

Rural Migration News

Blog 317

JANUARY 2023

New Zealand Agriculture and Labor

New Zealand is a net exporter of farm commodities, sending crop and livestock commodities abroad worth \$25 billion in 2020 and importing farm commodities worth \$5 billion. NZ farm exports include processed food such as milk powder.

In 2022-23, NZ's farm exports are projected to be NZ\$55 (\$34) billion, including 42 percent from dairy, 22 percent from meat, and 13 percent each from forestry and horticulture. These Big 4 accounted for 90 percent of NZ's farm exports.

NZ has a large land area, but less than five percent of the land is arable. Agriculture employs six percent of NZ workers, and agricultural sales are 20-80, that is, 20 percent are crops, and 80 percent are livestock commodities such as dairy and meat. By comparison, Canada, Mexico, and the US have 60-40 farming sectors, meaning that crops account for 60 percent of the value of each country's farm output.

NZ is unusual among rich countries in having farm commodities be the most valuable goods exports. NZ exports are led by NZ\$16 billion

worth of dairy exports, NZ\$8 billion worth of meat, NZ\$5 billion worth of wood, and NZ\$4 billion worth of fruit. By comparison, the \$200 billion in US farm exports are less than 10 percent of total US exports of over \$2 trillion. China takes a third of NZ farm exports, followed by 10 percent to the US and eight percent to Australia.

Dairy

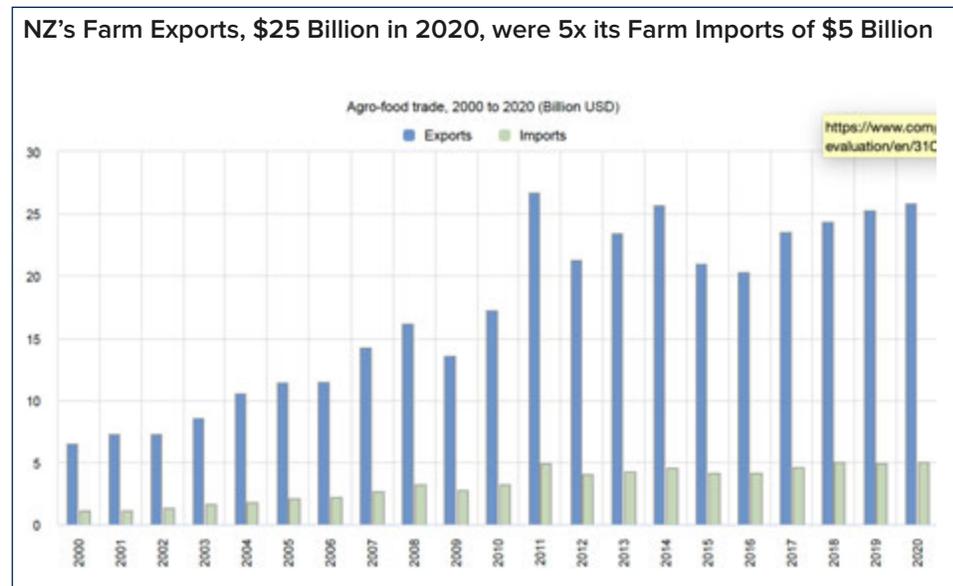
ANZ's most valuable farm commodity is milk and dairy products. NZ has five million dairy cows and five

million residents, while the US has nine million dairy cows and 333 million residents. NZ's dairy industry employs about 50,000 people and exports almost NZ\$20 billion (\$13 billion) worth of dairy products a year.

Most of NZ's 11,000 dairy farms are owner operated, but there are also share and contract milkers. Share milkers often milk their own cows and share half of the income from milk sales with the owner of the land and buildings, while contract milkers receive a fee for each unit of milk produced. Many share and contract milkers change farms on June 1 each year, sometimes called Gypsy Day. The 200 dairy farms that were sold in 2020-21 went for an average NZ\$5 million or NZ\$31,000 per hectare (NZ\$12,500 or \$7,900 per acre).

NZ dairy farms have an average 445 cows. A quarter of NZ dairy farms have 200 to 300 cows; the five percent with 1,000 and more cows had a sixth of all NZ dairy cows.

