Economic impact of New Zealand's arable industry

Arable Food Industry Council (AFIC)

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Executive summary

The arable industry is deeply connected and integrated into New Zealand's primary industries. Specifically, arable production underpins the productivity of many key primary industries through the supply of grains and seeds directly to both farmers and industry. This report estimates the economic contribution of New Zealand's arable industry in 2024.

Total arable production (2024)

Grains	Maize silage	Seeds for sowing
		
1,051,948 tonnes	**1,115,854 tonnes**	**83,303 tonnes**

Total = 2,251,105 tonnes

The arable industry produced 2.3 million tonnes of grains, maize silage, and seeds in 2024 with direct sales valued at $1.2 billion.

Arable industry – Total economic impact (2024)

Economic impacts	Sales	GDP	Employment
			
Grains	$1,112 million	$500 million	2,994 FTEs
Maize silage	$587 million	$264 million	1,580 FTEs
Seeds	$865 million	$389 million	2,329 FTEs
Total	**$2,565 million**	**$1,154 million**	**6,904 FTEs**

Additional economic activity is created as arable industry sales of $1.2 billion flow through arable supply-chain purchases and the spending of employees involved in arable production, both directly and in the arable supply-chain. Together, these represented a total gross domestic product (GDP) impact of almost $1.2 billion with total employment of 6,904 full-time equivalents (FTEs) supported.

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1 Introduction

The Arable Food Industry Council (AFIC) commissioned Business and Economic Research Limited (BERL) to provide a comprehensive overview of the diverse arable production activities in New Zealand and the associated economic impact to the New Zealand economy.

This report is an update of the 2021 *Economic impact* that was completed in 2022.[1] This is the sixth update BERL has completed since 2011.

1.1 What is AFIC?

AFIC focuses on New Zealand industries using grains, seeds, and the products of grains and seeds, in innovative ways to satisfy global lifestyle needs. The AFIC membership is composed of ten industry organisations connected with the research into, and production of, arable food. The member list includes:

- Animal & Plant Health New Zealand
- AsureQuality Limited
- Federated Farmers of NZ Inc – Arable Industry Group
- Foundation for Arable Research (FAR)
- New Zealand Feed Manufacturers Association Inc.
- New Zealand Flour Millers Association Inc.
- New Zealand Plant Breeding & Research Association Inc.
- Seed and Grain New Zealand
- The New Zealand Institute for Plant & Food Research Limited
- United Wheat Growers New Zealand Limited.

AFIC's vision for New Zealand's arable industry is for it to be strong, forward thinking, and competitive and respected globally. For more information see https://www.afic.co.nz/.

1.2 Report scope and structure

Scope

Arable production in New Zealand includes cereals, pulses, oilseeds, herbage, and vegetable seeds along with maize grain and maize silage. These products may be processed for human consumption

[1] See here: https://www.afic.co.nz/wp-content/uploads/2022/07/AFIC-Economic-Impact-2021.pdf

or animal feed, and in the case of forage and vegetable seeds, flow into other domestic and export markets. Arable production is broadly categorised by grain and pulse production, maize silage production, and seed production. Our analysis distinctly differentiates between these three categories, while also providing greater detail of individual crops and seeds. This report concludes with an analysis of the export performance of the arable industry in New Zealand.

Note

For consistency and accuracy the economic impact estimates from the previous completed reports have been updated, using the latest multipliers, for comparison in this report.[2] This ensures that all figures presented in this report are directly comparable. As a result, some figures may differ from those published in earlier reports.

Structure

This report has four clear sections:

- **Grain crops in New Zealand** – Including production, sales, and economic impact
- **Maize silage crops in New Zealand** – Including production, sales, and economic impact
- **Seed crops in New Zealand** – Including production, sales, and economic impact
- **Economic impact of arable industry in New Zealand** – Combined economic impact of grain, maize silage, and seed crops
- **Export performance of arable industry** – Summarises timeseries export revenue statistics.

The primary year of analysis in this report is 2024, with historical comparisons also provided.

[2] The role of multipliers in our analysis is explained in Appendix A.

