

# Demand & Supply: Trends and Risks of Imported Feed

The global price and availability of supplementary feeds – grain and PKE – have significant implications for New Zealand livestock farmers. Recently completed research assessed the current international grain markets, risks, and the future of imported feed in New Zealand.



Recent global events, including climatic shifts, shipping issues, and geopolitical tensions have driven international feed prices to new highs, putting New Zealand's reliance on imported grain for livestock feed under the microscope.

AgFirst's new report on the [Implications of Global Price and Supply of Supplementary Feeds](#) examines the state of grain internationally and what it means for New Zealand livestock farmers. Below, report co-author Raewyn Densley discusses the analysis.

## How reliant are we on imported feed?

In 2022, New Zealand's imports of internationally produced feed – grain, concentrates, and PKE – reached 3.7 million tonnes. The dairy sector is the largest consumer, absorbing 75% of feed imports, followed by poultry at 12% and other livestock, including pigs, at 4%. PKE alone accounts for 6% of total feed in dairy systems, including pasture.

Overall, our demand for supplementary feed outstrips domestic supply by nearly double – in 2022 we produced 2.1 million tonnes, but consumed an estimated 5.8 million tonnes. In the same year, 40% of the ingredients for supplementary feed were grown in Aotearoa New Zealand – although this is skewed to 69% in the South Island and only 25% in the North Island. The remaining 60% was imported.

Demand is expected to continue to increase for the dairy and poultry sectors.

## What is driving high prices and risks to supply?

Multiple factors converged in 2022 to drive grain prices to record levels: geopolitical issues such as the Russia-Ukraine conflict, weather causing poor yields, and logistics and shipping issues all contributed to the downward trend in the availability of grain for global trade. The global wheat price hit an all-time high in February 2022, with maize peaking in April 2022.

While this perfect storm of events is unlikely to occur again, we can expect many factors to impact the supply and price of grain.

- **Bioethanol production:** In the past two decades, global ethanol production has increased 6-fold, drawing mainly on maize crops, and this is expected to continue to increase, putting pressure on grain supplies.

- Geopolitical undercurrents: While most temporary grain export embargoes from the pandemic have been lifted, the Russia-Ukraine war continues to impact global grain supplies. Geopolitical issues remain a real but unpredictable threat.
- Weather: 2022 weather events had a terrible impact on world grain supplies. Europe's maize yield, for instance, was 18% below the five-year average due to widespread drought during critical growth phases, and the same yield declines were seen in the USA's grain belt. Weather issues are expected to continue to impact grain supplies.
- Shipping and logistics: While we are seeing a drop from 2021 high shipping costs, fuel prices and weather events continue to affect cost and supply of shipping for grain. For instance, low water levels in pivotal routes like the Lower Mississippi River ramped up shipping costs with limits on weight.
- China's grain strategy: China has stockpiled vast amounts of global grain stocks, holding 70% of maize and 54% of wheat in 2022–23. It is unclear whether this trend will continue.
- PKE supply has remained stable, but there is some awareness of declining consumer preference for palm oil and extreme weather which could impact our access to PKE in the future.

## What are the implications for NZ livestock farmers?

The first is profitability concerns: Even though our dairy farms are relatively less sensitive to feed price hikes compared to poultry farms, higher prices still affect their bottom line. For example, assuming an average milk solids conversion of 100 gMS/kgDM fed and a milk solids price of \$8.00/kg, each kilogram of supplement fed generates a milk return of \$0.80. If the supplement costs \$0.40/kgDM (\$400/tDM) fed the return is \$0.40 or 50%. If the supplement rises to \$0.60/kgDM (\$600/tDM) fed, the return drops to \$0.20 or 25%. High supplement prices can therefore make supplement use less profitable or even unprofitable.

The second concern is around supply. We found that the importers we interviewed felt confident of continued access to supplies, however this could come at a higher cost.

If there is another 'perfect storm' of the factors above – as we have seen in recent years – then shortages would have severe implications. For instance, chicken and egg supplies would be critically limited since they cannot be imported. The dairy sector would face a shortfall of about 2.8 million tonnes of feed annually, equating to the requirements of 11% of the national herd, and there would be potential logistics issues in culling livestock in a sudden loss of supply.

## What is the bottom line?

Our livestock sectors are exposed to the risk of supply and price issues for imported feed. While the risk is low-moderate, the impact could be significant and we should be taking steps to mitigate this risk.

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### Additional information:

- [Impact of Imported Feed Shortages](#) project page
- [Reducing the reliance of New Zealand livestock systems on internationally produced feed](#) presentation
- [Implications of global price and supply of supplementary feeds on the New Zealand agricultural sector](#) report

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