

Deere & Company - Managing the Agricultural Equipment Downturn

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Case convention: This is an author-created management decision exercise. Deere's public results and forecasts are historical; the alternatives and recommendation are hypothetical. No private deliberations are represented.

The decision

Deere & Company entered fiscal 2024 with a mixed picture. Farm conditions had eased from recent record levels, and the company expected lower equipment demand across several major agricultural markets. But the downturn was not uniform. Deere said it would keep producing to retail demand in North American large agriculture, reduce production relative to demand in Europe, and continue lowering Brazilian field inventory. In the United States and Canada, its reported retail sales were ahead of industry in selected large-equipment categories, while the company expected its production-and-precision-agriculture (PPA) net sales to fall 15-20% for the year. [S1; S2]

Deere's management team must decide whether to maintain this differentiated approach, make a faster and broader production reduction, or preserve the basic plan while setting explicit product- and region-level triggers for further changes. The question is not simply how many machines to build. Production affects factory utilization and margins, dealer inventory and financing needs, product availability, and Deere's ability to serve customers when demand turns.

Assignment: Recommend Deere's FY2024 production and field-inventory policy for agricultural equipment. Specify whether to maintain the disclosed North American large-ag, Europe, and Brazil approaches or change them; identify what measures would trigger a change; and explain how your choice affects dealers, customers, factory economics, and financial performance. Address the strongest argument against your recommendation. Use only information available by 15 February 2024.

A cycle turns

For the first quarter ended 28 January 2024, Deere reported net income attributable to Deere of \$1.751 billion, down 11% from \$1.959 billion a year earlier. Worldwide net sales and revenues were \$12.185 billion, down 4%; equipment-operations net sales were \$10.486 billion, down 8%. PPA net sales fell 7% to \$4.849 billion, with operating profit down 13% to \$1.045 billion and operating margin declining from 23.2% to 21.6%. Small Agriculture & Turf (SAT) net sales fell 19% to \$2.425 billion, operating profit fell 27% to \$326 million, and margin declined from 14.9% to 13.4%. Deere attributed the agricultural segment declines mainly to lower shipment volumes; price realization partly offset the pressure. [S1, Q1 results and segment tables, pp. 1-3, 7, 11]

Deere updated its FY2024 net-income forecast to \$7.50-\$7.75 billion. It expected industry unit sales to fall 10-15% in U.S./Canada large agriculture, 10-15% in Europe agriculture, and about 10% in South America agriculture. U.S./Canada small agriculture and turf was expected to fall 5-10%, while Asia agriculture was expected to decline moderately. For PPA, the company forecast net sales 15-20% below FY2023 and an operating margin of 21.5-22.5%, compared with 26.1% in FY2023. These were management forecasts, not realized results. [S1; S2, slides 6-7, 13]

The FY2023 filing described why the timing and location of production mattered. Supply disruptions had raised inventory in 2022. During 2023, Deere said it brought schedules closer to customers' seasonal use and returned toward historical seasonal production patterns. It also warned that inaccurate inventory forecasts could leave it with excess product, shortages, or reduced manufacturing efficiency. Deere cited lower commodity prices and higher interest rates as reasons farm fundamentals could moderate, while lower input costs and improved customer financials could offset some of the pressure. [S3, Item 1A, printed pp. 18-19; MD&A, pp. 30-31]

Dealer inventory and customer demand

Deere's February presentation offered category-level signals alongside the broader outlook. Its rolling three-month comparison for January reported Deere retail sales ahead of industry for 100+ horsepower 2WD tractors and combines. In 4WD tractors, the slide showed an industry figure of 18% and a Deere high-single-digit figure. The presentation reported dealer inventory, measured in units as a percentage of trailing 12-month retail sales, at 30% for 100+ horsepower tractors in 2024 versus 25% in 2023; combine inventory was 16% in both years. The slide's ratios do not reveal unit counts, inventory age, used-equipment prices, dealer liquidity, or whether a particular dealer has too much of a product. [S2, slide 15]

On the public call, Deere executives said nearly 90% of combine, sprayer, and planter orders came through early-order programs. They described row-crop tractor orders as open into the third quarter and the 4WD order book as full through that quarter. Deere said it intended to produce to retail demand in North American large ag and end the year positioned to produce in line with 2025 retail demand. Outside North America, management said it would underproduce demand in Europe and was making progress reducing Brazilian field inventory; it reported combine inventory in Brazil down 25% on an absolute basis for Q1. These are management statements made on the live 15 February call. The linked transcript is a corrected transcript and may have been edited after the event; it is used as a locator for what management said publicly that day. [S4, Q&A, "field inventory levels" and "new inventory outside U.S./Canada"]

The order book can help production planning, but it does not necessarily equal retail sales. Orders may be canceled, delayed, or shifted between models. Deere's public materials do not disclose those rates, dealer-by-dealer inventories, or how much output can be moved between plants, products, and quarters.

