



*The objective of this AIMI survey of cereal growers in New Zealand (NZ) was to determine, as at July 1, 2022:*

- *the final size of the 2022 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 2022 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 2022*

### **Survey details**

The data from 127 NZ survey farms as at July 1, 2022 were scaled up to the national level using the most recent, 2021, 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, 2022 and there will have been changes since this time. Note, unsold and sold grain carried over from the 2021 harvest was not estimated in this survey. However, on April 1, 2022 this carry-over grain was only 0.2% of the 2021 harvest, so adding any grain remaining on farms from 2021 would do little to change the complete picture.

### **Key Points at July 1, 2022** *(figures have been rounded to the nearest 100):*

- Overall, 2022 harvest data showed that yields were down compared to last season (by 4% over all six crops) but the area harvested increased (by 4%). The net result was no change in total tonnage compared to last season. However, in some regions test weights were down (less weight per volume) due to unfavourable weather, which can lead to less grain in silos than expected, and as a result total tonnage could be lower than estimated.
- Unsold stocks of feed wheat are similar to this time last year (down 1,000 tonnes), and unsold feed barley stocks are also similar (up 1,600 tonnes) to last year. Unsold stocks of milling wheat are down 7,900 tonnes on last year, and unsold stocks of malting barley are down 2,100 tonnes on last year.
- Three growers commented that they had sold feed wheat as milling wheat. Assuming these were the only survey growers to have done so, it leads to a NZ-wide estimate of 6,300 tonnes of feed wheat sold as milling wheat.
- Some autumn/winter sown crops have been affected by flooding and some of these crops may be re-sown. Sowings and intentions for milling wheat are up 38% on last season, while feed wheat is identical to last season (and most of the latter has been sown). Sowings and intentions for malting barley are up 2%, feed barley is down 8%, milling oats is down 9% and feed oats is down 16%, although less than half of these four crops had actually been sown by July 1, 2022.

Final estimated average yields were, over all six crops, down by 4% this season compared to last season. Feed wheat yields were down an estimated 1%, feed barley yields down 4%, milling wheat yields down 3%, malting barley yields down 13%, milling oats yields down 8% and feed oats yields up 9% compared to last season. However, yields could be lower than estimated due to low test weights in some regions this season (less weight per volume), which means there could be less tonnage of grain in the silos than estimated.

The tonnages of unsold feed grain were estimated at 51,300 t of feed wheat and 52,900 t of feed barley, as at 1 July 2022; in addition, there was an estimated 9,500 t of unsold milling wheat and 4,300 t of unsold malting barley. The predicted 2023 harvest hectares, when totalled over all six cereal crops, are down 1% on the 2022 harvest hectares (from 95,100 hectares to 94,000 hectares).

**Milling wheat:** Estimated final total tonnage (59,900 t) was down 37% compared to last year's harvest. Of this total, 84% has been sold (50,400 t), although a large amount of the sold grain is still stored on farm (61%). The amount of unsold grain is 9,500 tonnes (16%), which is lower than at the same time last year, 1 July 2021 (17,300 t). The amount of unsold grain decreased between 1 April and 1 July 2022 by 9,100 t (or 49%).

**Feed wheat:** Estimated final total tonnage (341,000 t) was up 4% compared to last year's harvest. Of this total, 85% has been sold (289,600 t), with 51% of the sold grain still stored on farm. The amount of unsold grain is 51,300 tonnes (15%), which is similar to the same time last year, 1 July 2021 (52,300 t). The amount of unsold grain decreased between 1 April and 1 July 2022 by 51,300 t (or 50%).

**Feed barley:** Estimated final total tonnage (304,500 t) was up 14% compared to last year. Of this total tonnage 83% has been sold (251,600 t), with 31% of the sold grain still stored on farm. The amount of unsold grain is 52,900 tonnes (17%), which is similar to the same time last year, 1 July 2021 (51,300 t). The amount of unsold grain decreased between 1 April and 1 July 2022 by 20,000 t (or 27%).