2 Grain crops in New Zealand

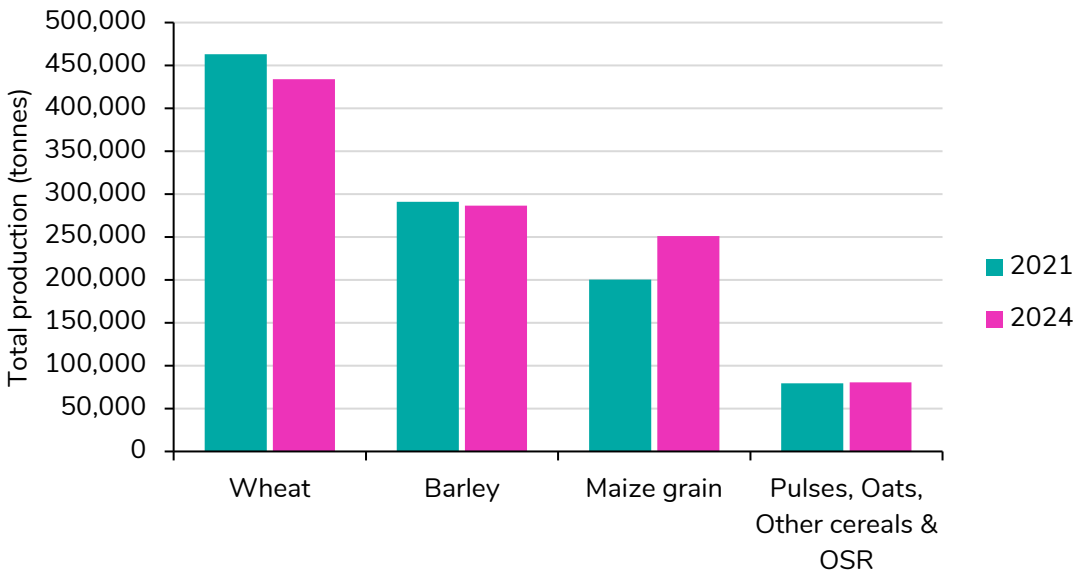
The following section details our approach to estimating the economic impact of grain crops in New Zealand. We analyse the production of different grains and how they flow to industry and farmers, what their estimated sales are, and ultimately the economic contribution of grain crops in terms of production gross domestic product (GDP) and employment (as measured by full-time equivalents (FTEs)).

2.1 Production

In 2024, there were 1,051,948 tonnes of grain sold – a slight two percent increase from 2021. This mostly comprised around 434,000 tonnes of wheat, 286,400 tonnes of barley, and 251,100 tonnes of maize grain.

The production of the predominant grain crops – wheat and barley – declined slightly between 2021 and 2024, while the production of smaller market grain crops – maize grain, pulses, oats, other cereals, and oilseed rape (OSR) – increased (Figure 1).

Figure 1 Total production by grain crop, 2021-2024



Source: BERL analysis

Grain crop flows to industry and farmers

The production of grain crops broadly flows to either industry or farmers, meeting both commercial and agricultural needs. Industry utilises grain crops for a variety of manufacturing processes, including milling for flour, producing food products such as breakfast cereals, and creating ingredients for processed foods. Whereas farmers primarily use grain crops for animal feed to support on-farm food production.

At an overall level, of the 1,051,948 tonnes of grain sold, 67 percent was sold to industry, including feed mills, flour and malt mills, and other uses. The split of production to either farmers or industry varies considerably between different grains (Table 1). For example, maize grain is almost exclusively sold to farmers, whereas pulses, oats, and OSR are almost exclusively sold to industry.

Table 1 Flows of grains sold to farmers and industry, 2024

	Tonnes sold	Flows to farmers		Flows to industry	
		Tonnes	Share (%)	Tonnes	Share (%)
Wheat	434,032	43,266	10	390,766	90
Barley	286,376	66,519	23	219,857	77
Oats	25,787	293	1	25,493	99
Maize grain	251,055	239,654	95	11,401	5
Other cereal grains	7,306	69	1	7,236	99
Pulses	36,918	0	0	36,918	100
Oilseed rape/Canola (OSR)	10,475	0	0	10,475	100
Total grains	**1,051,948**	**349,801**	**33**	**702,147**	**67**

Source: BERL analysis

The increase in the production of oats between 2021 and 2024 was entirely attributed to greater flows to industry, with an increase of around 2,600 tonnes sold to industry offsetting a 1,000 tonne drop in oats sold to farmers. This was similarly the case for pulses – an increase in sales to industry in parallel with a decrease in sales to farmers. Increasing industry demand for these grains can be attributed to rising consumer preferences for plant-based and health-focused products.

Flows to feed and human consumption

Table 2 disaggregates the tonnage of wheat, barley, and maize grain sold to farmers that went to either feed or human consumption in 2024. Of the 390,766 tonnes of wheat sold to industry, just under three quarters went to feed. Whereas, of the 219,857 tonnes of barley sold to industry, 76 percent went to feed, and the remainder was for human consumption, mostly malting. In New Zealand, maize is entirely used for animal consumption (i.e., feed).

Table 2 Grain tonnes to milling and livestock, 2024

	Tonnes to feed	Tonnes to human consumption
Wheat	288,535	102,232
Barley	166,343	53,514
Maize grain	251,055	0
Total	**705,932**	**155,746**

Source: BERL analysis

2.2 Sales

Once we estimate the flow of grains from New Zealand farms, we can then estimate their value at first point of sale, either to farmers or to industry. Overall, sales of grain crops totalled $529 million, with $148 million of this sold to farmers and $381 million to industry. This was an increase of 19 percent since 2021, up from $444 million. Table 3 presents sales by each grain crop in 2024.

