Miller County to $418.33/acre for Phillips County, and total costs per bushel range from $3.88/bu. for Prairie County to $10.10/bu. for Cross County where a total replant was required. Returns above operating costs range from $66.56/acre for Cross County to $608.17/acre for Lincoln County, and returns above total costs range from -$15.32 for Cross County to $529.04/acre for Lincoln County.

A statewide summary of yield, soybean price, revenues, and expenses by expense type across all SRVP fields is presented in Table 7. Summaries by North and South geographic areas are provided in Tables 7A and 7B. Averages in final column of each table are simple averages for the SRVP fields represented in that table. The average soybean yield for the 2017 SRVP was 62.44 bushels, but ranged from 35.2 bushels/acre for Cross County to 92.0 bushels/acre for Lincoln County. The Arkansas average cash price for the 2017 SRVP was estimated from January through October 31 daily price quotes of the cash market price or cash booking price to be $9.66/bu., 8 cents less than for the same period in 2016. Arkansas producers set the price for portions of their crop throughout the year. The Little Rock office of the National Agriculture Statistics Service began reporting 2017 Arkansas crop booking prices on January 3 and switched to cash market quotes for the 2017 crop on October 2.

The average operating expense for the 19 SRVP fields in 2017 was $256.88/acre (Table 7). Seed accounted for the largest share of operating expenses on average (32.48 percent) followed by herbicides (19.40 percent), fertilizers & nutrients (14.92 percent), post-harvest expenses (7.51%), custom applications (5.45%), repairs & maintenance (4.99 percent), and diesel fuel for non-irrigation activities (3.75 percent). The average return above operating expenses for the 19 fields was $346.27/acre and ranged from $66.56/acre for Cross County to $608.17/acre for Lincoln County. The average return above total specified expenses for the 19 fields was $279.98/acre, and ranged from -$15.32 for Cross County to $529.04/acre for Lincoln County.

Table 6. Operating Costs, Total Costs, and Returns for Soybean Research Verification Program, 2017

County	Operating Costs ($/acre)	Operating Costs ($/bushel)	Returns to Operating ($/acre)	Fixed Costs ($/acre)	Total Costs ($/acre)	Returns to Total Costs ($/acre)	Total Costs per Bushel ($/bushel)
Clay	241.75	4.01	340.75	41.67	283.42	299.07	4.70
Conway	208.34	3.57	354.84	87.62	295.96	267.21	5.08
Crawford	205.39	3.51	359.72	64.80	270.19	294.92	4.62
Crittenden	233.15	3.68	378.33	27.38	260.54	350.94	4.12
Cross	273.48	7.77	66.56	81.88	355.35	-15.32	10.10
Randolph	202.03	3.27	394.95	63.97	266.01	330.98	4.30
St. Francis	295.53	5.09	265.72	29.58	325.11	236.14	5.60
Washington	274.94	5.90	175.22	45.41	320.35	129.81	6.87
North Avg.	**241.83**	**4.60**	**292.01**	**55.29**	**297.12**	**236.72**	**5.67**
Arkansas	244.27	3.49	431.93	76.35	320.62	355.58	4.58
Ashley	273.78	5.72	188.93	107.15	380.93	81.78	7.95
Clark	227.53	3.36	427.42	61.39	288.92	366.03	4.26
Desha	265.31	3.54	459.19	86.03	351.34	373.16	4.68
Jefferson	259.22	3.53	450.79	80.27	339.49	370.52	4.62
Lincoln	280.55	3.05	608.17	79.14	359.68	529.04	3.91
Lonoke	282.87	4.20	367.25	70.69	353.55	296.57	5.25
Miller	191.37	4.48	221.11	52.88	244.25	168.23	5.72
Phillips	362.73	6.05	216.87	55.60	418.33	161.27	6.97
Prairie	244.20	3.16	502.52	55.68	299.87	446.85	3.88
Pulaski	314.15	4.44	368.81	92.05	406.20	276.77	5.75
South Avg.	**267.82**	**4.09**	**385.73**	**74.29**	**342.11**	**311.44**	**5.23**
Statewide Average	**256.87**	**4.31**	**346.27**	**66.29**	**323.16**	**279.98**	**5.42**

Table 7. Summary of Revenue and Expenses per Acre, Soybean Research Verification Program, 2017 (1)

