

Kansas county soybean yields, 2026

October crop report reconciliation

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USDA's October estimate puts Kansas soybeans at 33 bushels an acre on 4.69 million harvested acres, which comes to 155 million bushels. Last year the state made 48.5. The estimates below take that October number as given and distribute it across counties, with the arithmetic constrained to add back up to the state production figure. The county numbers are bushels per harvested acre, which is how NASS reports a yield. The model itself works in bushels per planted acre, the basis the crop insurance county yields arrive on. The two differ by 0.6 percent in Kansas this year.

Soybeans are not split into irrigated and dryland here, where the corn version of this exercise is. Each county gets one number covering all of its acres. The reason is coverage, and the choice changes how the reconciliation works.

1 What the county model is.

Each county gets its own intercept and its own linear trend. On top of those sit two terms shared across every county. The first is a loading on the state estimate. The second is a slope on the county's drought index, measured as a departure from the acre-weighted state average for the same week.

The loading comes out at 1.012. Fit on 1,701 county-years from 2005 through 2025, a one bushel move in the Kansas soybean yield moves the average county 1.01 bushels. That is close enough to one to be worth reading as a check rather than a finding. A combined county yield measured against a combined state yield should move one for one, and it does. Corn's two loadings, 1.387 on dryland and 0.841 on irrigated, are different only because each practice there is measured against an all-practice state number.

The drought term is a departure from the state. The slope is -0.0291 bushels per index point of the Drought Severity and Coverage Index. A county sitting 100 points drier than the state comes out about 3 bushels below where its trend and the state number alone would put it. The term is relative rather than absolute because the state estimate already carries how dry Kansas is this year, and absolute county drought would count that twice.

2 Why the practices are combined.

RMA publishes 68 dryland and 28 irrigated Kansas soybean county series against 94 and 49 for corn. Combining them to one yield per county keeps 81 counties covering 99.5 percent of planted acres, where splitting the same acres would scatter them over thinner series. The combined yield is the acre-weighted mean of whichever practice series a county has, and 1,980 of the 2,430 county-years come from a single series anyway.

With a single practice there is a single loading, so distributing the reconciliation residual in proportion to the loading and distributing it uniformly are the same arithmetic. The choice of residual rule that the corn version cannot settle does not arise here. The adjustment is one number applied to every county.

3 What the backtest says.

Table 1. Anchoring counties to the state estimate cuts county error by 12 percent against fitting each county on its own. Neither piece does the work alone, and the drought term only pays once the anchor has removed the common year effect. The test is leave-one-year-out over 2005 to 2025 at crop week 36, with the anchor replaced by the state model's own held-out estimate rather than the realized yield. Mean yield over these county-years is 38.5 bushels.

Method	County RMSE
County trend plus county drought, fit county by county	7.48
State anchor only, no drought term	7.05
State anchor plus absolute drought	6.85
State anchor plus relative drought	6.60

The week matters more than the model. Soybeans fill pods weeks after corn pollinates, so week 36 was not assumed to carry over from the corn work. The anchored model scores 8.49 at crop week 30, 7.77 at 33, 6.60 at 36, 6.56 at 38 and 6.63 at 40. Almost all of the gain arrives between weeks 33 and 36, and nothing useful happens after that. Week 38 is marginally the best of them, but it postdates the October report this allocates and cannot be used to distribute it.

The state anchor's own error at week 36 is 3.36 bushels. That propagates into every county and no county work removes it.

