

Fertilizer Shock Reopens the U.S. Crop-to-Cattle Decision

Global Agricultural Developments

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The strongest current signal is a collision between weak U.S. row-crop economics and tight cattle supply, with biological fertility and pasture conversion offered as alternatives. The brief separates interview-based estimates and field reports from evidence with measurable yield data.

Market Movers

United States row crops: fertilizer stress is colliding with a demand problem

In a monitored interview, Joel Salatin cited what he described as USDA and analyst figures putting the average U.S. soybean loss at about **\$100/acre in 2025**, with corn farmers projected to lose **\$50–\$100/acre this year**; he linked the soybean loss to a **\$12 billion bailout**. These are attributed interview figures rather than a new independent price series. [1]

Salatin's structural explanation is that China is nearing the end of a roughly 10-year plan, targeted around 2030, to become food self-sufficient, while Argentina, Paraguay, Uruguay, and Brazil provide competing off-season supply. He said about half of U.S. soybeans are exported and almost half of U.S. corn goes to ethanol, leaving the crop system oversupplied; because the opposite hemisphere can respond, he sees major grain-price dislocations as capable of correcting within roughly six months. [1]

That makes a fertilizer-driven corn-to-soy shift a potentially poor solution. Salatin said more soybean acreage is being planted because soybeans require less purchased nitrogen, but his expectation is additional pressure on soybeans rather than a durable corn shortage. [1]

United States cattle and Mexico: scarcity has a slower correction cycle

Salatin said the U.S. beef-cow herd is at its lowest level since 1950, beef prices have roughly tripled in five years, and week-old calves have sold for as much as **\$1,500** at auction. He also said producers are retaining more heifers, which increases the breeding herd but temporarily removes animals from slaughter. [1]

The Mexican supply channel adds a separate constraint: he said the screwworm problem stopped flows through 12 entry points that normally bring **more than one million head per year** into the United States. The market-duration distinction is important: Salatin describes crops as roughly 100–120-day systems but cattle as approximately three-year systems, so cattle supply cannot respond to high prices as quickly as grain acreage can. [1]

Innovation Spotlight

Pacific Northwest orchards: foliar sugar is a low-cost input-rate experiment

John Kempf recommends adding **1–2 lb/acre** of dextrose, sucrose, sorbitol, or molasses to foliar sprays. He said AEA team member Jim Dunlop reports that Pacific Northwest tree-fruit growers have generally been able to cut nutrient rates in the spray tank by half when sugar is added. The source presents this as field experience, not as a replicated yield or payback study. [2]

The practical test is straightforward: compare the normal program with a reduced-rate-plus-sugar strip, and record material cost, labor, yield, fruit quality, and storage life before scaling. The reported input-rate reduction is promising, but the segment does not establish whether the saving survives differences in sugar cost, crop value, or disease pressure.

Seed provenance is being treated as a biological input

Kempf says corn seed carries about **9 billion microbes per seed**. He describes a 30-acre buckwheat comparison in which seed from Green Cover and locally sourced commodity seed were planted side by side; differences in crop development and height were still visible in following crops two years later. This is a striking farm observation and a reason to track seed source in trials, but it is not presented as a controlled seed-microbiome experiment. [2]

Orchard yield benchmarks are high, but the economics are incomplete

Kempf cites an Orchard View sweet-cherry block reaching roughly **19,000 lb/acre year over year**, without the usual alternate-bearing collapse, and says that level was more than double the prior performance. The source also emphasizes harvest efficiency: heavily loaded branches can be stripped rapidly into a bucket. The figure is an approximate farm benchmark, not an

independently audited trial, and no input-cost or ROI calculation is supplied. [2]

Regional Developments

Great Plains water is a longer-horizon production constraint

Salatin argued that water may become a larger agricultural constraint than energy. He cited the five-state Ogallala aquifer as falling about **12 inches per year for roughly 60 years**, with projections that it could become too deep to pump within about 30 years. This is an interview claim rather than a newly published aquifer assessment, but it has direct implications for irrigated-land valuation, crop choice, and equipment investment in the U.S. Great Plains. [1]

Farm finance is becoming a land-ownership issue

Salatin cited reports of U.S. farm bankruptcies rising from roughly **200 to 1,500** in a year—about a 500% increase—and said institutional investors and wealthy family offices are showing renewed interest in farmland. The interview provides no underlying bankruptcy series, transaction prices, or ownership totals, so this is best treated as a financial-stress and ownership-concentration hypothesis to verify locally. [1]

A separate Successful Farming item says more than **2,570 acres of North Dakota farmland** are scheduled for auction in August 2026. With no sale prices or outcomes available in the monitored item, it is a watch signal—not evidence by itself of forced sales or falling land values. [3]

Best Practices

Stage pasture conversion as a cash-flow project, not a yield slogan

Salatin's illustrative Nebraska/Kansas model converts a **1,000-acre soybean farm** losing about \$100/acre to intensively managed grazing that he estimates could profit about \$1,000/acre. He estimates roughly **\$300,000** for fencing and water, compares that one-time infrastructure cost with about \$300/acre in annual soybean establishment and harvest expense, and separately estimates about **\$600,000** to buy the initial herd. These are scenario calculations, not observed farm results. [1]

His implementation sequence is specific: install water and fencing over winter; seed a spring mix of roughly **12–15 grass, legume, and forb varieties**; buy thin cull cows in September or October onto stockpiled forage; sell the roughly 70% that are not bred as fat cull cows in spring; and retain or sell the bred minority as cow-calf pairs. He estimates the initial money can be recovered within **18 months**, but also says the operator needs about one year without income and enough leverage to fund the first cattle purchase. [1]

For an actual farm, the decision gate is local: verify water access, forage establishment, fencing labor, cattle and slaughter-market basis, insurance, and the ability to carry a no-income period. The 18-month figure should be stress-tested rather than adopted as a universal payback.

