

## NZPork Monthly Imports and Exports Report

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### 1 Data summary for October 2021

Data from January 2000 through October 2021 was downloaded from the Statistics NZ website http://www.stats.govt.nz/. To generate this report, the data was subsequently filtered to only include data from **January 2000 through October 2021**.

Table 5 in the Exports section of the report provides a detailed report of import and export activity for last 12m; the data for October 2021 is highlighted in red.

### 1.1 Volume

# Monthly Pork Imports (NZPork Fiscal Year, 2018 to Current) 9,000 8,500 7,000 7,000 4,500 NZPork fiscal year (October - September) Fiscal year (FY) FY2018 FY2019 FY2020 FY2021 FY2022

Figure 1: Monthly pork imports into New Zealand, stratified by NZPork fiscal year (FY2018 to current).

The total volume of pork imported to New Zealand in October 2021 was **4,711 tonne** (6,490 tonne CWE), **up 3.41%** from last month and **up by 26.55%** from the same month last year. For this month, **65.9%** of pork consumption was met by imported products (Figure 1).

### 1.2 Prices

The value of pork imported to New Zealand in October 2021 was \$23.9 million NZD CIF which equated to \$5.07/kg. The average value of imports this month on a per kg basis was 6.28% lower than last month and 9.63% lower than the same month last year.

Table 1: Relative supply and price of imported pork by pork form, October 2021

Pork form	CIF (NZD)	KGs imported	NZD per KG	Percent of total volume
FROZEN	22,034,321	4,538,756	\$4.85	96%
PROCESSED	809,980	68,243	\$11.87	1%
CURED	1,056,860	104,314	\$10.13	2%
TOTAL	23,901,161	4,711,313	\$5.07	100%

### **1.3** Form

In October 2021, FROZEN pork valued at \$4.85/kg accounted for 96.34% of the total volume of pork imports (Figure 2 and Table 1).

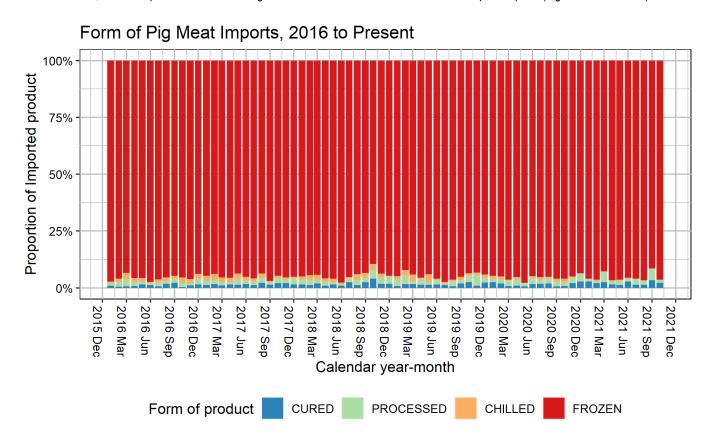


Figure 2: Form of pork imported into New Zealand, by month (2016 to current).

### 1.4 Countries

Table 2 shows the weight of pork (actual, not CWE) imported into New Zealand during October 2021. Product during this period was imported from 22 different countries. Figure 3 shows the import pattern of "key exporter" countries responsible for 95% of New Zealand's pork imports during October 2021.

Table 2: Relative supply of imported pork, by country, October 2021

Country	Total	Percent	Cumulative
Germany	1,242,123	26.4%	26.4%
·		18.4%	44.7%
Poland	866,131		
USA	603,328	12.8%	57.6%
Denmark	407,315	8.6%	66.2%
Netherlands	346,437	7.4%	73.6%
Spain	330,547	7.0%	80.6%
Australia	313,630	6.7%	87.2%
Canada	213,603	4.5%	91.8%
Sweden	116,319	2.5%	94.2%
Finland	96,881	2.1%	96.3%
Ireland	71,791	1.5%	97.8%
Belgium	71,451	1.5%	99.3%
Italy	20,918	0.4%	99.8%
China	2,226	0.0%	99.8%
United Kingdom	2,137	0.0%	99.9%
S.Korea	1,425	0.0%	99.9%
Thailand	1,394	0.0%	99.9%
France	991	0.0%	99.9%
Philippines	910	0.0%	100.0%
Taiwan	866	0.0%	100.0%
Greece	799	0.0%	100.0%
Singapore	91	0.0%	100.0%

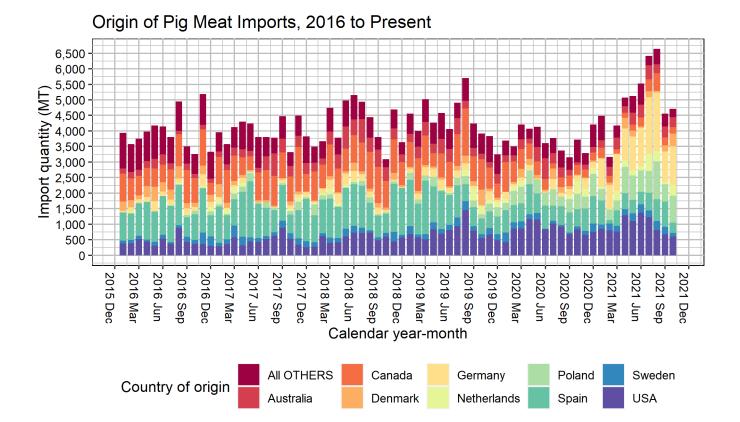


Figure 3: Origin of pork into New Zealand from key exporting countries, by month (2014 to current).