Table 3 Sales of grains, 2024[3]

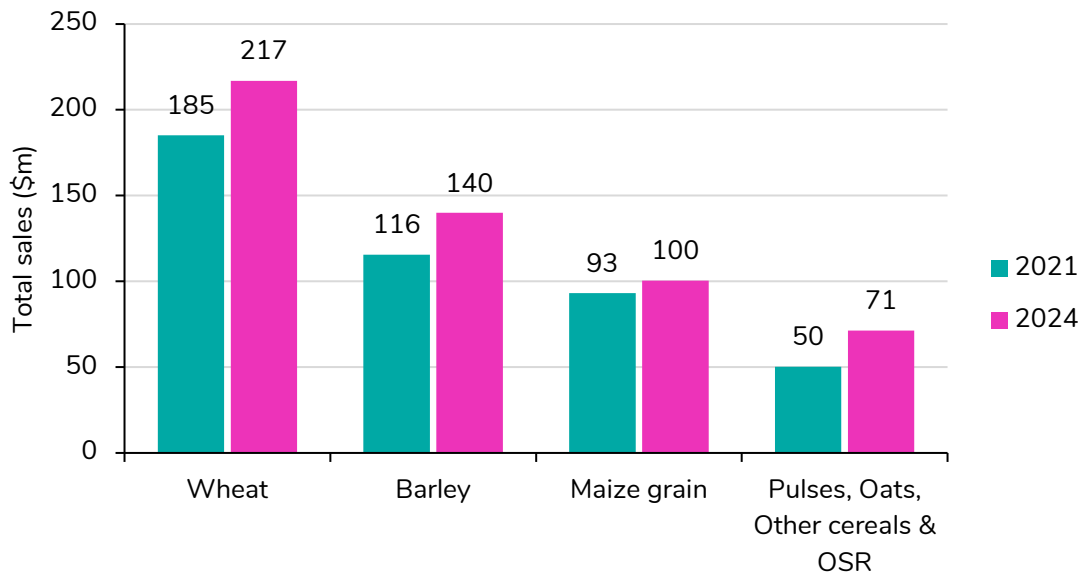
		Sales ($m)		
	Price ($/tonne)	To farmers	To industry	**Total**
Wheat		21	196	**217**
Milling	550	0	56	**56**
Feed	484	21	140	**161**
Barley		31	109	**140**
Malting	596	0.3	32	**32**
Feed	464	31	77	**108**
Maize grain	400	96	5	**100**
Oats	587	0	15	**15**
Other cereal grains	569	0	4	**4**
Pulses	1,155	0	43	**43**
Oilseed rape/Canola (OSR)	898	0	9	**9**
Total grains		**148**	**381**	**529**

Source: BERL analysis

Total sales of grain crops increased between 2021 and 2024 (Figure 2). Specifically, sales of pulses, oats, other cereal grains, and OSR increased by $21 million – the largest percentage increase from each crop.

[3] Values may not add up to total due to rounding.

Figure 2 Sales of grains, 2021-2024



Source: BERL analysis

2.3 Economic impact of grain production

In 2024, the direct sales of grain in New Zealand were valued at $529 million, comprising particularly of wheat and barley (Table 3). This represents the *direct* economic impact of grain production in New Zealand. With the value of grain sales, we utilise multiplier analysis to estimate the *indirect* and, ultimately, the *total* economic impact of grain production, from the suppliers to the arable production industry.

> In 2024, grain production generated $500 million in total production GDP in New Zealand, an increase from $420 million in 2021.

From direct grain sales of $529 million (see Section 2.2), as this spending flows between industries and throughout the wider economy, a total of $1.1 billion of sales is generated (Table 4). Furthermore, from these sales, the total economic impact of grain production in New Zealand included a $500 million contribution to GDP with total employment of 2,994 FTEs supported.

Table 4 Economic impact of grains and pulses, 2024

	Direct impact	**Total impact**
Total sales ($m)	529	**1,112**
GDP ($m)	227	**500**
Employment (FTEs)	1,252	**2,994**

Source: BERL analysis

Importantly, across all three metrics (sales, GDP, and employment) – largely because of increased sales – the economic impact of grain production in New Zealand grew between 2021 and 2024:

- **Total sales**: Increased from $935 million to $1,112 million
- **Total GDP**: Increased from $420 million to $500 million
- **Total employment**: Increased from 2,903 FTEs to 2,994 FTEs.

The change in the total economic impact between 2021 and 2024, in terms of GDP and employment created, is presented by each grain crop in the following two sub-sections.

2.3.1 Total GDP contribution by grain crop

GDP is the total of value added to all products in the New Zealand economy. In the case of grains, this is obtained as the proportion of value added for each $1 of sales, obtained from industry analyses.

Direct sales of grains of $529 million resulted in a direct GDP of $227 million in 2024 (Table 4). Further economic activity is created through supply-chain purchases, and as employees in both the grain producing and supplying industries spend their wages in the wider economy. Together, these represented a total GDP impact of $500 million (Table 5).

Table 5 details the growth in total GDP of grain production in New Zealand between 2021 and 2024, with additional economic activity decreasing for only a few grain crops.

Table 5 Total grain contribution to production GDP, 2021-2024

GDP ($m) - Total impact	2021	2024	Change (%)
Wheat	**175**	**205**	**17**
Milling	46	53	16
Feed	129	152	18
Barley	**109**	**132**	**21**
Malting	19	30	59
Feed	90	102	13
Maize grain	88	95	8
Oats	11	14	32
Other cereal grains	5	4	-19
Pulses	25	40	62
Oilseed Rape / Canola (OSR)	7	9	28
Total GDP	**420**	**500**	**19**

Source: BERL analysis

2.3.2 Total employment supported by grain crops

Grain production in New Zealand is estimated to directly support 1,252 FTEs in 2024 (Table 4). This includes employment directly attributable to the on-farm activities involved in growing, harvesting, and preparing grain crops for sale, before any downstream processing or supply chain effects are considered.