	Arkansas	Ashley	Clark	Clay	Conway	Crawford	Crittenden
Receipts							
Yield (bu.)	70.0	47.9	67.8	60.3	58.3	58.5	63.3
Price	9.66	9.66	9.66	9.66	9.66	9.66	9.66
Total Crop Revenue	**676.20**	**462.71**	**654.95**	**582.50**	**563.18**	**565.11**	**611.48**
Seed	78.60	81.22	72.05	95.11	79.13	75.50	89.44
Fertilizers & Nutrients	29.00	38.67	52.08	15.25	0.00	30.50	0.00
Herbicides (2)	38.61	43.46	38.69	46.05	55.84	42.89	88.37
Insecticides (2)	8.25	11.25	0.00	0.00	0.00	0.00	0.00
Fungicides (2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Chemicals (2)	0.00	1.65	0.00	0.00	0.00	0.00	0.64
Custom Applications	21.50	15.00	0.00	20.50	0.00	0.00	18.00
Diesel Fuel (3)	11.23	18.25	10.02	4.37	10.87	7.73	3.92
Repairs & Maintenance	15.40	18.48	13.08	8.47	15.06	13.81	5.76
Irrigation Energy Costs	2.59	8.75	9.83	17.28	11.52	0.00	0.00
Labor, Field Activities	8.37	12.61	5.96	8.31	10.76	9.81	3.79
Interest	4.57	5.32	4.24	4.60	3.93	3.87	4.41
Other Inputs & Fee, Pre-harvest	3.88	3.88	0.00	3.88	3.88	3.88	0.00
Post-harvest Expenses	22.28	15.25	21.58	17.94	17.34	17.40	18.83
Total Operating Expenses	**244.28**	**273.79**	**227.53**	**241.76**	**208.33**	**205.39**	**233.16**
Returns to Operating Expenses	**431.93**	**188.93**	**427.42**	**340.75**	**354.85**	**359.72**	**378.32**
Capital Recovery & Fixed Costs	76.35	107.15	61.39	41.67	87.62	64.80	27.38
Total Specified Expenses	**320.62**	**380.93**	**288.92**	**283.42**	**295.96**	**270.19**	**260.54**
Returns to Specified Expenses	**355.58**	**81.78**	**366.03**	**299.07**	**267.21**	**294.92**	**350.94**
Operating Expenses/Yield Unit	3.49	5.72	3.36	4.01	3.57	3.51	3.68
Total Expenses/Yield Unit	4.58	7.95	4.26	4.70	5.08	4.62	4.12

1. Does not include land costs, management, or other expenses and fees not associated with production.
2. Combined as Chemicals in some previous year reports
3. Listed as Fuel & Lube in previous year reports

Table 7. Summary of Revenue and Expenses per Acre, Soybean Research Verification Program, 2017 (2) - CONTINUED

	Cross	Desha	Jefferson	Lincoln	Lonoke	Miller	Phillips
Receipts							
Yield (bu.)	35.2	75.0	73.5	92.0	67.3	42.7	60.0
Price	9.66	9.66	9.66	9.66	9.66	9.66	9.66
Total Crop Revenue	**340.03**	**724.50**	**710.01**	**888.72**	**650.12**	**412.48**	**579.60**
Seed	139.12	77.29	82.28	77.29	62.92	72.05	104.40
Fertilizers & Nutrients	37.76	14.50	14.50	40.50	38.96	0.00	123.61
Herbicides (2)	21.06	56.91	65.00	72.91	67.63	50.19	49.52
Insecticides (2)	0.00	10.83	0.00	0.00	3.85	11.53	2.20
Fungicides (2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Chemicals (2)	0.00	4.31	0.85	3.30	0.00	0.00	0.00
Custom Applications	13.00	15.00	14.00	0.00	35.00	15.00	14.00
Diesel Fuel (3)	10.16	15.31	12.32	11.16	12.98	6.97	8.64
Repairs & Maintenance	14.21	17.27	14.16	15.49	13.12	11.68	11.69
Irrigation Energy Costs	8.64	8.75	13.11	13.11	8.74	0.00	11.66
Labor, Field Activities	9.76	12.43	10.87	8.46	8.99	6.70	6.66
Interest	5.41	4.97	4.85	5.17	5.38	3.66	7.07
Other Inputs & Fee, Pre-harvest	3.88	3.88	3.88	3.88	3.88	0.00	3.88
Post-harvest Expenses	10.47	23.87	23.40	29.28	21.42	13.59	19.10
Total Operating Expenses	**273.47**	**265.32**	**259.22**	**280.55**	**282.87**	**191.37**	**362.73**
Returns to Operating Expenses	**66.56**	**459.19**	**450.79**	**608.17**	**367.25**	**221.11**	**216.87**
Capital Recovery & Fixed Costs	81.88	86.03	80.27	79.14	70.69	52.88	55.60
Total Specified Expenses	**355.35**	**351.34**	**339.49**	**359.68**	**353.55**	**244.25**	**418.33**
Returns to Specified Expenses	-15.32	**373.16**	**370.52**	**529.04**	**296.57**	**168.23**	**161.27**
Operating Expenses/Yield Unit	7.77	3.54	3.53	3.05	4.20	4.48	6.05
Total Expenses/Yield Unit	10.10	4.68	4.62	3.91	5.25	5.72	6.97