### 1.5 Chilled product

The amount of chilled product (weight in actual kgs) that entered New Zealand during October 2021 is shown in Figure 4 below. The black line on the graph represents the linear trend of chilled import volumes (95% confidence limit shown by the pale red shading). Figure 5 shows the same data stratified by country of origin.

### Chilled Pork Imported per Month, 2016 to Present

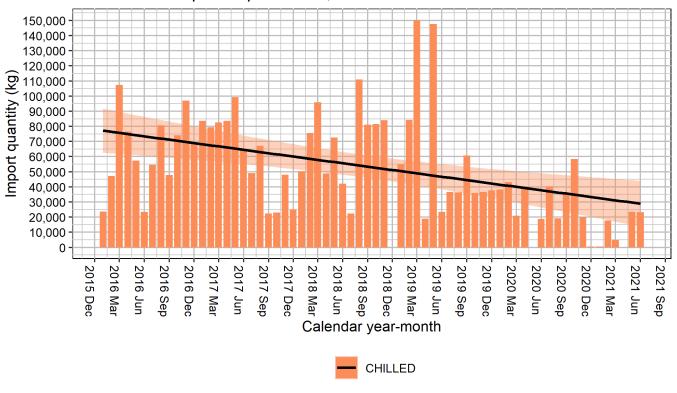


Figure 4: Chilled pork imported into New Zealand, by month.

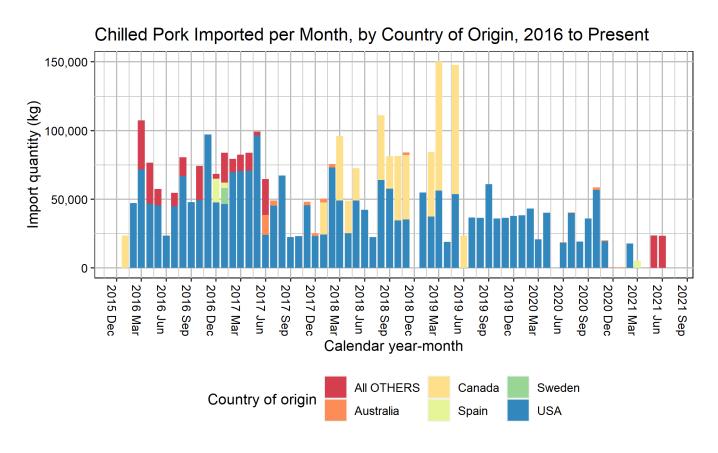


Figure 5: Chilled pork imported into New Zealand from key exporting countries, by month.

### 1.6 Volume and cost per kg of imported product (actual kgs, NZD)

The landed value (Figure 6) and kilograms (Figure 7) of pork imported into New Zealand during October 2021 are shown below.

### CIF per kg imported (actual), October 2021 \$30 **FROZEN** \$20 \$10 \$5.04 \$5.04 \$4.86 \$5.08 \$4.74 \$4.43 \$0 \$30 **PROCESSED** \$20.48 \$20 \$16.38 \$13.52 \$10.34 \$10 \$0 \$30 \$24.68 CURED \$20 \$16.15 \$9.29 \$10 \$8.00 \$8,31 \$0 Spain Sweden ASU All OTHERS Australia Canada Denmark Germany Netherlands

Figure 6: Value of pork imported in October 2021, on a Cost, Insurance and Freight (CIF) basis from key exporting countries.

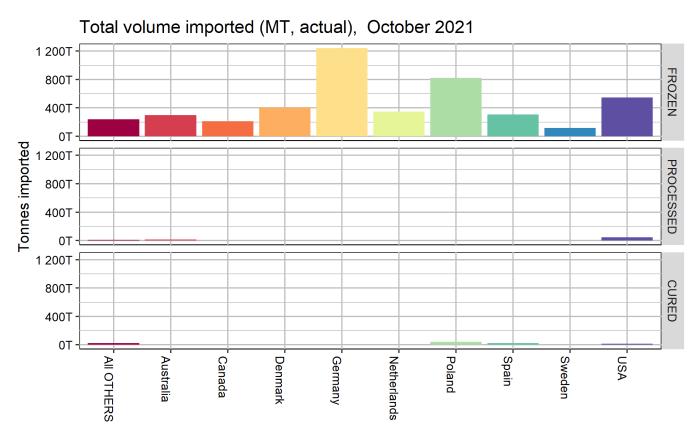


Figure 7: Volume (MT) of pork imported in October 2021, from key exporting countries.

Table 3 below shows the price per kg for imported CHILLED, CURED, FROZEN, and PROCESSED meat products in NZD for the key exporters to New Zealand during October 2021. The quantity of each is shown in kilograms. The last two columns represent the total total kilograms of imported pork for the period and the average price (total CIF in NZD/total kg imported).

Table 3: Import quantity and pricing by country.

Country Group	CURE	D	FRO	ZEN	PROCE	SSED	AL	L
Country Group	NZD/kg	kg	NZD/kg	kg	NZD/kg	kg	NZD/kg	kg
All OTHERS	\$16.15	22,802	\$4.74	240,123	\$16.38	8,955	\$6.08	271,880
Australia	\$24.68	720	\$3.86	297,921	\$13.52	14,989	\$4.37	313,630
Canada			\$4.43	213,603			\$4.43	213,603
Denmark			\$5.04	407,315			\$5.04	407,315
Germany			\$5.04	1,242,123			\$5.04	1,242,123
Netherlands			\$4.86	346,437			\$4.86	346,437
Poland	\$8.00	43,729	\$5.08	822,402			\$5.23	866,131
Spain	\$8.31	24,000	\$4.70	306,266	\$20.48	281	\$4.97	330,547
Sweden			\$4.23	116,319			\$4.23	116,319
USA	\$9.29	13,063	\$4.94	546,247	\$10.34	44,018	\$5.43	603,328

### 1.7 Pork imports by PRRS status of country

Porcine reproductive and respiratory syndrome (PRRS) is an viral disease of pigs that is common in much of the world but is absent in New Zealand. The virus that causes PRRS has been shown to be transmitted through untreated pork. Figure 8 shows the trend in pork imports to New Zealand since the import health standard (IHS) that manages the risk was relaxed in 2014.