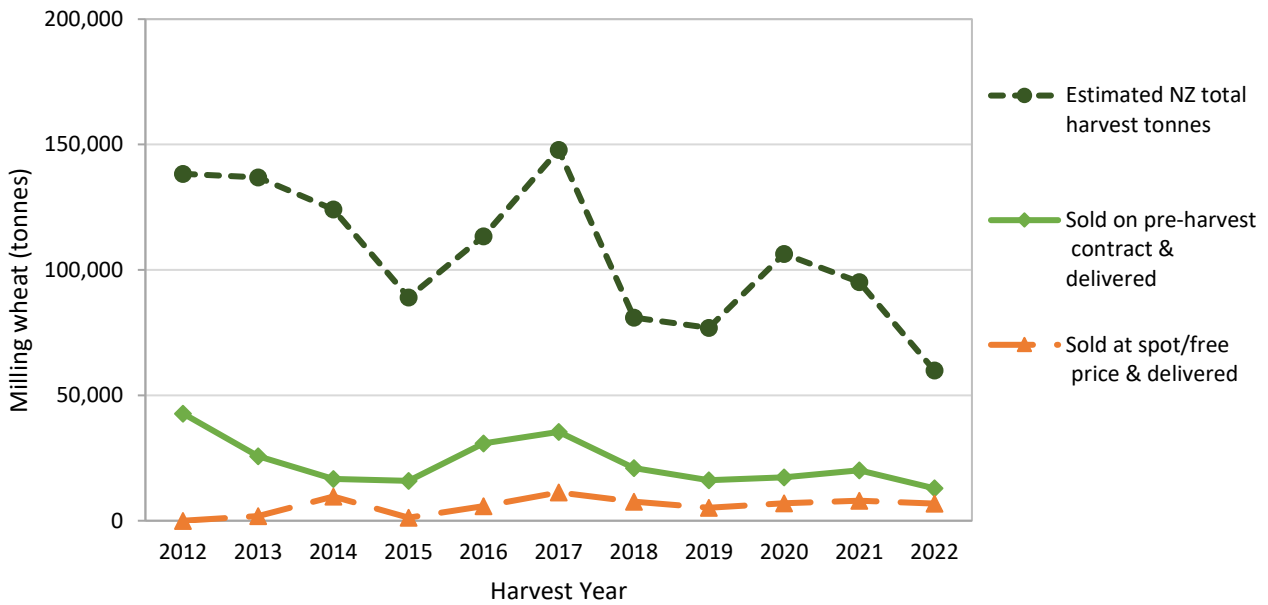
**For other cereals:** Compared to last year, estimated final total tonnage for malting barley (39,300 t) was down by 31%, milling oats (16,300 t) was up by 14%, and feed oats (8,600 t) was down by 19%. Malting barley had 11% of the total harvest unsold (4,300 t) while milling oats and feed oats had 12% (1,900 t) and 16% (1,400 t) unsold, respectively, as at 1 July, 2022. Of the sold grain, 26% of malting barley was still on farm, as compared to 59% of milling oats and 42% of feed oats. Between 1 April and 1 July 2022, the amount of unsold grain decreased by 36% for malting barley, decreased by 70% for milling oats, and decreased by 4% for feed oats.

**Sowings and sowing intentions:** The actual area sown in autumn/winter wheat or barley, as at 1 July 2022, was up 1% overall on autumn/winter sowings plus intentions as at 1 April 2022. When autumn/winter sowings were combined with spring sowing intentions, the area sown or to be sown in wheat or barley was predicted to be down 1% as compared to the area harvested in 2022, or up by 3% on the area harvested in 2021.

