

**Voluntary Report** – Voluntary - Public Distribution

**Date:** February 09, 2023

**Report Number:** NZ2023-0003

**Report Name:** New Zealand Grain and Feed Market Situation

**Country:** New Zealand

**Post:** Wellington

**Report Category:** Agricultural Situation, Grain and Feed

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**Report Highlights:**

New Zealand grain and feed import volumes in 2022 rose to the highest level ever, importing 3.7 million metric tons (MMT), up 13 percent from the previous year. National grain and feed demand continues to outstrip domestic supply by nearly double, with New Zealand producing 2.1 MMT in 2022, but consuming an estimated 5.8 MMT. Dairy farming continues to dominate as the largest consumer, accounting for about 75 percent, followed by poultry (12 percent) and then human consumption (nine percent). Strong recent record milk prices have stimulated demand from the dairy industry in order to boost production. For human consumption, and processing, New Zealand produces milling wheat, oats, and malting barley, but also still imports milling wheat sourced from Australia, its closest neighbor.

### **Executive Summary:**

New Zealand grain and feed import volumes in 2022 rose to the highest level ever, importing 3.7 million metric tons (MMT), up 13 percent from the previous year. National grain and feed demand continues to outstrip domestic supply by nearly double, with New Zealand producing 2.1 MMT in 2022, but consuming an estimated 5.8 MMT. Dairy farming continues to dominate as the largest consumer, accounting for about 75 percent, followed by poultry (12 percent) and then human consumption (nine percent). Strong recent record milk prices have stimulated demand from the dairy industry in order to boost production.

For human consumption, New Zealand produces milling wheat, oats, and malting barley, but also still imports milling wheat sourced from Australia, its closest neighbor. For the livestock industry New Zealand produces large volumes of corn silage, as well as grain corn, feed wheat, feed barley and feed oats. Despite this production, because of the large number of livestock animals, New Zealand is very reliant on large quantities of grain and feed imports.

Palm Kernel Extract (PKE) continues to be the largest imported feed (54 percent of imports), sourced from Indonesia and Malaysia, destined specifically for the dairy sector. In addition, Distiller's Dried Grains with Solubles (DDGS) is a high growth import market from the United States, as well as soybean meal from South America.

Grain and feed imports in New Zealand are heavily driven by the returns of the dairy and poultry industry, which in recent years have seen unprecedented farm gate prices for products. However, because of rising inflation for farm inputs (including fertilizers and fuels), many analysts are concerned that any future downturn in livestock product prices could see many New Zealand operations try to reduce costs, possibly impacting grain and feed import demand.

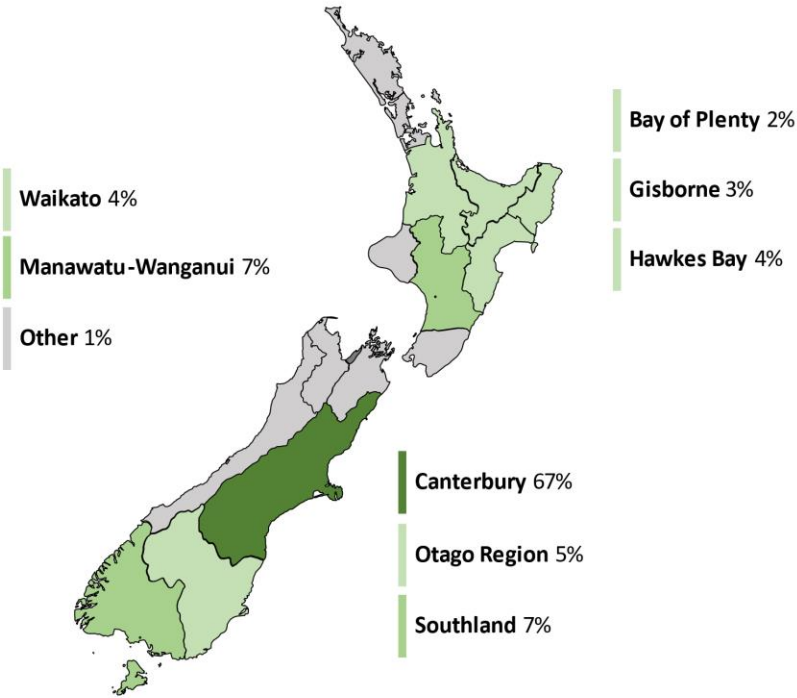
*Note: The GAIN Marketing Year (MY) is the same as the calendar year (CY), January 1 to December 31. For the purpose of this report always refer to MY unless otherwise stated. For foreign exchange rate between New Zealand Dollar and United States Dollar, the rate used in this report is NZ\$ 1.00 = US\$ 0.65.*