Almost 60 percent of NZ milk is from the North Island, including 22 percent from Waikato and 10 percent from the Taranaki region. On the South Island, the two major



Dairy, Meat, Forestry and Horticulture Account for 90% of NZ Farm Exports

Table 1: Food and fibre sector export revenue 2018-24
Year to 30 June, NZ\$ million

Sector	Actual					Forecast	
	2018	2019	2020	2021	2022	2023	2024
Dairy	14,655	18,107	20,135	19,093	21,998	23,310	22,980
Meat and wool	9,542	10,176	10,678	10,391	12,310	12,380	12,110
Forestry	6,382	6,883	5,539	6,531	6,578	6,590	6,230
Horticulture	5,392	6,134	6,555	6,622	6,782	7,090	7,660
Seafood	1,777	1,963	1,855	1,772	1,919	1,990	2,020
Arable	243	236	290	260	252	265	285
Processed food and other products*	2,709	2,854	3,006	3,112	3,226	3,330	3,060
Total export value	42,700	46,355	48,058	47,780	53,065	54,955	54,345
Year-on-year % change	12%	9%	4%	-1%	11%	4%	-1%

dairy production areas are North Canterbury and Southland.

Most NZ milk is conventional dairy cow milk from pasture-fed cows in the wetter areas of NZ, including the Waikato, the Bay of Plenty, Taranaki, Manawatū, Nelson, Tasman and the West Coast. Farmers place about three cows on each hectare of pasture, and milk production climbed to an average of 400 kg of milk solids per cow in 2002/21, including 222 kg of milk fat and 175 kg of protein; 100 liters of milk generates about 7.5kg of milk solids, and 100 pounds of milk 3.3 kg or 7.3 pounds of milk solids.

Farm Commodities are 70% of NZ Exports; NZ Ag is 20-80% Crops & Livestock

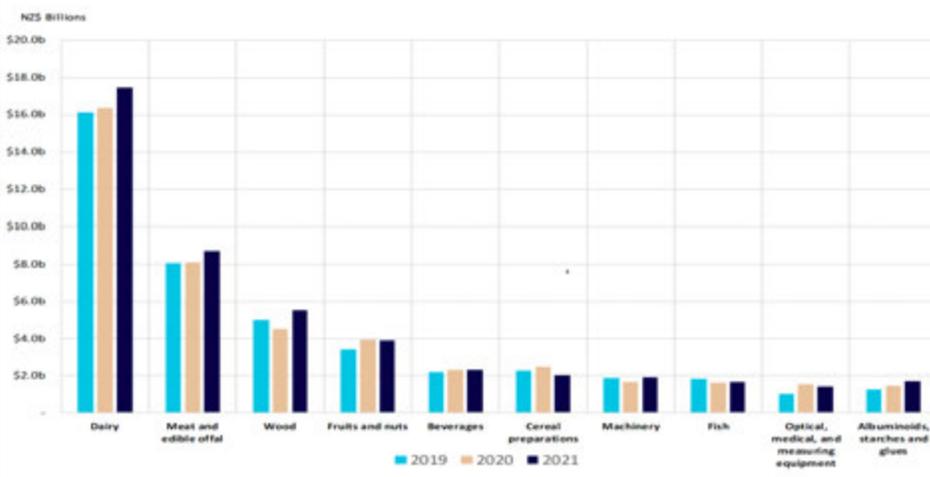
	New Zealand		International comparison	
	2000*	2020*	2000*	2020*
Economic context				
Share in total of all countries				
GDP (billion USD in PPPs)	83	225	0.2%	0.2%
Population (million)	4	5	0.1%	0.1%
Land area (thousand km ²)	263	263	0.3%	0.3%
Agricultural area (AA) (thousand ha)	15 413	10 345	0.5%	0.4%
All countries¹				
Population density (inhabitants/km ²)	15	19	53	63
GDP per capita (USD in PPPs)	21 472	44 011	9 281	20 929
Trade as % of GDP	25	18	12.3	14.0
Agriculture in the economy				
All countries¹				
Agriculture in GDP (%)	8.3	6.2	2.9	4.9
Agriculture share in employment (%)	8.5	6.0	-	-
Agro-food exports (% of total exports)	50.7	69.2	6.2	8.5
Agro-food imports (% of total imports)	7.9	13.4	5.5	7.7
Characteristics of the agricultural sector				
All countries¹				
Crop in total agricultural production (%)	17.7	22.5	-	-
Livestock in total agricultural production (%)	82	78	-	-
Share of arable land in AA (%)	10	5	32	34

