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Report Highlights:

New Zealand is expected to have already reached “peak” cattle numbers, and FAS/Wellington anticipates a very gradual decline in both dairy and beef cow numbers in the near future. One of the major influences on this is New Zealand governmental policy, and in particular regulations regarding livestock exclusion around certain water sources, as well as proposed pricing of agricultural emissions. In 2023, FAS/Wellington is forecasting a less than 1 percent decrease to the national slaughter numbers, and beef production is forecast to ease a similar amount. In 2022, slaughter pace has been slowed by Covid-19 outbreaks, but processing companies are running their plants for longer into the winter to clear the backlog.

Executive Summary:
New Zealand is expected to have already reached "peak" cattle numbers, and FAS/Wellington anticipates a very gradual decline in both dairy and beef cow numbers in the near future. One of the major influences on this is New Zealand governmental policy, and in particular regulations regarding livestock exclusion around certain water sources, as well as proposed pricing of agricultural emissions. 2022 saw the release of New Zealand's first Emissions Reduction Plan and a recommendation from the Primary Sector Climate Action Partnership for pricing on-farm emissions from 2025. After implementation this will likely have a long-term effect on the New Zealand livestock industry, especially around future land use.

In 2023, FAS/Wellington is forecasting a less than 1 percent decrease to the national slaughter numbers, and beef production is forecast to fall a similar amount. The projection of a third straight La Niña weather pattern causing continued dry conditions, coupled with very high on-farm inflation potentially impacting feed availability, is expected to curtail any increase in carcass weights.

In 2022, the New Zealand pastoral livestock farming sector has faced two major challenges, which occurred together at a crucial time for the slaughter of livestock during the peak period from March to May (autumn/fall). An extended dry fall period in key parts of the North and South Islands reduced feed availability and limited the ability of producers to hold stock on-farm without harshly impacting crucial feed reserves. This created strong demand for slaughter, but at this time there was an explosion of Covid-19 cases throughout the country. This had a significant impact at processing due to reduced staff availability, resulting in a slowdown at slaughter facilities and these facilities prioritizing certain animals for slaughter. This created a severe backlog, but processing facilities have been operating later into the winter and winter kill numbers are significantly higher than in typical years. As a result, both beef production and exports are not expected to see as steep of seasonal declines this year as is usual.

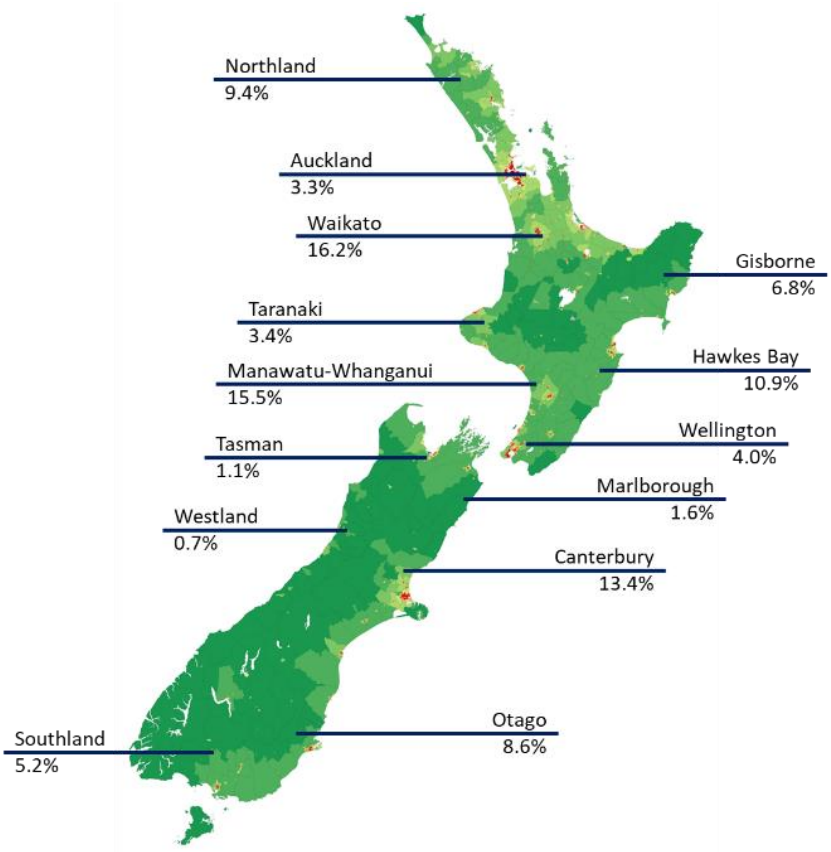
Note: the marketing year (MY) is the calendar year; the MY 2022 is shown as 2021. Some of this data included in this is not official USDA data. Official USDA data is available at: https://apps.fas.usda.gov/psdonline

Overview of New Zealand Cattle Sector

New Zealand is a major beef producer and exporter, and typically is the sixth largest exporter in the world. The beef herd is spread out throughout the country, with 70 percent is situated in the North Island and 30 percent in the South Island (see Figure 1). The New Zealand cattle sector is unique because of its integration with the huge dairy industry, and approximately 70 percent of the adult cattle slaughtered each year (and essentially 100 percent of the calves slaughtered) have their origin in the dairy industry. Of the animals raised specifically for beef, many of them are dairy breeds or crosses (see Figure 2).