Additional jobs (i.e., FTEs) are supported through the supply-chain activity connected to grain producers and the spending from their employees. In total, grain production is estimated to support approximately 2,994 FTEs in the wider New Zealand economy, an increase from 2,903 FTEs in 2021 (Table 6).

The total employment of select grain crops, namely pulses and barley for malting, offset decreases in employment of other grain crops, such maize silage, and barley for feed.

Table 6 Total grain contribution to employment (FTEs), 2021-2024

Employment (FTEs) - Total impact	2021	2024	Change (Actual)
Wheat	**1,210**	**1,229**	**19**
Milling	317	319	2
Feed	893	910	17
Barley	**756**	**793**	**37**
Malting	132	182	50
Feed	623	610	-13
Maize grain	608	569	-40
Oats	75	86	11
Other cereal grains	34	24	-10
Pulses	172	241	69
Oilseed rape/Canola (OSR)	48	53	5
Total employment	**2,903**	**2,994**	**92**

Source: BERL analysis

3 Maize silage in New Zealand

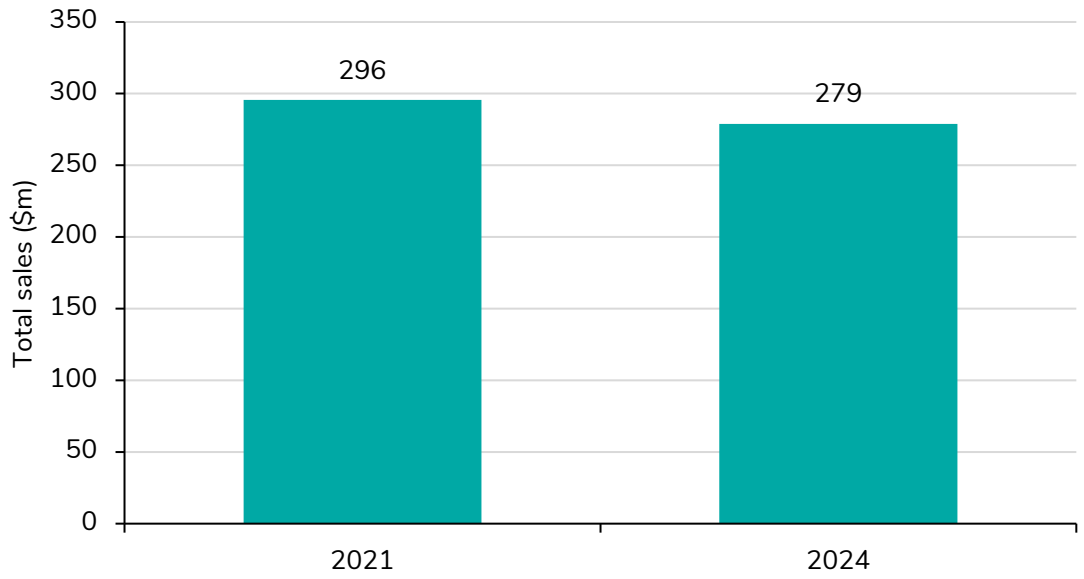
The following section presents our approach to estimating the economic impact of maize silage in New Zealand. We analyse the production, estimate total value of sales, and ultimately, the economic contribution of maize silage production in terms of production GDP and employment (FTEs).

3.1 Production and sales

In 2024, an estimated 1,115,854 tonnes of maize silage was produced in New Zealand, a slight six percent decrease from 2021. Maize silage is exclusively used by farmers – serving as key feed for dairy and beef cattle within New Zealand's wider primary sector.

From this production, the value of sales from maize silage in 2024 was $279 million (Figure 3). Again, reflecting the decrease in production, the value of sales also decreased, down from $296 million in 2021.

Figure 3 Sales of maize silage, 2021-2024



Source: BERL analysis

3.2 Economic impact of maize silage

In 2024, the direct sales of maize silage in New Zealand were valued at $279 million. From these direct sales, multiplier analysis is used to estimate the indirect and, ultimately, total economic impact of seed production in New Zealand.

The upstream effects – activity generated among input suppliers and service providers – of maize silage sales results in total sales of $587 million. From this, the total value added to the economy from maize silage production – measured as GDP – was estimated at $264 million (Table 7).

> In 2024, maize silage production generated a total of $264 million in production GDP in New Zealand, down slightly from $280 million in 2021.

A total of 1,580 FTEs were supported by maize silage production in the wider New Zealand economy. This includes the direct employment of maize silage farmers, as well as the employment in the supply chain.

Table 7 Economic impact of maize, 2024

	Direct impact	**Total impacts**
Total sales ($m)	279	**587**
GDP ($m)	120	**264**
Employment (FTEs)	661	**1,580**

Source: BERL analysis

As a result of lower levels of maize silage production between 2021 and 2024, the total economic impact of maize silage production in New Zealand also decreased:

- **Total sales**: Decreased from $622 million to $587 million
- **Total GDP**: Decreased from $280 million to $264 million
- **Total employment**: Decreased from 1,932 FTEs to 1,580 FTEs.

4 Seeds for sowing in New Zealand

The following section details our approach to estimating the economic impact of seeds in New Zealand. We analyse the production of different seeds for sowing, estimate the total value of sales and, ultimately, the economic contribution of seeds in terms of production GDP and employment (FTEs).