### **Background**

Arable farming in New Zealand is spread across the country on approximately 170,000 hectares, with the bulk of production focused in Canterbury on the South Island. Other key areas are Southland on the South Island, and Manawatu, Hawke's Bay, Wairarapa, and Waikato in the North Island (Figure 1). A large majority of arable hectares are irrigated on very fertile soil, and as a result climatic conditions such as droughts have less impacts on yields when compared to many other grain-growing countries. Also, farmers in New Zealand (and Canterbury in particular), often set world records for wheat yields.

As a result of a small landmass and varied topography, New Zealand has a far smaller grain industry than its neighbor – Australia. New Zealand produces only a very tiny amount of feed for export, while domestic demand continues to greatly outstrip domestic supply.

**Figure 1: Distribution of New Zealand Arable Farming Regions**



Source: StatsNZ and FAS/Wellington

Although small scale in landmass compared to other major crop growing countries, New Zealand has established itself as a major producer of a variety of crops for specialty seed markets globally, including seed production for radish, carrots, clover, and rye grass. For these seed crops, New Zealand benefits from having counter-seasonal production to the Northern Hemisphere, as well as that seed producing farmers can be relatively geographically isolated, reducing seed contamination.

**Production**

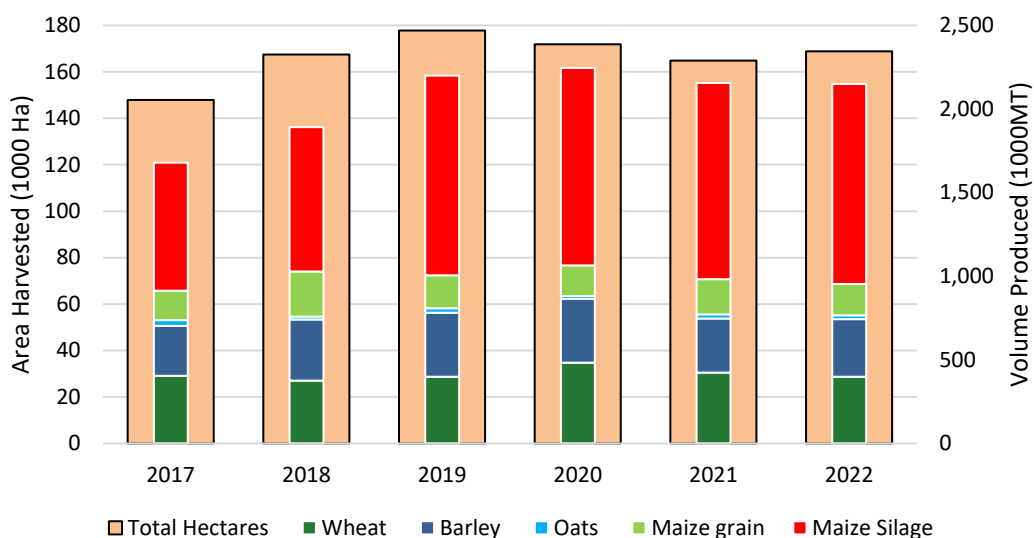
Over the last six years, New Zealand has produced on average 2 MMT per annum of grain and corn silage, of which only on average nine percent is used for milling or malting (human consumption).

Since 2017, grain and corn cropping areas in New Zealand have increased from 147,938 hectares to 168,789 hectares in 2022. There is still area for arable hectares to expand, however, the major land use competition continues to be pastoral dairy farming.

In 2022, the total national grain and feed yield for crops as reported by Foundation for Arable Research (FAR) was 2.1 MMT, which was marginally less than 2021. In 2022, there was a slight decrease in

average yields of most crops on a per hectare basis, but this was offset by additional planted acreage, stimulated by strong grain and milk prices. Although overall grain and feed production was largely stable, there was a strong reduction in the volume suitable for human consumption. As a result of summer rain experienced in some growing regions around harvest, a large amount of wheat and barley crops did not make grade for milling or malting, and therefore was repurposed for feed (Table 1).