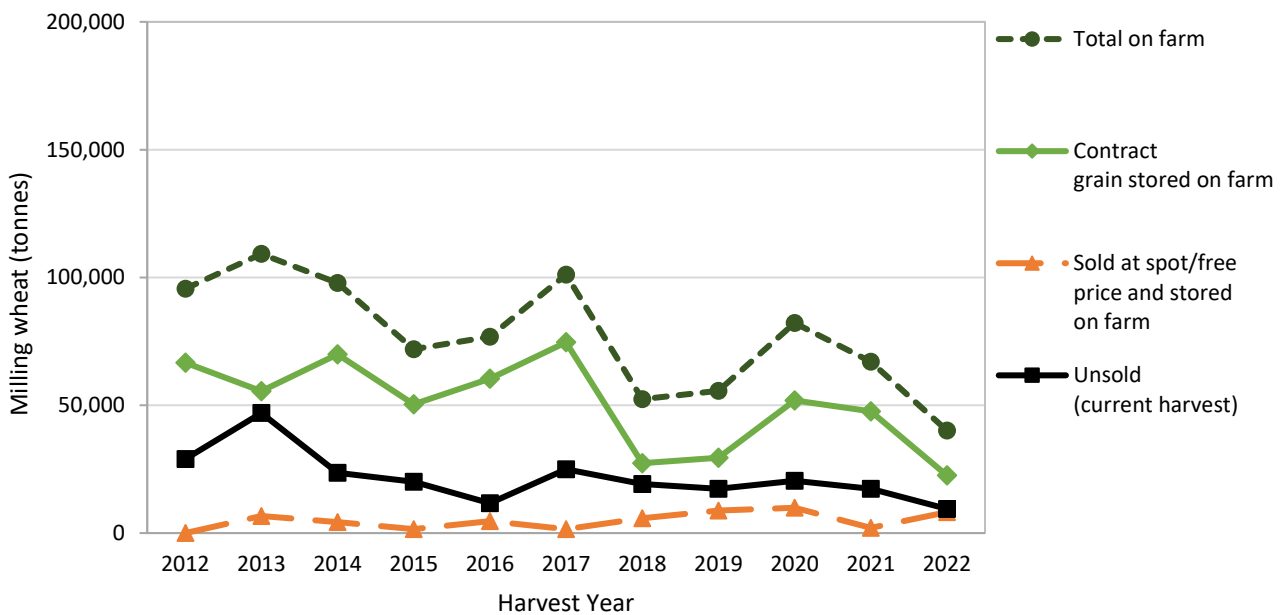
Over the two-year period (2021 harvest to predicted 2023 harvest), the harvest area for feed wheat is predicted to increase by 6% and the harvest area for feed barley is predicted to increase by 9%. Conversely, the harvest area for milling wheat is predicted to decrease by 10%, and the harvest area for malting barley is predicted to decrease by 19%. Over this same two-year period, the harvest area for milling oats is predicted to increase by 12%, and the harvest area for feed oats is predicted to decrease by 37%.

When totalled over all six cereal crops (including oats), the 2023 harvest hectares are predicted to be 1% down on the 2022 harvest hectares (from 95,100 hectares to 94,000 hectares).

## Milling wheat (tonnes)

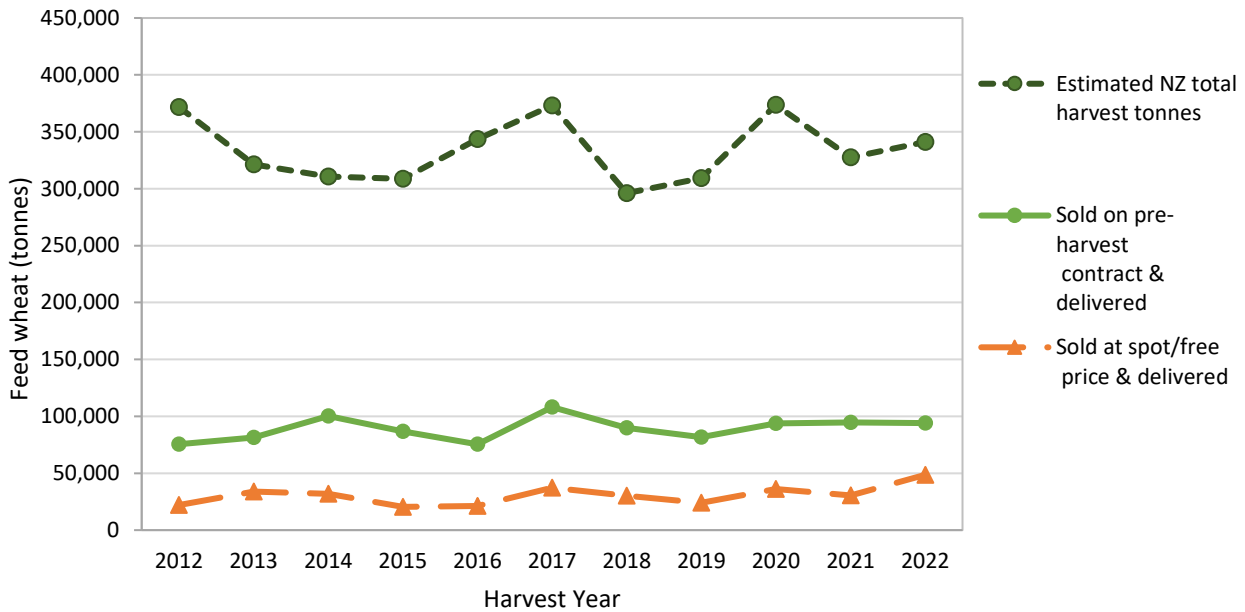


**Figure 1a. NZ harvest tonnage and sales channels for milling wheat (tonnes) as estimated on July 1 each year.** (Note: All categories relate to that season’s harvest, excluding carryover stock. “Sold at spot/free price and delivered” includes grain sold for feed. Historical data are from July AIMI Reports for 2012 to 2020, while 2021 and 2022 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”.)