NZ exports milk powder, butter, and cheese, much of it via the 10,000 member cooperative Fonterra (spring from the land), NZ's largest company that processes 15 billion liters of milk a year and accounts for a third of the world's exports of dry milk and other dairy products. Fonterra (Anchor brand) operates the world's largest dairy processing plant in Whareroa near Hāwera on the southwest coast of the North Island.

China is the world's major importer of dairy products. Fonterra owned 43 percent of Chinese dairy company Sanlu, which in 2008 recalled infant formula that included the industrial chemical melamine to raise measured protein levels; over 300,000 babies got sick and six died. Fonterra forced Sanlu to recall the contaminated formula, drawing praise for reporting the scandal and criticism for waiting too long to report on Sanlu.

Farm Commodities are 63% of NZ Exports

Figure 2: New Zealand's top 10 annual good exports

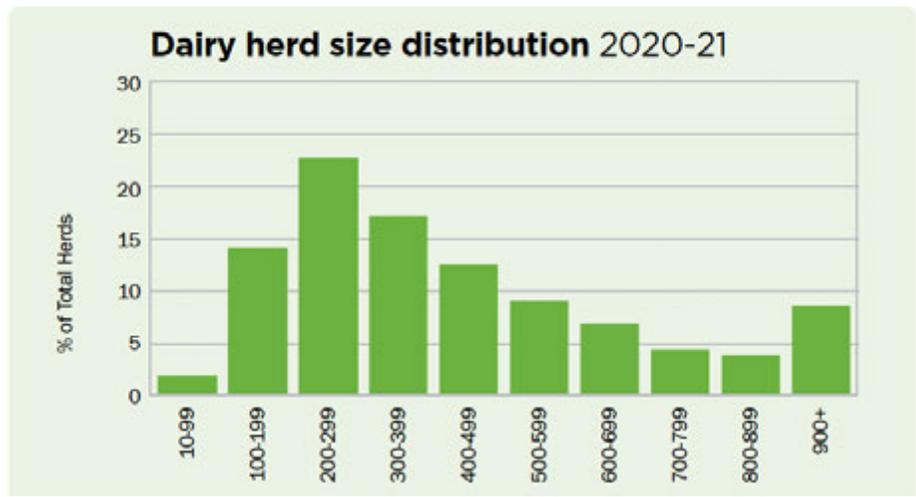


Many people are lactose intolerant, unable to digest the A1 protein and the natural sugar in mammalian milk. The a2 Milk Company specializes in milk products that include only the A2 protein; farmers use its technology to convert to A2-only cows.

NZ Dairy Herds Average 445 Cows

Herd size

Average herd size in 2010-11 386 cows
 2020-21 444 cows (+15%)



Five percent of NZ milk is organic, five percent is goat and other animal milk, and 10 percent is plant-based milk.

Australia has 1.5 million dairy cows, a quarter of the NZ herd. Supermarket chain Coles cut the price of milk to A\$1 per liter on Australia day in 2011, and Woolworths, Aldi, IGA and others matched this loss-leading price; the price was raised to A\$1.60 a liter in 2022.

Meat

Half of NZ’s 50,000 farms produce beef and lamb. There are two beef and lamb farms for each dairy farm, and most beef farmers also have sheep. Farmers receive about NZ\$1,200 for each beef cow and NZ\$130 for each lamb.