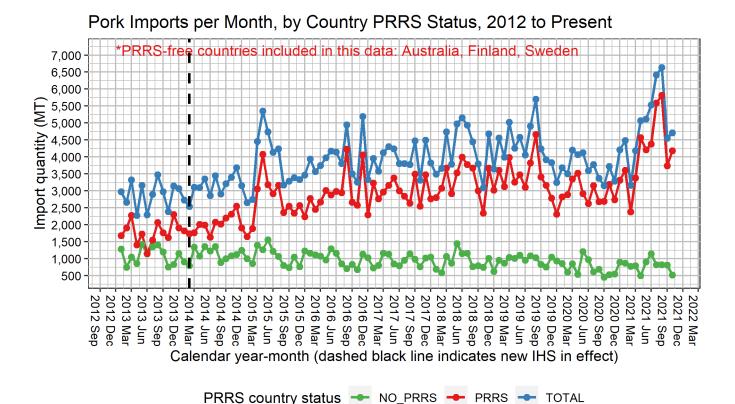


Figure 8: Pork imports per month stratified by PRRS status of exporting country, 2013 to present.

### 1.8 Consumption of imported and domestic pork

A substantial proportion of the pork supply in New Zealand is met from imported sources. Figure 9 shows the the steadily increasing amount of imported product arriving into the country while domestic supplies have remained steady or decreased slightly over the same period. Figure 10 provides a

similar view of the data but based on 12-monthly totals, rather than monthly totals. To determine the potential influence of the increasing New Zealand population on pork supply, the same data from Figure 9 was related to monthly population estimates from Statistics NZ to determine the monthly per capita consumption of pork. Since 2000, the data suggests that per capita consumption of pork has increased, with imported sources supplying an increasing share of the consumption (Figure 11).

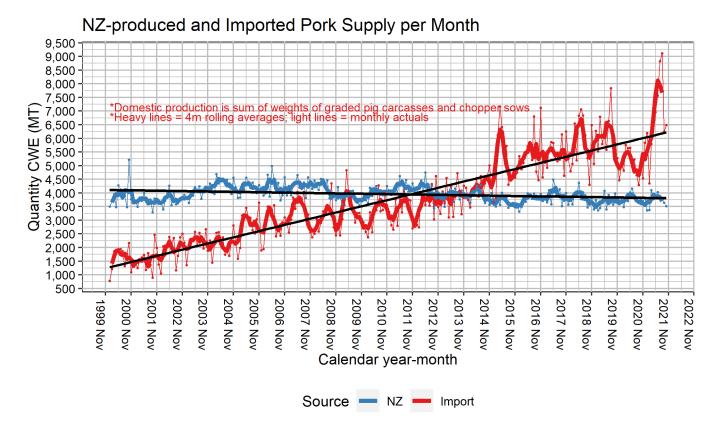


Figure 9: Monthly supply of pork in New Zealand based on domestic versus imported sources.

### Based on sum of previous 12 months 80,000 75,000 70,000 Onautity CWE 65,000 60,000 55,000 45,000 30, 65,000 25.000 20,000 15,000 2000 Nov 2004 Nov 2018 Nov 2020 Nov 2022 Nov 1999 Nov 2001 Nov 2002 Nov 2003 Nov 2005 Nov 2006 Nov 2007 Nov 2008 Nov 2009 Nov 2010 Nov 2011 Nov 2012 Nov 2013 Nov 2014 Nov 2015 Nov 2016 Nov 2017 Nov 2019 Nov 2021 Nov Calendar year-month Source Import

Figure 10: Annual pork supply in New Zealand (based on previous 12 month volume), comparing domestic versus imported sources.

### NZ-produced and Imported Pork Supply per Year

### NZ-produced and Imported Pork Consumption per person, by Month

'Imports' = import volume minus re-export volume; 'NZ' = domestic production minus export volur

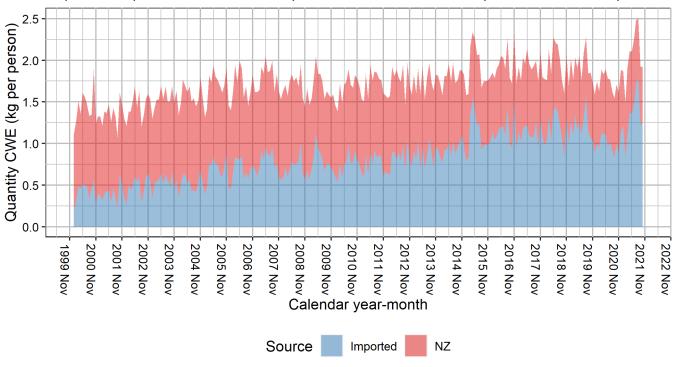


Figure 11: Monthly consumption of pork per capita in New Zealand based on domestic versus imported sources.

Total import volumes from all countries that have exported pork to New Zealand since 2008 are shown in Table 4. Total volume as well as the number of countries that export to New Zealand have increased steadily through the period. The import volumes shown below have been rounded up to the nearest MT; zeroes represent nil import volume.