1. Does not include land costs, management, or other expenses and fees not associated with production.
2. Combined as Chemicals in some previous year reports
3. Listed as Fuel & Lube in previous year reports

Table 7. Summary of Revenue and Expenses per Acre, Soybean Research Verification Program, 2017 (3) - CONTINUED

	Prairie	Pulaski	Randolph	St. Francis	Washington	Simple Average
Receipts						
Yield (bu.)	77.3	70.7	61.8	58.1	46.6	**62.44**
Price	9.66	9.66	9.66	9.66	9.66	**9.66**
Total Crop Revenue	**746.72**	**682.96**	**596.99**	**561.25**	**450.16**	**603.14**
Seed	55.02	77.29	91.18	87.25	88.00	**83.44**
Fertilizers & Nutrients	41.95	90.00	15.25	55.85	90.00	**38.34**
Herbicides (2)	22.25	42.65	25.74	66.19	52.73	**49.83**
Insecticides (2)	16.30	15.00	0.00	4.15	0.00	**4.39**
Fungicides (2)	0.00	0.00	0.00	0.00	0.00	**0.00**
Other Chemicals (2)	11.88	0.00	0.00	0.00	0.00	**1.19**
Custom Applications	34.50	7.50	6.00	37.00	0.00	**14.00**
Diesel Fuel (3)	6.69	16.01	6.86	1.96	7.53	**9.63**
Repairs & Maintenance	11.18	17.98	11.93	6.33	8.46	**12.82**
Irrigation Energy Costs	5.91	3.45	11.52	5.91	0.00	**7.41**
Labor, Field Activities	7.10	11.89	7.52	4.01	8.98	**8.58**
Interest	4.55	6.00	3.78	5.72	5.37	**4.89**
Other Inputs & Fee, Pre-harvest	3.88	3.88	3.88	3.88	0.00	**3.06**
Post-harvest Expenses	23.00	22.50	18.39	17.28	13.86	**19.30**
Total Operating Expenses	**244.21**	**314.15**	**202.05**	**295.53**	**274.93**	**256.88**
Returns to Operating Expenses	**502.52**	**368.81**	**394.94**	**265.72**	**175.23**	**346.27**
Capital Recovery & Fixed Costs	55.68	92.05	63.97	29.58	45.41	**66.29**
Total Specified Expenses	**299.87**	**406.20**	**266.01**	**325.11**	**320.35**	**323.16**
Returns to Specified Expenses	**446.85**	**276.77**	**330.98**	**236.14**	**129.81**	**279.98**
Operating Expenses/Yield Unit	3.16	4.44	3.27	5.09	5.90	**4.31**
Total Expenses/Yield Unit	3.88	5.75	4.30	5.60	6.87	**5.42**

1. Does not include land costs, management, or other expenses and fees not associated with production.
2. Combined as Chemicals in some previous year reports
3. Listed as Fuel & Lube in previous year reports

Table 7A. North Fields Summary of Revenue and Expenses per Acre, Soybean Research Verification Program, 2017