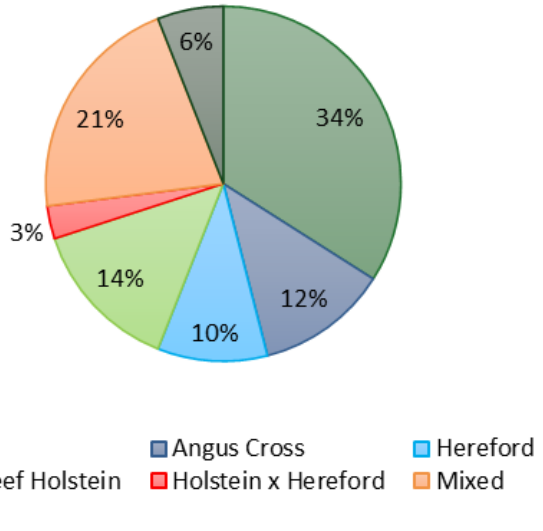
With New Zealand's temperate climate, beef cattle production is almost entirely from pastural grazing, with only one major feedlot located in Canterbury. As a result, the vast majority of exports are grass-fed beef. Because of the fact that the beef industry is pasture-based and the dairy industry has a huge contribution to beef production (for example culled dairy cows), the result is that slaughter, beef production, and beef exports are highly seasonal in New Zealand. These peak before the winter in May and June, and then fall sharply until recovering in November and December with the onset of summer.

Figure 1 – Beef Cattle Distribution



Source: StatsNZ

Figure 2 – Beef Cattle Breeds

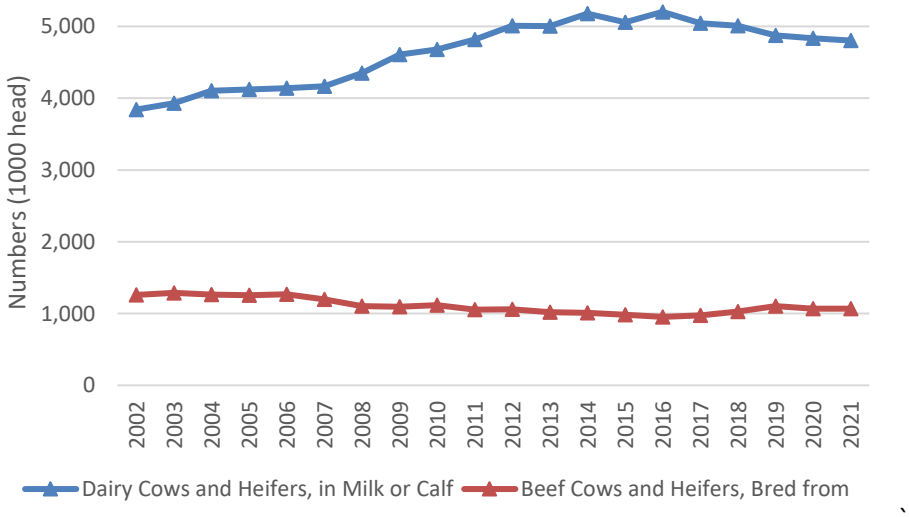


Source: Beef and Lamb NZ

New Zealand Herd Size

New Zealand cattle numbers (both dairy and beef) are believed to be in a process of gradual decline. This had been occurring for a number of years with dairy numbers, but is also expected to start to be the case with beef numbers (see Figure 3). FAS/Wellington is predicting the national cattle herd will continue to slowly shrink in 2023. In the last 10 years the New Zealand cow herd (dairy and beef combined) peaked over 6.1 million in 2015 and 2016. Since that time overall combined numbers have decreased slowly by a rate of 0.79 percent per year.

Figure 3 – New Zealand Cattle Numbers



Source: StatsNZ

Although currently cattle and beef prices are high, a number of factors including dry weather and sharply rising input prices are impacting farmers' decisions. However, a key factor that is expected to drive this gradual reduction in cattle numbers are environmental regulations. The key regulations impacting the sector include:

Resource Management (Stock Exclusion) Regulations 2020: These regulations came into force on September 3rd, 2020. In summary these regulations state that cattle, deer and pigs that are intensively grazing on any terrain are required to be excluded no closer than 3 meters to the edge of the bed of a lake or wide river (defined as wider than 1 meter anywhere in a land parcel).

National Policy Statement for Freshwater Management 2020 (NPSFM): This statement sets out the objectives and policies for freshwater management under the Resource Management Act 1991 and also came into effect on September 3rd, 2020. The purpose of these regulations are to mitigate against the risk of sediment loss, phosphate runoff, nitrogen leaching and E.coli. The biggest impact for cattle is that it regulates by 2025 the exclusion of cattle from permanent and ephemeral waterways and the management of winter forage crops (intensive grazing). Historically, one of pastoral New Zealand agriculture major strengths has been the natural asset for stock to access clean drinking water. As a result of these plans, the capital cost that will occur for farmers to implement permanent fencing and re-subdivision of properties, including to implement reticulated water schemes, will be substantial. This will no doubt become a tipping point to the long-term feasibility of extensive pastoral operations, including cattle, where most of the New Zealand beef production is derived.

New Zealand's First Emissions Reduction Plan: Released in May 2022, this plan highlighted that agriculture is the country's largest contributor of emissions. Approximately 94 percent of nitrous oxide emissions and around 91 percent of biogenic methane emissions are from agriculture in New Zealand. Three-quarters of agricultural emissions are biogenic methane emitted from livestock, followed by nitrous oxide from fertilizer use. The report highlighted four focus points:

1. Price agricultural emissions by 2025.
2. Accelerate new mitigations.
3. Support producers to make changes.
4. Transition to lower-emissions land use and systems.

In response, in June 2022 the New Zealand Primary Sector Climate Action Partnership – He Waka Eke Noa (HWEN) - released their recommendation report. It included the recommendation for a farm-based levy for agricultural emissions, with separate charges for the short-lived (methane) and long-lived (nitrous oxide and carbon dioxide) gases. Included in the levy calculations are the recognition of sequestration of native plantations and retired farmland such as waterway exclusions, contributing to reducing the costs of the levy. According to industry contacts, this agricultural emissions pricing could realistically result in a significant number of farms exiting red meat systems for alternative lower-

methane-emitting land uses. There has already been some shifting of hill country grazing land into forestry, and this trend could continue.