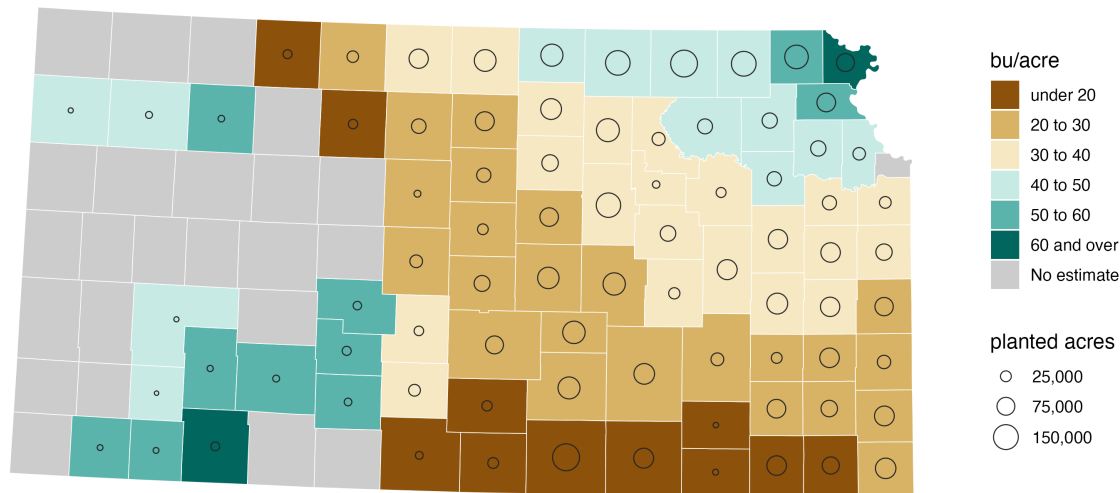
4 The 2026 estimate.

Closing on the state production figure required taking 4.4 million bushels out of the county total, which is 2.69 percent, applied as 0.91 bushels off every county. The county estimates run from 13.2 bushels in Harper to 69.9 in Meade, with a median of 32.9.

Figure 1. Soybean yields fall from the northeast corner and the irrigated southwest toward a band of failed dryland running through south central and southeast Kansas. The circles are planted acres, and they matter for reading the map: the brightest counties in the far southwest are among the smallest, while Sumner County in the south central band carries 178,000 acres at 14.0 bushels.

Soybean yield by county, Kansas 2026

Allocated from the USDA October estimate of 33 bu/ac. 81 of 105 counties carry an estimate. Irrigated and dryland acres are combined. Circle area is planted acres.



County acres are ASSUMED, not observed: county shares of state planted acres averaged over 2023-2025 FSA data, applied to the NASS 2026 state planted acreage. FSA county acreage is published through 2025.

Every one of the 81 counties comes in below its own 2025 yield. Acre-weighted, the counties made 48.3 bushels last year and are estimated at 33.0 this year. There is no county in the state where this crop is better than the last one.

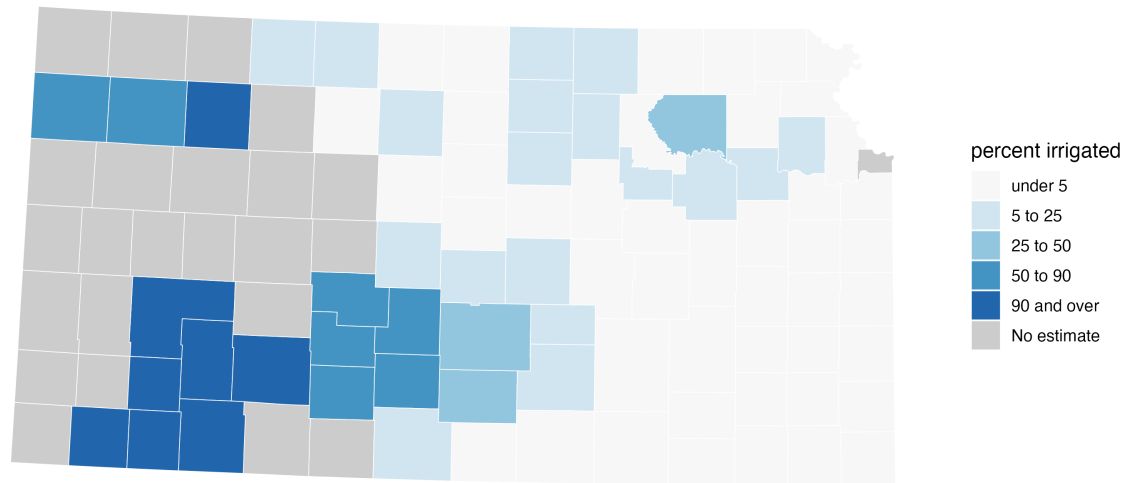
5 The southwest numbers are irrigated.