	Clay	Conway	Crawford	Crittenden	Cross	Randolph	St. Francis	Washington	Simple Averages
Receipts									
Yield (bu.)	60.3	58.3	58.5	63.3	35.2	61.8	58.1	46.6	**55.26**
Price	9.66	9.66	9.66	9.66	9.66	9.66	9.66	9.66	**9.66**
Total Crop Revenue	**582.50**	**563.18**	**565.11**	**611.48**	**340.03**	**596.99**	**561.25**	**450.16**	**533.84**
Seed	95.11	79.13	75.50	89.44	139.12	91.18	87.25	88.00	**93.09**
Fertilizers & Nutrients	15.25	0.00	30.50	0.00	37.76	15.25	55.85	90.00	**30.58**
Herbicides (2)	46.05	55.84	42.89	88.37	21.06	25.74	66.19	52.73	**49.86**
Insecticides (2)	0.00	0.00	0.00	0.00	0.00	0.00	4.15	0.00	**0.52**
Fungicides (2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Other Chemicals (2)	0.00	0.00	0.00	0.64	0.00	0.00	0.00	0.00	**0.08**
Custom Applications	20.50	0.00	0.00	18.00	13.00	6.00	37.00	0.00	**11.81**
Diesel Fuel (3)	4.37	10.87	7.73	3.92	10.16	6.86	1.96	7.53	**6.68**
Repairs & Maintenance	8.47	15.06	13.81	5.76	14.21	11.93	6.33	8.46	**10.50**
Irrigation Energy Costs	17.28	11.52	0.00	0.00	8.64	11.52	5.91	0.00	**6.86**
Labor, Field Activities	8.31	10.76	9.81	3.79	9.76	7.52	4.01	8.98	**7.87**
Interest	4.60	3.93	3.87	4.41	5.41	3.78	5.72	5.37	**4.64**
Other Inputs & Fee, Pre-harvest	3.88	3.88	3.88	0.00	3.88	3.88	3.88	0.00	**2.91**
Post-harvest Expenses	17.94	17.34	17.40	18.83	10.47	18.39	17.28	13.86	**16.44**
Total Operating Expenses	**241.76**	**208.33**	**205.39**	**233.16**	**273.47**	**202.05**	**295.53**	**274.93**	**241.83**
Returns to Operating Expenses	**340.75**	**354.85**	**359.72**	**378.32**	**66.56**	**394.94**	**265.72**	**175.23**	**292.01**
Capital Recovery & Fixed Costs	41.67	87.62	64.80	27.38	81.88	63.97	29.58	45.41	**55.29**
Total Specified Expenses	**283.42**	**295.96**	**270.19**	**260.54**	**355.35**	**266.01**	**325.11**	**320.35**	**297.12**
Returns to Specified Expenses	**299.07**	**267.21**	**294.92**	**350.94**	-15.32	**330.98**	**236.14**	**129.81**	**236.72**
Operating Expenses/Yield Unit	4.01	3.57	3.51	3.68	7.77	3.27	5.09	5.90	**4.60**
Total Expenses/Yield Unit	4.70	5.08	4.62	4.12	10.10	4.30	5.60	6.87	**5.67**

1. Does not include land costs, management, or other expenses and fees not associated with production.
2. Combined as Chemicals in some previous year reports
3. Listed as Fuel & Lube in previous year reports

Table 7B. South Fields Summary of Revenue and Expenses per Acre, Soybean Research Verification Program, 2017 (1)