Cattle Slaughter

2023

FAS/Wellington forecasts the total cattle slaughter at 4.55 million head, which would be a less than 1 percent decrease on the total kill estimate for 2022 at 4.58 million head. This includes small declines in both cow slaughter and other slaughter (bull, heifer, and steers). The primary rationale behind this decline in slaughter is the overall gradual reduction in the herd size. As explained, part of this is due to continued land-use change as a result of environmental regulations and as agricultural emission pricing looms closer in 2025. Land classifications limit the option for land-use change to mainly forestry on particularly marginal land currently used for pastoral grazing. Industries bodies are concerned increasing regulatory requirements from the Government, such as freshwater and biodiversity rules, will stretch farmers financially even further. As a result, the future planting of forestry on marginal classed land will likely result in a permanent reduction of national beef numbers in the coming years.

FAS/Wellington forecasts calf slaughter to remain steady at 1.85 million head. However, there is expected to be a shift into when calves are slaughtered, with some expected to start to be slaughtered at older ages. Currently, non-replacement dairy calves are typically either euthanised on farm or killed for veal in early spring (August-October). However, new Zealand's largest dairy processor has reportedly added key clauses into their Terms of Supply, where calves of farmers that supply milk to this processor can only be euthanised on-farm when there are humane reasons for doing so. In addition, starting in June 2023, all of these farms must ensure all non-replacement calves enter a value stream - either to be grown out for beef, or slaughtered for calf-veal or petfood. As a result, there are currently large investments and programs being carried out to develop opportunities and partnerships for dairy-beef animals. This reduction in slaughter of very young dairy calves means that there will be even more dairy-breed cattle as a proportion of the beef herd. Expectations are that this will result in a change of breeds but not necessarily have a significant impact on national numbers.

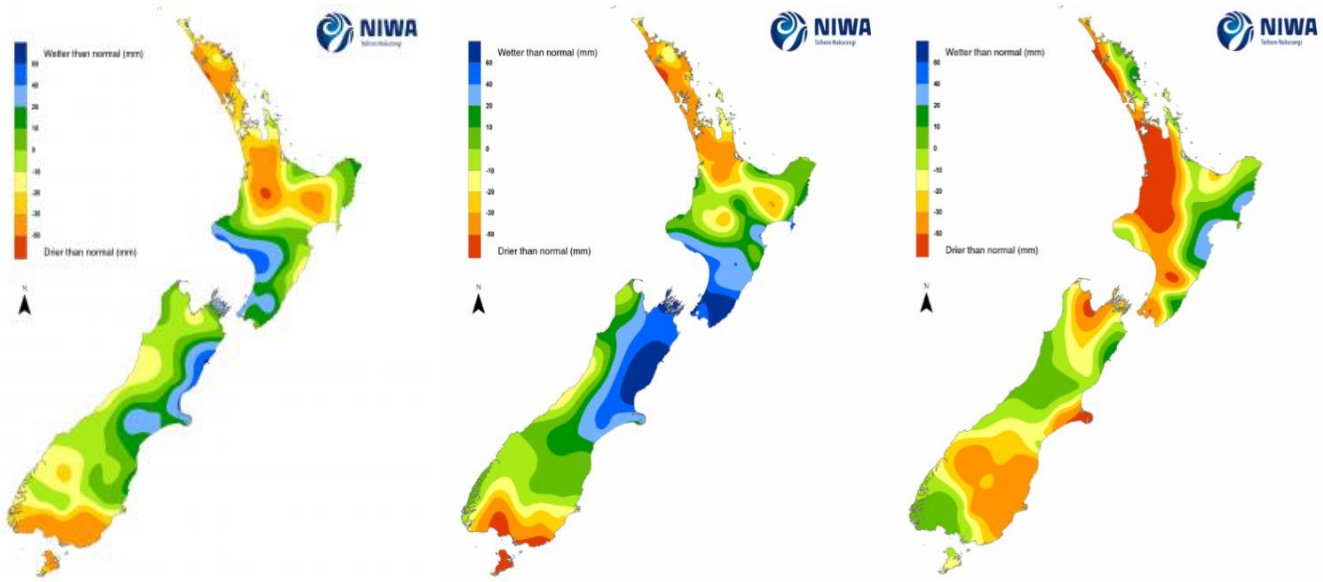
2022

FAS/Wellington's estimate for 2022 cattle slaughter remains unchanged at 4.58 million tons. This 2022 slaughter forecast is about 3 percent below the record 2021 slaughter. A key reason for this decline is a return to more normal levels of slaughter as 2021 slaughter was elevated due to higher calf retentions in 2019.

During the first half of 2022, cow slaughter was 12 percent lower than the same period in 2021, and other adult slaughter was 6 percent lower. This sharp decline in slaughter was caused by a perfect storm as a La Niña weather pattern and prolonged dry weather (Figure 4) coincided with the inevitable upsurge in Covid-19 cases (Figure 5). This upsurge in cases impacted livestock logistics and processing facilities nation-wide at a time when bottlenecks at processing are already a seasonal occurrence across all