Southwest Kansas shows 46 to 70 bushel counties in a year the state is at 33. The reason is irrigation rather than agronomy. Across the seven Southwest district counties with an estimate, 99 percent of soybean acres are irrigated. Meade, Stevens and Gray are at 100 percent, Seward at 98 and Ford at 97. The combined county number in those places is effectively the irrigated number.

Figure 2. Soybean irrigation in Kansas is concentrated in the southwest and a strip of the northwest, and it is close to absent everywhere east of about the 99th meridian. Fifteen counties are majority irrigated and they carry 3.4 percent of the estimated acres.

Irrigated share of soybean acres by county, Kansas

FSA planted acres averaged over the same years as the acreage basis. 15 counties are majority irrigated and they carry 3.4 percent of the estimated acres.



County acres are ASSUMED, not observed: county shares of state planted acres averaged over 2023-2025 FSA data, applied to the NASS 2026 state planted acreage. FSA county acreage is published through 2025.

Two different things produce a high county number this year. Doniphan at 64.2 bushels and Brown at 58.7 are the second and fourth highest in the state, and both are under 5 percent irrigated. They are northeast counties that got the rain. Meade at 69.9 is entirely irrigated and sits in a district where the dryland crop failed. Only the geography separates the two cases.

The split is visible in the aggregate. Fifteen majority-irrigated counties average 49.4 bushels on 163,653 acres, and 66 majority-dryland counties average 32.4 on 4,713,546. Across all 81 counties the correlation between predicted yield and irrigated share is 0.60. Among the dryland counties alone it is -0.01, so once a county is dryland the small amount of irrigation it has tells you nothing and rainfall takes over.

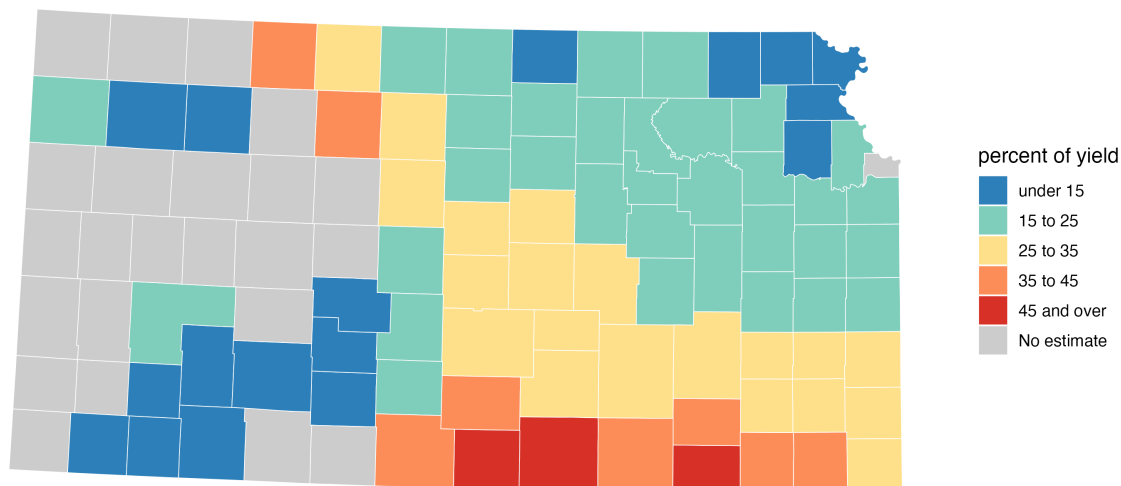
Those seven southwest counties hold 50,567 acres, 1.04 percent of the estimated crop and 1.85 percent of its production. Northeast Kansas holds 845,178 acres and North Central 936,815. The acreage is what a choropleth leaves out, which is why Figure 1 carries the circles.