**Figure 2: National Grain & Feed Production**



Source: Foundation for Arable Research Arable Industry Marketing Initiative (FAR/AIMI)

**Table 1: New Zealand Grain and Maize Silage Production**

	Total Yield (MT)			Area (Ha)			Yield (MT/Ha)		
	2021	2022	Variance	2021	2022	Variance	2021	2022	Variance
<b>Milling Wheat</b>	103,680	65,752	-37,928	11,798	7,694	-4,104	8.8	8.5	-0.2
<b>Malting Barley</b>	60,835	38,512	-22,323	7,643	5,618	-2,025	8.0	6.9	-1.1
<b>Milling Oats</b>	13,293	14,455	1,162	1,966	2,429	463	6.8	6.0	-0.8
<b>Total Processing grain (T)</b>	177,808	118,719	-59,089	21,407	15,741	-5,666	8.3	7.5	-0.8
<b>Feed Wheat</b>	319,120	333,028	13,908	31,702	33,950	2,248	10.1	9.8	-0.3
<b>Feed Barley</b>	264,265	305,270	41,005	36,557	43,418	6,861	7.2	7.0	-0.2
<b>Feed Oats</b>	11,512	10,017	-1,495	2,157	1,747	-410	5.3	5.7	0.4
<b>Maize Grain</b>	209,300	187,007	-22,293	17,500	16,667	-833	12.0	11.2	-0.7
<b>Maize Silage</b>	1,172,597	1,194,914	22,317	55,522	57,266	1,744	21.1	20.9	-0.3
<b>Total Feed Grain (T)</b>	1,976,794	2,030,236	53,442	143,438	153,048	9,610	13.8	13.3	-0.5

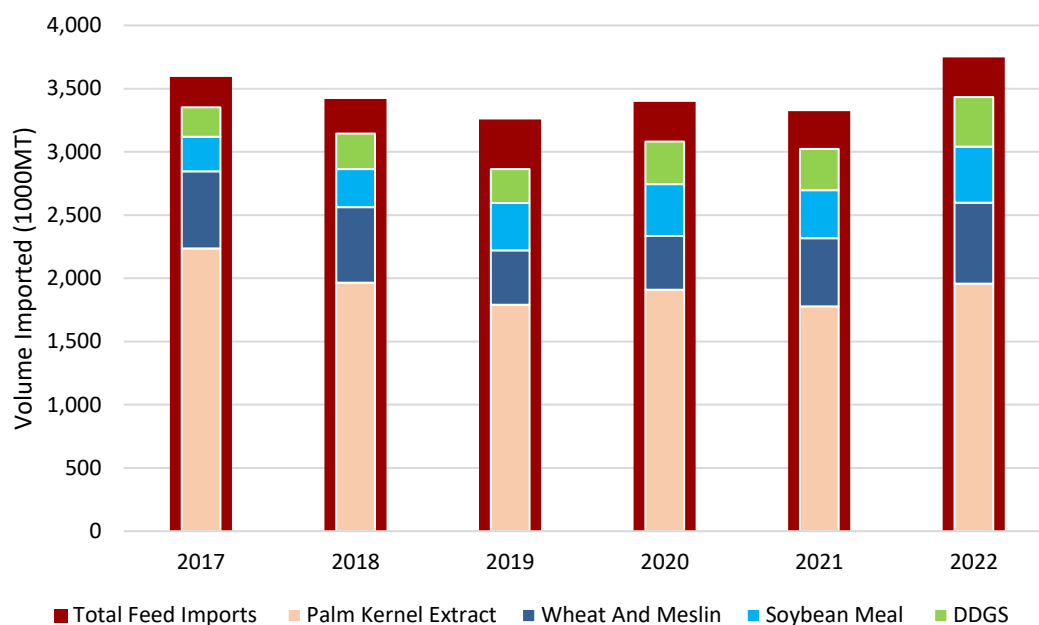
Source: FAR/AIMI

## Imports

As already mentioned, New Zealand imports far more grain and feed than it produces domestically (60 percent of consumption is imported). In 2022, imports reached 3.7 MMT, 1.5 MMT more than domestic

production volumes, and a new record (Figure 3). These large import volumes were supported by very strong milk prices, with the dairy pay-out experiencing a massive price increase per kilogram of milk solids, from NZ\$7.75 (US\$5.01) in 2020 to NZ\$9.35 (US\$6.05) in 2022 (Appendix 2). This made it cost effective to bring in more imported feed, despite the fact that global grain and feed prices were also high.