Grow and graze fertility instead of treating fertilizer substitution as free

The proposed biological-fertility sequence is to keep soil covered between cash crops, including by planting subterranean clover and small grains or barley into standing crops, then use composted organic material. Salatin calculated that a **5,000-head-per-day Tyson beef plant** could generate enough compost to fertilize nearly **one million acres**, illustrating the potential scale of localized nutrient recovery rather than proving that the supply chain is already organized. [1]

He also argues that cover crops build soil more effectively when grazed than when simply mowed or tilled, because manure and urine remain in the system. His cost caveat is decisive: he sees no current saving in actual expense, only a substitution of labor and materials handling for petroleum and purchased fertilizer; the economics improve as fertilizer prices rise. [1]

In established orchards, remove excess fertility before adding more inputs

Kempf recommends avoiding excess nitrogen and potassium in most established fruit soils, while recognizing sandy-soil and establishment-year exceptions. In the orchard example discussed, a single **40–50 lb nitrogen application** was the only area where aphids appeared; after excess fertility stopped, the grower reported that scale and canker cleared over two to three years. This is an operator observation, so the implementation should begin with soil and tissue testing and a small block rather than a whole-orchard reversal. [2]

Kempf also says field experience—not hard science—suggests that eight different plant families can shift the soil microbial community toward cooperation. Washington and Oregon orchardists he discusses associated living, mowed ground cover under trees and removal of herbicide bands with higher-quality, better-storing organic apples. Both points are suitable for measured trials, not blanket prescriptions. [2]

Close the livestock, compost, and marketing loop where the market permits

Polyface describes a multi-species pasture system in which cows, pigs, chickens, ducks, lamb, turkey, and rabbit move to fresh paddocks daily or every other day; pigs turn compost, the farm has bought no chemical fertilizer and planted no seed for 65 years, and products are sold under a direct brand. The farm reports about **15,000 visitors per year**, but the interview supplies no comparable

enterprise-level profit figure. The transferable lesson is the operating loop—grazing, manure, compost, and direct marketing—not an assumed universal margin. [1]

Input Markets

Urea and fuel are changing production decisions

The interview’s fertilizer signal is cumulative rather than a fresh retail quote: Salatin said U.S. urea prices rose about **400%** after Russia’s invasion of Ukraine. He also cited reports of farmers who bought fertilizer in advance selling it at roughly twice their purchase price rather than planting, while more acres shifted from corn to soybeans to reduce nitrogen exposure. [1]

Energy is the wider multiplier. Salatin cited fuel as approximately **50% of the average farmer’s operating expense**, with higher energy costs then feeding into tractor, tire, machinery, parts, and freight costs. That makes a lower-input system economically relevant only if its added labor, handling, and infrastructure are measured against the input exposure it replaces. [1]

Forward Outlook

1. **Budget crop choice with both nutrient cost and export demand.** A corn-to-soy switch can lower purchased nitrogen while worsening soybean oversupply. Stress-test China’s demand trajectory, South American competition, basis, and fertilizer availability together rather than optimizing one input line. [1]
2. **Separate cattle-transition capital into infrastructure, livestock, and liquidity.** The monitored model requires about \$300,000 for fencing and water, about \$600,000 for cattle, and a year that may produce no income; the claimed 18-month payback depends on local cattle prices and forage performance. [1]
3. **Pilot biological programs with an evidence ledger.** For foliar sugar, seed source, living orchard ground cover, and reduced fertility, record rate, material cost, labor, yield, quality, storage, and pest pressure. The strongest numbers this period are operator reports and farm benchmarks; Kempf explicitly labels the eight-family claim as field experience without hard science. [2]
4. **Put water risk into Great Plains land and equipment decisions now.** The cited Ogallala decline is a 30-year capital-planning issue even if near-term crop margins remain the immediate concern. Irrigated operators should stress-test pumping depth, energy cost, crop mix, and residual land value rather than treating current water access as permanent. [1]
5. **Read farmland auctions as signals requiring follow-up, not conclusions.** The North Dakota acreage scheduled for auction is worth

tracking alongside bankruptcy, ownership, and financing data; without completed-sale prices or seller information, it cannot establish a regional land-price trend. [3, 1]

Sources

1. Joel Salatin: The Real Impact of Fertilizer Shortages on Farmers | The Next Farm Crisis Starts Now
2. Podcast Extra: John Kempf on Soil Biophysics, Plant Immunity & Foliars on the Permaculture...
3. X post by @SuccessfulFarm