



The objective of this AIMI survey of cereal growers in New Zealand (NZ) was to determine, as at July 1, 2023:

- *the final size of the 2023 NZ harvest of wheat, barley and oats (divided into milling/malting and feed crops)*
- *sales channels and level of on-farm storage, both sold and unsold, of the 2023 harvest of these six crops*
- *autumn/winter sowings of wheat, barley and oats (both milling/malting and feed), and sowing intentions for the spring of 2023*

Survey details

The data from 120 NZ survey farms as at July 1, 2023 were scaled up to the national level using the most recent, 2022, final NZ Agricultural Production Statistics (APS). As with all surveys, there is a margin of error which needs to be considered in relation to this report. These figures reflect the position on July 1, 2023 and there will have been changes since this time. Note, unsold and sold grain carried over from the 2022 harvest were not estimated in this survey. However, on April 1, 2023 this carry-over grain was only 0.8% of the 2022 harvest, so adding any grain remaining on farms from 2022 would do little to change the complete picture.

Key Points at July 1, 2023 *(figures have been rounded to the nearest 100):*

- Harvest conditions were variable across the country, with a cyclone in February affecting regions in the North Island, flooding ground, delaying harvest, reducing yield and quality and in some cases large portions of crops were lost. The South Island experienced favourable harvest conditions across most regions, until March, when parts of Canterbury experienced rain which delayed harvest.
- Overall, 2023 harvest data showed that yields were up compared to last season (by 6% over all six crops) and the area harvested was similar (up 1%). The net result was a 7% increase in total tonnage compared to last season.
- Unsold stocks of feed wheat are down on this time last year (down 5,400 tonnes), and unsold feed barley stocks are up by 37,600 tonnes on last year. Unsold stocks of milling wheat are up 11,200 tonnes on last year, and unsold stocks of malting barley are down 5,400 tonnes on last year.
- When totalled over all six cereal crops (including oats), the 2024 harvest hectares are predicted to be 1% down on the 2023 harvest hectares (from 96,000 hectares to 94,700 hectares).

Final estimated average yields were, over all six crops, up by 6% this season compared to last season. Feed wheat yields were up an estimated 1%, feed barley yields up 11%, milling wheat yields up 4%, malting barley yields up 6%, milling oats yields up 15% and feed oats yields down 2% compared to last season.

The tonnages of unsold feed grain were estimated at 56,000 t of feed wheat and 97,000 t of feed barley, as at 1 July 2023; in addition, there was an estimated 26,700 t of unsold milling wheat and 4,500 t of unsold malting barley. The predicted 2024 harvest hectares, when totalled over all six cereal crops, are estimated to be down 1% on the 2023 harvest hectares (from 96,000 hectares to 94,700 hectares).

Milling wheat: Estimated final total tonnage (113,700 t) was up 44% compared to last year's harvest. Of this total, 76% has been sold (87,000 t), although a large amount of the sold grain is still stored on farm (62%). The amount of unsold grain is 26,700 tonnes (24%), which is higher than at the same time last year, 1 July 2022 (15,500 t). The amount of unsold grain decreased between 1 April and 1 July 2023 by 5,900 t (or 18%).

Feed wheat: Estimated final total tonnage (319,000 t) was down 1% compared to last year's harvest. Of this total, 82% has been sold (263,100 t), with 58% of the sold grain still stored on farm. The amount of unsold grain is 56,000 tonnes (18%), which is lower than at the same time last year, 1 July 2022 (61,400 t). The amount of unsold grain decreased between 1 April and 1 July 2023 by 35,300 t (or 39%).

Feed barley: Estimated final total tonnage (289,100 t) was up 3% compared to last year. Of this total tonnage 66% has been sold (192,100 t), with 38% of the sold grain still stored on farm. The amount of unsold grain is 97,000 tonnes (34%), which is higher than at the same time last year, 1 July 2022 (59,300 t). The amount of unsold grain decreased between 1 April and 1 July 2023 by 14,700 t (or 13%).

For other cereals: Compared to last year, estimated final total tonnage for malting barley (70,700 t) was up by 47%, milling oats (19,700 t) was up by 6%, and feed oats (9,700 t) was down by 33%. Malting barley had 6% of the total harvest unsold (4,500 t) while milling oats and feed oats had 1% (200 t) and 9% (900 t) unsold, respectively, as at 1 July, 2023. Of the sold grain, 66% of malting barley was still on farm, as compared to 67% of milling oats and 61% of feed oats. Between 1 April and 1 July 2023, the amount of unsold grain decreased by 22% for malting barley, decreased by 40% for milling oats, and decreased by 38% for feed oats.

Sowings and sowing intentions: The actual area sown in autumn/winter wheat or barley, as at 1 July 2023, was down 2% overall on autumn/winter sowings plus intentions as at 1 April 2023. When autumn/winter sowings were combined with spring sowing intentions, the area sown or to be sown in wheat or barley was also predicted to be down 2% as compared to the area harvested in 2023, or up by 1% on the area harvested in 2022.

Establishing crops in cereal growing regions in the North Island and Southland has been challenging due to continued wet weather. Sowings and intentions for milling wheat are down 8% on last season, and sowings and intentions for feed wheat are down 6% on last season (and most of the latter has been sown). Sowings and intentions for malting barley are up 77% (or up 7,000 hectares), feed barley is down 15% (or down 5,700 hectares), milling oats is down 1% and feed oats is up 20%, although less than half of these four crops had actually been sown by July 1, 2023. When totalled over all six cereal crops (including oats), the 2024 harvest hectares are predicted to be 1% down on the 2023 harvest hectares (from 96,000 hectares to 94,700 hectares).

Milling wheat (tonnes)

