

Kansas Wheat Yield Outlook for 2026

Week 16 - (4/20/26)

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0.1 This week's prediction

Kansas wheat estimate for week 16 (April 20, 2026)

Yield range from 36.8 to 42

Predicted yield of 39.4

Acreage range from 5,996 to 6,195 (1,000 acres)

Predicted acres of 6,095 (1,000 acres)

Production range from 221 to 260 million bu

Predicted production of 240 million bu

Note: This is the fourth estimate for 2026

0.2 Introduction

The USDA collects weekly crop condition data throughout the growing season. Crops are rated on a scale from very poor to excellent. For winter wheat, these estimates are reported during a few weeks in late fall and then resume in the spring. In this publication, Ibendahl estimates Kansas wheat yields, harvested acres, and total wheat production based on the crop condition report from NASS for week 16 (April 20, 2026).

As of week 16 in Kansas, the winter wheat crop was rated as follows: 15% very poor, 26% poor, 35% fair, 22% good, and 2% excellent. Although it is still early in the wheat season, this paper explains the modeling process and projects possible yields, harvested acres, and total production. This analysis is part of a weekly estimate of wheat yields for 2026 in Kansas.

0.3 Background

The USDA has historical data on state wheat yields dating back to 1866. Figure 1 presents this data as a line graph. Notably, the graph shows that wheat yields remained relatively flat until 1950, after which they have steadily increased. A regression analysis of the last 30 years (shown by the blue line in Figure 1) indicates an average annual increase of 0.20 bushels per acre. Additionally, the lowest yield recorded since 1970 is 25% higher than the highest yield before 1950.

Figure 1 also illustrates that the state-average wheat yield exhibits significant variability. For example, yields were only 28 bushels per acre in 2014, while in 2016, yields reached 57 bushels per acre.

0.4 Estimate of Crop Condition

The weekly Crop Progress and Condition Report issued by the USDA National Agricultural Statistics Service provides information on temperature, precipitation, and the progress of crop planting, development, and harvesting. This report is released weekly, except during the winter months when it is published monthly. While it offers a snapshot of current crop conditions, it does not make any yield projections for wheat. Predicting wheat yields can be challenging, as the crop often performs better than it may appear in the field and can quickly improve with timely rainfall.

Some research has attempted to correlate crop condition reports with yields. Bain and Fortenbery (2013) explored this relationship in their paper, “Impacts of Crop Conditions Reports on National and Local Wheat Markets,” presented at the NCCC-134 Conference on Applied Commodity Price Analysis, Forecasting, and Market Risk Management in St. Louis, MO. Their study used an index derived from the crop condition report to estimate crop yields. This methodology is applied in this paper to illustrate the connection between crop conditions and wheat yields.

0.5 Procedure

Bain and Fortenbery construct an index of weekly crop conditions:

$$\text{CCIndex} =$$

(% acreage Excellent) * 1 +
(% acreage Good) * 0.75 +
(% acreage Fair) * 0.50 +
(% acreage Poor) * 0.25 +
(% acreage Very poor) * 0

Weekly crop condition reports from the National Agricultural Statistics Service (NASS) have been available since 1988. In Kansas, the start of the weekly wheat report can vary, but for all years since 1988, a weekly crop report is either available in the last week of March or the first week of April. Additionally, there is a series of crop reports in the fall before a break occurs. Figure 2 shows the wheat crop condition for week 16 over the last 30 years in Kansas.

Figure 3 illustrates the current crop conditions for each week of the ongoing growing season. This series begins in week 13 (the last week of March or the first week of April), as the USDA does not consistently collect weekly data before this period.

In this analysis, the crop condition reports for April 20, 2026 (week 16) are utilized to construct a Crop Condition Index (CCI) for the last 30 years. These CCI indexes are then employed in a regression analysis to estimate wheat yield per acre, where yield is a function of the CCI index. To account for yield trends, the model estimates deviations from the trend based on the CCI index. The regression equation also provides a confidence interval for the expected yield.

To predict harvested acres, the last 30 years of harvested acreage percentages relative to planted acres are calculated. These harvest percentages are used in a regression analysis along with the percentage of wheat categorized as very poor for the given week over the last 30 years. The rationale behind this acreage model is that farmers are more likely to abandon their poorest wheat. When the USDA estimates harvested acres, these estimates will replace the modeled estimated acres in the wheat production calculation. The modeled acres calculation typically has a lower R-squared value later in the season, whereas the USDA's estimate of harvested acres tends to align closely with the final harvested acreage once available.