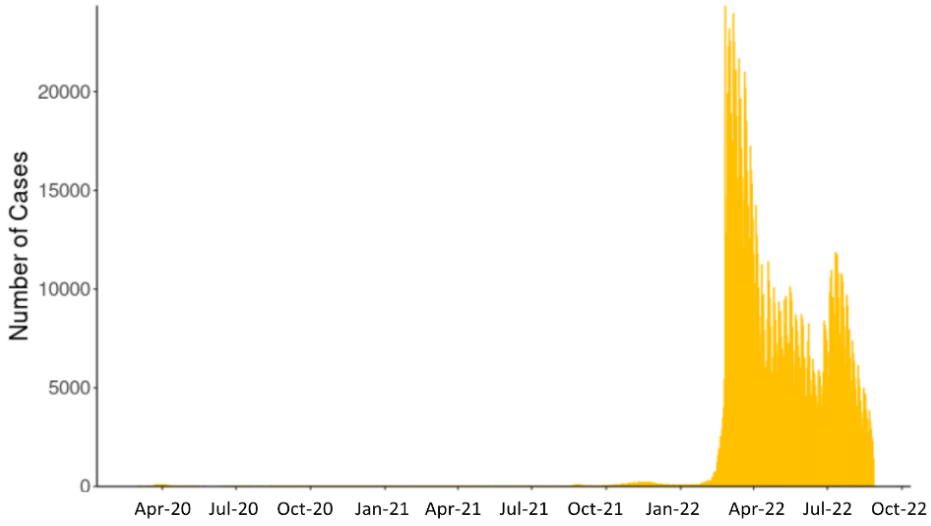
livestock species (sheep, beef, dairy, and venison). Most slaughtering plants nation-wide had significantly reduced capabilities as a result of Covid-19-related staff absences (Figure 5). Unfortunately, these processing delays occurred at a time when many farming operations (particularly in the South Island) were running out of livestock feed and limited ability to hold stock on farm without harshly impacting crucial feed reserves.

Figure 4 – Soil Moisture Levels in January, March and May



Source: NIWA Note: Dark blue Indicates wetter than normal while red indicates drier than normal

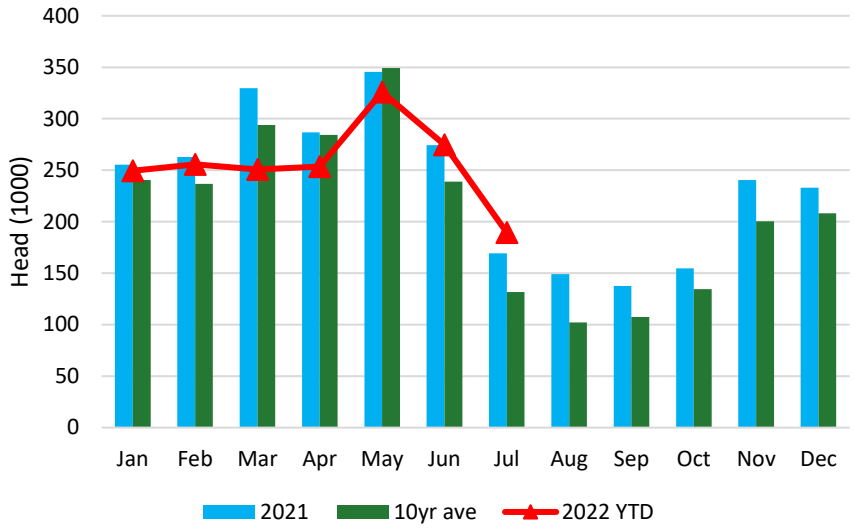
Figure 5 – New Zealand COVID-19 Cases



Source: Ministry of Health

This impact on processing numbers was especially stark from March to May (see Figure 6) and these are typically the largest slaughter months of the year. Many livestock slaughtering companies seemed to prioritize the dairy cow and lamb kill over this period, rather than beef animals.

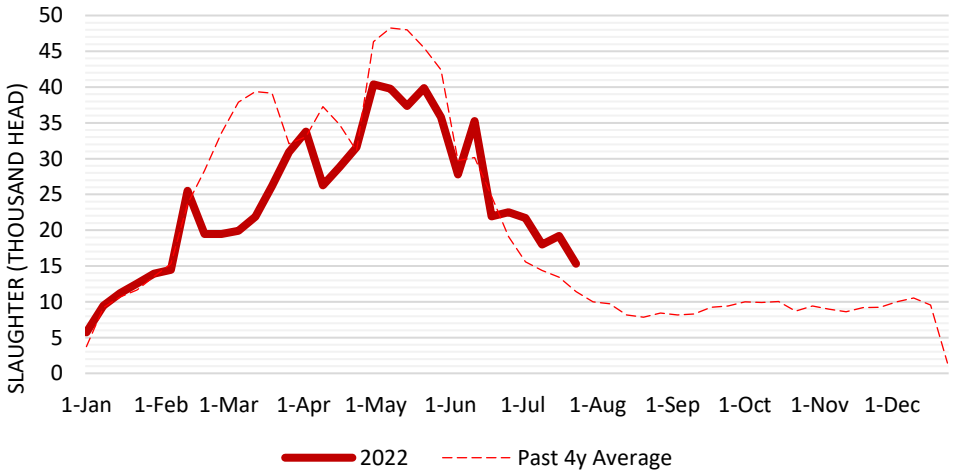
Figure 6 – New Zealand Adult Cattle Slaughter Numbers



Source: StatsNZ

Feedback from industry contacts is that with the decline in Covid-19 cases in New Zealand, processors are prolonging plant operation capacity through the winter months (June-August). As seen in Figure 6, typically low numbers are processed in these months as plants conduct routine maintenance during this time and demand for slaughter is low. With the prolonging of slaughter chains operating, a lift in slaughter numbers has occurred over July and August, helping to clear the backlog of stock. This is illustrated by data from the New Zealand Meat Board (see Figure 7), which shows cow slaughter being above last year and the four-year average in July. This extended slaughter season is expected to allow slaughter to reach the FAS/Wellington estimate.