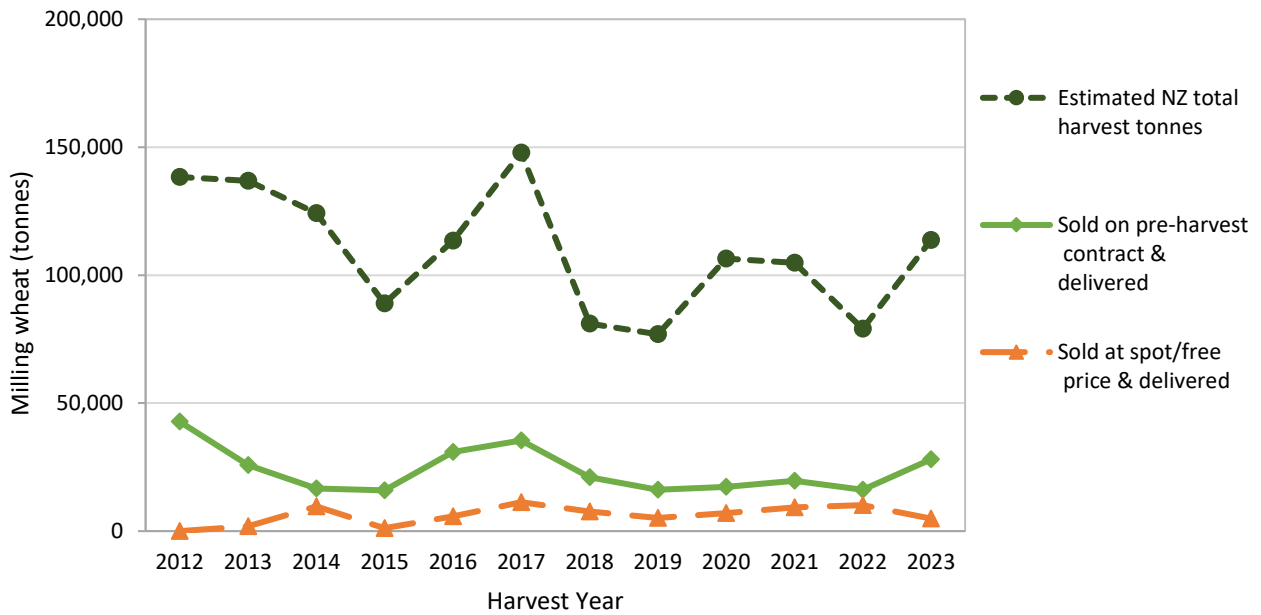


Figure 1a. NZ harvest tonnage and sales channels for milling wheat (tonnes) as estimated on July 1 each year. (Note: All categories relate to that season’s harvest, excluding carryover stock. “Sold at spot/free price and delivered” includes grain sold for feed. Historical data are from July AIMI Reports for 2012 to 2021, while 2022 and 2023 data are matched data from the current report. In 2012 “Sold at spot/free price and delivered” was zero since the question was simply “sold and delivered”, with responses reported as “Sold on pre-harvest contract and delivered”; also, there was no question on “grain sold for feed”.)

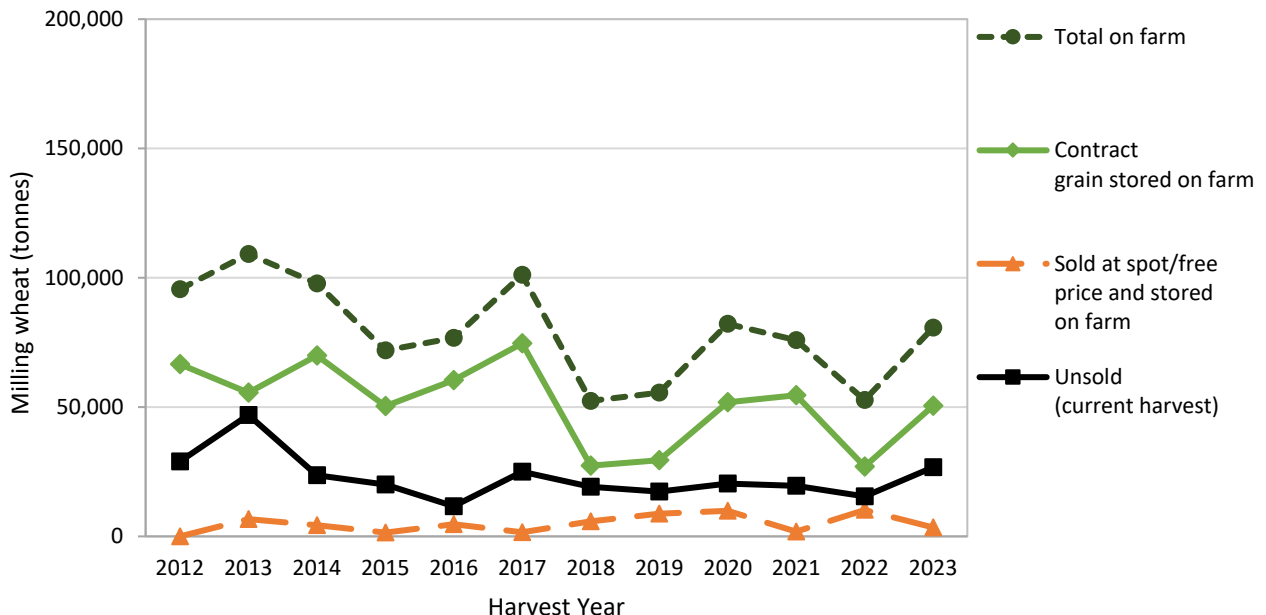


Figure 1b. NZ stocks on farm for milling wheat (tonnes) as estimated on July 1 each year. (Note: Carryover stock from the previous season is excluded. Historical data are from July AIMI Reports for 2012 to 2021, while 2022 and 2023 data are matched data from the current report. In 2012 “Sold at spot/free price and stored on farm” was zero since the question was simply “sold and stored on farm”, with responses reported as “Contract grain stored on farm”.)

Feed wheat (tonnes)

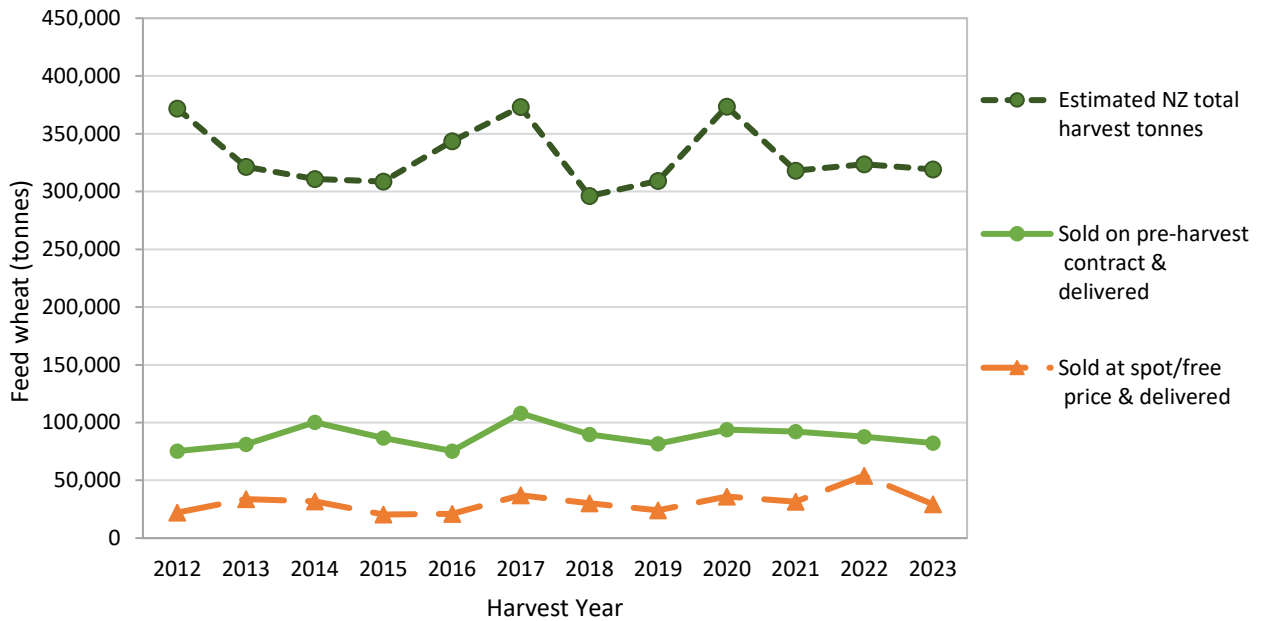


Figure 2a. NZ harvest tonnage and sales channels for feed wheat (tonnes) as estimated on July 1 each year.