	Arkansas	Ashley	Clark	Desha	Jefferson	Lincoln	Lonoke
Receipts							
Yield (bu.)	70.0	47.9	67.8	75.0	73.5	92.0	63.3
Price	9.66	9.66	9.66	9.66	9.66	9.66	9.66
Total Crop Revenue	**676.20**	**462.71**	**654.95**	**724.50**	**710.01**	**888.72**	**611.48**
Seed	78.60	81.22	72.05	77.29	82.28	77.29	89.44
Fertilizers & Nutrients	29.00	38.67	52.08	14.50	14.50	40.50	0.00
Herbicides (2)	38.61	43.46	38.69	56.91	65.00	72.91	88.37
Insecticides (2)	8.25	11.25	0.00	10.83	0.00	0.00	0.00
Fungicides (2)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Chemicals (2)	0.00	1.65	0.00	4.31	0.85	3.30	0.64
Custom Applications	21.50	15.00	0.00	15.00	14.00	0.00	18.00
Diesel Fuel (3)	11.23	18.25	10.02	15.31	12.32	11.16	3.92
Repairs & Maintenance	15.40	18.48	13.08	17.27	14.16	15.49	5.76
Irrigation Energy Costs	2.59	8.75	9.83	8.75	13.11	13.11	0.00
Labor, Field Activities	8.37	12.61	5.96	12.43	10.87	8.46	3.79
Interest	4.57	5.32	4.24	4.97	4.85	5.17	4.41
Other Inputs & Fee, Pre-harvest	3.88	3.88	0.00	3.88	3.88	3.88	0.00
Post-harvest Expenses	22.28	15.25	21.58	23.87	23.40	29.28	18.83
Total Operating Expenses	**244.28**	**273.79**	**227.53**	**265.32**	**259.22**	**280.55**	**233.16**
Returns to Operating Expenses	**431.93**	**188.93**	**427.42**	**459.19**	**450.79**	**608.17**	**378.32**
Capital Recovery & Fixed Costs	76.35	107.15	61.39	86.03	80.27	79.14	27.38
Total Specified Expenses	**320.62**	**380.93**	**288.92**	**351.34**	**339.49**	**359.68**	**260.54**
Returns to Specified Expenses	**355.58**	**81.78**	**366.03**	**373.16**	**370.52**	**529.04**	**350.94**
Operating Expenses/Yield Unit	3.49	5.72	3.36	3.54	3.53	3.05	3.68
Total Expenses/Yield Unit	4.58	7.95	4.26	4.68	4.62	3.91	4.12

1. Does not include land costs, management, or other expenses and fees not associated with production.
2. Combined as Chemicals in some previous year reports
3. Listed as Fuel & Lube in previous year reports

Table 7B. South Fields Summary of Revenue and Expenses per Acre, Soybean Research Verification Program, 2017 (2)

	Miller	Phillips	Prairie	Pulaski		Simple Averages	
Receipts							
Yield (bu.)	42.7	60.0	77.3	70.7		**67.65**	
Price	9.66	9.66	9.66	9.66		**9.66**	
Total Crop Revenue	**412.48**	**579.60**	**746.72**	**682.96**		**653.54**	
Seed	72.05	104.40	55.02	77.29		**76.43**	
Fertilizers & Nutrients	0.00	123.61	41.95	90.00		**43.98**	
Herbicides (2)	50.19	49.52	22.25	42.65		**49.80**	
Insecticides (2)	11.53	2.20	16.30	15.00		**7.20**	
Fungicides (2)	0.00	0.00	0.00	0.00		**0.00**	
Other Chemicals (2)	0.00	0.00	11.88	0.00		**2.00**	
Custom Applications	15.00	14.00	34.50	7.50		**15.59**	
Diesel Fuel (3)	6.97	8.64	6.69	16.01		**11.78**	
Repairs & Maintenance	11.68	11.69	11.18	17.98		**14.50**	
Irrigation Energy Costs	0.00	11.66	5.91	3.45		**7.81**	
Labor, Field Activities	6.70	6.66	7.10	11.89		**9.09**	
Interest	3.66	7.07	4.55	6.00		**5.07**	
Other Inputs & Fee, Pre-harvest	0.00	3.88	3.88	3.88		**3.17**	
Post-harvest Expenses	13.59	19.10	23.00	22.50		**21.39**	
Total Operating Expenses	**191.37**	**362.73**	**244.21**	**314.15**		**267.82**	
Returns to Operating Expenses	**221.11**	**216.87**	**502.52**	**368.81**		**385.73**	
Capital Recovery & Fixed Costs	52.88	55.60	55.68	92.05		**74.29**	
Total Specified Expenses	**244.25**	**418.33**	**299.87**	**406.20**		**342.11**	
Returns to Specified Expenses	**168.23**	**161.27**	**446.85**	**276.77**		**311.44**	
Operating Expenses/Yield Unit	4.48	6.05	3.16	4.44		**4.09**	
Total Expenses/Yield Unit	5.72	6.97	3.88	5.75		**5.23**	

1. Does not include land costs, management, or other expenses and fees not associated with production.
2. Combined as Chemicals in some previous year reports
3. Listed as Fuel & Lube in previous year reports