**Figure 3: New Zealand Feed Imports**



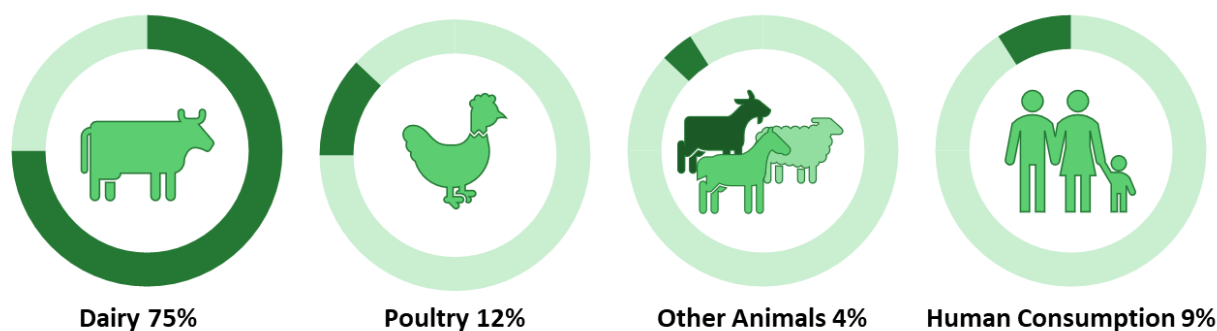
Source: Trade Data Monitor LLC

Palm Kernel Extract (PKE) from Indonesia and Malaysia continues to be the largest feed supplement consumed in 2022, accounting for 54 percent of imports and 35 percent of total feed consumed. Distiller's Dried Grains with Solubles (DDGS) from the United States has seen the biggest growth of feed imports at 10 percent per year, almost doubling since 2017. Some shipments of corn (and a shipment of sorghum in 2020) have also come from the United States, and corn has also been imported from Romania. Wheat has historically been sourced exclusively from Australia every year, with volumes typically consistent. Another major feed imported is soybean meal, which is imported almost entirely from Argentina.

### Consumption

The national dairy industry is consistently the country's largest consumer of grain and feed at approximately 75 percent (Figure 4). The majority of dairy farms are on non-irrigated pasture-based systems (75 to 80 percent), where up to 25 percent of the annual diet could consist of supplemental feeding. With the recently high dairy prices experienced of over NZ\$9.30 (US\$6.05) in the last two years (Appendix 2), farmers have looked to maximize milk yields by utilizing more "purchased" feed for conversion to milk solids.

**Figure 4: New Zealand Grain & Feed Consumption**



Source: Industry Sources & FAS/Wellington Estimates

Poultry is the second largest consumer of grain and feed in New Zealand, and it is a large consumer of corn. In part, with recent enforcement of new code of welfare standards in the New Zealand poultry industry and labor shortages, national numbers have decreased over the last two years by just under 300,000 broilers and 450,000 laying hens. This has reduced the feed demand for this sector, and is one of the reasons that planted hectares of grain corn and corn imports both dropped in 2022 (Table 1 and Appendix 1).

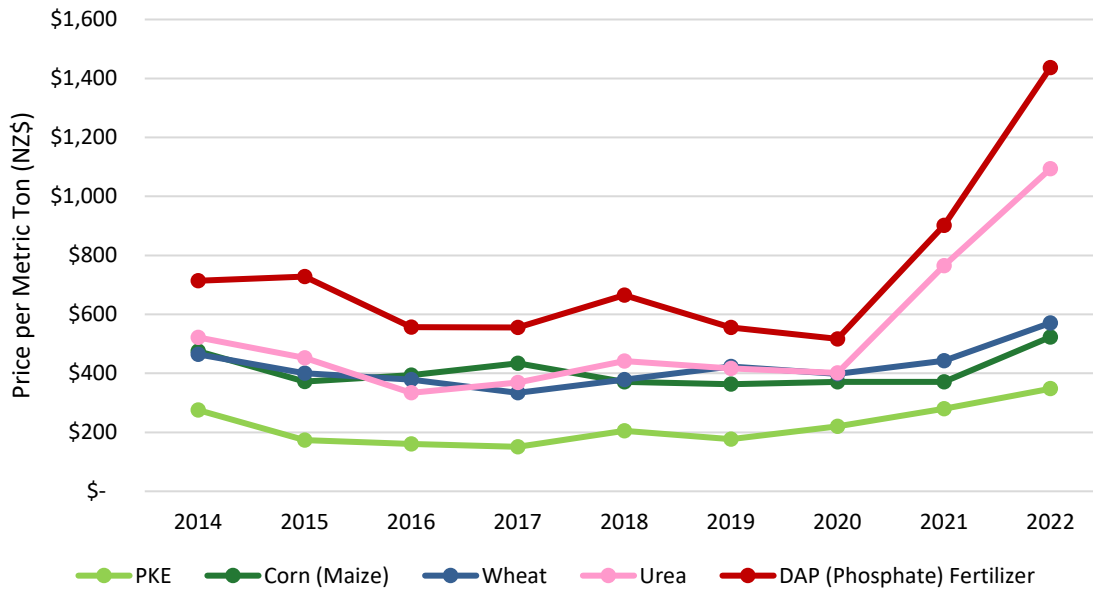
Human consumption of grain in New Zealand is predominantly for rice and wheat. On average 50,000 MT of rice is consumed each year, with the largest suppliers being Thailand (about 30 percent), Vietnam (18 percent) and Australia (17 percent). Over the last five years the United States had accounted for 8 percent of the market share for rice imports to New Zealand, however, in 2022 it decreased to 3 percent.