(Note: All categories relate to that season’s harvest, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data are from July AIMI Reports for 2012 to 2021, while 2022 and 2023 data are matched data from the current report.)

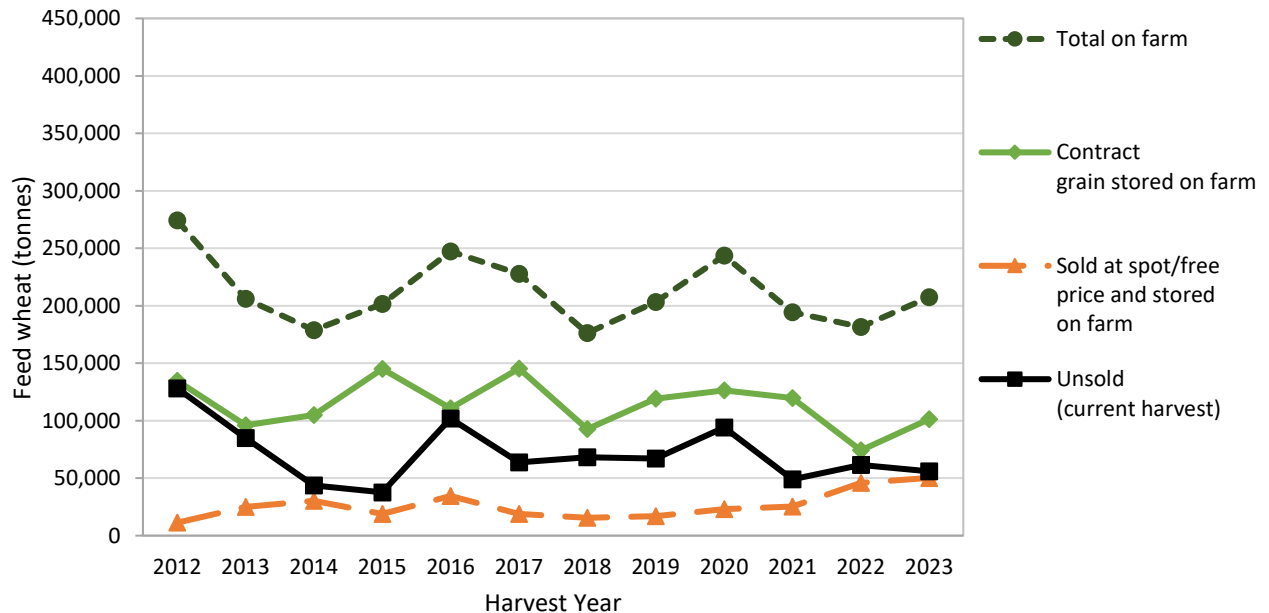


Figure 2b. NZ stocks on farm for feed wheat (tonnes) as estimated on July 1 each year.

(Note: Carryover stock from the previous season is excluded. Historical data are from July AIMI Reports for 2012 to 2021, while 2022 and 2023 data are matched data from the current report.)

Feed barley (tonnes)

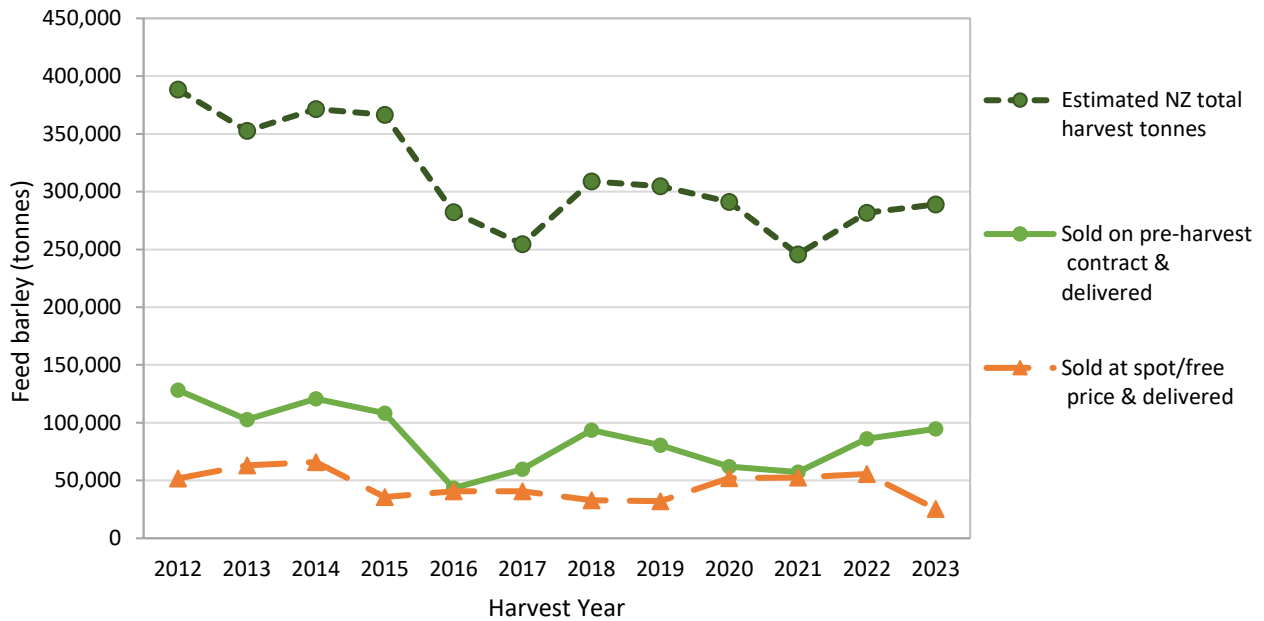


Figure 3a. NZ harvest tonnage and sales channels for feed barley (tonnes) as estimated on July 1 each year.

(Note: All categories relate to that season’s harvest, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data are from July AIMI Reports for 2012 to 2021, while 2022 and 2023 data are matched data from the current report.)