6 Where the estimate is weakest.

Figure 3. The south central and southeast counties are where the estimate is weakest, which is the same place the yields are lowest. The prediction standard deviation runs 6.92 to 6.93 bushels across every county in the state, because the residual scale is pooled and every county has a similar length of history. As a share of predicted yield it runs from 9.9 percent to 52.6, so this map is showing where the yields are small rather than where the model is unsure.

Where the 2026 soybean estimate is weakest

Prediction standard deviation as a percent of predicted yield. In bushels it is 6.92 to 6.93 everywhere, so the map is showing where the yields are small.



County acres are ASSUMED, not observed: county shares of state planted acres averaged over 2023-2025 FSA data, applied to the NASS 2026 state planted acreage. FSA county acreage is published through 2025.

7 Acreage is an assumption this year.

FSA county acreage is published through 2025 and the 2026 crop year is not final until next January. The county acres used here are each county's average share of state planted acres over 2023 through 2025, applied to the NASS 2026 state planted figure of 4.90 million acres. The constraint is over acres times yield, so an error in county acres moves county yields directly rather than sitting beside them.

Twenty-four counties carry no estimate. Six of them grow essentially no soybeans, with five reporting zero acres. The other eighteen grow them but are too small for RMA to publish

a county yield, the largest being Rush at 3,985 acres. Together the twenty-four are 0.47 percent of state soybean acres.

8 What the numbers will not support.

A county RMSE of 6.60 bushels sits against a mean county yield of 38.5, which is 17 percent error. Of that, 3.36 bushels is the state model's own error at the anchor week and no county work removes it. The remainder is the county model's own, and it is not small against a 33 bushel state crop. The RMSE and the mean yield here are in bushels per planted acre, which is the basis the backtest scores on. The standard deviations above are on the harvested-acre basis, to match the county tables.

The condition-index model that produces the anchor reads 35.5 bushels at week 36 against USDA's 33. On corn the same comparison this year agreed to within 0.3 bushels. A 2.5 bushel gap on a 33 bushel crop is 7.6 percent, so the two methods see the Kansas soybean crop differently. The estimates here follow USDA.

County estimates are not a substitute for a county yield. They are the state estimate, distributed by a rule that is right on average and that carries an interval wider than most people will want. In the south central counties the interval is half the estimate.

9 County tables.

The eight crop reporting districts that grow soybeans follow, each with planted acres, last year's RMA yield converted to the same harvested-acre basis, the predicted yield and one prediction standard deviation. West Central has no county with a soybean series and does not appear. The standard deviation combines the state anchor's error, which every county shares, with each county's own, so counties cannot be added together as if they were independent.

9.1 Northwest district

2026 Kansas soybeans, predicted county yields: Northwest district

Allocated from the USDA October estimate of 33 bu/ac on 4,690,000 harvested acres. Yield is plus or minus one prediction standard deviation. Both yield columns are on the USDA harvested-acre basis. The 2025 column is that county's RMA yield converted to it. Irrigated and dryland acres are combined.

County	Planted acres	2025 actual	Predicted yield	Prediction SD	Yield $\pm$ 1 SD
NORTON	16,370	25.8	17.7	6.9	17.7 $\pm$ 6.9
SHERIDAN	8,108	60.4	50.2	6.9	50.2 $\pm$ 6.9
SHERMAN	4,345	61.8	40.7	6.9	40.7 $\pm$ 6.9
THOMAS	9,189	63.5	48.4	6.9	48.4 $\pm$ 6.9

County acres are ASSUMED, not observed: county shares of state planted acres averaged over 2023-2025 FSA data, applied to the NASS 2026 state planted acreage. FSA county acreage is published through 2025.