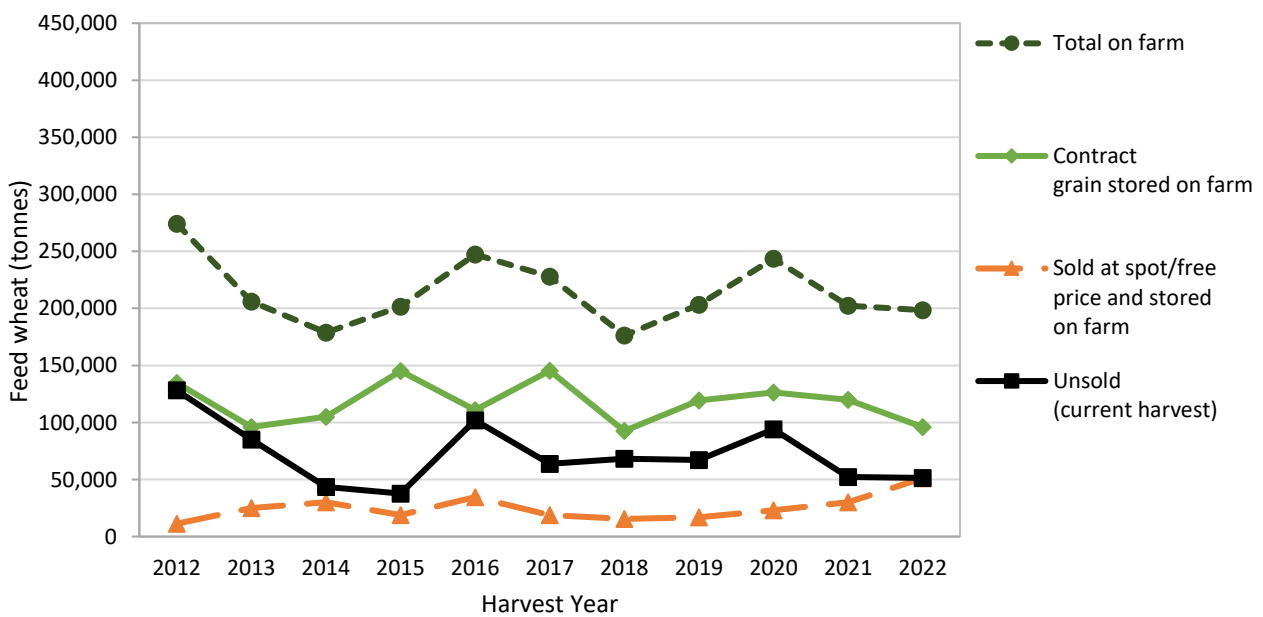
**Figure 1b. NZ stocks on farm for milling wheat (tonnes) as estimated on July 1 each year.** (Note: Carryover stock from the previous season is excluded. Historical data are from July AIMI Reports for 2012 to 2020, while 2021 and 2022 data are matched data from the current report. In 2012 “Sold at spot/free 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.**

