Forecasting Kansas Winter Wheat Acres

7.02 Million Acres for 2027, and What That Does Not Tell You

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Kansas wheat acres look headed for a modest rebound. The forecast for the 2027 crop is 7.02 million planted acres, up about 320,000 acres or 4.7% from the 6.70 million planted for 2026.

Kansas wheat prices did that work. Prices received averaged $6.87 a bushel across August and September 2026 against $4.41 a year earlier, a rise of 56%. Corn moved from $4.04 to $4.66 over the same two months and sorghum from $3.42 to $4.24, so wheat gained ground on both.

Kansas winter wheat	Acres
Planted for the 2026 crop	6.70 million
Forecast for the 2027 crop	**7.02 million**
Forecast increase	about 320,000
80% prediction range	6.60 to 7.46 million

That range is wide enough to matter. Its bottom end of 6.60 million sits below last year's 6.70 million, so a small decline is still inside the forecast. The range also assumes this model is the right one, which 26 years of data and a dozen candidate variables cannot guarantee.

1 Where the numbers come from

Kansas winter wheat planted acres come from USDA's National Agricultural Statistics Service, 1970 through 2026. Prices are NASS monthly prices received by Kansas farmers, averaged over August and September. Drought comes from the US Drought Monitor, averaged over the September and October planting weeks and expressed in standard deviations from

its own average. The model runs on 26 crop years, 2001 through 2026, with the Drought Monitor setting the start date rather than the acreage record.

A crop carries the year it is harvested. The 2027 crop went into the ground in September and October of 2026 and comes off in June of 2027, so every variable behind this forecast was observable by the end of October.

One distinction matters for reading the price. The $6.87 is what farmers were paid for wheat sold during those two months, most of it from the 2026 harvest, and it is not a forecast of what the 2027 crop will bring. It stands in for the market farmers were looking at while deciding what to plant. The RMA projected price, built from the August average of the Kansas City July contract, is the expectation farmers actually insure against and would be the better variable. Filling that gap is the next step in this work.

2 Wheat's own price gives the clearer signal

Acreage models usually start with a price ratio, on the reasoning that a farmer chooses between crops and so responds to wheat measured against the alternative. In this Kansas sample the wheat price by itself does far better than wheat measured against corn and sorghum.

Figure 1. Wheat's own price tracks acreage changes more closely than the wheat-to-row-crop price ratio

Each dot is a crop year. The price ratio on the left accounts for about 7% of the variation in annual acreage changes, measured by adjusted R-squared. Wheat's own price on the right accounts for about 41%. Adding fall drought lifts those to about 20% and 53%.

The preferred model carries the wheat price and fall drought:

term	coefficient	standard error	p
Change in log wheat price, Aug-Sep	**+0.1369**	0.0279	0.0001
Fall drought at planting, standardized	**+0.0236**	0.0089	0.0141

term	coefficient	standard error	p
Baseline change per year	−0.0180	0.0070	0.0164

A 10% rise in the wheat price goes with about 1.37% more wheat acres, holding fall drought constant. On a 6.7-million-acre base that is roughly 92,000 acres. The figure is an average across 26 Kansas years and not a rule for any one operation.

Four neighboring wheat states show the same response. Across a five-state panel of Kansas, Oklahoma, Texas, Colorado and Nebraska, the wheat price comes in at +0.133, close to the Kansas +0.137, and the coefficient is positive in all five states and statistically significant in four.

None of this shows that competing crop prices do not matter. The corn and sorghum price carries a coefficient of −0.014 with a 95% range running from −0.095 to +0.066, so a moderate substitution response sits comfortably inside what this sample can detect. Late-summer cash corn is also a poor measure of what a farmer expects from corn planted the following April, which may be why it reads as nothing at all.

3 Where the acres come from

Kansas row crop acreage falls when the wheat price rises. Running the same model on every crop in the rotation, over the same 26 years:

crop	response to the wheat price	p
Winter wheat	**+0.1369**	0.0001
Corn	−0.1077	0.076
Sorghum	+0.1090	0.119
Soybeans	−0.1341	0.045
Corn, sorghum and soybeans together	**−0.0633**	0.031
All four crops	+0.0191	0.070