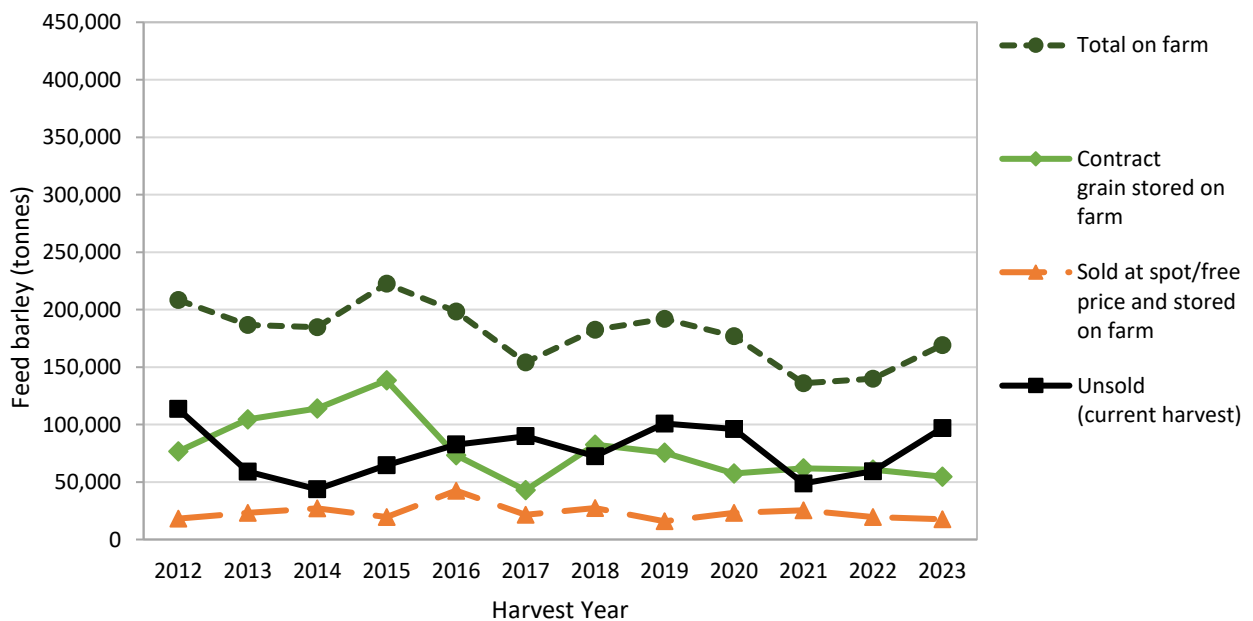


Figure 3b. NZ stocks on farm for feed barley (tonnes) as estimated on July 1 each year.

(Note: Carryover stock from the previous season is excluded. Historical data are from July AIMI Reports for 2012 to 2021, while 2022 and 2023 data are matched data from the current report.)

Comparison of estimated NZ-wide yield (tonnes per hectare) between harvests

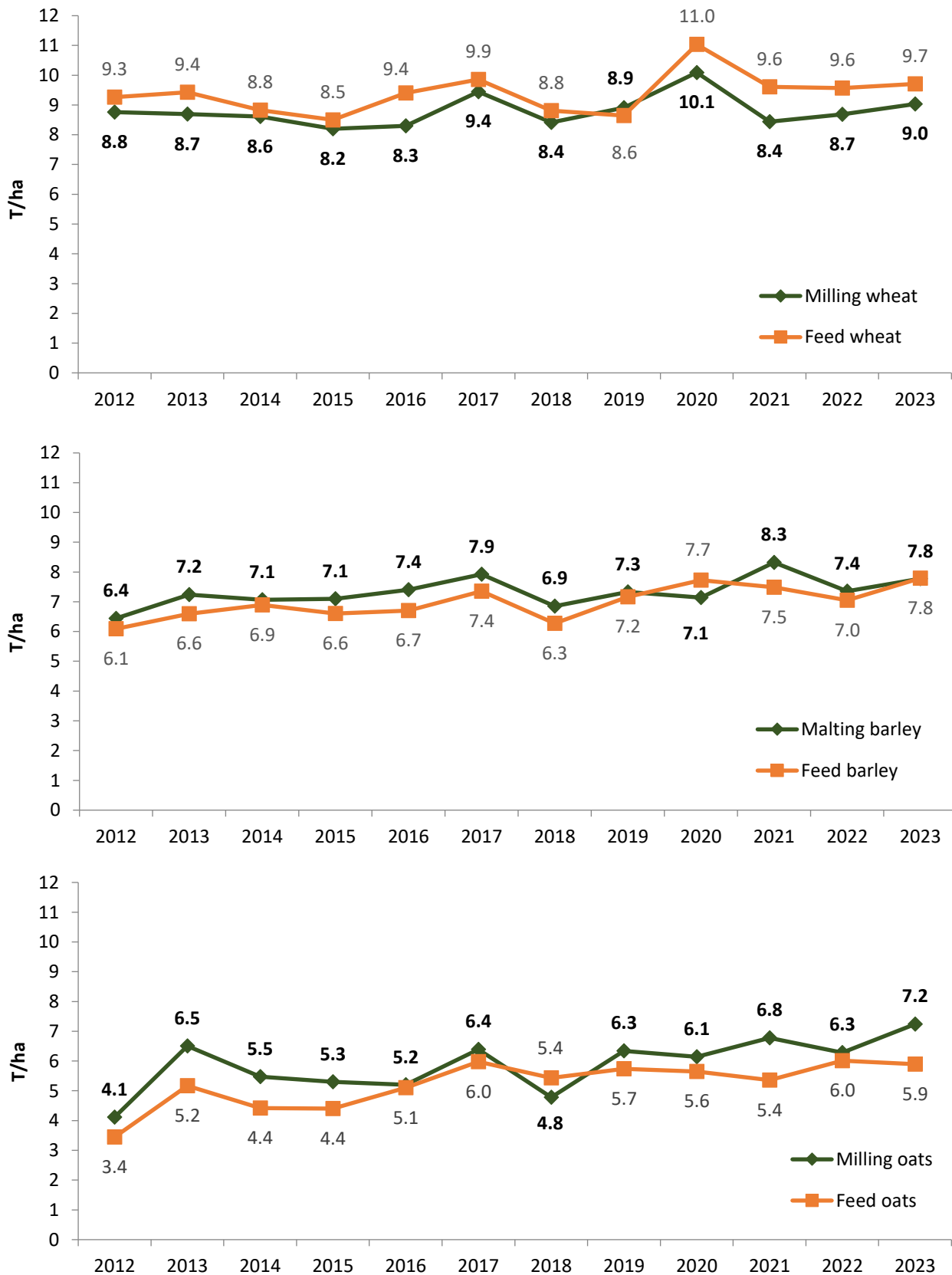


Figure 4. Comparison of NZ-wide yield (tonnes per ha) as estimated on July 1 each year, from 2012 to 2023 for six cereal crops.

(Note: Milling wheat contains biscuit and gristing varieties. Historical data are from July AIMI Reports for 2012 to 2021, while 2022 and 2023 data are matched data from the current report.)

Autumn/winter sowings and spring sowing intentions (combined) as at July 1, 2023 as compared to hectares harvested in previous years