Table 4: Historical pattern of pork import activity into New Zealand. Numbers represent the metric tonnes (MT) of pork that was imported from each country each year. Current year is 'year-to-date'. Values are rounded up to the nearest one MT.

Country	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia	4,369	4,164	3,337	2,336	3,874	5,363	3,903	3,245	3,322
Belgium	0	291	1,137	1,553	1,254	1,350	1,318	646	563
Brazil	0	3	2	0	4	0	0	7	0
Bulgaria	0	0	1	0	0	0	1	1	0
Canada	8,554	7,619	10,667	9,069	10,202	11,053	10,257	5,171	2,760
China	58	47	85	80	130	143	131	163	137
Croatia	1	1	1	1	1	1	1	1	1
Denmark	4,384	7,285	6,638	3,271	1,339	1,263	1,604	1,453	1,517
Estonia	0	0	0	24	635	280	165	0	0
Finland	6,060	6,153	7,501	7,975	5,333	3,715	5,444	3,739	2,574
France	25	1	2	267	3	3	2	1	2
Germany	428	768	1,726	2,009	791	2,189	2,182	1,878	12,113
Greece	0	0	0	0	0	0	1	0	2
Hong Kong	1	1	1	1	1	2	1	5	1
Iran	0	0	0	0	0	0	0	24	0

Country	2013	2014	2015	2016	2017	2018	2019	2020	2021
Ireland	0	171	297	613	849	915	788	1,148	898
Italy	71	69	97	99	153	148	183	152	179
Japan	0	1	1	0	0	0	0	1	1
Lithuania	0	0	0	0	0	0	0	0	2
Malaysia	0	0	0	0	0	0	0	0	1
Mexico	0	0	0	0	0	0	0	0	43
Netherlands	1	98	350	422	991	590	1,227	1,596	2,259
New Zealand	0	0	1	0	0	0	24	0	0
Peru	0	0	23	23	0	0	0	0	0
Philippines	0	0	1	2	6	10	7	7	5
Poland	0	0	178	457	1,472	1,206	2,342	5,372	6,681
Romania	0	0	0	0	0	1	0	1	1
Russia	0	0	0	0	0	1	0	1	0
S.Korea	6	9	6	27	11	24	16	26	18
Serbia	0	0	0	0	0	1	0	0	0
Singapore	0	2	1	0	2	3	2	3	3
Spain	17	1,277	6,109	12,223	12,782	13,462	11,345	8,088	5,144
Sweden	2,825	3,131	2,145	1,718	2,201	1,865	2,298	1,825	2,105
Taiwan	6	5	8	8	11	8	11	17	17
Thailand	3	3	2	2	3	3	4	7	4
Ukraine	0	0	0	24	0	0	0	0	0
United Kingdom	4	4	5	121	84	251	112	16	16
USA	7,850	6,410	4,689	5,284	5,583	6,590	8,991	10,145	9,511
Vanuatu	0	0	0	0	1	0	0	0	1
Viet Nam	1	0	0	1	1	1	0	1	1

### 2 Exports

We have now commenced routine reporting on Export and Re-exporting activity. Any feedback from users about the reports, or request for changes/additions, can be sent to Ian Barugh (i.w.barugh@massey.ac.nz) or Eric Neumann (e.neumann@epi-insight.com) by email or phone.

A summary of the Figures and tables follows:

- Figure 12 is a time series plot of pork exports, re-exports, and total exports per month since 2000.
- Table 5 provides a detailed report of import and export activity for last 12m.
- Table 6 provides shows the relative volumes of export versus re-export activities for the current month.
- Table 7 shows the relative volumes and values of exported pork product, by type of export activity, for the current month.
- Table 8 identifies the top destination countries for pork exports ranked by total FOB value, for the current month.
- Table 9 shows the relative volumes and values of exported pork product type, exported to each destination country, for the current month (a more detailed view than presented in Table 5.

### Pork Exports, Re-exports, and Total per Month

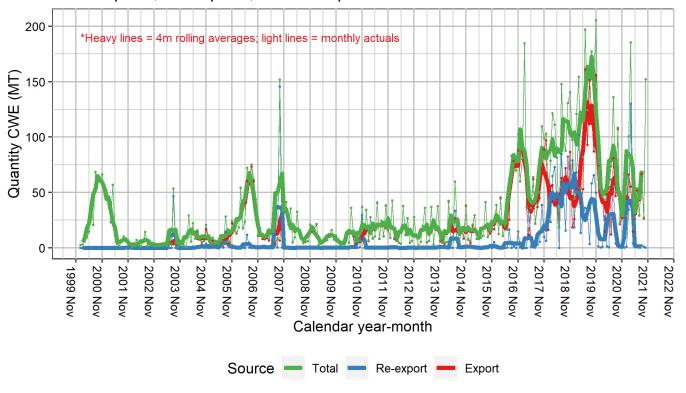


Figure 12: Pork Exports, Re-exports, and Total per Month.

Table 5: Detailed import and export activity for last 12m. Data is in MT, on a CWE basis.