All of New Zealand's wheat imports are sourced from Australia, with some smaller shipments received in previous years from Canada and Ukraine. Imports of wheat increased 15 percent to 621,323 MT between 2021 and 2022. FAS/Wellington understand from industry sources that this is a mixture of milling and feed wheat. As noted in previous reports, there has been a large effort in recent years for millers to utilize domestically-produced wheat for milling into flour by supermarkets and processors. However, Australian wheat continued to be imported for blending to increase the protein content of flour.

### **Prices and Inflation**

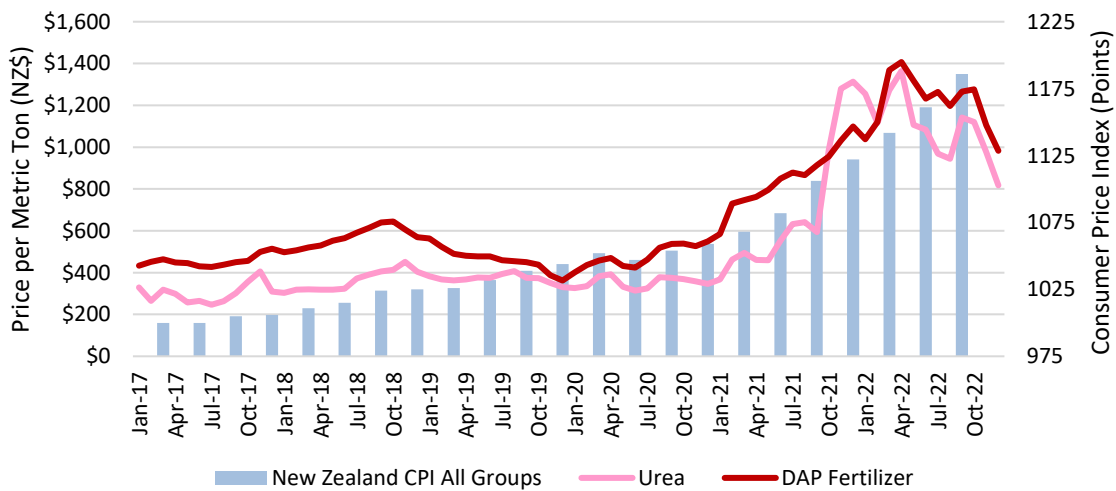
Global price inflation continues to be felt for New Zealand imports of all farm inputs, in particular the price of Urea and Phosphate fertilizers (Figure 5 and 6), but also grain. These high input prices have mitigated the benefit to New Zealand farmers from the high milk and meat prices. With high inflation on inputs and operating costs expected in the long-term, analysts believe that if livestock product prices start to decrease (reducing farm gate returns), it could impact the need or ability to source additional supplemental feeding.