A wider market signal

USDA's Economic Research Service forecast on 7 February that U.S. net farm income would fall 27.1% in 2024 to \$116.1 billion in inflation-adjusted dollars; net cash farm income was forecast to fall 25.8% to \$121.7 billion. USDA expected lower commodity receipts and higher production expenses. Net farm income includes noncash items such as inventory changes and depreciation, whereas net cash farm income is gross cash income less cash expenses. The estimates covered the farm sector as a whole and did not forecast Deere customer purchases directly. [S5]

CNH Industrial, a competitor, reported record FY2023 revenue and net income, while describing more challenging end markets in the fourth quarter. Its February 14 outlook projected 2024 agriculture retail sales down 10-15% across its key markets and agriculture-segment net sales down 8-12%; it planned cost reductions and continued action on dealer inventories. CNH's product and geographic mix differs from Deere's, so the forecast is a market signal rather than a matched prediction. [S6, slides 5-6, 17, 19-20]

Research lens: inventory is a buffer and a cost

Cachon and Olivares studied finished-goods inventory in the U.S. automobile industry using model-level data for 1996-2004, including monthly inventory and sales, production by plant, dealer counts, product features, and plant characteristics. They measured days of supply as end-of-month inventory divided by the average daily sales rate over the following two months. Their preferred panel estimates associated higher dealer counts and a proxy for lower production flexibility with higher inventory; a one-standard-deviation increase in dealer count was associated with 21% more days of supply, and a one-standard-deviation increase in their production/sales-mismatch proxy with 8% more. The study's authors concluded these two factors explained much of the inventory gap between Toyota and U.S. manufacturers. [S7, pp. 204-213]

The results are not a Deere forecast or causal production rule. The study covers autos, whose manufacturers allocated product to dealers in a push system; agricultural machinery is longer-lived, more seasonal, tied to farm economics, and sold through a different order and financing context. Its inventory measure combines plant, port, transit, and dealer stock. Use the findings to ask what Deere should measure-production flexibility, dealer-network structure, stockout costs, and product variety-not to import its percentages as Deere's inventory response.

Lee, Padmanabhan, and Whang's *Management Science* article describes a competing supply-chain mechanism: order variability can become amplified upstream when firms respond to demand signals, batch orders, ration supply, or face price variation. This is a conceptual warning that dealer orders may differ from final demand. This case uses the publisher abstract only, not the full article; no quantitative or Deere-specific finding is claimed. [S8, abstract]

Choices

1. Maintain the disclosed differentiated plan

Keep North American large-ag production close to expected retail demand, underproduce in Europe, and continue reducing Brazilian field inventory. The approach responds to local conditions and preserves availability where Deere sees order visibility and category-level retail strength. It also accepts the possibility that order books overstate future sales and that inventory or production may remain too high if farm economics deteriorate.

2. Make a broader production reduction

Reduce production faster across regions, including North American large ag, and aim to bring dealer inventory closer to expected retail demand before the cycle weakens further. This could reduce dealer carrying needs, working capital and future discount pressure. It could also lower factory utilization, worsen near-term margins, constrain availability, and give competitors room to win customers if demand proves more resilient than expected.

3. Preserve the base plan with explicit triggers

Continue the disclosed plan but set review triggers by product and region using retail sell-through, inventory ratios and age, order cancellations, used-equipment values, dealer credit, and farm economics. Adjust output if a combination of indicators crosses pre-set thresholds. This can preserve flexibility, but Deere would need timely data, clear decision owners, and production schedules that can respond before excess inventory or stockouts become costly.

These options can be combined, but a recommendation should state which policy applies to which products and regions. Do not assume that one inventory ratio or company-wide forecast determines the answer.

Questions for discussion

1. What evidence should Deere weight most heavily: the broad farm-income and industry forecasts, current orders, retail comparisons, or dealer inventory ratios? Why?
2. Should Deere treat North American large agriculture differently from Europe and Brazil? What evidence would justify a change in each region?
3. Which measures would distinguish normal seasonal stock from excess inventory? What information is missing?
4. How would production changes affect price realization, factory costs, dealer finance, customer availability, and Deere's ability to recover when demand improves?
5. What assumptions drive your recommendation, and what evidence would cause you to reverse it?

Sources

- **S1.** Deere & Company, “First Quarter 2024 Press Release,” 15 February 2024, opening results/management comments, pp. 1-3; unaudited schedules, pp. 7 and 11. [Official PDF](#)
- **S2.** Deere & Company, “1Q 2024 Earnings Call” presentation, 15 February 2024, SEC Exhibit 99.2 to Form 8-K, accession 0001558370-24-001189; slides 3-7, 13 and 15. [SEC exhibit](#)
- **S3.** Deere & Company, FY2023 Form 10-K, filed 1 December 2023, Item 1A inventory risk, printed pp. 18-19; MD&A trends/outlook, pp. 30-31. [SEC filing](#)
- **S4.** Deere & Company, first-quarter FY2024 earnings call, live public event 15 February 2024, 9:00 a.m. CST; Q&A under “field inventory levels” and “new inventory outside U.S./Canada.” [Event page](#); [corrected transcript PDF](#). The corrected transcript's document availability date is not verified; statements are attributed to the live event.
- **S5.** USDA Economic Research Service, “Farm sector profits forecast to fall in 2024 from record high in 2022,” 7 February 2024, forecast and income definitions. [ERS](#)
- **S6.** CNH Industrial, Q4/FY2023 results review, 14 February 2024, SEC Exhibit 99.2, accession 0001628280-24-004631; slides 5-6, 17, 19-20. [SEC presentation](#)
- **S7.** Gérard P. Cachon and Marcelo Olivares, “Drivers of Finished-Goods Inventory in the U.S. Automobile Industry,” *Management Science* 56(1), 202-216 (2010), DOI: 10.1287/mnsc.1090.1095; data/method, pp. 204-211; results and robustness, pp. 211-214. [Full article](#)
- **S8.** Hau L. Lee, V. Padmanabhan, and Seungjin Whang, “Information Distortion in a Supply Chain: The Bullwhip Effect,” *Management Science* 43(4), 546-558 (1997), DOI: 10.1287/mnsc.43.4.546. Only publisher metadata and abstract were read. [Publisher page](#)