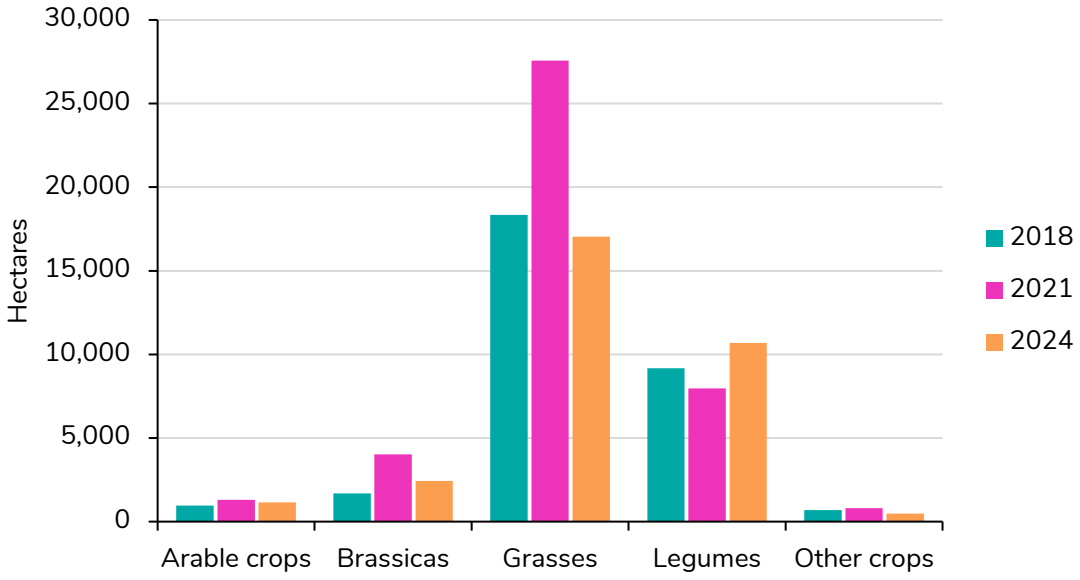
4.1 Production

4.1.1 Hectares of seeds

In 2024, there were close to 32,000 hectares of land for seed crops in New Zealand, with 54 percent of this accounted for by grasses (17,030 hectares) and 34 percent by legumes (10,690 hectares).

The overall amount of seed crop land area decreased notably between 2021 and 2024, down from 41,647 hectares, largely because of less land area planted for grasses (Figure 4). This decrease suggests that the total land area used for seed crops is approaching the figure recorded in 2018.

Figure 4 Hectares of seed production in New Zealand, 2018-2024



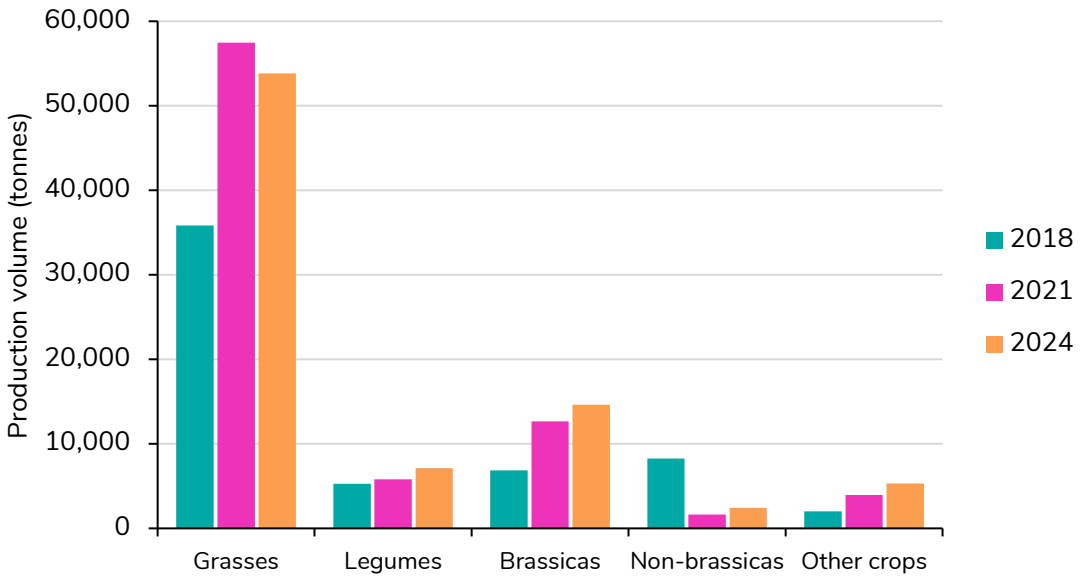
Source: BERL analysis

4.1.2 Production of seed

From the around 32,000 hectares of land area where seeds for sowing were planted, a total of 83,303 tonnes of seeds were produced in 2024, with 53,818 tonnes of this accounted for by grasses (Figure 5).

Despite the amount of planted area for seed cropping decreasing between 2021 and 2024, the production volume from this land increased by around 1,833 tonnes.