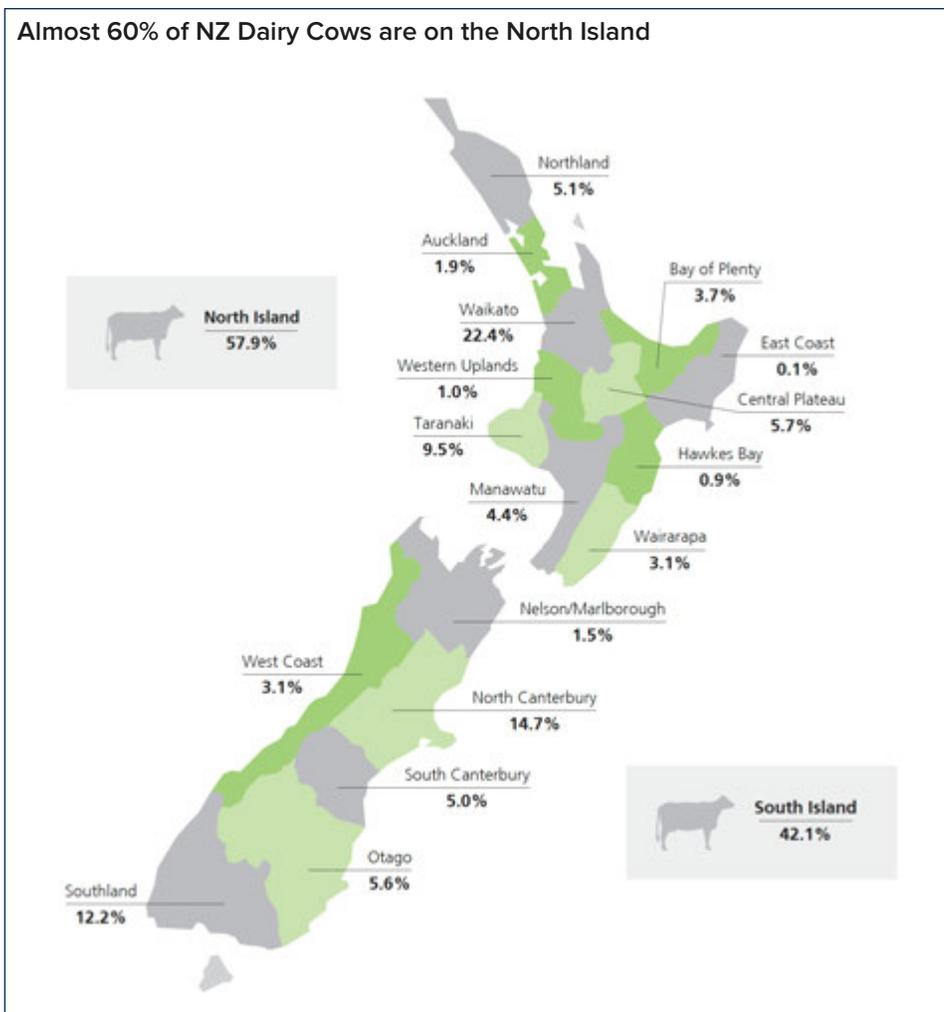
The number of sheep in NZ peaked at 70 million in the early 1980s and was 25 million in 2022, while the number of beef cattle is four million. Over half of the sheep are on the South Island, while three-fourths of the beef cattle are on the North Island.

Exporting wool, mutton and lamb was the major NZ farming activity until the late 1980s, when dairy farming surged. Most NZ sheep are shorn between November and January, but wool has become less profitable, and most sheep are raised for meat.

NZ processes almost 20 million lambs and three million cattle a year, and exports over 85 percent of its lamb and beef. China buys 40 percent of NZ’s beef and veal and a third of NZ’s lamb and wool.