Figure 7– Weekly New Zealand Cow Slaughter Numbers



Source: NZ Meat Board

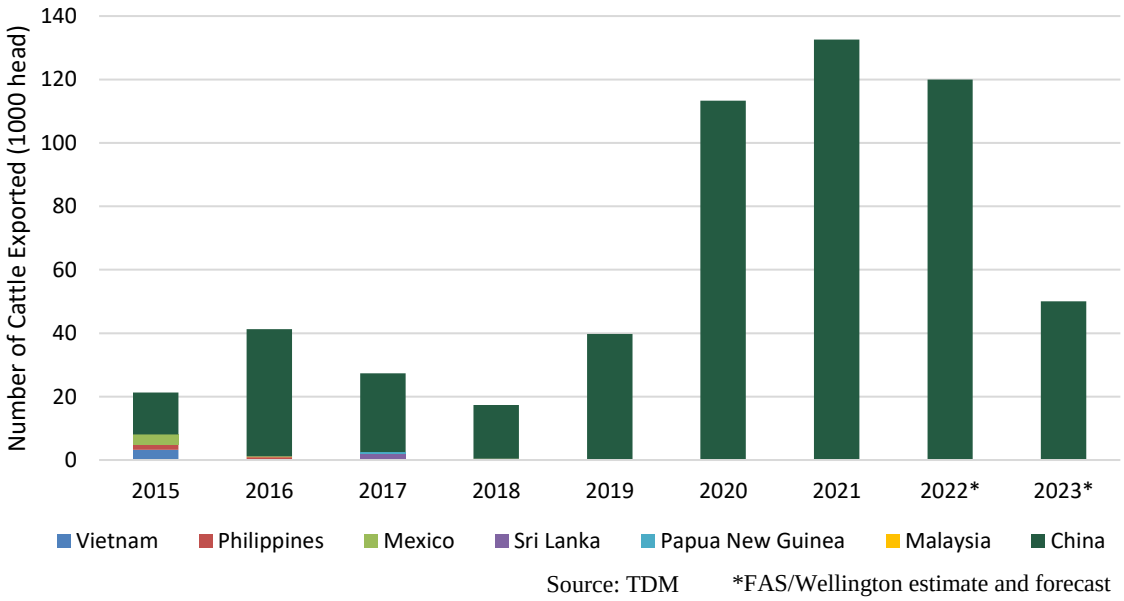
Cattle Exports

FAS/Wellington forecasts live cattle exports in 2023 to decrease to 50,000 head, compared to the revised estimate of 120,000 in 2022. New Zealand's Ministry for Primary Industries (MPI) announced in July 2021 that all exports of livestock by sea would cease on April 30, 2023. This decision followed the sinking of the vessel Gulf Livestock 1 in August 2020 after departing Napier destined for China. Because of robust demand from China, it is expected that live cattle exports will continue steady in early 2023 until this cessation date.

FAS/Wellington has revised down the 2022 live cattle export estimate to 120,000 head, slightly below the record 133,000 head exported in 2021. This downward revision is a result of a slower pace of exports expected later in the year. January-July exports in 2022 were 62,000 head, all to China, steady from the same period last year (60,000 head). 2022 shipments volumes would have been even higher except it was reported that a shipment of 12,000 animals in April was scraped as a result of the vessel never arriving in port.

Since January 2015 New Zealand has exported over 450,000 live cattle on 87 vessels, of which to date 80 of the vessels end port was in China (Figure 8). A majority of live export infrastructure in New Zealand is pre-export isolation (PEI) facilities. These privately-owned operations are set up to feed cattle primarily a total mixed ration (TMR) diet. With the end of live exports, these operations are expected to re-purpose to focusing on utilizing assets for finishing marbled beef breeds such as Wagyu.

Figure 8 – New Zealand Live Cattle Exports by Destination



Source: TDM *FAS/Wellington estimate and forecast

Animal Numbers, Cattle	2021		2022		2023	
Market Year Begins	Jan 2021		Jan 2022		Jan 2023	
New Zealand	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Total Cattle Beg. Stks (1000 HEAD)	10083	10083	10150	10150	0	10071
Dairy Cows Beg. Stocks (1000 HEAD)	4836	4836	4846	4846	0	4825
Beef Cows Beg. Stocks (1000 HEAD)	1067	1067	1041	1041	0	1020
Production (Calf Crop) (1000 HEAD)	5183	5183	5121	5121	0	5050
Total Imports (1000 HEAD)	0	0	0	0	0	0
Total Supply (1000 HEAD)	15266	15266	15271	15271	0	15121
Total Exports (1000 HEAD)	133	133	140	120	0	50
Cow Slaughter (1000 HEAD)	1028	1028	1015	1015	0	1005
Calf Slaughter (1000 HEAD)	1892	1892	1850	1850	0	1850
Other Slaughter (1000 HEAD)	1810	1810	1715	1715	0	1700
Total Slaughter (1000 HEAD)	4730	4730	4580	4580	0	4555
Loss and Residual (1000 HEAD)	253	253	480	500	0	500
Ending Inventories (1000 HEAD)	10150	10150	10071	10071	0	10016
Total Distribution (1000 HEAD)	15266	15266	15271	15271	0	15121
(1000 HEAD)						

Beef Production

2023

FAS/Wellington forecasts New Zealand beef production in 2023 to decline slightly to 720,000 metric tons (MT) carcass-weight equivalent (CWE), less than 1 percent down from the estimate of 725,000 MT in 2022. This small reduction is a result of the lower expected adult slaughter, as well as the anticipation that slaughter weights will be similar to 2022 levels (which were down slightly from the record 2021 production year).

Any increase in slaughter weights is expected to be tempered by a couple of major factors. First is the National Institute of Water and Atmospheric research (NIWA) is already predicting a third consecutive La Niña weather pattern. Typically, these patterns only happen every three to five years. If this forecast is realized, it is expected to result in the same pressure in the South Island on managing feed reserves before winter and a similar fall 'bottle neck' at slaughtering facilities nation-wide. The impact on carcass weight would likely be seen in the fall kill as a result of farms off-loading slaughter stock at lighter weights in order to prioritize feed for breeding stock.