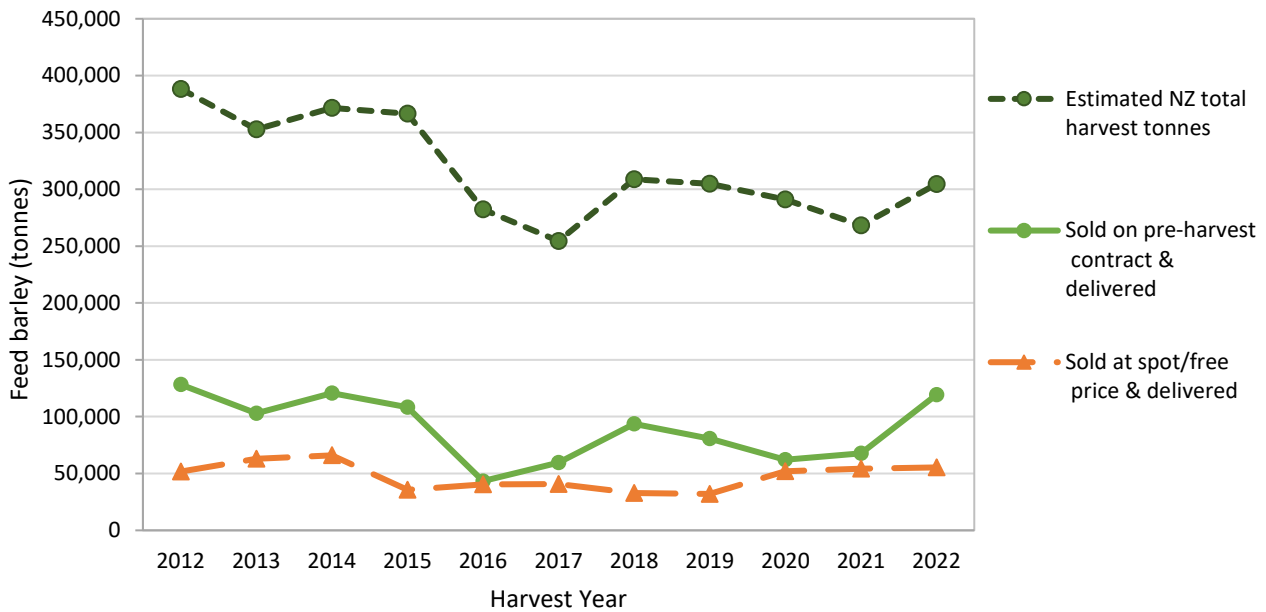
(Note: All categories relate to that season’s harvest, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data are from July AIMI Reports for 2012 to 2020, while 2021 and 2022 data are matched data from the current report.)



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

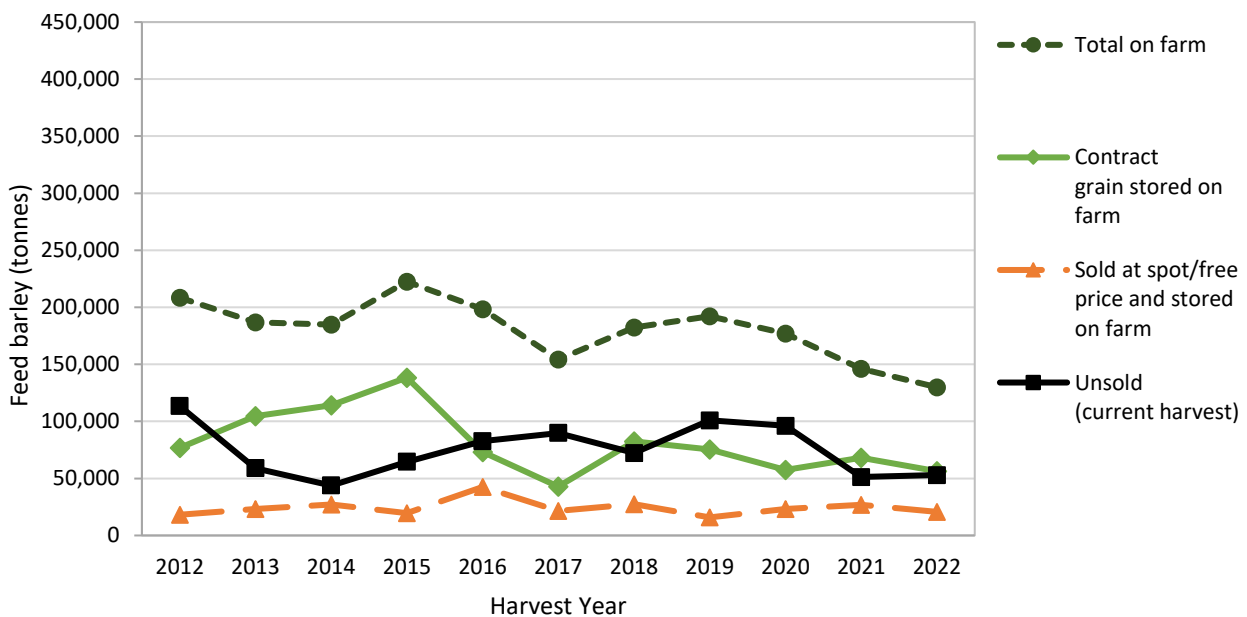
(Note: Carryover stock from the previous season is excluded. Historical data are from July AIMI Reports for 2012 to 2020, while 2021 and 2022 data are matched data from the current report.)