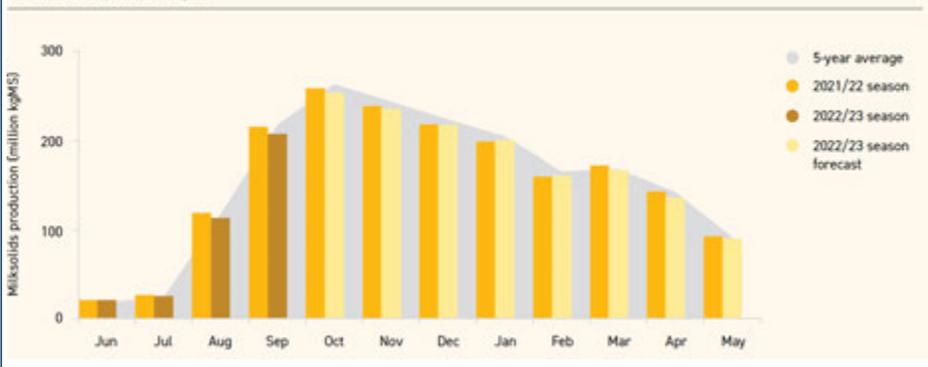
NZ has 800,000 deer, including three-fourths on the South Island, and exports about 15,000 tons of

Almost 60% of NZ Dairy Cows are on the North Island



NZ Milk Production Peaks During the Spring Months of September–December

Figure 7: New Zealand milksolids production forecast to decline in 2022/23 season
Year to 31 May, million kgMS



NZ had Over 10 Sheep for Each Resident in the Early 1980s



venison worth NZ\$12,000 a ton each year. A quarter of venison exports go to the Benelux countries, followed by a quarter to the US and a fifth to Germany.

Carbon Farming

NZ's climate change policies may shrink its pasture-based meat industry that currently occupies almost 20 million acres of land. NZ has pledged to be carbon neutral by 2050, a policy being implemented via an emissions-trading program that requires carbon emitters to buy credits to offset their emissions at a cost of NZ\$80 a ton in 2022. Owners of forests can sell credits, which is raising the price of farm land that can be replanted to trees.

NZ is the only country that allows companies to offset 100 percent of their emissions via forestry. Trees must be planted after they are harvested, typically after 28 years. A 4,000 acre North Island sheep and cattle ranch that was bought for less than NZ\$2 million in 2013 was sold for more than NZ\$8 million in 2022 to an investor who plans to replace pasture with trees and sell carbon credits. Selling credits can generate up to NZ\$1,000 an acre, compared with NZ\$200 for beef and cattle ranching.

Horticulture

About three-fourths of NZ\$7 billion worth of horticultural commodities are exported. Horticulture is tied with forestry as the third largest NZ farm exporter, after dairy and meat.

Almost 3,000 NZ farmers produce 150 million trays of kiwifruit for export each year from 12,000 hectares; there are about 250 trays, each with 30 to 36 pieces of fruit, per ton, so NZ exports 600,000 tons of kiwi a year. All kiwi exports go through Zespri, and half of NZ kiwi exports go to China and Japan.

Kiwi fruit production is concentrated in the Bay of Plenty area, which accounts for 80 percent of NZ kiwi production. Kiwi fruit are picked by hand between April and June for a minimum wage of NZ\$29.66 after March 1, 2023; the NZ minimum wage was NZ\$21.20 (\$14) an hour in 2022. Since few other countries produce large volumes of kiwis, newly hired workers often require time to become productive workers.

The 23,000 strong harvest workforce is 55-45, that is, 55 percent NZ residents and 45 percent temporary guest workers, WHMs, and other visitors. Many industry leaders note that kiwi production is expanding despite worries of labor shortages. The apple industry centered in Hawkes Bay is developing labor-saving picking and packing technologies at a faster pace.

Wine is the second-leading horticultural export. NZ has over 700 growers with 42,000 hectares of vineyard who produced 13 tons of grapes per hectare or about 500,000 tons in 2022. The average grower price was NZ\$1 a pound. Three-fourths of wine grape acres and grape growers are in the Marlborough region, and Sauvignon Blanc is over 60 percent of NZ wine grape acreage.

NZ's 750 wineries produced almost 400 million liters of wine in 2022, and exported 265 million liters or two-thirds of this wine at an average price of NZ\$7.60 a liter. Most NZ wineries are small, producing less than 200,000 liters of wine a year;

fewer than 20 wineries produced more than four million liters or 444,000 cases of wine.

NZ's leading wine export market is the US, followed by the UK and Australia. The value of NZ wine exports was NZ\$2.5 billion in 2022, and the value per liter varied from a low of NZ\$6 a liter in Australia to a high of \$14 a liter in China.