Total wheat production is calculated by multiplying the expected yield by the expected acres. The production range is determined by multiplying the low-yield estimate by the low-acre estimate, and similarly for the high end.

0.6 Results

As expected for a wheat crop condition report at this early stage of the year, the model's predictions are not very precise, but they are improving week by week. Based on scores from week 16, the model estimates wheat yields with an R-squared value of 0.55. The estimation of acres has an R-squared value of 0.77.

As of week 16 in 2026, the trend line yield is 44.2 bu/ac. The Crop Condition Index (CCI) calculation indicates that the model predicts a yield of 4.8 bu/ac below trend. Therefore, the estimated yield for April 20, 2026 is 39.4 bu/ac, with a range from 36.8 to 42 bu/ac. With 15% of Kansas wheat classified as very poor, the estimated harvested acres are 6,095 (1,000 ac), ranging from 5,996 to 6,195 (1,000 ac). Consequently, the estimated hard red winter wheat production for Kansas is 240 million bushels, within a range from 221 to 260 million bushels. A yield of 240 million bushels would signify a 31% decline in wheat production for 2026. This estimate for April 20, 2026 is 13 million bushels lower than last week and 29 million bushels from two weeks ago.

0.7 Implications

Producers should consider these results as a guideline and likely a best-case scenario for Kansas. The low R-squared value suggests that conditions could change significantly before harvest. Timely rains in the next week would greatly enhance yield estimates, while insufficient rainfall over the next two weeks could quickly deteriorate wheat conditions and yields.

0.8 Contact

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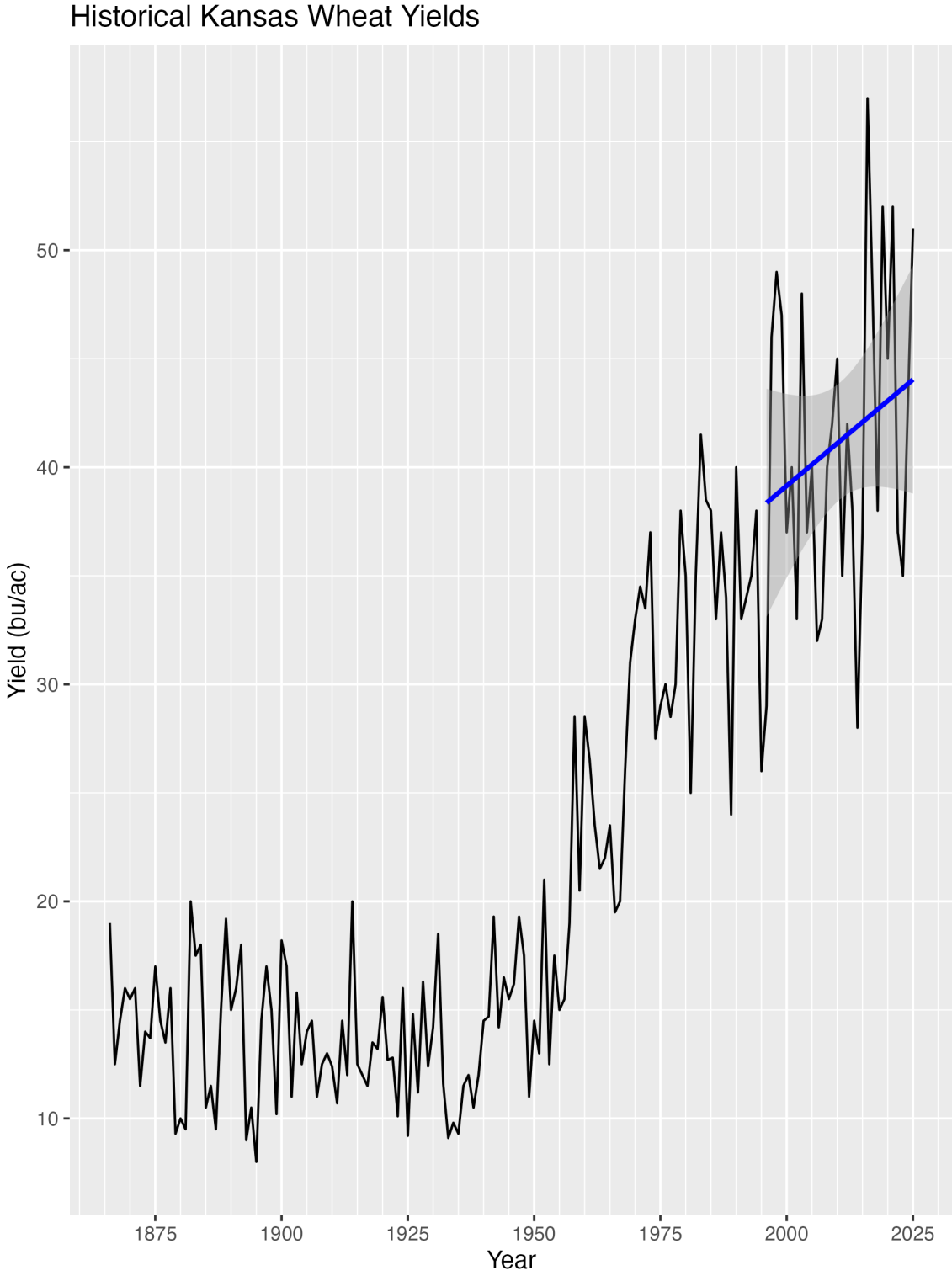