Figure 5 Seeds production, 2018-2024

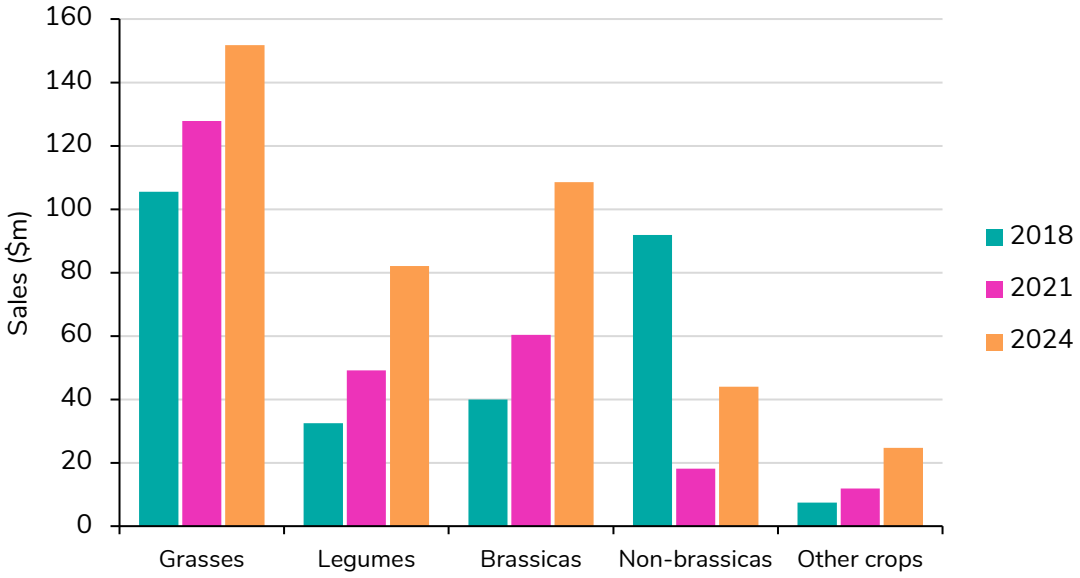


Source: BERL analysis

4.2 Sales

Between 2021 and 2024, sales of seeds for sowing increased significantly from $267 million to $411 million, a 54 percent increase. This was supported by sales of $152 million in grasses and an increase in brassica sales from $60 million to $109 million (Figure 6).

Figure 6 Sales of seed production, 2018-2024



Source: BERL analysis

Continued global demand for healthier and more nutrient-rich food will continue to support further growth in sales of in brassica, and to a similar extent, legumes seeds.

4.3 Economic impact of seeds for sowing

In 2024, the direct sales of seeds for sowing in New Zealand were valued at $411 million, with particularly strong sales of grasses, brassicas, and legumes (Figure 6). From these direct sales, multiplier analysis is used to estimate the *indirect* and, ultimately, *total* economic impact of seed production in New Zealand.

Once we considered the upstream effects of $411 million worth of sales of seeds, which includes the additional activity generated among input suppliers and service providers, total sales across the New Zealand economy equalled $865 million (Table 8). Of this activity, the value added to the economy from seed production – measured as GDP – was estimated at $389 million.

> In 2024, seed production generated a total of $389 million in production GDP in New Zealand, an increase from $253 million in 2021.

A total of 2,329 FTEs were supported by seed production in the wider New Zealand economy. This includes the direct employment of seed farmers, as well as the employment in the supply chain.

Table 8 Economic impact of seeds for sowing, 2024

	Direct impact	**Total impacts**
Total sales ($m)	411	**865**
GDP ($m)	177	**389**
Employment (FTEs)	974	**2,329**

Source: BERL analysis

As a product of higher sales from seed production between 2021 and 2024, the total economic impact – as measured by sales, GDP, and employment - of seed production in New Zealand increased:

- **Total sales**: Increased from $563 million to $865 million
- **Total GDP**: Increased from $253 million to $389 million
- **Total employment**: Increased from 1,747 FTEs to 2,329 FTEs.

The change in the total economic impact between 2021 and 2024, in terms of GDP and employment created, is presented by each seed type in the following two sub-sections.

4.3.1 Total GDP contribution by seed type

Direct sales of seeds of $411 million resulted in a direct GDP contribution of $177 million in 2024. Once we considered the further upstream economic activity from this, such as supply-chain purchases and spending from employees' wages, the total GDP impact of seed production in New Zealand equalled $389 million in 2024 (Table 9).

Table 9 Total seed contribution to production GDP, 2021-2024

GDP ($m) - Total impact	2021	2024	Change (%)
Grasses	121	144	19
Legumes	47	78	67
Brassicas	57	103	80
Non-brassicas	17	42	142
Total other crops	11	23	109
Total GDP	**253**	**389**	**54**

Source: BERL analysis

Following greater levels of sales (Section 4.2) the total GDP contribution, from the production of brassica and legume seeds in particular, increased – up $46 million and $31 million, respectively.

4.3.2 Total employment supported by seed type

Seed production in New Zealand was estimated to directly support 974 FTEs in 2024 (Table 8). This includes jobs directly involved in the initial production processes of seeds for sowing. Further jobs (i.e., FTEs) are supported through the supply-chain activity connected to seed producers, and the spending from their employees. In total, seed production was estimated to support approximately 2,329 FTEs in the wider New Zealand economy, an increase from 1,747 FTEs in 2021 (Table 10).