The second impact is the rising cost of inputs. Beef & Lamb NZ reported in June 2022 that on-farm inflation in New Zealand is at its highest in 40 years. While the New Zealand Consumer Price Index (CPI) at the time of this report had gone up over 7 percent, the latest on-farm inflation rate hit 10.2 percent. Rising input costs are anticipated to have an impact on carcass weight as farmers prioritize feed to breeding stock and limit spending on urea (fertilizer). In the last 12 months the price of urea has doubled to over US$850/MT in New Zealand. Nitrogen fertilizer historically has been used as a discretionary tool for building feed reserves in periods of high pasture growth rates. In addition, the price of diesel has also jumped sharply. As a result of these costs, the major impact to agriculture will be

seen in the increased costs to key pastoral farming operations such as cropping, production of feed supplements, and logistics/transport. This could limit feed availability and cause a prioritization of winter feed for primarily breeding stock, negatively impacting growth rates of finishing beef animals.

2022

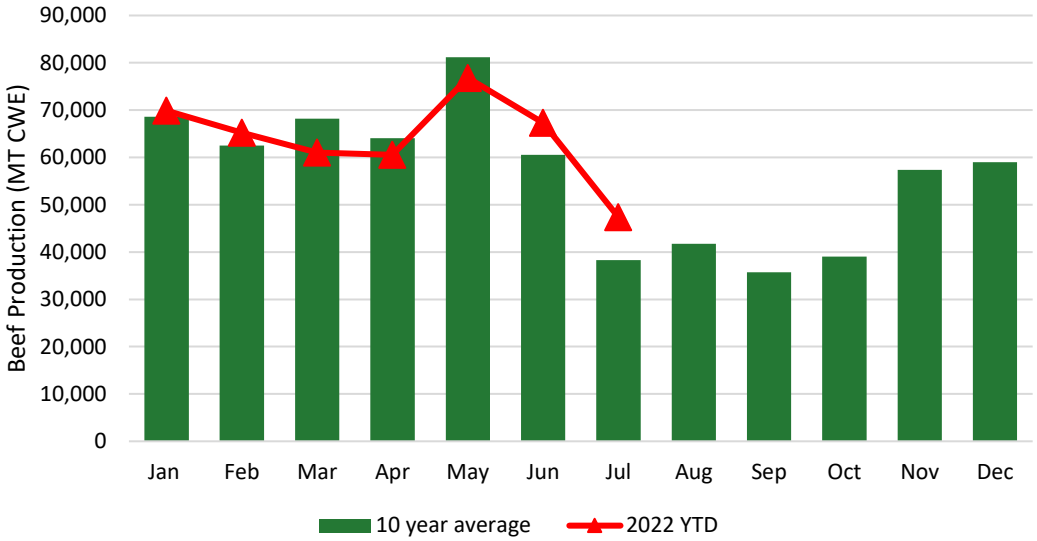
FAS/Wellington's estimate for New Zealand beef production in 2022 is unchanged at 725,000 MT. This is down from the record 2021 production as a result of fewer slaughter numbers as well as lower carcass weights.

As explained, slaughter in New Zealand has also been delayed because of the impact of Covid-19 which caused staffing shortages on processing facilities. As a result, there is expected to be a prolonging of operation for the major processors, and beef production in the winter months has not fallen as fast as in typical years (see Figure 9 for June and July figures).

The lower carcass weight in 2022 compared to 2021 is a result of dry conditions. As shown in Figure 4, much of the east of the southern alps and east coast farming regions in both islands began the year with soil moisture deficits. The Gisborne and Hawkes Bay regions recovered late-summer/early-fall. However, the lower South Island regions, and the Manawatu and Waikato regions in the North Island remained at deficit very late into fall, greatly reducing pasture growth rates and limiting winter feed availability.

With the improvement of technology and working conditions for staff, a growing sentiment amongst meat processors is towards whole-year linear production. The goal would be to flatten the peaks in slaughter (seen in Figure 9) and have it spread out over the winter and early spring months (July to October). One of the benefits of this would be to help keep skilled staff in fulltime employment at meat processors, especially as there continues to be a shortage of labor in New Zealand and strong demand for labor from other industries. In order to accomplish this, winter premiums for growers would be created to help ensure availability of animals for slaughter during these typical low slaughter months.

Figure 9 – Seasonal New Zealand Beef Production



Source: StatsNZ

With the changing requirements of non-replacement dairy calves entering a value-stream, research and development is also being conducted around the opportunity to slaughter what is being termed as 'rose veal'. These are dairy-beef cattle slaughtered at ~100kg CWE around 6-12 months of age. Currently research being carried out is focused on markets, processing techniques and suitability of breeds. However, processors see this still as niche work and require appropriate market signals before capital will be made available to upgrade facilities to accomplish this.

Domestic Consumption

FAS/Wellington forecasts domestic beef consumption in New Zealand in 2023 at 90,000 MT CWE, down slightly from 2022. Domestic consumption only accounts for a small part (11.2 percent) of national production. Along with the rest of the world, New Zealand consumers are experiencing price inflation and as a result this is expected to limit any growth of beef consumption, and instead encourage consumption of lower-cost animal proteins such as chicken. The FAS/Wellington estimate for 2022 is lowered slightly to 95,000 MT CWE, because of the slow pace of beef imports.