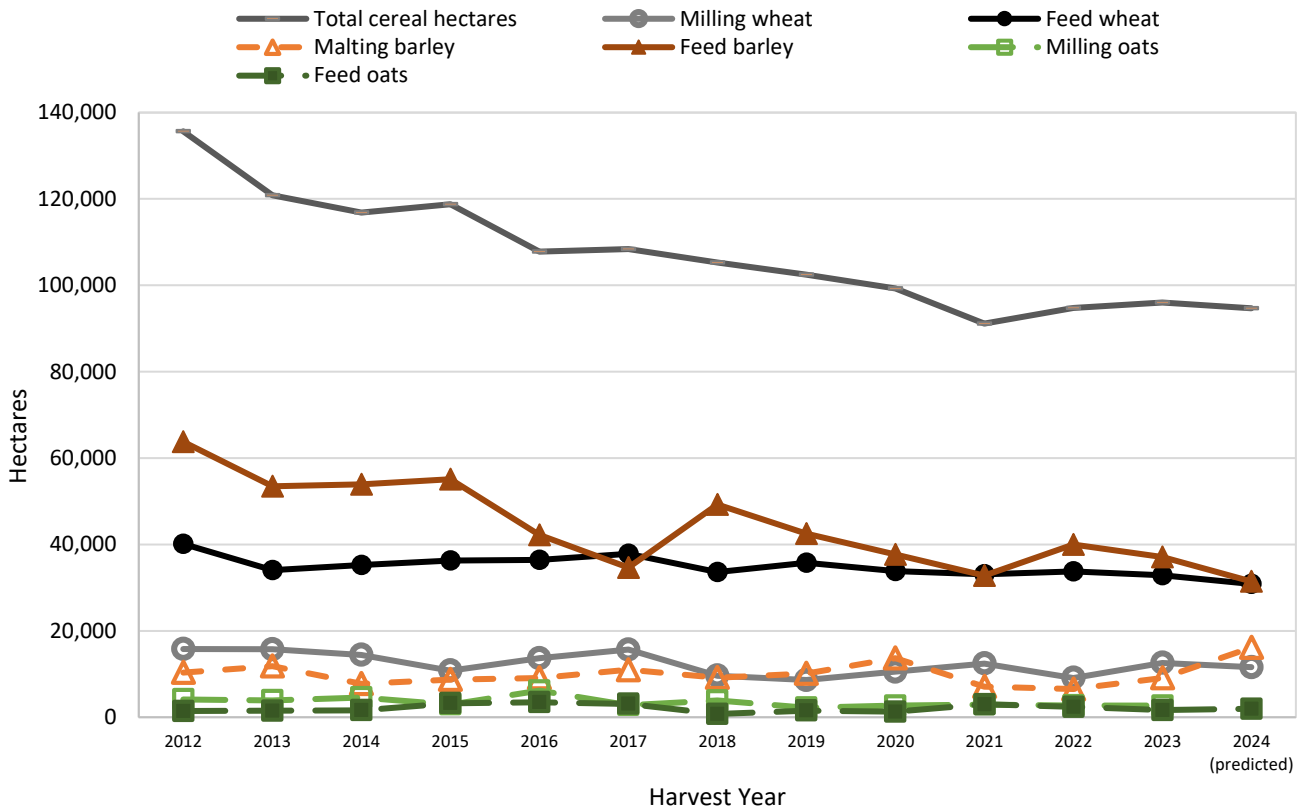


Figure 5. NZ harvest hectares for six cereal crops (and the total over the six crops) as estimated on July 1 each year, from 2012 to 2023 and predicted harvest hectares for 2024.

(Note: All figures represent final harvest hectares except for 2024 which is made up of hectares already sown and hectares intended to be sown for harvest in 2024. Refer to Fig. 6 for hectares already sown. Figures for 2022, 2023 and 2024 (predicted) are from the current report and are a matched comparison (scaled up from a common set of growers), while other figures are from previous AIMI July reports for 2012 – 2021.)

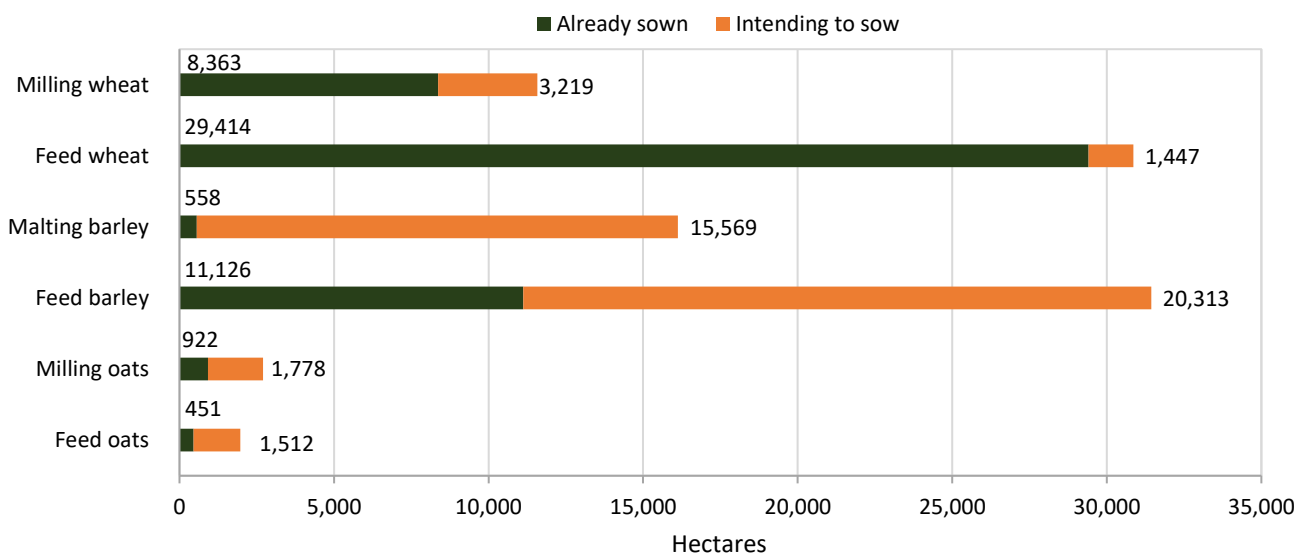


Figure 6. NZ autumn/winter 2023 sowings and spring 2023 sowing intentions (hectares) for harvest in 2024, for six cereal crops as estimated on July 1, 2023.

(Note: Numbers at the end of each bar are sowing intentions.)

Table 1. Detailed estimated national figures for the 2023 harvest, plus sold and delivered tonnages, for six cereal crops as at July 1, 2023.

