

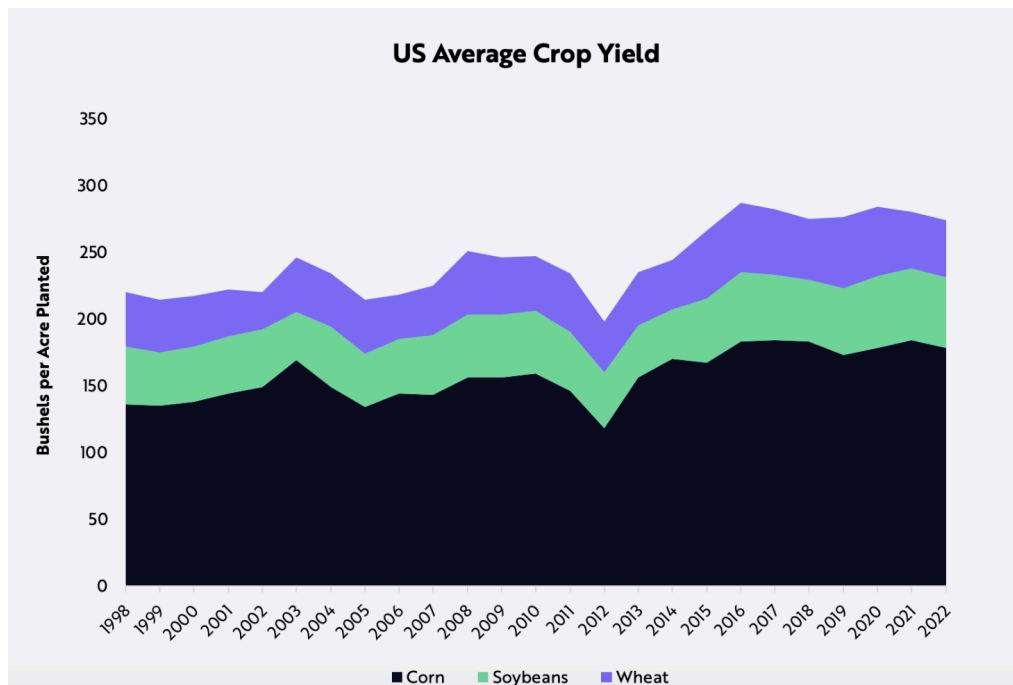
# RAILROAD WEEK IN REVIEW

September 29, 2023

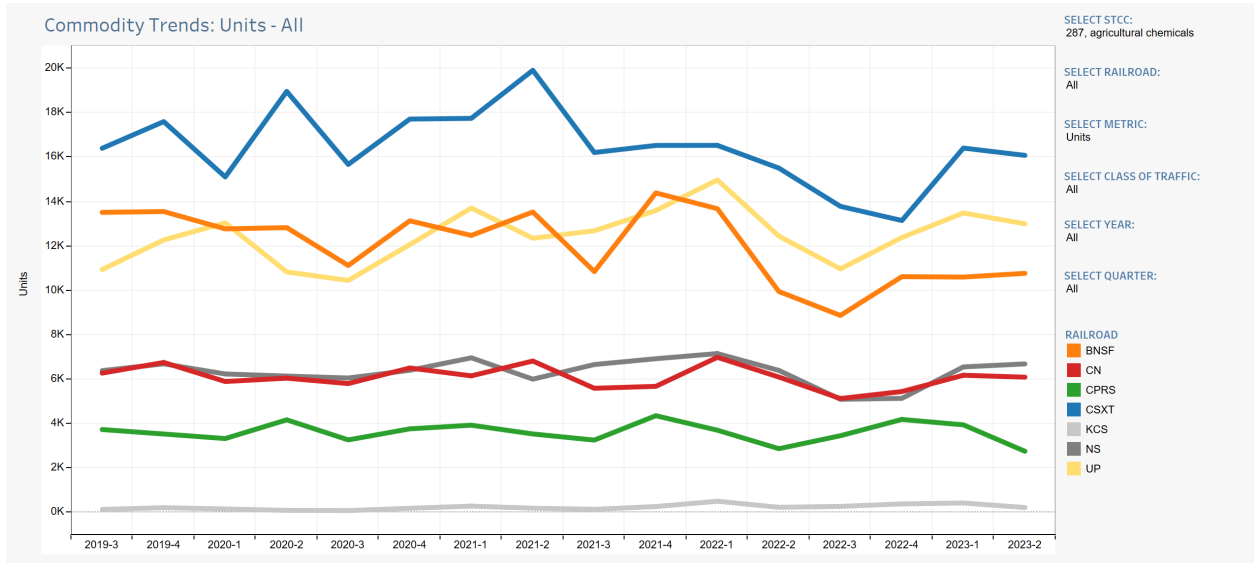
*“We believe AI and Precision Ag could introduce the most meaningful innovations to agriculture since the tractor 100 years ago. In our view, they should enhance farm profitability, decrease food prices, and satisfy the globe’s increasing demand for crops, increasing the efficiency and sustainability of farming worldwide during the next five to ten years.” — “Will the Convergence Between Artificial Intelligence and Precision Agriculture Lower Farming Costs?” ARK Invest Research, August 2, 2023*

*“Deere Production and Precision Ag net sales growth guidance for FY23 is now 20%, compared to also 20% previously. Price realization FY23 outlook is now 15%, compared to also 15% previously. The segment's operating margin guidance is now 25-26%, compared to also 25-26% in May.” — Cowen, Deere Research Note, August 18, 2023*