Month	Imported	Re-exported	Domestic	Exported	Total NZ consumption	Population (est)	Per capita consumption (kg)
2020 Oct	5,132.0	0.9	3,600.3	21.3	8,710.3	5,096,767	1.7
2020 Nov	4,539.9	2.3	3,695.5	26.9	8,206.2	5,099,428	1.6
2020 Dec	5,837.4	0.0	3,813.4	34.6	9,616.2	5,102,000	1.9
2021 Jan	6,192.9	1.1	3,365.9	27.5	9,530.1	5,104,412	1.9
2021 Feb	4,351.2	34.2	3,373.7	66.3	7,624.4	5,106,636	1.5
2021 Mar	5,795.3	130.3	4,107.2	55.1	9,717.2	5,108,600	1.9
2021 Apr	6,996.5	4.0	3,776.2	14.3	10,754.4	5,110,828	2.1
2021 May	6,957.5	0.8	3,837.8	26.6	10,767.9	5,113,048	2.1
2021 Jun	7,573.7	1.8	4,038.5	51.7	11,558.6	5,115,400	2.3
2021 Jul	8,829.6	0.1	3,891.3	29.2	12,691.6	5,117,722	2.5
2021 Aug	9,124.1	2.3	3,763.9	66.6	12,819.1	5,120,153	2.5
2021 Sep	6,243.5	1.0	3,647.3	26.4	9,863.4	5,122,600	1.9
2021 Oct	6,490.1	0.1	3,517.2	152.1	9,855.1	5,124,971	1.9

Table 6: Summary of export v. re-export volume, October 2021 .

Measure	Volume (MT)	Proportion
Exported	152.1	99.9%
Re-exported	0.1	0.1%
Total exported	152.2	100.0%

Table 7: Relative volume and value of exported pork product types, October 2021

Pork form	Exported (MT)	Total (NZD/kg)	Re-exported (MT)	Re-exported (NZD/kg)	Total (MT)	Exported (NZD/kg)
CHILLED	21.2	\$0.90	0.0		21.2	\$0.90
CURED	6.4	\$3.25	0.0		6.4	\$3.25
FROZEN	23.8	\$1.66	0.1	\$14.29	23.9	\$1.61
PROCESSED	100.7	\$7.18	0.0		100.7	\$7.18

Table 8: Top destination countries for pork exports ranked by total FOB value, October 2021 .

Country	Total (MT)	Total (NZD)	Total (NZD/kg)
Australia	95.3	\$693 527	\$7.28
Cook Islands	5.0	\$22 954	\$4.58
Samoa	21.6	\$22 073	\$1.02
Tonga	6.6	\$18 706	\$2.85
Kiribati	3.6	\$17 539	\$4.84
Papua New Guinea	18.8	\$16 821	\$0.89
Tuvalu	0.7	\$6 417	\$8.59
Nauru	0.3	\$2 888	\$8.70
Antarctica	0.1	\$1 200	\$14.29
Hong Kong	0.0	\$293	\$10.38

Table 9: Relative volume and value of pork product types exported to each destination country, October 2021 .

Pork form	Country	Exported (MT)	Total (NZD/kg)	Re-exported (MT)	Re-exported (NZD/kg)	Total (MT)	Exported (NZD/kg)
CHILLED	Cook Islands	0.1	\$12.47	0.0		0.1	\$12.47
CHILLED	Samoa	21.1	\$0.87	0.0		21.1	\$0.87
CURED	Cook Islands	0.3	\$8.55	0.0		0.3	\$8.55
CURED	Nauru	0.3	\$8.70	0.0		0.3	\$8.70
CURED	Papua New Guinea	0.1	\$7.67	0.0		0.1	\$7.67
CURED	Samoa	0.5	\$7.53	0.0		0.5	\$7.53

Pork form	Country	Exported (MT)	Total (NZD/kg)	Re-exported (MT)	Re-exported (NZD/kg)	Total (MT)	Exported (NZD/kg)
CURED	Tonga	4.4	\$1.00	0.0		4.4	\$1.00
CURED	Tuvalu	0.7	\$8.59	0.0		0.7	\$8.59
FROZEN	Antarctica	0.0	\$14.29	0.1	\$14.29	0.1	
FROZEN	Cook Islands	4.7	\$4.23	0.0		4.7	\$4.23
FROZEN	Papua New Guinea	18.7	\$0.85	0.0		18.7	\$0.85
FROZEN	Tonga	0.5	\$6.06	0.0		0.5	\$6.06
PROCESSED	Australia	95.3	\$7.28	0.0		95.3	\$7.28
PROCESSED	Cook Islands	0.0	\$7.23	0.0		0.0	\$7.23
PROCESSED	Hong Kong	0.0	\$10.38	0.0		0.0	\$10.38
PROCESSED	Kiribati	3.6	\$4.84	0.0		3.6	\$4.84
PROCESSED	Tonga	1.7	\$6.85	0.0		1.7	\$6.85

### 3 Report generation and metrics

This report is generated in real-time from data that is (or has been) downloaded from official Statistic New Zealand. The report is built using 'R Foundation for Statistical Reporting' software in the RStudio environment. RMarkdown with the "bookdown" extension (with Latex) is used to create the PDF version of the report.

### 3.1 Date ranges included in this report

Data from January 2000 through October 2021 was downloaded from the Statistics New Zealand website (http://www.stats.govt.nz/).

To generate this report, the downloaded data has been filtered to only include data from January 2000 through October 2021.

### 3.2 Data on imported pork

### 3.2.1 Historic annual pork import data

<u>Annual</u> summary files of <u>historical</u> New Zealand import data (2000-2020) can be found on the Statistics New Zealand website and are downloadable as CSV files. These historical archived data files have already been downloaded and are stored locally to improve the speed in generating this report. However, in case they are required the specific online location of the historic data files is shown below:

http://archive.stats.govt.nz/browse\_for\_stats/industry\_sectors/imports\_and\_exports/overseas-merchandise-trade/HS10-by-country.aspx

### 3.2.2 Current year pork import data (monthly summaries)

In addition to the historic annual data, Statistics New Zealand also archives current monthly summary files for the current year (2021) as CSV files. This report downloads these files directly rather than using InfoShare (Statistics New Zealand online query tool) to query the monthly information as the full monthly import data sets exceed the size limit for InfoShare.