Exports and Trade

Beef Exports

2023

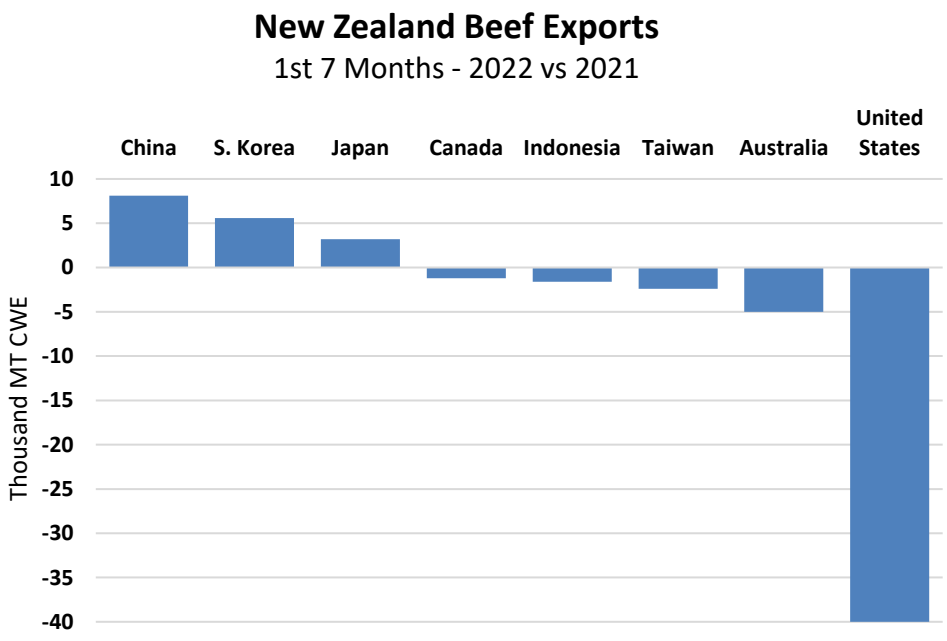
FAS/Wellington forecasts 2023 beef exports at 640,000 MT CWE, unchanged from the 2022 estimate. Despite slightly lower beef production, the combination of expected continued high export beef prices, improved export logistics, and a weak New Zealand dollar are all anticipated to encourage exports.

2022

FAS/Wellington's estimate for 2022 beef exports is unchanged at 640,000 MT CWE. If realized this would be down six percent from the record 2021 exports. Exports through July are down eight percent from the same period last year, however, because of the delayed cow slaughter, beef exports are anticipated to be stronger than usual during winter and some spring months. For example, New Zealand beef exports typically drop around 20 percent from June to July, however in 2022 this decline was much less at only about seven percent.

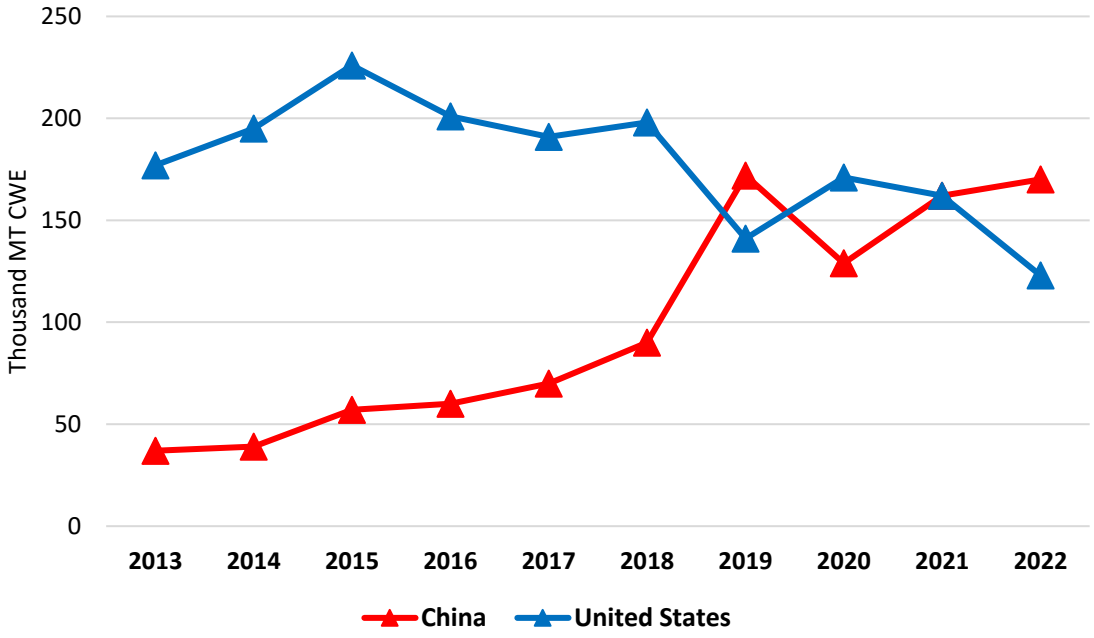
The entire decline in overall beef exports so far in 2022 can be accounted for in sharply lower shipments to the United States (down 24 percent). There have been export declines to other destinations such as Australia, but nothing near to the drop to the United States (see Figure 10). New Zealand grass-fed lean beef primarily goes to the United States as manufacturing beef for mixing with U.S. fat trimming in ground beef production. However, this year because of severe drought in key Western livestock producing regions, U.S. cow slaughter has been at extremely high levels as producers destock as a result of tight feed supplies. Industry sources indicate that this has temporarily boosted domestic U.S. production of lean beef, thereby reducing demand for imported manufactured lean beef. In fact, U.S. imports of New Zealand beef in the first half of 2022 have been at the lowest level at this point in the year since 1986.