The standard deviation combines the state anchor's error, shared by every county, with each county's own. Do not add counties as if they were independent.

9.2 Southwest district

2026 Kansas soybeans, predicted county yields: Southwest district

Allocated from the USDA October estimate of 33 bu/ac on 4,690,000 harvested acres. Yield is plus or minus one prediction standard deviation. Both yield columns are on the USDA harvested-acre basis. The 2025 column is that county's RMA yield converted to it. Irrigated and dryland acres are combined.

County	Planted acres	2025 actual	Predicted yield	Prediction SD	Yield $\pm$ 1 SD
FINNEY	4,299	54.4	46.0	6.9	46.0 $\pm$ 6.9
FORD	8,825	76.4	57.6	6.9	57.6 $\pm$ 6.9
GRAY	6,937	68.6	51.8	6.9	51.8 $\pm$ 6.9
HASKELL	2,913	52.0	47.2	6.9	47.2 $\pm$ 6.9
MEADE	15,766	83.9	69.9	6.9	69.9 $\pm$ 6.9
SEWARD	5,996	74.7	54.7	6.9	54.7 $\pm$ 6.9
STEVENS	5,833	74.7	58.0	6.9	58.0 $\pm$ 6.9

County acres are ASSUMED, not observed: county shares of state planted acres averaged over 2023-2025 FSA data, applied to the NASS 2026 state planted acreage. FSA county acreage is published through 2025.

The standard deviation combines the state anchor's error, shared by every county, with each county's own. Do not add counties as if they were independent.

9.3 North Central district

2026 Kansas soybeans, predicted county yields: North Central district

Allocated from the USDA October estimate of 33 bu/ac on 4,690,000 harvested acres. Yield is plus or minus one prediction standard deviation. Both yield columns are on the USDA harvested-acre basis. The 2025 column is that county's RMA yield converted to it. Irrigated and dryland acres are combined.

County	Planted acres	2025 actual	Predicted yield	Prediction SD	Yield $\pm$ 1 SD
CLAY	126,849	44.5	37.5	6.9	37.5 $\pm$ 6.9
CLOUD	103,168	39.8	34.4	6.9	34.4 $\pm$ 6.9
JEWELL	113,321	46.0	36.3	6.9	36.3 $\pm$ 6.9
MITCHELL	84,542	48.5	29.0	6.9	29.0 $\pm$ 6.9
OSBORNE	47,877	42.2	22.6	6.9	22.6 $\pm$ 6.9
OTTAWA	62,755	44.7	30.0	6.9	30.0 $\pm$ 6.9
PHILLIPS	28,710	43.8	24.2	6.9	24.2 $\pm$ 6.9
REPUBLIC	117,474	52.2	46.3	6.9	46.3 $\pm$ 6.9
ROOKS	18,369	34.5	16.9	6.9	16.9 $\pm$ 6.9
SMITH	87,848	45.7	31.4	6.9	31.4 $\pm$ 6.9
WASHINGTON	145,901	55.3	43.6	6.9	43.6 $\pm$ 6.9

County acres are ASSUMED, not observed: county shares of state planted acres averaged over 2023-2025 FSA data, applied to the NASS 2026 state planted acreage. FSA county acreage is published through 2025.

The standard deviation combines the state anchor's error, shared by every county, with each county's own. Do not add counties as if they were independent.

9.4 Central district

2026 Kansas soybeans, predicted county yields: Central district

Allocated from the USDA October estimate of 33 bu/ac on 4,690,000 harvested acres. Yield is plus or minus one prediction standard deviation. Both yield columns are on the USDA harvested-acre basis. The 2025 column is that county's RMA yield converted to it. Irrigated and dryland acres are combined.