	Units	Milling wheat 45	Feed wheat 81	Malting barley 26	Feed barley 86	Milling oats 10	Feed oats 11	Total (all crops) 119
Number of farmers in the survey who harvested this crop in 2023								
2022 harvest								
Estimated NZ total hectares, 2022 harvest	ha	9,102	33,798	6,534	39,966	2,946	2,408	94,754
Estimated NZ total tonnes, 2022 harvest	tonnes	79,092	323,508	48,072	281,628	18,516	14,475	765,291
2023 harvest								
Estimated NZ total hectares, 2023 harvest (final figures)	ha	12,588	32,864	9,105	37,110	2,716	1,640	96,022
Estimated NZ total tonnes, 2023 harvest (final figures)	tonnes	113,725	319,049	70,749	289,066	19,661	9,669	821,918
Sold under pre-harvest contract and delivered by July 1, 2023	tonnes	28,099	82,249	19,107	94,654	6,350	1,307	231,767
Pre-harvest contract grain stored on farm on July 1, 2023	tonnes	50,480	101,396	43,534	54,525	13,124	5,376	268,435
Sold at spot/free price and delivered by July 1, 2023	tonnes	913	27,671	1,437	20,857	0	1,983	52,861
Sold at spot/free price and stored on farm on July 1, 2023	tonnes	3,481	50,229	0	17,504	0	0	71,214
(For milling or malting only) Sold for feed by July 1, 2023	tonnes	4,009	-	2,134	-	0	-	6,142
(For feed only) Used on own farm (2023 harvest only) by July 1, 2023	tonnes	-	1,541	-	4,537	-	100	6,178
Unsold stocks on hand (2023 harvest only) on July 1, 2023	tonnes	26,744	55,964	4,537	96,988	187	903	185,322
Sales channels (2023 harvest)								
"Sold" under pre-harvest contract (total) by July 1, 2023	tonnes	78,579	183,645	62,641	149,179	19,475	6,683	500,201
Sold at spot/free price (total) by July 1, 2023 (includes sold for feed and used on farm)	tonnes	8,403	79,440	3,571	42,899	0	2,083	136,395
Delivery status of sold grain (2023 harvest)								
Sold and delivered (total) by July 1, 2023 (includes sold for feed and used on farm)	tonnes	33,021	111,461	22,677	120,048	6,350	3,390	296,948
"Sold" and stored on farm (total) on July 1, 2023	tonnes	53,961	151,624	43,534	72,029	13,124	5,376	339,649
Total sales (2023 harvest)								
Sold (grand total) by July 1, 2023 (includes sold for feed and used on farm)	tonnes	86,981	263,085	66,212	192,078	19,475	8,766	636,596
Unsold stocks on hand (2023 harvest only) on July 1, 2023	tonnes	26,744	55,964	4,537	96,988	187	903	185,322
Comparison of hectares and tonnages between last two harvests								
Estimated % change in hectares, 2022 to 2023 harvest	%	38%	-3%	39%	-7%	-8%	-32%	1%
Estimated % change in tonnes, 2022 to 2023 harvest	%	44%	-1%	47%	3%	6%	-33%	7%
Comparison of yields (t/ha) between last two harvests								
NZ-wide estimated yield, 2022 harvest	t/ha	8.7	9.6	7.4	7.0	6.3	6.0	8.1
NZ-wide estimated yield, 2023 harvest	t/ha	9.0	9.7	7.8	7.8	7.2	5.9	8.6

Table 1 continued.

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
Comparison of unsold grain as at July 1, 2023, with unsold grain as at April 1, 2023 (based upon matched data)								
Unsold (2023 harvest only) as at April 1, 2023 (including unharvested grain) (new matched estimate, based upon scaling up data from exact same 120 survey farms as above)	tonnes	32,641	91,306	5,800	111,674	312	1,454	243,188
Unsold (2023 harvest only) on July 1, 2023 (as above)	tonnes	26,744	55,964	4,537	96,988	187	903	185,322
Estimated drop in tonnes of unsold grain, April 1, 2023 to July 1, 2023	tonnes	5,898	35,343	1,263	14,686	125	551	57,866
Estimated % drop in tonnes of unsold grain, April 1, 2023 to July 1, 2023	%	18%	39%	22%	13%	40%	38%	24%
Note: A negative drop means that the tonnage of unsold grain from the 2023 harvest has increased since the last survey date (1 April, 2023).								
Recalculated July 1, 2022 survey breakdown to enable more precise comparisons between July 1, 2022 and July 1, 2023 (based upon matched data)								
Sold under pre-harvest contract and delivered by July 1, 2022	tonnes	16,172	87,943	25,717	86,041	2,864	4,881	223,618
Pre-harvest contract grain stored on farm on July 1, 2022	tonnes	27,020	74,207	9,649	60,856	12,458	3,941	188,132
Sold at spot/free price and delivered by July 1, 2022	tonnes	6,905	52,500	496	52,957	1,743	1,855	116,457
Sold at spot/free price and stored on farm on July 1, 2022	tonnes	10,209	45,835	348	19,699	0	355	76,446
(For milling or malting only) Sold for feed by July 1, 2022	tonnes	3,264	-	1,898	-	0	-	5,163
(For feed only) Used on own farm by July 1, 2022	tonnes	-	1,626	-	2,735	-	112	4,473
Unsold stocks on hand (2022 harvest only) on July 1, 2022	tonnes	15,522	61,396	9,963	59,341	1,451	3,331	151,003
Comparison of unsold grain between last July and this July (based upon matched data)								
Unsold (2022 harvest only) as at July 1, 2022 (as above)	tonnes	15,522	61,396	9,963	59,341	1,451	3,331	151,003
Unsold (2023 harvest only) on July 1, 2023 (as above)	tonnes	26,744	55,964	4,537	96,988	187	903	185,322
Change in tonnes of unsold grain, July 1, 2022 to July 1, 2023	tonnes	11,222	-5,433	-5,425	37,647	-1,264	-2,428	34,319

Statistics NZ is gratefully acknowledged for supplying Final 2022 NZ Agricultural Production Statistics data on total hectares and tonnes for wheat, barley and oats.

Note: The matched comparisons in the last three sections were based upon scaling up data from the exact same survey farms for the last four AIMI surveys (not accounting for any carry-over from previous years).

In Table 2 below, feed wheat sowings/intentions, as at July 1, 2023, show a 6% decrease as compared to the last harvest (2023), and a 9% decrease as compared to the previous (2022) harvest. Feed barley sowings/intentions show an estimated 15% decrease compared to the last harvest (2023), and an estimated 21% decrease over the previous harvest (2022). Milling wheat sowings/intentions decreased by 8% as compared to the last harvest (2023), following a 38% increase between the 2022 and 2023 harvests, resulting in a nett increase of 27% over two years.

Malting barley sowings/intentions show a large increase (77%, or 7,000 hectares) as compared to the last harvest (2023), following another increase (39%, or 2,600 hectares) between the 2022 and 2023 harvests, resulting in a very large increase (147%, or 9,600 hectares) as compared to the 2022 harvest. However, only 3%, or 600 hectares of the malting barley sowings/intentions have actually been sown by July 1, 2023. As a total over all six cereal crops, sowings/intentions are 1% down on the last harvest (2023), and are identical to the previous harvest (2022). Autumn/winter actual sowings, as at July 1, 2023, were down 2% on autumn/winter sowings/intentions as at April 1, 2023.

Table 2. Sowings and sowing intentions (ha) for six cereal crops as at July 1, 2023.

	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
Number of farmers in the survey who have sown this crop in the autumn or winter or intend to sow in the spring, as at July 1, 2023	42	73	23	75	9	10	113
Estimated NZ total hectares, 2022 harvest	9,102	33,798	6,534	39,966	2,946	2,408	94,754
Estimated NZ total hectares, 2023 harvest	12,588	32,864	9,105	37,110	2,716	1,640	96,022
Estimated NZ total autumn/winter 2023 sowings as at July 1, 2023 (hectares, for harvest in 2024)	8,363	29,414	558	11,126	922	451	50,834
Estimated NZ total spring 2023 sowing intentions as at July 1, 2023 (hectares, for harvest in 2024)	3,219	1,447	15,569	20,313	1,778	1,512	43,837
Predicted NZ total hectares, 2024 harvest (autumn/winter sowings 2023 and spring 2023 sowing intentions combined)	11,582	30,861	16,127	31,438	2,700	1,963	94,672
Comparison of hectares between 2022, 2023 and 2024 (predicted) harvests							
Estimated % change in NZ total harvest hectares, 2022 to 2023 harvest	38%	-3%	39%	-7%	-8%	-32%	1%
Estimated % change in NZ total harvest hectares, 2023 to 2024 harvest (predicted)	-8%	-6%	77%	-15%	-1%	20%	-1%
Estimated % change in NZ total harvest hectares over two seasons, 2022 to 2024 harvest (predicted)	27%	-9%	147%	-21%	-8%	-18%	0%
Comparison of autumn/winter 2023 actual sowings (as at July 1, 2023) with autumn/winter sowings plus intended sowings as at April 1, 2023 (based upon matched data)							
Estimated NZ total autumn/winter 2023 sowings and sowing intentions as at April 1, 2023 (date of previous survey) (hectares, for harvest in 2024)	7,747	29,239	1,361	12,142	1,114	132	51,734
Change in autumn/winter 2023 actual sowings (as at July 1, 2023) compared to autumn/winter sowings and sowing intentions as at April 1, 2023 (hectares)	617	175	-802	-1,016	-192	319	-900
Percentage change in autumn/winter 2023 actual sowings (as at July 1, 2023) compared to autumn/winter sowings and sowing intentions as at April 1, 2023	8%	1%	-59%	-8%	-17%	242%	-2%

Note: The matched comparison in the last three rows was based upon scaling up data from the exact same survey farms for both survey dates.