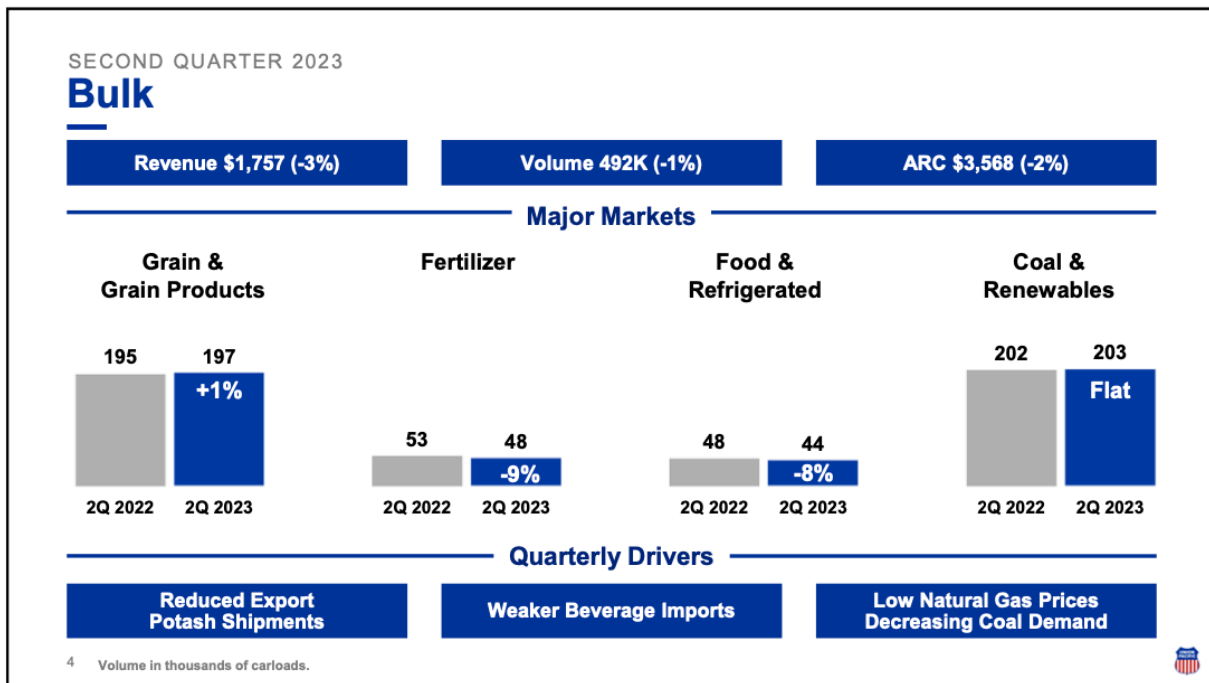
**The ARK-Invest white paper** on agriculture cited above is an eye-opener. “Crop production in the US is facing significant cost pressures. After input costs rose 80-250% during the supply chain shocks associated with the coronavirus crisis and the Ukraine War, crop production costs hit record levels in 2022. Coupled with labor shortages, net farm income in the US is likely to drop 18% this year, according to U.S. Department of Agriculture (USDA) forecasts. Moreover, because *US crop yields have plateaued during the past five to six years, as shown below*, farmers are seeking innovative ways to lower costs and improve profitability.”



One innovative way farmers are seeking to lower costs and increase productivity is to use less fertilizer and be smarter in its application; John Deere is a leader here —see italic quote above. Less fertilizer on the ground means less fertilizer in rail cars. You can see how the railroad fertilizer tonnage has hit a plateau, along with the crop yield.



Getting more specific, see how UP ag-related carloads have slipped of late and have gone essentially nowhere since mid-2019 (yellow line in chart above).



The ARK-Invest paper concludes, “Our research suggests that AI and Precision Ag tools operating at scale could reduce operating costs as a percent of sales from 42% to 33%, potentially creating a global serviceable market of ~\$67 billion. If the use of autonomous technology were to proliferate, agricultural companies potentially could generate recurring revenue streams with software-as-a-service-like margins.”

**RailTrends returns** to the Times Square Marriott Marquis November 16-17. Once again my good friend Tony Hatch has assembled an A-1 program. He writes, “We will be addressing the timely themes of resilience and growth. It is only fitting that NS President & CEO Alan Shaw will receive the RT 2023 Innovator Award in spite of intense and often misguided (or cynical and self-serving) pressure surrounding the unfortunate East Palestine event. He speaks on November 16.

“Shaw is joined the podium by two of the most important leaders in railroad resilience and growth – CPKC’s Keith Creel, a prior winner of the Innovator Award, and CSX’s Joe Hinrichs (a future winner?). Also, in the growth/service category will be our highly anticipated intermodal panel featuring the ‘Glimmer Twins,’ BNSF’s Tom Williams and JBHunt’s Darren Field.

“I have always considered short lines and regional railroads to be absolutely critical to carload growth and first/last mile service – and we have three shortline holding company leaders on our annual panel — Gulf & Atlantic CEO Ryan Ratledge, Rail Development Corp founder and CEO Henry Posner, and Dean Piacente, President of OmniTRAX.”

This is one of the longest-running shows on Broadway, now in its 19th year. RailTrends captures the pulse of the rail industry and is one’s opportunity to hear firsthand the latest on the economics, technologies, operations and directions in the railroad industry. The two days of thought-provoking sessions, discussions, and debates always provide attendees a newfound clarity on where the industry is going. *Progressive Railroading* is the sponsor once again.

***The Railroad Week in Review, a compendium of railroad industry news, analysis, and comment, is sent as a PDF via e-mail 50 weeks a year. Individual subscriptions and subs for short lines with less than \$12 million annual revenue are \$175. Subscriptions for Class I railroads and short line/regional operators with more than \$12 million annual revenue are \$600 per year. To subscribe, click on the Week in Review tab at [www.rblanchard.com](http://www.rblanchard.com). © 2023 Roy Blanchard***