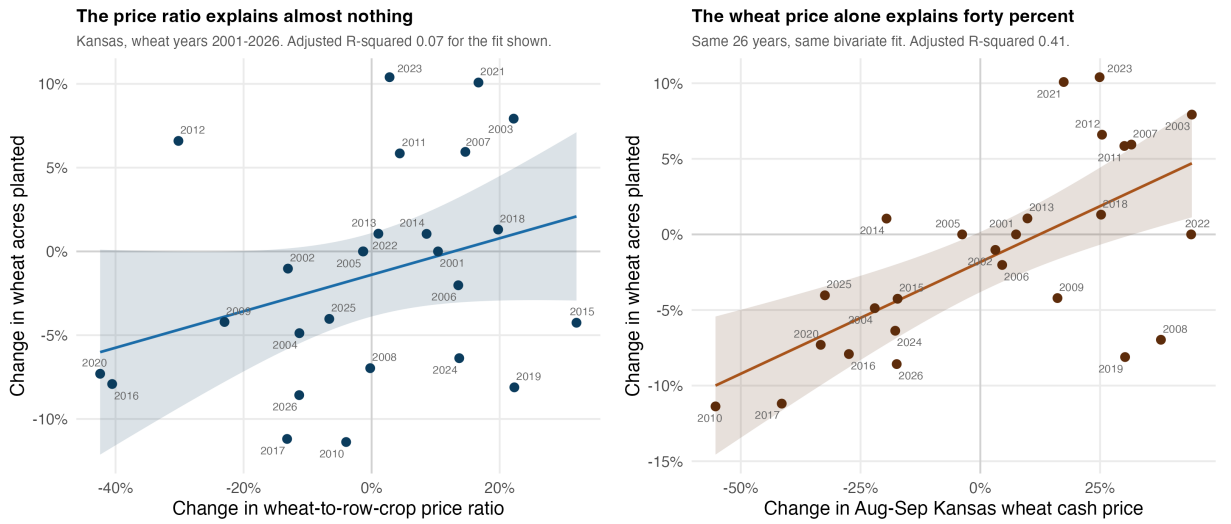


Figure 1: Price ratio against own wheat price

Wheat gains come out of row crops, close to acre for acre. The year-to-year change in wheat acres correlates with the change in corn, sorghum and soybean acres at −0.728. On 2026 acreage a one log point rise in the wheat price implies 917,000 more wheat acres against 924,000 fewer row crop acres.

Total acreage across the four crops barely moves. That matters for how much weight to put on the price signal. If a strong wheat price simply marked a good farm economy, every crop would gain acres together, and corn and soybeans would not be giving ground. Wheat prices move land between crops rather than pulling new ground into production.

Statewide totals cannot say which fields changed hands or how much came out of fallow. What they do say is that the competition is with row crops rather than with idle ground.

4 A dry fall does not stop the drill

Drier falls go with somewhat more wheat planted in Kansas, not less. A fall one standard deviation drier than average goes with about 2.4% more acres, after accounting for the wheat price.

Figure 2. Drier falls have gone with more wheat planted in the Kansas sample

Wheat is the most drought-tolerant crop available in western Kansas. It goes dormant over winter and can catch spring moisture, so a dry October costs it less than it would cost corn.



Figure 2: Fall drought and wheat acres

A dry fall also makes the spring row-crop alternative look worse, and it leaves ground open and worked early.

Fall drought does not survive a harder test. Comparing crop reporting districts inside the same state and the same fall, the coefficient falls to +0.007 and stops being distinguishable from zero. Whatever makes a dry fall go with more wheat works at the scale of a state rather than a field, so none of this is evidence that dry soil helps wheat or that planting into drought is the right call on any given farm.

5 Planted acres and harvested acres

Kansas abandoned 8.8% of its planted wheat on average over this sample and 11.9% of it in 2026. A spring one standard deviation drier than average across April and May cuts the harvested share by about 9%. Spring drought lifts the explanatory power of an abandonment model from 0.765 with state differences alone to 0.848, and most of that 0.848 reflects the enormous spread in abandonment between states rather than drought.

More seeded ground does not guarantee more bushels. Stand establishment, winter survival, spring moisture and yield all sit between a planted acre and a harvested one. A forecast of planted acres stops well short of a forecast of production.

6 How the forecast adds up

Higher wheat prices supply nearly all of the increase. Fall 2026 came in close to the Kansas average for moisture, so drought adds little, and the model carries a steady downward baseline consistent with the long decline in wheat acres.

contribution	log points	approximate acres
Higher wheat prices	+6.1	+407,000
Fall drought	+0.3	+23,000
Baseline decline	−1.8	−121,000
Total	**+4.6**	**about +320,000**

The acre figures do not add exactly, because the model works in logs and the conversion is not linear. The total of 4.6 log points converts to a 4.7% increase, which applied to 6.70 million gives the 7.02-million-acre forecast.

Figure 3. The forecast is a modest rebound inside a long decline

Kansas planted 12.4 million acres of winter wheat in 1990 against 6.7 million in 2026. An increase of 320,000 acres recovers a small fraction of that decline. One year's rebound would not establish a change in the trend.