County	Planted acres	2025 actual	Predicted yield	Prediction SD	Yield $\pm$ 1 SD
BARTON	35,510	56.5	28.7	6.9	28.7 $\pm$ 6.9
DICKINSON	144,671	45.9	30.6	6.9	30.6 $\pm$ 6.9
ELLSWORTH	24,559	50.9	21.8	6.9	21.8 $\pm$ 6.9
LINCOLN	45,577	46.3	28.0	6.9	28.0 $\pm$ 6.9
MARION	119,124	46.1	24.6	6.9	24.6 $\pm$ 6.9
MCPHERSON	110,266	46.1	23.1	6.9	23.1 $\pm$ 6.9
RICE	58,340	55.3	24.3	6.9	24.3 $\pm$ 6.9
RUSSELL	8,946	38.7	20.9	6.9	20.9 $\pm$ 6.9
SALINE	81,242	41.8	23.0	6.9	23.0 $\pm$ 6.9

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The standard deviation combines the state anchor's error, shared by every county, with each county's own. Do not add counties as if they were independent.

9.5 South Central district

2026 Kansas soybeans, predicted county yields: South Central district

Allocated from the USDA October estimate of 33 bu/ac on 4,690,000 harvested acres. Yield is plus or minus one prediction standard deviation. Both yield columns are on the USDA harvested-acre basis. The 2025 column is that county's RMA yield converted to it. Irrigated and dryland acres are combined.

County	Planted acres	2025 actual	Predicted yield	Prediction SD	Yield $\pm$ 1 SD
BARBER	12,088	38.4	17.9	6.9	17.9 $\pm$ 6.9
EDWARDS	16,775	73.0	54.9	6.9	54.9 $\pm$ 6.9
HARPER	24,734	41.2	13.2	6.9	13.2 $\pm$ 6.9
HARVEY	121,002	43.7	23.0	6.9	23.0 $\pm$ 6.9
KINGMAN	22,323	40.9	18.4	6.9	18.4 $\pm$ 6.9
KIOWA	11,480	73.1	59.0	6.9	59.0 $\pm$ 6.9
PAWNEE	14,284	66.8	51.7	6.9	51.7 $\pm$ 6.9
PRATT	30,161	58.2	37.3	6.9	37.3 $\pm$ 6.9
RENO	75,296	52.2	25.0	6.9	25.0 $\pm$ 6.9
SEDGWICK	116,134	47.1	23.5	6.9	23.5 $\pm$ 6.9
STAFFORD	18,744	54.7	32.9	6.9	32.9 $\pm$ 6.9
SUMNER	178,033	39.7	14.0	6.9	14.0 $\pm$ 6.9

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The standard deviation combines the state anchor's error, shared by every county, with each county's own. Do not add counties as if they were independent.

9.6 Northeast district

2026 Kansas soybeans, predicted county yields: Northeast district

Allocated from the USDA October estimate of 33 bu/ac on 4,690,000 harvested acres. Yield is plus or minus one prediction standard deviation. Both yield columns are on the USDA harvested-acre basis. The 2025 column is that county's RMA yield converted to it. Irrigated and dryland acres are combined.

County	Planted acres	2025 actual	Predicted yield	Prediction SD	Yield $\pm$ 1 SD
ATCHISON	82,065	60.6	53.1	6.9	53.1 $\pm$ 6.9
BROWN	134,404	69.4	58.7	6.9	58.7 $\pm$ 6.9
DONIPHAN	75,864	68.3	64.2	6.9	64.2 $\pm$ 6.9
JACKSON	53,038	54.8	45.3	6.9	45.3 $\pm$ 6.9
JEFFERSON	53,456	55.3	49.9	6.9	49.9 $\pm$ 6.9
LEAVENWORTH	34,451	46.4	43.3	6.9	43.3 $\pm$ 6.9
MARSHALL	175,338	57.1	44.0	6.9	44.0 $\pm$ 6.9
NEMAHA	148,260	63.1	48.4	6.9	48.4 $\pm$ 6.9
POTTAWATOMIE	50,855	50.6	41.5	6.9	41.5 $\pm$ 6.9
RILEY	37,449	52.9	39.9	6.9	39.9 $\pm$ 6.9

County acres are ASSUMED, not observed: county shares of state planted acres averaged over 2023-2025 FSA data, applied to the NASS 2026 state planted acreage. FSA county acreage is published through 2025.