Figure 10 – Change in New Zealand Beef Exports by Destination



Source: Trade Data Monitor

Figure 11 – New Zealand Beef Exports – January to July



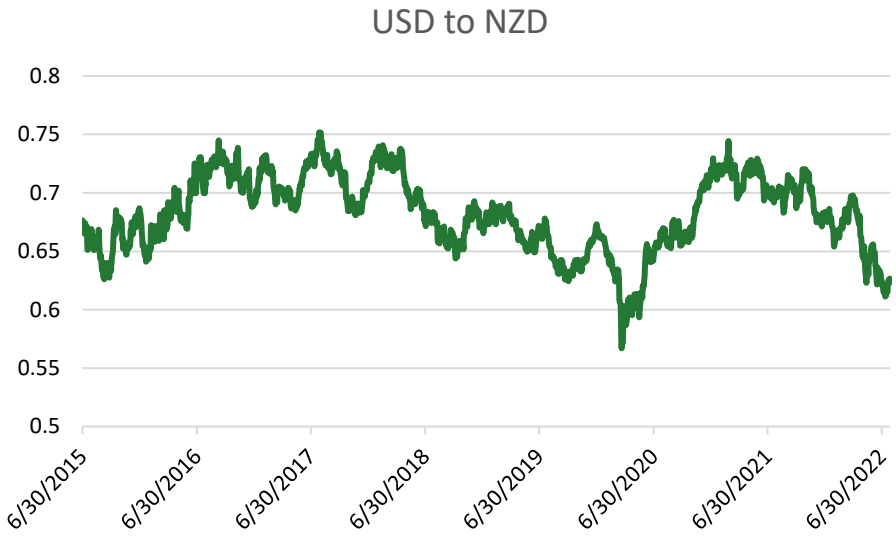
Source: Trade Data Monitor

Partially offsetting lower exports to the United States have been stronger exports to China, South Korea and Japan. China remains the largest market for New Zealand beef, and exports are up 8 percent so far in 2022 (see Figure 11). During this period 41 percent of all of New Zealand's beef exports went to China.

New Zealand ports have been heavily impacted by the global supply chain disruptions caused by the Covid-19 pandemic. A CEO of a key New Zealand port stated at an industry conference that the industry should not expect for pre-pandemic normality to be seen in the supply chain again until at least until 2024. Also being experienced now is that the vessel calls to more rural supply New Zealand ports (Timaru, Napier, New Plymouth, Dunedin, and Tauranga), although less frequent, are carrying twice to three times the Twenty-foot Equivalent Unit (TEU) capacity than what was typical pre-pandemic. As a result, the supply chain and regions should anticipate more impacts on infrastructure and demand for containers due to peaks in demand to fill larger container vessels as they arrive.

New Zealand exporters continue to benefit from a weaker New Zealand dollar vis-à-vis the U.S. dollar. This has helped New Zealand beef remain competitive in overseas markets (see Figure 12). However, the flip side of this is since much of the farm inputs such as fertilizer and fuel are imported, this weak New Zealand dollar also increases these costs for farmers.

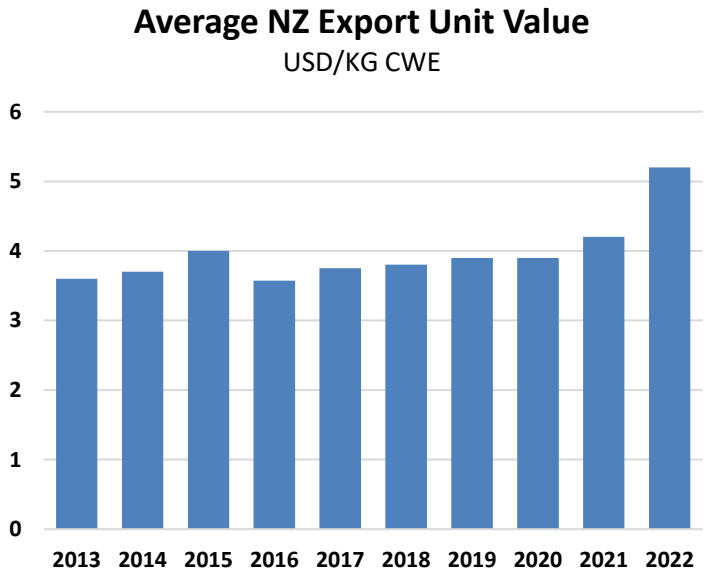
Figure 12 – USD to NZD exchange rate



Source: Wall Street Journal

New Zealand beef export prices have been up sharply over recent years (see Figure 13), and high prices are expected to continue to encourage exports.

Figure 13 – New Zealand Beef Export Prices



Source: Trade Data Monitor

Free Trade Agreements – European Union and United Kingdom

During the first half of 2022, New Zealand concluded negotiations on two separate Free Trade Agreements (FTA), one with the United Kingdom (UK) and one with the European Union (EU). The purpose of these FTAs is to provided tariff relief and/or expanded quotas for a number of New Zealand agricultural products including horticulture, seafood, dairy, and meat products. It is expected that signatures of these FTAs will take place in 2023, and domestic formal approval of the agreements to likely occur in 2024.

The proposed changes are:

- **UK:** A quota of 12,000 MT on entry, growing to 38,820 MT in equal annual instalments until tariffs are eliminated after 10 years. Following this there will be a safeguard trigger quantity of 43,056 MT in year 11, increasing in equal annual installments to 60,000 MT in year 15. Starting in year 16 no safeguard can be applied.
- **EU:** New Zealand's beef access will increase with the introduction of a new FTA quota phasing from 3,333 MT to 10,000 MT seven years after entry.

Although the New Zealand beef industry in general was pleased with the results of the UK FTA, many had hoped for greater gains in access than were realized as part of the EU FTA.

Beef Imports

New Zealand imports a relatively small amount of beef, almost entirely from Australia. FAS/Wellington forecasts 2023 imports at 10,000 MT CWE, the same as the revised 2022 number.

Meat, Beef and Veal	2021		2022		2023	
Market Year Begins	Jan 2021		Jan 2022		Jan 2023	
New Zealand	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Slaughter (Reference) (1000 HEAD)	4730	4730	4580	4580	0	4550
Beginning Stocks (1000 MT CWE)	0	0	0	0	0	0
Production (1000 MT CWE)	754	754	725	725	0	720
Total Imports (1000 MT CWE)	10	10	12	10	0	10
Total Supply (1000 MT CWE)	764	764	737	735	0	730
Total Exports (1000 MT CWE)	682	682	640	640	0	640
Human Dom. Consumption (1000 MT CWE)	82	82	97	95	0	90
Other Use, Losses (1000 MT CWE)	0	0	0	0	0	0
Total Dom. Consumption (1000 MT CWE)	82	82	97	95	0	90
Ending Stocks (1000 MT CWE)	0	0	0	0	0	0
Total Distribution (1000 MT CWE)	764	764	737	735	0	730
(1000 HEAD) ,(1000 MT CWE)						

Attachments:

No Attachments