This year's 56% price rise also sits just past the largest increase in the estimation sample, so the model has little experience with a move that big. A version that lets the acreage response flatten at larger price changes forecasts 6.95 million acres, about 70,000 fewer. Both versions point to an increase, and the exact number depends partly on how the price response is modeled.

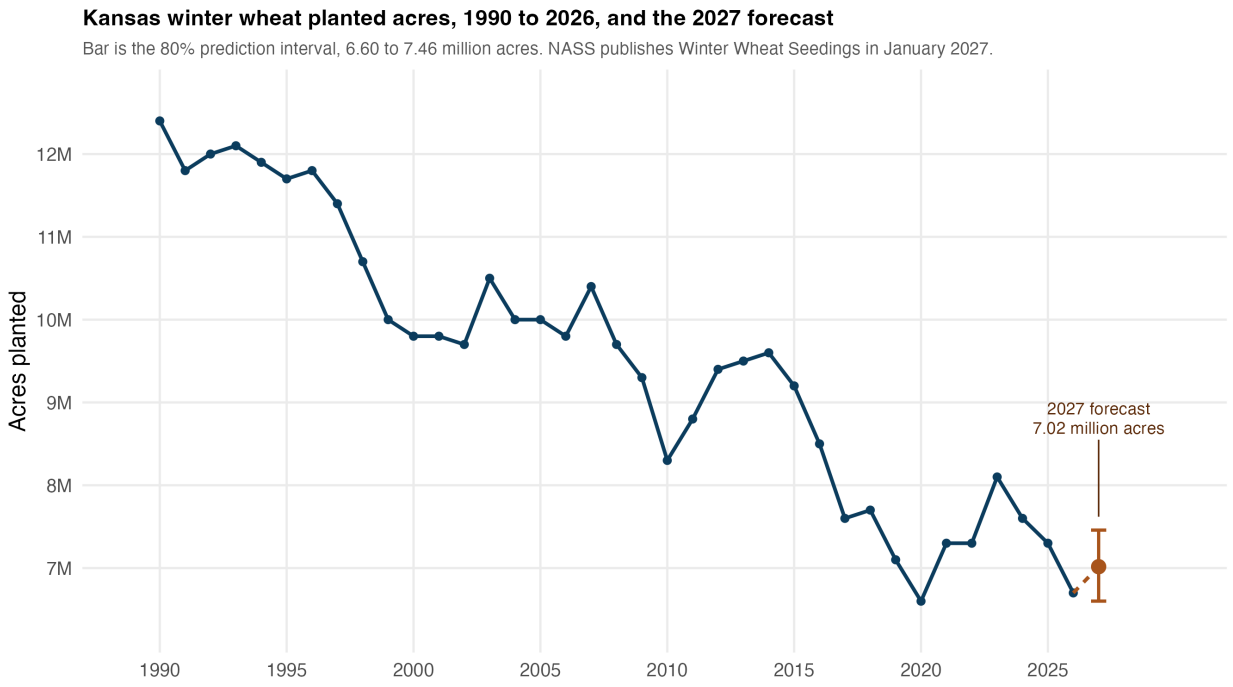


Figure 3: Kansas planted acres and the 2027 forecast

7 The model against a no-change guess

A forecast has to beat the simplest alternative, which is assuming Kansas plants what it planted last year. The model was re-estimated using only earlier years and then used to forecast the next one, repeating that for 2014 through 2026.

Across those 13 forecasts the model cut the error measure by about 32% against the no-change guess. It called the direction of the change correctly in nine of the thirteen years and came closer to actual acreage in nine of them.

Figure 4. The model's advantage comes from avoiding large misses

On a 6.7-million-acre base the model's typical error was about 326,000 acres against 480,000 for the no-change guess. Those are root mean squared errors, which give larger misses extra weight. The model did much better in years like 2016 and 2017 and worse than the no-change guess in 2019 and 2021.

The typical error of 326,000 acres is about the size of the 320,000-acre increase being forecast. Acres are more likely to rise than fall this year, and an error that size leaves room for either.