**Figure 5: Commodity Import Prices (New Zealand Dollars)**



Source: Trade Data Monitor LLC

**Figure 6: World Fertilizer Prices and Inflation (New Zealand Dollars)**

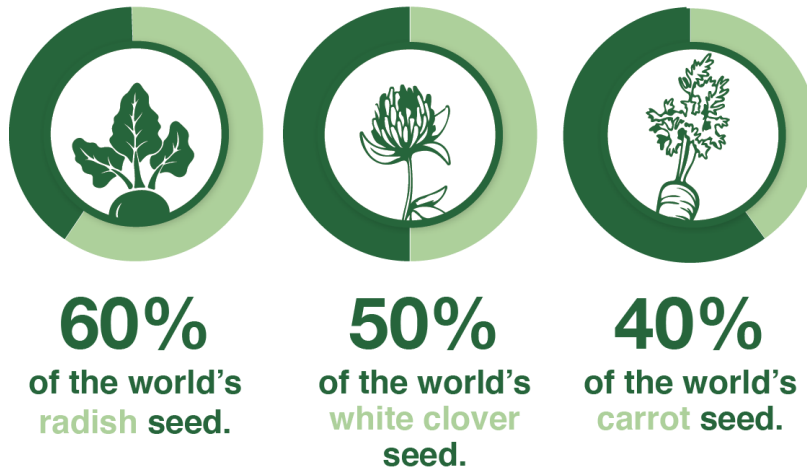


Source: StatsNZ, Bloomberg, USDA, and World Bank

**Exports**

New Zealand has a very small feed and grain export industry, which has been historically very static averaging 50,000 MT per year (Appendix 1). The country has gained a global reputation for small seed specialty crops and currently is one of the world’s largest producers of radish, white clover, and carrot seed (figure 7).

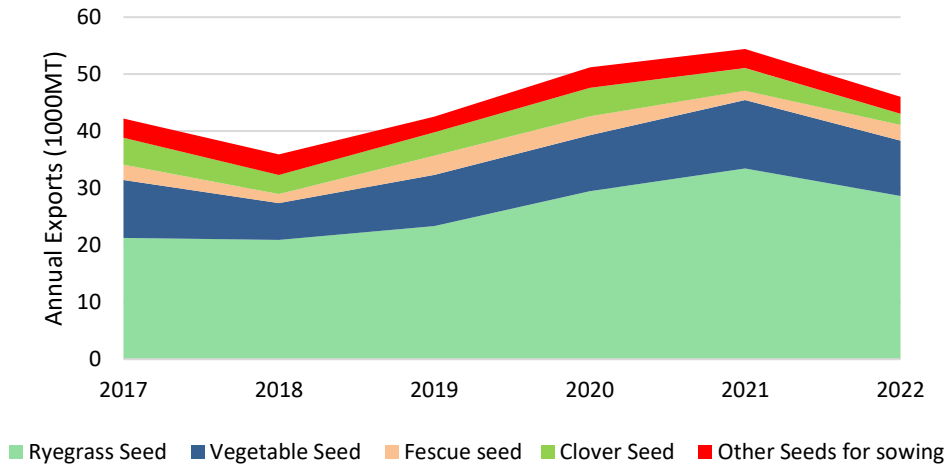
**Figure 7: Key New Zealand Seed Production**



Source: FAR

By volume in 2022, New Zealand seed exports totalled 46,000 MT, with 28,613 MT ryegrass seed, 9,717 MT vegetable seed, and clover at 1,949 MT (Figure 8).

**Figure 8: New Zealand Seed Exports**



Source: Trade Data Monitor LLC

**Future/Outlook**

As a result of the biggest consumers of grain and feed being predominately for dairy and poultry (~87 percent), any significant changes in demand and pricing schedules will have a substantial effect on hectares planted and volumes imported. The New Zealand dairy industry has already seen peak cow numbers in 2015, and the poultry industry recently had the implementations of new codes of practice around cages that has seen a large reduction in numbers in the short term. However, production for both



industries is expected to be stable to increasing as a result of higher efficiencies and genetic improvement.

--Policy Changes: By 2030, New Zealand agriculture is anticipating government legislations to come into effect that will reduce national stock numbers and demand land use change. These are specific to the following:

- Agricultural Emissions Pricing: Over the last three years, the NZ Government has been working with industry to reduce, and price, agricultural emissions. 2022 saw the release of several pieces of work including the NZ First Emissions Reduction Plan, response from the NZ Primary Sector Climate Action Partnership and recently a government released proposal to reduce agricultural emissions. Outside of pricing emissions, focus is being narrowed on controlling nitrogen fertilizer application rates and stock numbers. The NZ Government is targeting an implementation date of January 1, 2025, for beginning to price agricultural emissions. This is expected to have the greatest impact on the beef and sheep sector, but also impact the dairy sector as well
- National Policy Statement for Freshwater Management: This came into effect on September 3, 2020. The purpose of these regulations is to mitigate against the risk of sediment loss, phosphate runoff, nitrogen leaching and E.coli. The biggest impact for the dairy industry is that by 2025 it will regulate the exclusion of cattle from permanent and ephemeral waterways and the management of winter forage crops (intensive grazing). It will also cap nitrogen fertilizer applications to 190 kilograms per hectare, limiting pasture production. As a result, access to forage crops over winter will be greatly limited, therefore farming operations will look to source more external grain and feed for livestock.