RSE

The NZ government launched the Recognized Seasonal Employer scheme in 2007 in response to complaints of farm labor shortages and Pacific Island government requests for development assistance. The World Bank played a major role in launching the RSE program, recruiting farm workers in Vanuatu for a pilot project in 2006.

RSE workers may stay in NZ for seven to nine months, but most remain less than six months. Employers pay half of the travel costs of RSE workers and provide them with housing and transportation to and from their NZ jobs. RSE workers are in NZ to maximize their savings, and are willing to work long hours and on weekends. Most strive to please their employers in order to avoid being sent home and to ensure they are invited to return.

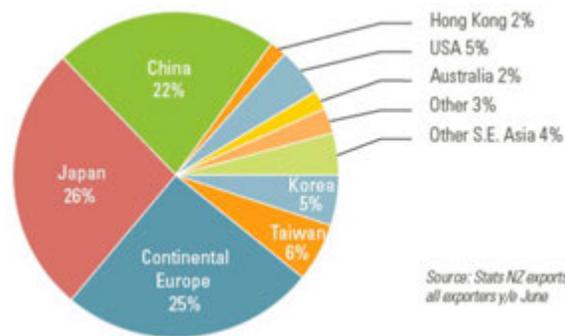
The quota on RSE guest workers will be 19,000 for 2022-23, a sharp increase from the maximum 5,000 allowed in 2007 despite a NZ Human Rights Commission report in September 2022 that criticized poor housing for RSE workers and unexplained deductions from their wages.

Kiwi Fruit and Wine are 2/3 of NZ Horticultural Exports

Table 5: Horticulture export revenue 2018-24
Year to 30 June, NZ\$ million

Product	Actual					Forecast	
	2018	2019	2020	2021	2022	2023	2024
Kiwifruit	1,861	2,302	2,534	2,705	2,898	2,410	2,980
Wine	1,694	1,807	1,909	1,858	1,935	2,460	2,400
Apples and pears	745	839	885	831	865	990	1,070
Fresh* and processed** vegetables	622	696	721	634	622	720	710
Other horticulture***	471	489	506	593	461	510	510
Total export value	5,392	6,134	6,555	6,622	6,782	7,090	7,660
Year-on-year % change	4%	14%	7%	1%	2%	5%	8%

Half of NZ Kiwi Exports go to China and Japan



Bay of Plenty Accounts for 80% of NZ Kiwi Production.



Picking Kiwi Fruit

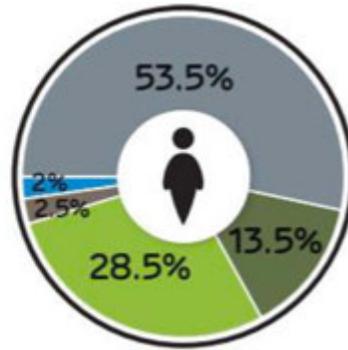


Some 23,000 Workers Harvest and Pack Kiwi Fruit

Source of workers

(combined orchard and packhouse)

- New Zealanders
- RSE
- International Working Holiday
- International Students
- Work Visa



NZ Exports 2/3 of its Wine to the US, 36%, UK, 22%, and Australia, 19%

Table 6: Wine production and exports 2018-24

Year to 30 June

	Actual					Forecast	
	2018	2019	2020	2021	2022	2023	2024
Area harvested (hectares)	38,073	39,061	39,935	40,320	41,600	42,400	43,200
Grape production (thousand tonnes)	419	413	457	370	532	479	488
Wine production (million litres)	309	305	337	275	395	355	360
Export volume (million litres)	254	269	285	284	264	324	304
Export price (NZ\$/litre)	6.67	6.72	6.70	6.55	7.30	7.60	7.90
Export value (NZ\$ million)	1,694	1,807	1,909	1,860	1,940	2,460	2,390



The RSE Scheme in Aotearoa New Zealand: A Human Rights Review

References

ANZ MPI. 2022. Situation and Outlook for Primary Industries. <https://www.mpi.govt.nz/dmsdocument/54517-Situation-and-Outlook-for-Primary-Industries-SOPI-December-2022>

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