Figure 1: Historical State Wheat Yields from Kansas

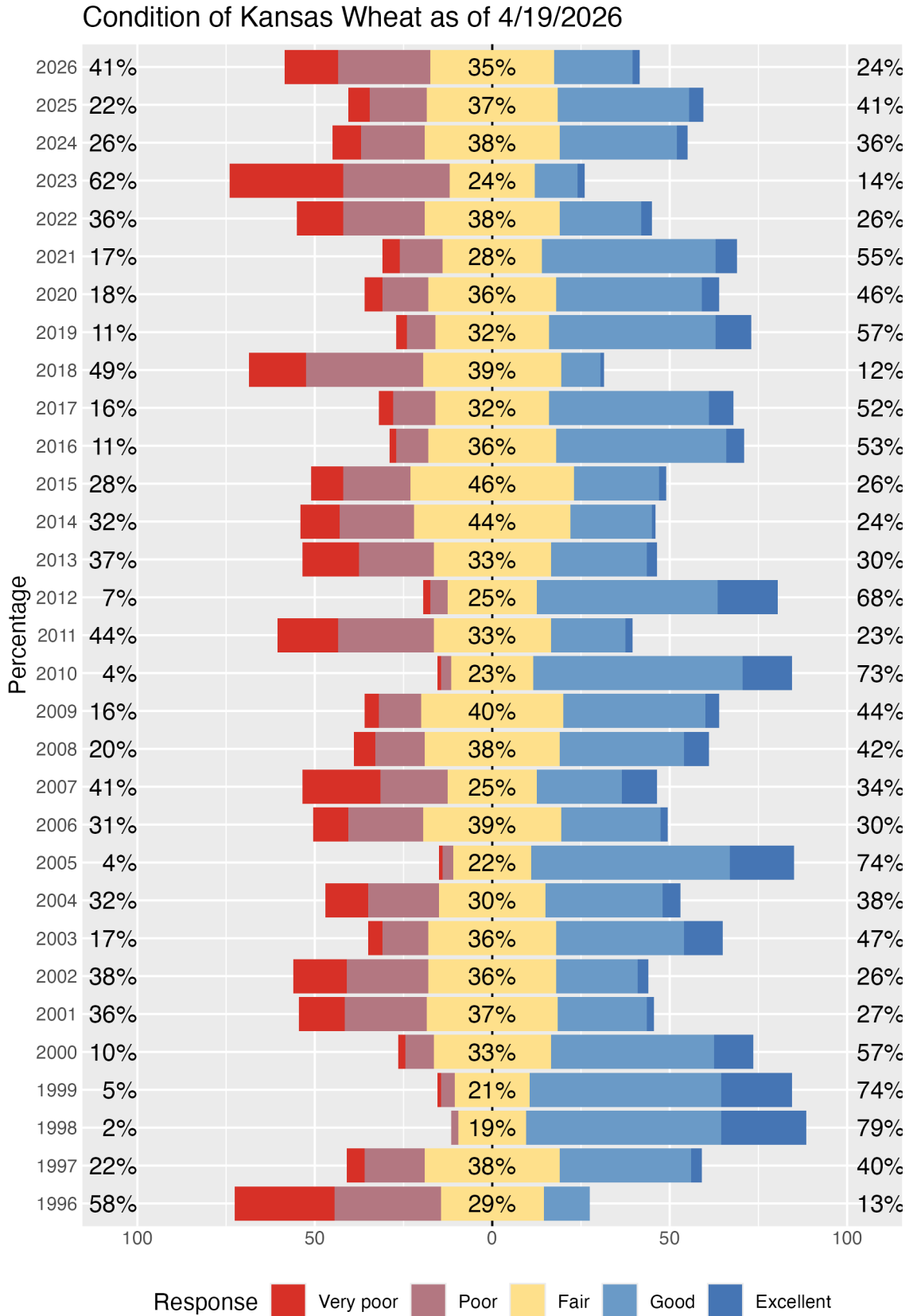


Figure 2: Historical Crop