So, on the one hand, any drop in livestock product (dairy and meat) prices in the future could impact on grain and feed imports, on the other hand these policy changes could encourage higher imports and supplemental feeding. As these policy changes put pressure on animal numbers, farmers will likely need to source more external and higher energy feed for livestock (including imports) to maximize efficiency and try to produce more final product (such as dairy) from fewer animals.

## Appendix 1: New Zealand Grain and Feed Production, Supply, and Demand (sources: FAR, TDM)

New Zealand: Indicative Supply & Demand for Grains, Seeds, & Animal Feeds (MT)						
	2017	2018	2019	2020	2021	2022
Wheat	405,200	375,349	398,100	482,063	422,800	398,780
Barley	297,600	366,267	383,700	380,905	325,100	343,782
Oats	34,983	16,561	26,824	18,870	24,805	24,472
Maize grain	175,600	269,348	196,000	181,960	209,300	187,007
Maize Silage	765,897	863,031	1,195,624	1,182,461	1,172,597	1,194,914
<b>Total Domestic Production (includes all grains &amp; corn silage) (T)</b>	<b>1,679,280</b>	<b>1,890,556</b>	<b>2,200,248</b>	<b>2,246,259</b>	<b>2,154,602</b>	<b>2,148,955</b>
Palm Kernel Extract	2,236,999	1,965,352	1,791,418	1,910,258	1,777,359	2,002,781
Wheat And Meslin	608,651	596,345	430,440	424,521	539,374	621,323
Soybean Meal	272,758	302,159	374,293	409,436	379,912	413,050
DDGS	232,526	280,948	268,117	337,720	326,120	413,924
Other Meal-Types	77,642	79,890	83,782	91,181	73,901	103,259
Sorghum	32,897	438	446	35,166	652	41,066
Corn (Maize) Grain	39,913	115,858	245,688	110,989	109,942	53,238
Barley	41,231	21,292	5,529	12,407	59,590	33,692
<b>Total Yearly Imports (T)</b>	<b>3,542,617</b>	<b>3,362,282</b>	<b>3,199,713</b>	<b>3,331,678</b>	<b>3,266,850</b>	<b>3,682,333</b>
<b>Total Supply (T)</b>	<b>5,221,897</b>	<b>5,252,838</b>	<b>5,399,961</b>	<b>5,577,937</b>	<b>5,421,452</b>	<b>5,831,288</b>
Rice	48,807	52,662	53,663	60,950	53,177	54,020
Buckwheat/Millet	1,938	1,627	1,731	2,135	1,866	1,505
Oats	4	2	7	7	65	66
Rye	0	0	18	25	0	0
<b>Total Other Grain/Seed Imports</b>	<b>50,749</b>	<b>54,291</b>	<b>55,419</b>	<b>63,117</b>	<b>55,108</b>	<b>55,591</b>
Export Grain	2,990	3,603	4,124	2,089	3,845	1,343
Export Animal Feed	42,475	45,305	46,988	57,771	46,104	46,104
<b>Total Feed Exports (T)</b>	<b>45,465</b>	<b>48,908</b>	<b>51,112</b>	<b>59,860</b>	<b>49,949</b>	<b>47,447</b>
Ryegrass Seed	21,270	20,929	23,364	29,458	33,464	28,613
Vegetable Seed	10,179	6,445	8,977	9,866	11,995	9,717
Fescue seed	2,688	1,607	3,341	3,300	1,669	2,776
Clover Seed	4,714	3,337	4,141	4,977	3,935	1,949
Other Seeds for sowing	3,389	3,591	2,752	3,608	3,356	2,882
<b>Total Seed Exports (T)</b>	<b>42,240</b>	<b>35,909</b>	<b>42,575</b>	<b>51,209</b>	<b>54,419</b>	<b>45,937</b>
Milling Wheat Yield	107,231	81,307	84,674	112,805	103,680	65,752
Malting Barley Yield	65,609	64,175	73,551	91,225	60,835	38,512
Milling Oats Yield	24,220	11,783	18,641	10,702	13,293	14,455
<b>Total Processing grain (T)</b>	<b>197,060</b>	<b>157,265</b>	<b>176,866</b>	<b>214,732</b>	<b>177,808</b>	<b>118,719</b>
Feed Wheat Yield	297,969	294,042	313,426	369,258	319,120	333,028
Feed Barley Yield	231,991	302,092	310,149	289,680	264,265	305,270
Feed Oats Yield	10,763	4,778	8,183	8,168	11,512	10,017
Maize Grain Yield	175,600	269,348	196,000	181,960	209,300	187,007
<b>Total Feed Grain (T)</b>	<b>716,323</b>	<b>870,260</b>	<b>827,758</b>	<b>849,066</b>	<b>804,197</b>	<b>835,322</b>