At the end of each year (January through December), the current year's data should be download as an 'annual historic summary' as described above and stored locally, then added to the R script as a new local download file. The R report script that generates this report will also need to be modified to include the new historic annual file and to change the 'web scraping grep command' to reflect the monthly summary files from the 'new' year. The links currently being used in this report to download the current year, monthly summaries are listed below; approximately the most recent three months are classed by Statistics New Zealand as Provisional:

http://archive.stats.govt.nz/browse\_for\_stats/industry\_sectors/imports\_and\_exports/overseas-merchandise-trade/HS10-by-country.aspx

### 3.2.3 Harmonized System Codes associated with import data

The data that describe the specific Harmonized System Codes (HS codes) that relate to imported pork and NZPork's method for converting the imported volumes (kg) into Carcass Weight Equivalents (CWE) are not available for download and must be directly maintained in a local CSV file. Because the NZ pig slaughter volume (kgs) is reported based on a head-on carcass weight and imported pork data is reported based on actual kgs (the proportion of which is bone versus lean varies by HS Code), the import volumes need to be converted to a 'CWE equivalent' basis so they can be more accurately compared to the NZ domestic production/consumption. This file only needs updated if the HS code list or the CWE conversion method changes. The CSV file can be found at:

D:/Dropbox/Documents/NZPIB/PRRS meat sampling/imports/cwe.csv

Harmonized System Codes used to filter the data downloaded from Statistics New Zealand are shown in Table 10 below (not all HS codes may be used every month).

Table 10: List of Harmonized System Codes used to query Statistics NZ database; CWE multiplier factor and pork form mapping are shown.

Form	CWE multiplier	ed Harmonised System Description de	Harmonised System Code
CHILLED	1.22	9 Meat; of swine (other than wild pork), hams, shoulders and cuts thereof, with bone in, fresh or chilled	203120009
FROZEN	1.00	08 Meat; of swine, carcasses and half-carcasses, (other than wild pork), frozen	203210008
FROZEN	1.22	9 Meat; of swine (other than wild pork), hams, shoulders and cuts thereof, with bone in, frozen	203220009
FROZEN	1.00	11 Meat; of swine n.e.c. in item no. 0203.2, frozen, meat bones and hocks	203290011
FROZEN	1.40	19 Meat; of swine n.e.c. in item no. 0203.2, frozen, other than meat bones and hocks	203290019
CURED	1.66	9 Meat; of swine, hams, shoulders and cuts thereof, with bone in, salted, in brine or dried	210110009
CURED	1.66	00 Meat; of swine, bellies (streaky) and cuts thereof, salted, in brine, dried or smoked	210120000
CURED	1.66	01 Meat; of swine, bacon, salted, in brine, dried or smoked	210190001
CURED	1.66	11 Meat; of swine, pork n.e.c. in heading 0210, salted or pickled	210190011
CURED	1.66	29 Meat; of swine, n.e.c. in heading 0210, dried	210190029
PROCESSED	1.66	Meat preparations; of swine, hams and cuts thereof, prepared or preserved, packed other than in airtight cans or jars (excluding homogenised preparations)	1602411900
PROCESSED	1.66	Meat preparations; of swine, meat or meat offal (including mixtures), prepared without other food substances, preserved in airtight cans or jars, n.e.c. in heading no. 1602	1602490900
PROCESSED	1.66	Meat preparations; of swine, meat or meat offal (including mixtures), prepared or preserved, packed other than in airtight cans or jars, n.e.c. in heading no. 1602	1602491900
CHILLED	1.40	Meat; of swine (other than wild pork), fresh or chilled, (excluding carcasses, half-carcasses, and hams, shoulders and cuts thereof, with bone in)	203190009
PROCESSED	1.66	Meat preparations; of swine, hams and cuts thereof, prepared without other food substances, preserved in airtight cans or jars (excluding homogenised preparations)	1602410900
PROCESSED	1.66	Meat preparations; of swine, shoulders and cuts thereof, prepared or preserved, packed other than in airtight cans or jars (excluding homogenised preparations)	1602421900
CURED	1.66	01 Meat; of swine, hams, shoulders and cuts thereof, with bone in, smoked	210110001
CURED	1.66	9 Meat, preserved; of swine, n.e.c. in heading no. 0210, smoked	210190019
PROCESSED	1.66	Meat preparations; of swine, shoulders and cuts thereof, prepared without other food substances, preserved in airtight cans or jars (excluding homogenised preparations)	1602420900
CURED	1.66	00 Meat, preserved; of swine, bellies (streaky) and cuts thereof, salted, in brine, dried or smoked	210120000
CURED	1.66	29 Meat, preserved; of swine, n.e.c. in heading no. 0210, dried	210190029

Harmonised Harmonised System Description System Code	CWE multiplier	Form
210190001 Meat, preserved; of swine, bacon, salted, in brine, dried or smoked	1.66	CURED
210190011 Meat, preserved; of swine, pork n.e.c. in heading no. 0210, salted or pickled	1.66	CURED
210110009 Meat, preserved; of swine, hams, shoulders and cuts thereof, with bone in, salted, in brine or dried	1.66	CURED
203110008 Meat; of swine, carcasses and half-carcasses, (other than wild pork), fresh or chilled	1.00	CHILLED
210190019 Meat; of swine, n.e.c. in heading 0210, smoked	1.66	CURED