Arable Industry Marketing Initiative

FOR AIMI COMMITTEE ONLY: APPENDIX & REGIONAL DATA

NEW ZEALAND SURVEY OF CEREAL
AREAS AND VOLUMES: JULY 1, 2023

Cereal Survey Panel:

Count of completed: 125

Out of: 139

Report group* **120** (*Must have completed July and October 2022, April and July 2023 Surveys)

Comments

- Market weakening, demand back, dairy pay out down.
- Expenses up, price down - reduced margins, many undecided about sowing spring feed crops.
- Grain slow to move off farm, pest issues in silos.
- North Island cereal growers struggling with the wet.
- Wet Autumn/winter in Southland, some new crops drowned. Winter rains in Canterbury, but most autumn crops have established well.

Regional Summary

Table A.1. Average regional yields (t/ha) of harvested grain (from 120 responses), scaled up to NZ estimates.

Region	Milling Wheat	Feed Wheat	Malting Barley	Feed Barley	Milling Oats	Feed Oats	Total Growers Surveyed
ENI	6.6	4.9	5.3	4.8	-	5.0	7
SWNI	-	8.3	4.7	-	-	-	4
NSI	9.5	10.0	8.1	7.8	-	4.3	26
MC	9.7	11.5	8.4	8.9	6.5	7.2	39
SCNO	7.9	9.3	7.5	7.2	-	-	20
SOS	11.7	9.9	1.6	7.7	7.3	5.9	24
NZ Average	9.0	9.7	7.8	7.8	7.2	5.9	120

ENI = Eastern North Island, SWNI = South West North Island, NSI = Northern South Island, MC = Mid Canterbury, SCNO = South Canterbury North Otago, SOS = South Otago and Southland.

Table A.2 Tonnes of unsold grain (from 120 responses), scaled up to NZ estimates.

Region	Milling Wheat	Feed Wheat	Malting Barley	Feed Barley	Milling Oats	Feed Oats	Region Total
ENI	-	228	-	3,710	-	-	3,938
SWNI	-	-	-	-	-	-	-
NSI	1,683	3,766	87	12,114	-	137	17,787
MC	21,830	17,376	4,450	48,368	-	704	92,728
SCNO	2,842	25,942	-	21,075	-	-	49,859
SOS	388	8,651	-	11,722	187	62	21,010
NZ Total	26,744	55,964	4,537	96,988	187	903	185,322

Table A.3 Comparison of hectares harvested in 2023 with hectares already sown and intended to be sown (predicted) for harvest in 2024, scaled up to NZ estimates (from 120 responses).

Region	Milling Wheat		Feed Wheat		Malting Barley		Feed Barley		Milling Oats		Feed Oats	
	2023 Harvest	2024 Harvest	2023 Harvest	2024 Harvest	2023 Harvest	2024 Harvest	2023 Harvest	2024 Harvest	2023 Harvest	2024 Harvest	2023 Harvest	2024 Harvest
ENI	388	222	2,517	1,170	832	1,762	2,340	1,404	-	-	641	531
SWNI	-	-	262	264	358	459	-	-	-	-	-	-
NSI	2,959	3,012	2,877	2,586	745	-	6,804	5,246	-	-	181	27
MC	5,566	4,896	7,369	6,890	6,476	12,736	10,458	8,037	219	-	649	1,187
SCNO	3,642	3,392	9,412	9,124	520	1,040	7,416	6,742	-	-	-	73
SOS	33	61	10,428	10,829	173	130	10,092	10,009	2,497	2,700	169	146
NZ Total	12,588	11,582	32,864	30,861	9,105	16,127	37,110	31,438	2,716	2,700	1,640	1,963

Totals over 120 survey responses (Unscaled data)

In Table A.4, the yields per hectare on the survey farms were higher for the 2023 harvest as compared to the 2022 harvest for five out of the six crops. Yields were up by 0.3 t/ha for milling wheat, up by 0.1 t/ha for feed wheat, up by 0.4 t/ha for malting barley, up by 0.7 t/ha for feed barley, up by 1.0 t/ha for milling oats and down by 0.1 t/ha for feed oats, from the 2022 to 2023 harvests.

Table A.4 Data totalled over all survey respondents

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
Number of farmers in the survey who harvested this crop in 2023		45	81	26	86	10	11
2022 harvest							
Total hectares on survey farms, 2022 harvest	ha	1,642	6,097	754	4,612	444	363
Total tonnes on survey farms, 2022 harvest	tonnes	13,860	56,691	5,520	32,339	2,974	2,325
2023 harvest							
Total hectares on survey farms, 2023 harvest (final figures)	ha	2,271	5,929	1,051	4,282	410	247
Total tonnes on survey farms, 2023 harvest (final figures)	tonnes	19,929	55,910	8,124	33,193	3,158	1,553
Sold under pre-harvest contract and delivered by July 1, 2023	tonnes	4,924	14,413	2,194	10,869	1,020	210
Pre-harvest contract grain stored on farm on July 1, 2023	tonnes	8,846	17,768	4,999	6,261	2,108	864
Sold at spot/free price and delivered by July 1, 2023	tonnes	160	4,849	165	2,395	0	319
Sold at spot/free price and stored on farm on July 1, 2023	tonnes	610	8,802	0	2,010	0	0
(For milling or malting only) Sold for feed by July 1, 2023	tonnes	703	-	245	-	0	-
(For feed only) Used on own farm (2023 harvest only) by July 1, 2023	tonnes	-	270	-	521	-	16
Unsold stocks on hand (2023 harvest only) on July 1, 2023	tonnes	4,687	9,807	521	11,137	30	145
Comparison of yield (tonnes per ha) on survey farms between harvests							
Survey farms, 2022 harvest	t/ha	8.4	9.3	7.3	7.0	6.7	6.4
Survey farms, 2023 harvest	t/ha	8.8	9.4	7.7	7.8	7.7	6.3
Data for these SAME survey farms for comparisons of unsold grain between April 1, 2023 and July 1, 2023							
Unsold stocks on hand (from 2023 harvest) on April 1, 2023	tonnes	5,720	16,000	666	12,823	50	234
Unsold stocks on hand (from 2023 harvest) on July 1, 2023	tonnes	4,687	9,807	521	11,137	30	145
Data for these SAME survey farms from July 1, 2022 survey, to enable more precise, matched comparisons between July 1, 2022 and July 1, 2023							
Sold under pre-harvest contract and delivered by July 1, 2022	tonnes	2,834	15,411	2,953	9,880	460	784
Pre-harvest contract grain stored on farm on July 1, 2022	tonnes	4,735	13,004	1,108	6,988	2,001	633
Sold at spot/free price and delivered by July 1, 2022	tonnes	1,210	9,200	57	6,081	280	298
Sold at spot/free price and stored on farm on July 1, 2022	tonnes	1,789	8,032	40	2,262	0	57
(For milling or malting only) Sold for feed by July 1, 2022	tonnes	572	-	218	-	0	-
(For feed only) Used on own farm by July 1, 2022	tonnes	-	285	-	314	-	18
Unsold stocks on hand (2022 harvest only) on July 1, 2022	tonnes	2,720	10,759	1,144	6,814	233	535
Data for these SAME survey farms for matched comparisons of unsold grain between July 1, 2022 and July 1, 2023							
Unsold stocks on hand (from 2022 harvest) on July 1, 2022	tonnes	2,720	10,759	1,144	6,814	233	535
Unsold stocks on hand (from 2023 harvest) on July 1, 2023	tonnes	4,687	9,807	521	11,137	30	145