## Appendix 2: Additional Grain Industry Information (sources: FAR, TDM, StatsNZ)

<b>New Zealand: Additional Grain Industry Information (Areas and Prices)</b>						
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
<i>Feed Wheat Hectares</i>	29,833	33,467	35,188	32,998	31,702	33,950
<i>Milling Wheat Hectares</i>	11,267	9,706	9,812	11,110	11,798	7,694
<b>Total Wheat Hectares</b>	<b>41,100</b>	<b>43,173</b>	<b>45,000</b>	<b>44,108</b>	<b>43,500</b>	<b>41,644</b>
<i>Malting Barley Hectares</i>	8,753	9,381	10,347	12,851	7,643	5,618
<i>Feed Barley Hectares</i>	33,247	48,519	45,153	37,761	36,557	43,418
<b>Total Barley Hectares</b>	<b>42,000</b>	<b>57,900</b>	<b>55,500</b>	<b>50,612</b>	<b>44,200</b>	<b>49,036</b>
<i>Milling Oats Hectares</i>	4,237	2,599	3,113	1,779	1,966	2,429
<i>Feed Oats Hectares</i>	1,833	866	1,581	1,490	2,157	1,747
<b>Total Oat Hectares</b>	<b>6,070</b>	<b>3,465</b>	<b>4,694</b>	<b>3,269</b>	<b>4,123</b>	<b>4,176</b>
<i>Maize Grain Hectares</i>	17,500	21,099	16,700	15,566	17,500	16,667
<i>Maize Silage Hectares</i>	41,268	41,836	55,827	58,301	55,522	57,266
<b>Total Maize Hectares</b>	<b>58,768</b>	<b>62,935</b>	<b>72,527</b>	<b>73,867</b>	<b>73,022</b>	<b>73,933</b>
<b>Total Feed Grain Hectares (Including Maize Silage)</b>	<b>123,681</b>	<b>145,787</b>	<b>154,449</b>	<b>146,116</b>	<b>143,438</b>	<b>153,048</b>
<b>Total Processing Grain Hectares</b>	<b>24,257</b>	<b>21,686</b>	<b>23,272</b>	<b>25,740</b>	<b>21,407</b>	<b>15,741</b>
<b>Total Hectares</b>	<b>147,938</b>	<b>167,473</b>	<b>177,721</b>	<b>171,856</b>	<b>164,845</b>	<b>168,789</b>
<b>Import Prices (New Zealand Dollar per Metric Ton)</b>						
<b>Corn (Maize)</b>	\$433.85	\$370.77	\$363.08	\$370.77	\$370.77	\$523.08
<b>Wheat</b>	\$333.85	\$378.46	\$423.08	\$398.46	\$443.08	\$570.77
<b>Urea</b>	\$369.23	\$441.54	\$416.92	\$401.54	\$764.62	\$1,093.85
<b>PKE</b>	\$150.77	\$204.62	\$176.92	\$220.00	\$280.00	\$347.69
<b>DAP Fertilizer</b>	\$555.38	\$664.62	\$555.38	\$516.92	\$901.54	\$1,436.92
<b>Dairy Payout (New Zealand Dollar per Kg Milk solids)</b>	\$6.68	\$6.35	\$7.20	\$7.75	\$9.31	\$9.35
<b>Consumer Price Index (Average Points)</b>	1003	1019	1035	1053	1095	1173

<b>HS Codes</b>	
1001	Wheat
1007	Sorghum
1006	Rice
1003	Barley
1008	Buckwheat/Millet
1004	Oats
1002	Rye
230660	PKE
230330	DDG
230630	Sunflower Oilcake
230310	Starch Residue
230641	Canola Oilcake
230690	Other Oilcake
230650	Coconut Oilcake
230320	Beet Pulp
230620	Linseed Oilcake'
230610	Cotton seed Oilcake
230649	Colza Seed Oilcake
230400	Soybean Meal
100510	Corn (Maize) Seed
100590	Corn (Maize) Grain

**Attachments:**

No Attachments.