Conditions for Wheat in Kansas for Specific Week

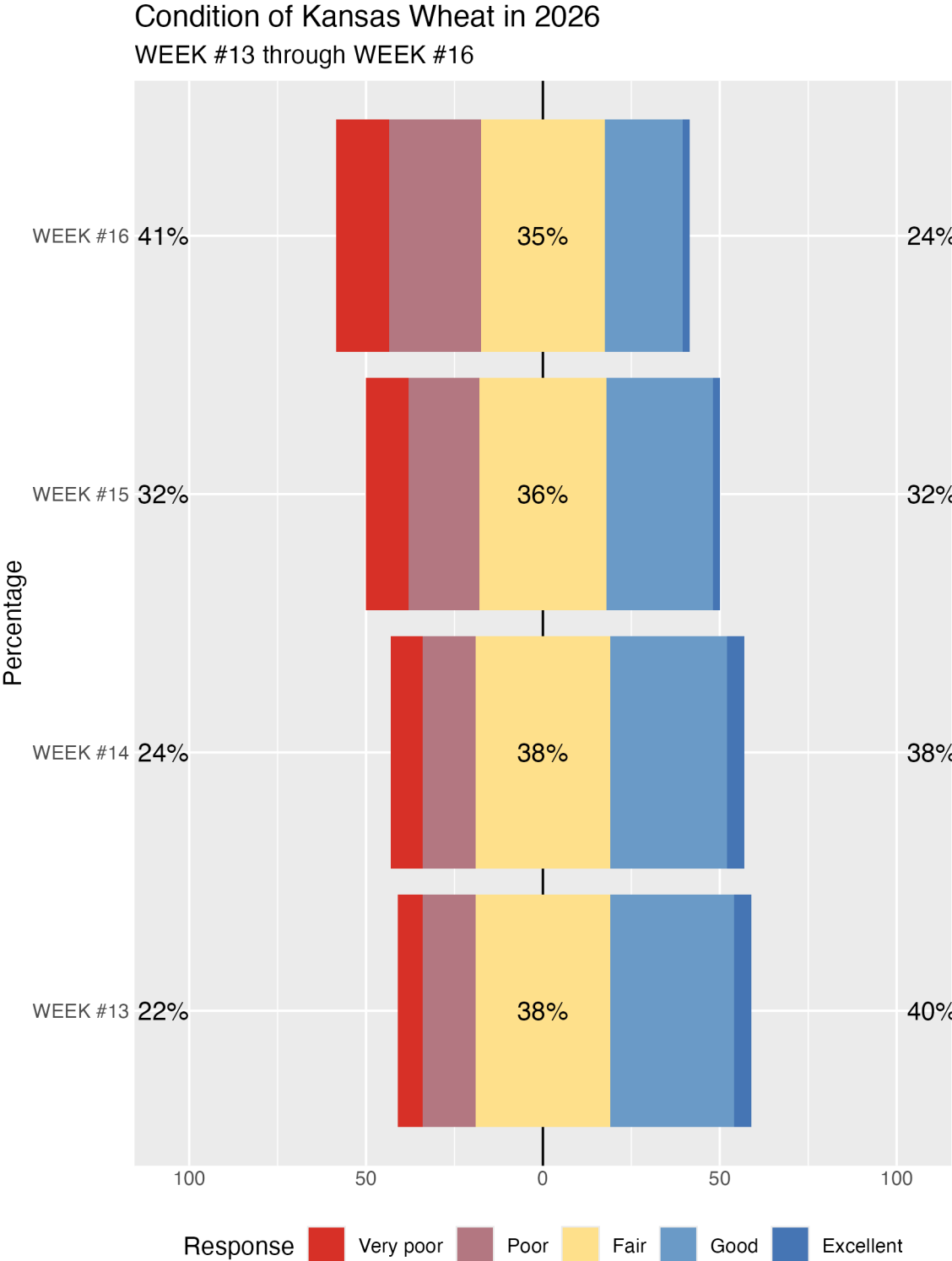


Figure 3: Wheat Crop Conditions