Table 10 Total seed contribution to employment (FTEs), 2021-2024

Employment (FTEs) - Total impact	2021	2024	Change (Actual)
Grasses	835	860	25
Legumes	321	465	144
Brassicas	394	615	221
Non-brassicas	119	249	131
Total other crops	77	140	63
Total employment	**1,747**	**2,329**	**582**

Source: BERL analysis

5 Economic impact of arable production

The following section summarises the analysis in this report to present the overall economic impact of the arable industry in New Zealand. That is, the total economic impact of grain and seed production in New Zealand as measured by sales, production GDP, and employment (FTEs).

5.1 Overall impact of the arable industry

In 2024, the estimated value of direct sales from the arable industry was $1,219 million, which resulted from the production of around 1.1 million tonnes of grains, 1.1 million tonnes of maize silage, and 83,000 tonnes of seeds. The *direct* value added to the economy from this activity equalled $524 million and was sufficient to *directly* support an estimated 2,886 FTEs (Table 11).

Table 11 Economic impact of the arable industry, 2024

	Direct impact	**Total impact**
Sales ($m)		
Grain and pulse production	529	**1,112**
Maize silage	279	**587**
Seeds	411	**865**
Total	**1,219**	**2,565**
GDP ($m)		
Grain and pulse production	227	**500**
Maize silage	120	**264**
Seeds	177	**389**
Total	**524**	**1,154**
Employment (FTEs)		
Grain and pulse production	1,252	**2,994**
Maize silage	661	**1,580**
Seeds	974	**2,329**
Total	**2,886**	**6,904**

Source: BERL analysis

The total impact of the arable industry in New Zealand - which considers the direct effects of production, purchases and services in the supply chain, and spending from employees – included a contribution to GDP of $1.2 billion and approximately 6,904 FTEs supported.

> Between 2021 and 2024, the total GDP contribution of the arable industry in New Zealand increased from $953 million to $1.2 billion.

In addition, the arable industry now supports nearly 322 more FTEs in 2024, after the total number of FTEs supported increased from 6,582 in 2021 to 6,904 in 2024.

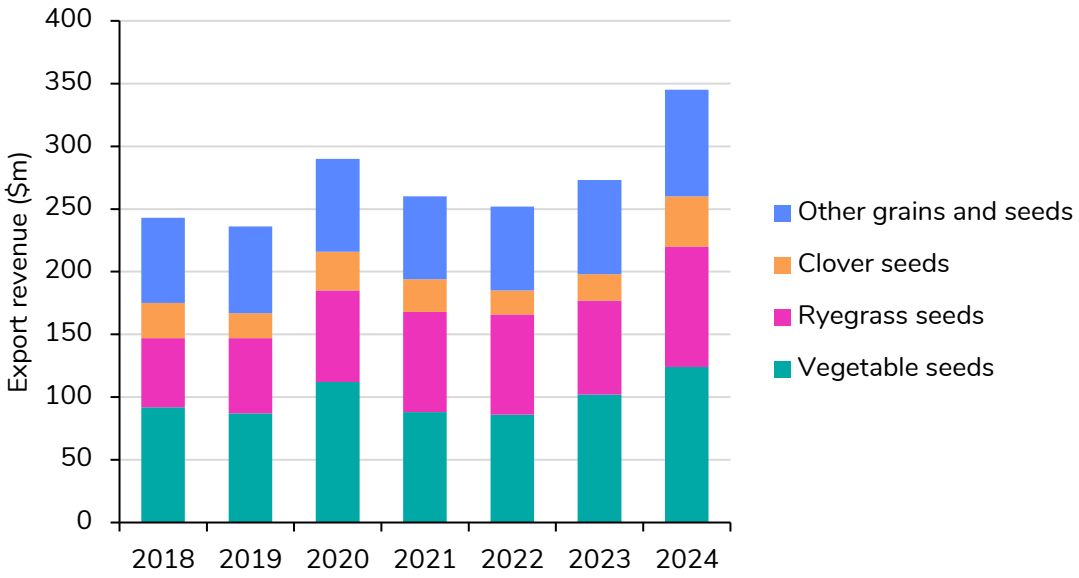
6 Arable exports

The following section summarises statistics on the performance of New Zealand's arable exports. These statistics are available from the Ministry for Primary Industries Situation and Outlook for Primary Industries (SOPI) releases.

In 2024, the total revenue from New Zealand's arable exports was $345 million, following a particularly significant increase in value of $72 million from 2023.[4] Notably, this followed four years of relatively flat or declining growth in overall value between 2020 and 2023 (Figure 7).

The primary market for New Zealand's arable exports was the European Union, accounting for 44 percent of all exports, followed by Australia at 13 percent, and the United States at eight percent.

Figure 7 Export revenue of arable exports from New Zealand, 2018-2024



Source: BERL analysis, SOPI (June 2025)

Vegetable seeds remain the largest contributor to overall arable export revenue (36 percent of the arable export profile), although ryegrass seeds have been increasing as a share of the arable export profile, contributing 28 percent of export revenue in 2024, up from 23 percent in 2018.

[4] The June 2024 SOPI provides actual arable export revenue between 2021 and 2024 and forecast arable export revenue between 2025 and 2029.