### 3.3 Domestic pork slaughter data

Data is collected by Statistics New Zealand that describes the volume of pork (number of pigs and weight, by pig class) processed by commercial abattoirs as 'Graded pigs'. This report includes data from pigs of all weights, including chopper sows. This data is not made available by Statistics New Zealand as an archived CSV file, making it necessary to be retrieved from their website using InfoShare. To ensure the same data is retrieved each month, each time time the report is run 'R' sends a pre-formed ".tqx query file" to the InfoShare website which sends the data back to the local computer as a CSV file which can then be used in the report. The .tgx and CSV files can be found at:

D:/Dropbox/Documents/NZPIB/PRRS meat sampling/imports/infoshare/nz\_kill.tqx

D:/Dropbox/Documents/NZPIB/PRRS meat sampling/imports/infoshare/nz\_kill.csv

### 3.4 NZ human population estimates

Similar to the NZ domestic pork slaughter data, Statistics New Zealand also holds data describing the size of the New Zealand human population. The data is only reported on a quarterly basis but is automatically downloaded each month from InfoShare using a .tqx query file (as described for the pork slaughter data above) which is then sent back to the local computer as a CSV file which can then be used in the report. The R script uses linear regression to impute values for the missing months, allowing the human population data to be merged with the monthly data on pork that is imported or domestically produced. The .tqx and CSV files can be found at:

D:/Dropbox/Documents/NZPIB/PRRS meat sampling/imports/infoshare/nz\_population.tqx

D:/Dropbox/Documents/NZPIB/PRRS meat sampling/imports/infoshare/nz population.csv

### 3.5 Output of main CSV files

Much of the R work for this report involves collection and manipulation of large datasets that can then be used for development of summary tables and plots. However, there are occasional needs for subsequent **ad hoc** analyses so the three main data sets (data frames in 'R' speak) have been saved as CSV files so the entire report doesn't need to be regenerated just to get a specific data point for further analysis. The three CSV files can be found at:

### 3.6 Data quality from Statistics New Zealand

Most data collected and held by Statistics New Zealand are released monthly on a 'Provisional' basis. After approximately 3 months, the data are re-released with 'Final' status. Table 11 below shows the status of any data retrieved from Statistics New Zealand that does not have a 'Final' status.

Table 11: Status of monthly import data from Statistics NZ.

Status	Date released
Provisional	2021 Oct
Provisional	2021 Sep
Provisional	2021 Aug

## ASF special reports

Table 12 shows total import volume (MT; metric tonnes) of pork of all forms (chilled, frozen, processed, and cured) based on the ASF status of the origin country. Not all forms have the same risk of carrying infectious ASF virus. A few notes about the table:

- · Around 95% of imports are frozen; chilled and frozen product have the highest risk of carrying virus as compared to processed or cured.
- ASF status changes for countries over time, though only one country (Czech Republic) involved in the current Eurasian outbreak has managed to eradicate the disease from their country. Data in Table 12 shown in red represents pork exports from countries during a month in which that country was known to have ASF present within its borders. The country ASF status is based on the date of that country's official report of the disease to the World Organisation for Animal Health (OIE) - the actual first clinical signs may have occurred several days to several months earlier.
  - The data in Table 12 represents the month in which an export landed in NZ, and this may be a different month from which the pork left the exporting country.
- · NZ does not permit import of untreated pork (chilled or frozen) from countries known to have ASF. Typically, when a country becomes infected with a trade-limiting disease such as ASF, the country responds by establishing 'disease-positive regions' which allows the official country-status to return to an 'ASF free, but with infected regions' status. NZ government assesses the effectiveness of the regionalization scheme and then usually resumes trade in the risk commodity (pork in this case), but sourced only from the disease-free regions of that country.

Table 12: Volume (MT) of pork imported into New Zealand over the previous 24 months, by ASF status in country of origin. Data in red indicates months when ASF was known to have occurred in that country.