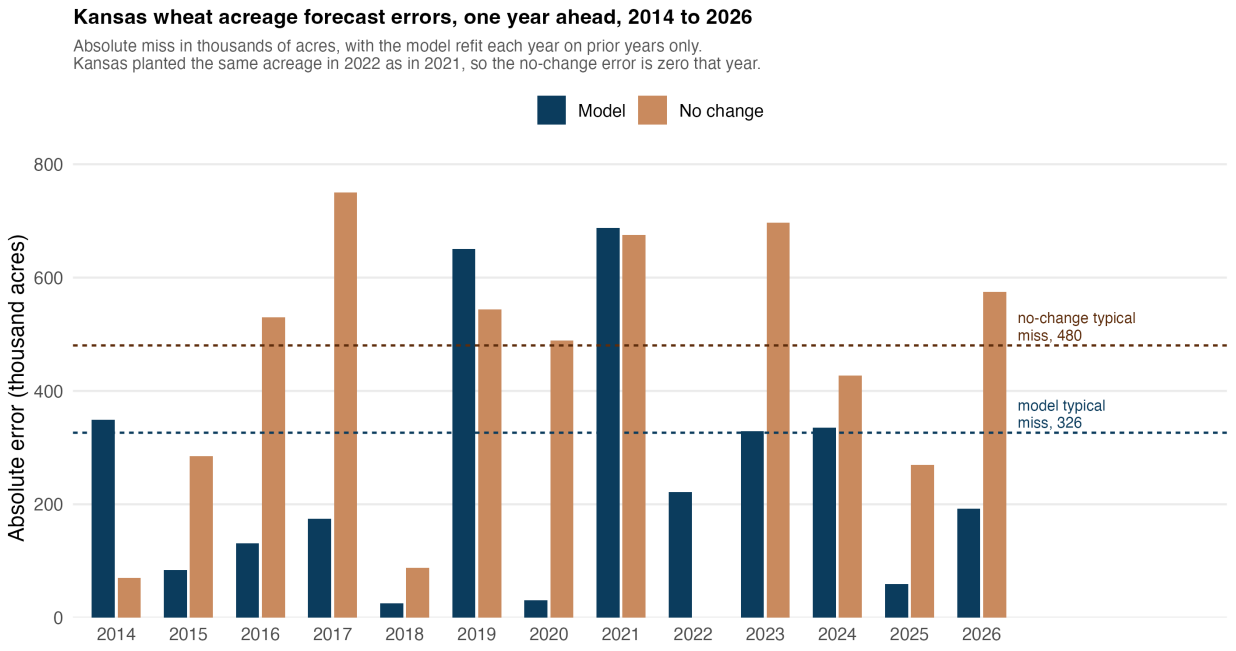


Figure 4: Forecast errors by year, model against no change

Two limits apply to that test. Thirteen forecasts are a small sample, and while the coefficients were re-estimated on prior years only, the choice of which variables to include came from looking at all 26 years. Twelve candidate variables were tried before this pair was settled on, and that search makes the historical record flatter than a true forecast issued in advance.

8 What farmers and lenders can take from this

Stronger wheat prices at planting have historically been followed by more wheat acres across Kansas. Whether that response makes sense on any particular operation depends on its expected yields, costs, rotation, moisture and marketing plan. A statewide model measures none of those.

For lenders the forecast gives context for a conversation about a borrower's crop mix. A plan carrying more wheat fits the broader pattern this year, and acreage by itself says little about repayment capacity.

Three distinctions keep those conversations grounded:

- **Planted acres against harvested acres.** More seeded ground can still mean fewer harvested acres if abandonment rises, and Kansas abandonment has run from 3.2% in 2012 to 29.0% in 2023.
- **Planting-season prices against harvest revenue.** The $6.87 behind this forecast is an observed cash price from last fall, not a guaranteed selling price for the 2027 crop.
- **A statewide forecast against a farm budget.** Kansas totals give context, while each operation's own production and expenses determine its financial result.

An earlier version of this work appeared to show higher nitrogen prices raising Kansas wheat acres. The nitrogen coefficient falls to -0.005 with a p of 0.88 once the wheat price is handled correctly. Expensive nitrogen years were expensive wheat years, and the old model had no way to tell them apart. None of that shows fertilizer costs are irrelevant to planting decisions, only that this data cannot measure their effect.

9 What to watch next

The forecast is 7.02 million Kansas winter wheat acres for the 2027 crop, with the wheat price supplying nearly all of the reason to expect an increase. The January seedings report gives the first official comparison, and NASS can revise acreage estimates later.

After that the question moves from how many acres went in to how many produce a harvestable crop. Spring moisture decides most of that, and in Kansas it has decided far more than fall moisture ever has.

Method note. Acreage and prices come from USDA NASS and drought measures from the US Drought Monitor. The model relates the annual change in log planted acres to the change in log August and September wheat prices and standardized September and October drought severity, over 26 crop years from 2001 through 2026, with Newey-West standard errors. The 80% prediction interval is conditional on that model being correct. Price and drought relationships here are predictive associations, and the analysis cannot fully separate them from other national conditions moving at the same time.

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10 Contact

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