In Table A.5, the data in Table A.4 are expressed as percentages.

Table A.5 Fate of 2023 crop, in percentages (by tonnes)

	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
Number of farmers in the survey who harvested this crop in 2023	45	81	26	86	10	11
2023 harvest						
% Sold under pre-harvest contract and delivered by July 1, 2023	24.7	25.8	27.0	32.7	32.3	13.5
% Pre-harvest contract grain stored on farm on July 1, 2023	44.4	31.8	61.5	18.9	66.8	55.6
% Sold at spot/free price and delivered by July 1, 2023	0.8	8.7	2.0	7.2	0.0	20.5
% Sold at spot/free price and stored on farm on July 1, 2023	3.1	15.7	0.0	6.1	0.0	0.0
(For milling or malting only) % Sold for feed by July 1, 2023	3.5	-	3.0	-	0.0	-
(For feed only) % Used on own farm by July 1, 2023	-	0.5	-	1.6	-	1.0
% Unsold stocks on hand (2023 harvest only) on July 1, 2023	23.5	17.5	6.4	33.6	0.9	9.3
Sales channels (2023 harvest)						
% "Sold" under pre-harvest contract (total) by July 1, 2023	69.1	57.6	88.5	51.6	99.1	69.1
% Sold at spot/free price (total) by July 1, 2023 (includes sold for feed and used on farm)	7.4	24.9	5.0	14.8	0.0	21.5
Delivery status of sold grain (2023 harvest)						
% Sold and delivered (total) by July 1, 2023 (includes sold for feed and used on farm)	29.0	34.9	32.1	41.5	32.3	35.1
% "Sold" and stored on farm (total) on July 1, 2023	47.4	47.5	61.5	24.9	66.8	55.6
Total sales (2023 harvest)						
% Sold (of total crop) by July 1, 2023 (includes sold for feed and used on farm)	76.5	82.5	93.6	66.4	99.1	90.7
% Unsold (of total crop) on July 1, 2023	23.5	17.5	6.4	33.6	0.9	9.3

In Table A.6, autumn/winter sowings and spring sowing intentions are given as sums over the 120 survey farms.

Table A.6 Autumn/winter sowings and spring sowing intentions (data totalled over all survey respondents)

	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
Number of farmers in the survey who have sown this crop in the autumn or winter or intend to sow in the spring, as at July 1, 2023	42	73	23	75	9	10
Number of farmers in the survey who sowed in autumn/winter 2023	31	68	4	32	5	3
Number of farmers in the survey who intend to sow in spring 2023, as at July 1, 2023	25	12	21	61	6	7
Total hectares on survey farms, 2022 harvest	1,642	6,097	754	4,612	444	363
Total hectares on survey farms, 2023 harvest	2,271	5,929	1,051	4,282	410	247
Autumn/winter 2023 sowings on survey farms as at July 1, 2023 (hectares; for harvest in 2024)	1,509	5,306	64	1,284	139	68
Spring 2023 sowing intentions on survey farms as at July 1, 2023 (hectares; for harvest in 2024)	581	261	1,797	2,344	268	228
Total predicted hectares for 2024 harvest, as at July 1, 2023	2,090	5,568	1,861	3,628	407	296
Comparison of autumn/winter actual sowings (as at July 1, 2023) with intended sowings (as at April 1, 2023)						
Autumn/winter 2023 sowings and intentions on these same survey farms as at April 1, 2023 (date of previous survey) (hectares, for harvest in 2024)	1,398	5,275	157	1,401	168	20
Change in autumn/winter 2023 sowings (as at July 1, 2023) compared to autumn/winter sowings and intentions as at April 1, 2023 (hectares)	111	32	-93	-117	-29	48
Percentage change in autumn/winter 2023 sowings (as at July 1, 2023) compared to autumn/winter sowings and intentions as at April 1, 2023	8%	1%	-59%	-8%	-17%	242%

For scaling up to NZ-wide totals, the most recent figures are the Final 2022 Agricultural Production Statistics (APS) figures, as in Table A.7. On average, the yields on the survey farms were similar to the APS yields for barley, lower on the survey farms for wheat, and higher on the survey farms for oats.

From the scale-up factors, we can see what percentage of the area of each 2022 harvest crop was on the survey farms. For wheat, it was $100/5.543 = 18.0\%$. For barley, it was $100/8.666 = 11.5\%$. For oats, it was $100/6.633 = 15.1\%$. That is, the percentage was highest for wheat, lowest for barley, and intermediate for oats.

Table A.7 Scaling up from survey totals to NZ-wide totals using Final 2022 Agricultural Production Statistics (APS) data

	Total wheat	Total barley	Total oats
Total hectares on survey farms, 2022 harvest	7,739	5,366	807
Total tonnes on survey farms, 2022 harvest	70,551	37,859	5,299
Final APS statistics for 2022 harvest, total hectares	42,900	46,500	5,354
Final APS statistics for 2022 harvest, total tonnes	402,600	329,700	32,991
Multiplier for scaling up from survey farms to APS statistics			
Hectares	5.543	8.666	6.633
Tonnes	5.707	8.709	6.226
Comparison of yields between survey and APS statistics			
Survey farms, 2022 harvest (t/ha)	9.1	7.1	6.6
APS statistics, 2022 harvest (t/ha)	9.4	7.1	6.2

Matched vs unmatched data:

* *Matched data* – The same growers are used to compare two seasons of data. Matched data are scaled up from totals over the survey farms to totals for NZ using the same scaling factors (given in Table A.7). Data in the tables consist of matched data except when a previous AIMI survey is referenced.

* *Unmatched data* – Data come from annual AIMI reports and don't compare the same set of growers or use the same scale-up factors. The graphs present unmatched data, except when stated otherwise in the caption (as in Figures 1-4, where the last two years are matched, and Figure 5, where the last three years are matched).

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