Table 12 Export revenue of arable exports from New Zealand, 2018-2024

	Export revenue ($m)							
Crop	2018	2019	2020	2021	2022	2023	2024	Change (%)
Vegetable seeds	92	87	112	88	86	102	124	35
Ryegrass seeds	55	60	73	80	80	75	96	75
Clover seeds	28	20	31	26	19	21	40	43
Other grains and seeds	68	69	74	66	67	75	85	25
Total	**243**	**236**	**290**	**260**	**252**	**273**	**345**	**42**

Source: BERL analysis, SOPI (June 2025)

Furthermore, ryegrass seeds stand out in terms of 75 percent growth between 2018 and 2024, compared to 43 percent for clover seeds, 35 percent for vegetable seeds, and 25 percent for other grains and seeds (Table 12). However, despite this growth in revenue from ryegrass seeds, the June 2025 SOPI warns that global oversupply is likely to affect future demand for New Zealand exports.

Overall, revenue from New Zealand's arable exports is forecast to remain relatively flat in the near future, before climbing to $370 million in 2029.

Appendix A Multiplier analysis

This section sets out the methodology that we used to estimate the economic impact of the arable industry in New Zealand. We use multiplier analysis using multipliers derived from inter-industry input-output (IO) tables to estimate the total impact on GDP and employment of an initial direct impact to the economy. That is, multipliers allow us to identify the *direct*, *indirect*, and *induced* effects of additional activity or expenditure in terms of output, value add (GDP), and FTE employment. In this report we discuss the *direct* impact of arable production and the total impact, which combines *direct*, *indirect*, and *induced* effects.

The direct impact to the economy in this case was the sales of grain and seeds, or the arable industry, in New Zealand. These sales have an effect on the wider economy that can be estimated through multiplier analysis.

Sales from the arable industry have *indirect* effects by virtue of the fact that its expenditures on goods and services (other than labour) require other businesses and sector service providers to increase their outputs and, hence, their inputs, including their employment. In turn, the providers' own providers need to increase their outputs and inputs. And so on, down the supply chain.

Furthermore, these sales also have induced effects, which arise when the employees involved in arable production, and the additional employees of the providers in the supply chain, spend their wages and salaries on consumer goods and services. This stimulates the producers of consumer goods and services to increase employment in their businesses. Again, this effect is repeated all the way down the supply chain.

Together, the indirect and induced effects are known as the multiplier (or flow-on) effects. These multiplier effects can mean that the total impacts of any economic activity (i.e., the direct plus indirect plus induced effects) are considerably larger than the direct effects alone.

Measures of economic contribution

The results from the economic analysis have been expressed in terms of sales, value added, and employment.

Sales

Sales is the value of production. Sales are often made up of the sum of compensation of employees (i.e., salaries and wages), income from self-employment, depreciation, profits, indirect taxes less

subsidies, intermediate purchases of goods (other than stock in trade), and intermediate purchases of services.

Value added (GDP) multipliers

Value added multipliers measure the increase in output generated along the production chain which, in aggregate, totals GDP. Value added is made up of the sum of compensation of employees (i.e., salaries and wages), income from self-employment, depreciation, profits and indirect taxes less subsidies.

Employment impact multipliers

Employment impact multipliers determine the number of FTE roles that are created for every $1 million spent in an industry for one year. It provides a measure of total labour demand associated with gross output.

An FTE is the percentage of time an employee works represented as a decimal. A full-time position is 1.00, a part-time position is 0.50.

Appendix B Sources

Key information on various aspects of arable production in New Zealand used in this report is sourced from the following organisations:

- **Stats NZ** collects information on a range of aspects of arable production in New Zealand through various surveys and censuses of agricultural production. Stats NZ also estimates area and tonnages harvested for main crops.
- The **Foundation for Arable Research (FAR)** is a levy-funded research organisation. As part of its levy-collection function FAR collects detailed information on the volume of sales and value of all grains and seeds sold. The levy on these values is collected at first point of sale, whether to industry, or to another grower. This information, on volume and value, also enables an estimate of average prices per kilogram or tonne at each point of sale.
- **AsureQuality** is responsible for operating the Seed Certification scheme in New Zealand. It has information for each cultivar of each species, the number of sites entered for seed certification, and the total area in hectares, from the sites entered in the scheme. Taken with the total production information from the FAR levy data, this enables separation into certified and noncertified production.
- **Arable Industry Marketing Initiative (AIMI)** collects a range of information on the main grains. This includes, for feed grains and milling grains, the areas, production, stocks on hand, and marketing channels.
- The **New Zealand Feed Manufacturing Association (NZFMA)** collects detailed information on the use of local and imported products for compound animal feed manufacture in both the North and South Islands. The NZFMA includes most of the major players in the industry, and so provides an accurate estimate of the volumes of grains going into compound feed manufacture.
- The **Ministry for Primary Industries (MPI)** biannually releases the *Situation and Outlook for Primary Industries* (SOPI) which provides information on the performance of primary industry sectors and relevant recent developments. Specifically, the SOPI also reports on arable export revenue, market demand, and forecast performance.

Following feedback from the industry and AFIC we have based our analyses on the levy information from FAR for the 2024 year, and have used other sources to estimate volumes and value going to the different uses.