for Kansas for Current Year

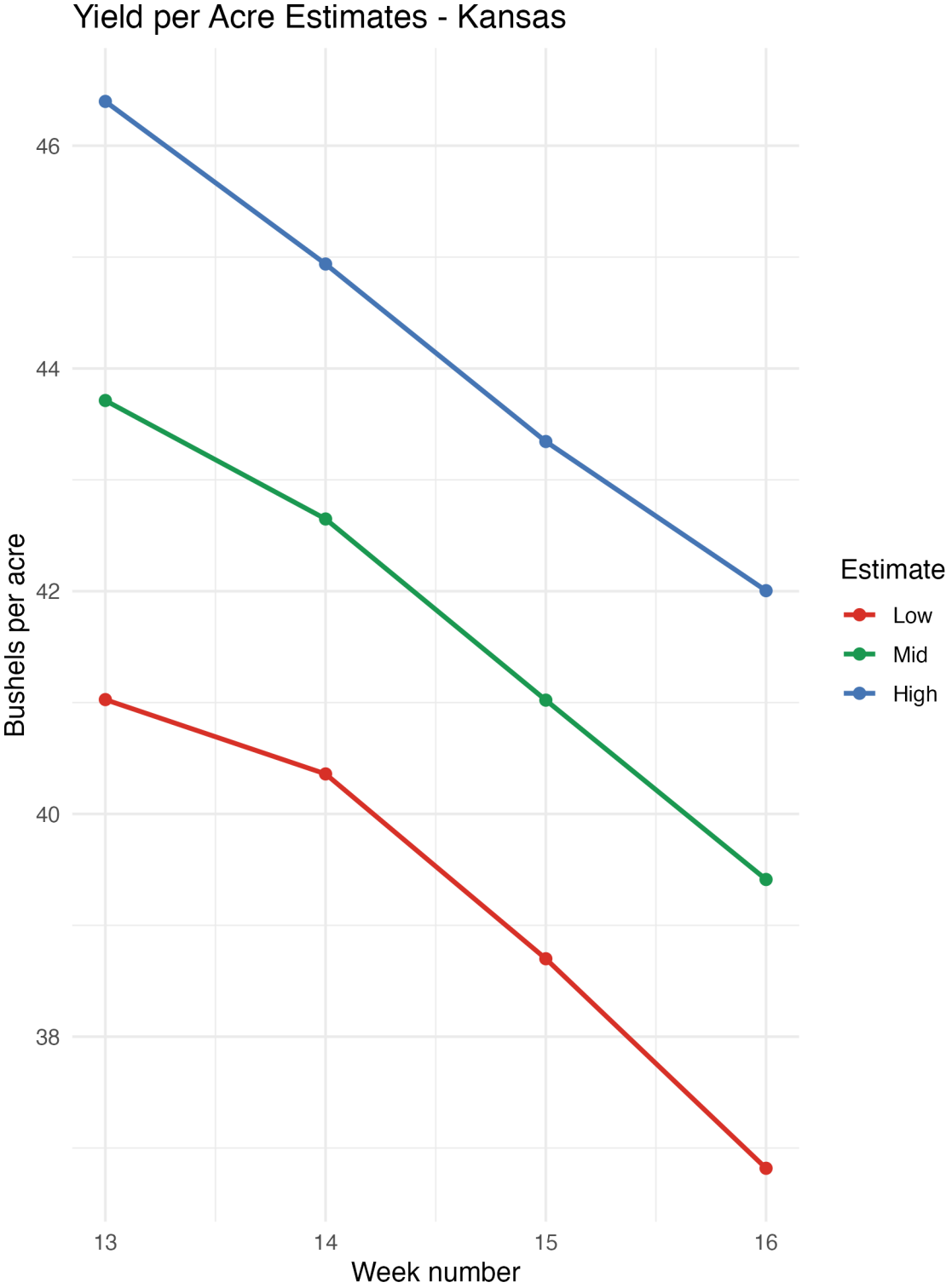


Figure 4: Forecast Yields for Kansas at Estimated Week