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9.7 East Central district

2026 Kansas soybeans, predicted county yields: East Central district

Allocated from the USDA October estimate of 33 bu/ac on 4,690,000 harvested acres. Yield is plus or minus one prediction standard deviation. Both yield columns are on the USDA harvested-acre basis. The 2025 column is that county's RMA yield converted to it. Irrigated and dryland acres are combined.

County	Planted acres	2025 actual	Predicted yield	Prediction SD	Yield $\pm$ 1 SD
ANDERSON	88,865	46.9	33.7	6.9	33.7 $\pm$ 6.9
CHASE	27,201	48.5	33.0	6.9	33.0 $\pm$ 6.9
COFFEY	103,830	50.2	31.2	6.9	31.2 $\pm$ 6.9
DOUGLAS	44,962	47.0	39.2	6.9	39.2 $\pm$ 6.9
FRANKLIN	89,974	47.5	37.8	6.9	37.8 $\pm$ 6.9
GEARY	10,615	55.2	39.3	6.9	39.3 $\pm$ 6.9
JOHNSON	29,864	44.4	37.5	6.9	37.5 $\pm$ 6.9
LINN	78,781	39.6	29.7	6.9	29.7 $\pm$ 6.9
LYON	94,709	46.7	33.1	6.9	33.1 $\pm$ 6.9
MIAMI	61,404	49.2	37.3	6.9	37.3 $\pm$ 6.9
MORRIS	55,401	46.8	32.7	6.9	32.7 $\pm$ 6.9
OSAGE	88,772	49.0	34.8	6.9	34.8 $\pm$ 6.9
SHAWNEE	46,009	53.8	42.1	6.9	42.1 $\pm$ 6.9
WABAUNSEE	20,843	53.4	39.2	6.9	39.2 $\pm$ 6.9

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9.8 Southeast district

2026 Kansas soybeans, predicted county yields: Southeast district

Allocated from the USDA October estimate of 33 bu/ac on 4,690,000 harvested acres. Yield is plus or minus one prediction standard deviation. Both yield columns are on the USDA harvested-acre basis. The 2025 column is that county's RMA yield converted to it. Irrigated and dryland acres are combined.

County	Planted acres	2025 actual	Predicted yield	Prediction SD	Yield $\pm$ 1 SD
ALLEN	90,520	40.5	25.3	6.9	25.3 $\pm$ 6.9
BOURBON	40,039	35.8	22.1	6.9	22.1 $\pm$ 6.9
BUTLER	101,523	49.6	26.2	6.9	26.2 $\pm$ 6.9
CHAUTAUQUA	6,245	41.5	13.9	6.9	13.9 $\pm$ 6.9
CHEROKEE	100,068	30.8	24.1	6.9	24.1 $\pm$ 6.9
COWLEY	94,410	42.5	19.7	6.9	19.7 $\pm$ 6.9
CRAWFORD	92,786	36.4	23.3	6.9	23.3 $\pm$ 6.9
ELK	5,099	46.2	18.5	6.9	18.5 $\pm$ 6.9
GREENWOOD	36,200	45.9	23.1	6.9	23.1 $\pm$ 6.9
LABETTE	68,868	28.7	17.7	6.9	17.7 $\pm$ 6.9
MONTGOMERY	90,587	37.4	18.6	6.9	18.6 $\pm$ 6.9
NEOSHO	62,794	39.7	26.8	6.9	26.8 $\pm$ 6.9
WILSON	81,901	44.9	26.6	6.9	26.6 $\pm$ 6.9
WOODSON	25,067	47.4	26.5	6.9	26.5 $\pm$ 6.9

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