Country	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021
	180.5	307.1	214.8	195.6	310.2	148.0	462.3	671.3	322.7	315.7	185.3	87.1	160.1	171.7	238.3	295.7	370.3	204.6	381.3 4	413.1 4	463.0	286.8	354.6	313.6
Belgium	120.1	121.0	51.3	24.2	74.6	51.6	9.05	0.0	96.4	26.6	4.0	124.2	0.0	142.4	118.0	31.7	78.4	47.2	9.07	72.1	0:0	48.6	24.2	71.5
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0	0.0	0:0	0.0	0.0
Bulgaria	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0
Canada	678.0	451.3	955.7	668.2	641.8	499.5	430.2	334.8	168.1	309.7	332.2	308.2	258.8	262.9	335.0	213.8	142.5	167.1	191.5	284.3	378.0	571.0	262.6	213.6
	4.6	17.0	0.0	0.0	4.9	15.2	34.5	75.5	0:0	0.5	0.1	0.0	0.0	31.7	13.3	0:0	24.5	0.0	18.0	11.8	19.8	21.8	25.4	2.2
Croatia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0	0.0	0.0	0.0	0:0	0:0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Denmark	84.8	71.8	0.0	71.1	274.6	192.2	122.0	71.4	337.3	193.0	96.2	23.5	23.6	47.7	24.6	75.1	0.0	336.3	192.5	1 1.74	192.5	48.1	192.3	407.3
Estonia	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0:0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Finland	670.2	433.6	333.1	210.1	316.7	238.3	542.9	283.2	209.8	315.7	220.3	352.4	259.1	456.8	498.8	267.0	239.2	95.4	286.1 4	468.4 1	156.6	246.8	218.8	96.9
France	0.2	0.1	0.1	0.0	0.1	0.0	0.0	0.1	0.3	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0:0	0.2	0.0	0.1	0:0	0.0	1.0
Germany	263.8	68.9	222.1	47.0	118.9	132.6	24.0	23.7	311.0	120.1	191.9	165.8	332.1	188.4	901.2	768.6 1,	1,197.7 1,0	1,025.0 1,0	1,069.9 1,2	1,228.9 1,8	,812.3 1,8	986.3	980.9 1,2	,242.1
Greece	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0:0	0.0	0.0	0.0	0.0	9.0	0:0	0.0	0.0	0.0	0.0	0.3	0:0	0.0	0.8
	0.0	0.0	0.0	0.0	0.2	3.3	0:0	0.4	0.0	0.0	0.5	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.2	0.0	0.2	0:0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Country	Nov 2019	Dec 2019	Jan 2020	Feb 2020	Mar 2020	Apr 2020	May 2020	Jun 2020	Jul 2020	Aug 2020	Sep 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Feb 2021	Mar 2021	Apr 2021	May 2021	Jun 2021	Jul 2021	Aug 2021	Sep 2021	Oct 2021
Ireland	23.5	47.0	71.4	24.0	47.1	0.0	0.0	71.5	170.7	193.4	167.4	237.0	94.9	70.4	119.6	0.0	22.5	117.0	142.7	117.1	71.1	117.3	118.1	71.8
Italy	5.1	12.4	16.3	20.3	19.8	9.8	12.2	19.8	4.0	2.5	4.5	15.8	4.2	22.6	20.2	11.1	29.0	12.9	11.0	13.6	23.2	25.0	11.3	20.9
Japan	0:0	0.0	0:0	0.0	0.0	0.0	0:0	0:0	0.0	0.0	0:0	0.0	0:0	0.0	0:0	0.0	0.0	0.1	0.0	0.0	0.0	0:0	0:0	0:0
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0:0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.7	0.0	0.0	0.1	0.0
Malaysia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Mexico	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.0	0.0	0.0	17.7	24.0	0.0	0.0
Netherlands 139.7	ds 139.7	165.6	142.1	167.5	188.6	46.8	0.0	6:0	23.4	0.0	144.4	428.1	262.4	191.6	71.3	24.9	310.3	213.8	191.0	141.1	558.3	329.5	71.6	346.4
Philippine	0.3	0.3	1.1	0.0	0.0	1.2	0:0	0:0	0.4	0.3	0.0	1.0	2.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	1.2	0.1	1.8	0.9
Poland	242.4	300.5	220.2	454.7	9.089	439.1	461.3	420.1	527.3	307.5	419.6	491.0	382.7	717.4	374.5	337.6	316.6	846.8	774.7	685.4	9.502	1,218.9	554.6	866.1
Romania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Russia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
S.Korea	2.7	0.8	0.0	9.0	1.5	9.0	3.3	3.4	4.7	1.2	6.7	1.9	1.4	6.0	1.1	9.0	1.8	9.0	1.6	0.1	1.9	4.0	4.2	1.4
Singapore	0.0	0.0	0.0	0.0	0.0	1.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.1
Spain	542.9	572.2	725.8	559.2	576.1	0.996	628.7	743.7	482.6	97.6	646.8	556.6	718.4	886.1	770.5	109.3	494.5	512.2	437.1	406.4	571.1	700.0	811.3	330.5
Sweden	200.8	193.8	310.4	204.2	230.0	157.9	208.0	23.5	89.0	60.1	92.0	90.1	128.0	268.7	138.3	217.4	189.1	198.9	243.0	263.7	208.7	289.3	240.2	116.3
Taiwan	0.4	0.3	0.4	6.0	4.6	0.5	1.5	6.0	2.3	1.5	6.0	0.0	1.2	0.5	2.5	5.6	1.6	2.9	4.1	9.0	1.8	0.0	1.4	0.9
Thailand	0.2	0:0	0.1	0.2	0.4	0.2	0.0	9.0	0.5	0.4	0.7	0.2	0.5	2.3	0.1	0.0	0.0	0.2	0.7	0.0	0.1	1.2	0.0	4.1
United King- dom	2.7	0.0	2.6	<del>7.</del>	0.0	<del></del>	1.2	0.1	1.0	1.2	9.	0.5	2.8	6.	0.0	0.0	3.8	1.0	4.	0.0	5.8	0.3	4.1	2.1
NSA	9.699	482.7	419.8	853.2	865.0	1,165.5	1,147.6	834.3	1,021.7	921.1	6.929	838.5	654.5	747.2	821.8	804.7	758.1	1,288.0 1	1,106.7	1,373.5	1,228.8	815.0	6.089	603.3
Vanuatu	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Viet Nam	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
NEGATIV	3,457.3	2,794.4	3,398.4	3,002.8	3,574.0	3,549.9	3,569.7	3,083.9	3,140.4	3,036.1	2,527.7	2,923.2	2,564.4	3,107.7	3,170.3	2,042.3 2	2,610.3 3	3,185.2 3	3,246.0	3,588.1	3,853.4	3,480.3	2,977.4	2,576.8
POSITIVI	380.8	452.0	289.0	499.9	631.6	520.8	561.9	519.2	632.9	338.7	627.2	799.7	723.3	1,103.3	1,310.8	1,117.9 1	1,569.9 1	1,885.2 1	1,876.0 1	1,940.6	2,564.7	3,156.1	1,578.5	2,134.5
TOTAL	3,838.1	3,246.4	3,687.4	3,502.6 4	4,205.6	4,070.7	4,131.5	3,603.1	3,773.3	3,374.7	3,154.9	3,722.9	3,287.7	4,211.0 4	4,481.1	3,160.2 4	4,180.2 5	5,070.4 5	5,122.0	5,528.6	6,418.1	6,636.4	4,555.9	4,711.3