2026 Kansas County-Level Wheat Yields Web Tool Guide

Oded Perry – SatYield VP of Product

November 2026

This document provides a guide to the 2026 Kansas County-Level Wheat Yields Web Tool, furnished by SatYield.

Background

Our technology is based on a biophysical crop model that runs in near real time throughout the growing season, with updated predictions every week. In simple terms, our model simulates how wheat grows and responds to different environmental conditions from a biophysical perspective. We generate thousands of virtual wheat-growing scenarios on a computer, creating a large library of possible crop development patterns. We then observe the actual crop conditions from space by extracting the Leaf Area Index (LAI) from satellite imagery and matching these observations to our simulated scenarios. Once we find the best match, we can estimate the crop's current condition and predict its expected yield.

About the interactive demo:

- Kansas county-level map: The main map displays the entire state of Kansas, with yield predictions for each county.
- County details: Hover over any county to see additional information about its predicted yield.
- Irrigated counties: Counties marked with circles are partially irrigated.
- Regional zones: Below the map, you'll find three zones. Hovering over each zone will highlight the corresponding counties on the map.

A note on accuracy:

Our current error is approximately 10% across central and eastern Kansas. In western Kansas, the error is higher, at approximately 17%, primarily due to the greater presence of irrigated acreage, which is not yet fully accounted for in the current model configuration. If needed, we can further improve the accuracy across the state by incorporating the relevant percentage of irrigated acreage directly into the biophysical model and further fine-tuning the model for the different growing conditions across Kansas. Given the short timeframe we had to prepare this analysis, this additional optimization was not feasible for the current demo. However, it is something we can definitely address if this level of accuracy and granularity becomes relevant for the use case.

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K-State Agricultural Economics | 342 Waters Hall, Manhattan, KS 66506-4011 | www.ageconomics.k-state.edu
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