## Feed barley (tonnes)



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

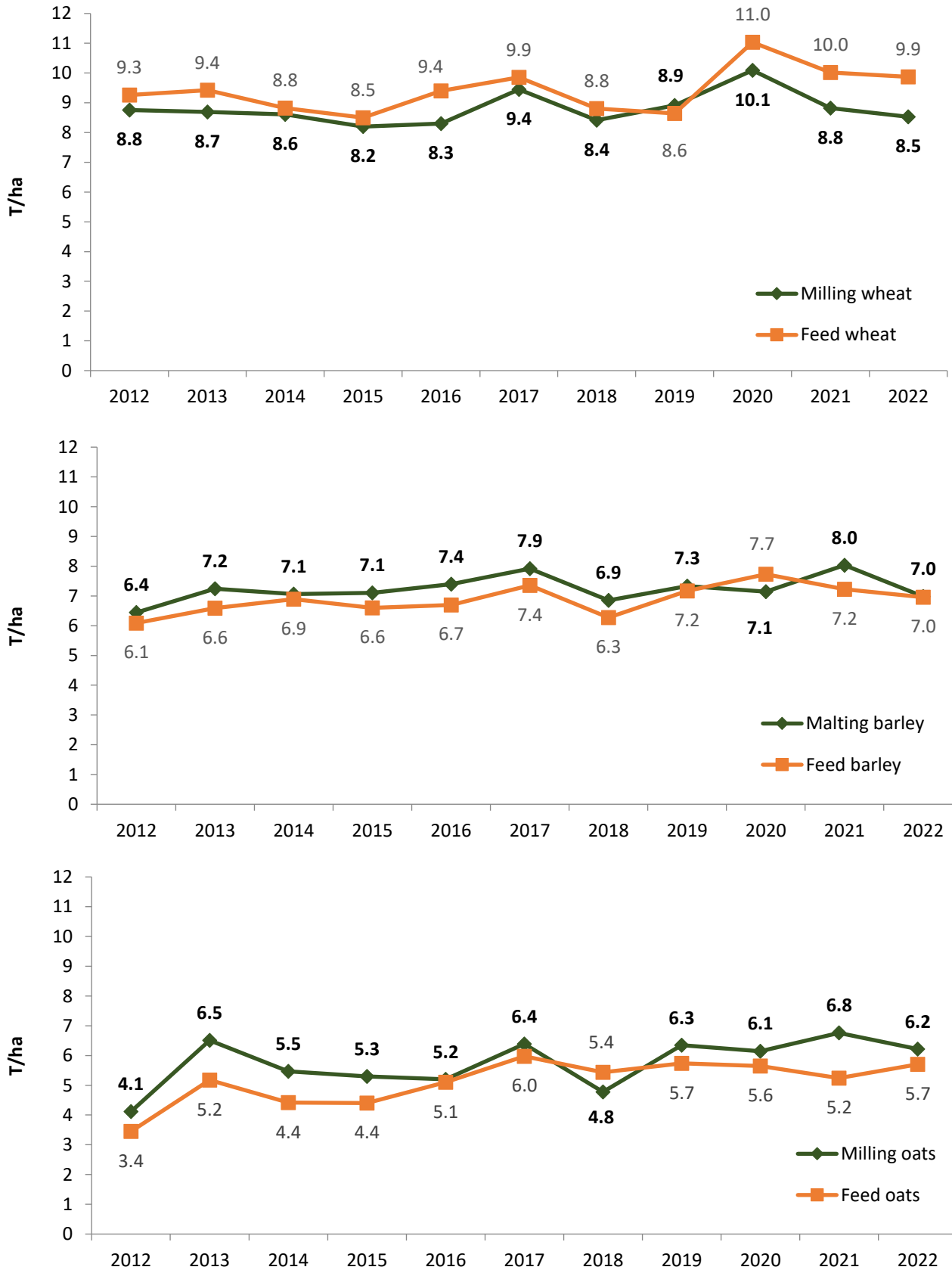
(Note: All categories relate to that season’s harvest, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data are from July AIMI Reports for 2012 to 2020, while 2021 and 2022 data are matched data from the current report.)



**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 2020, while 2021 and 2022 data are matched data from the current report.)

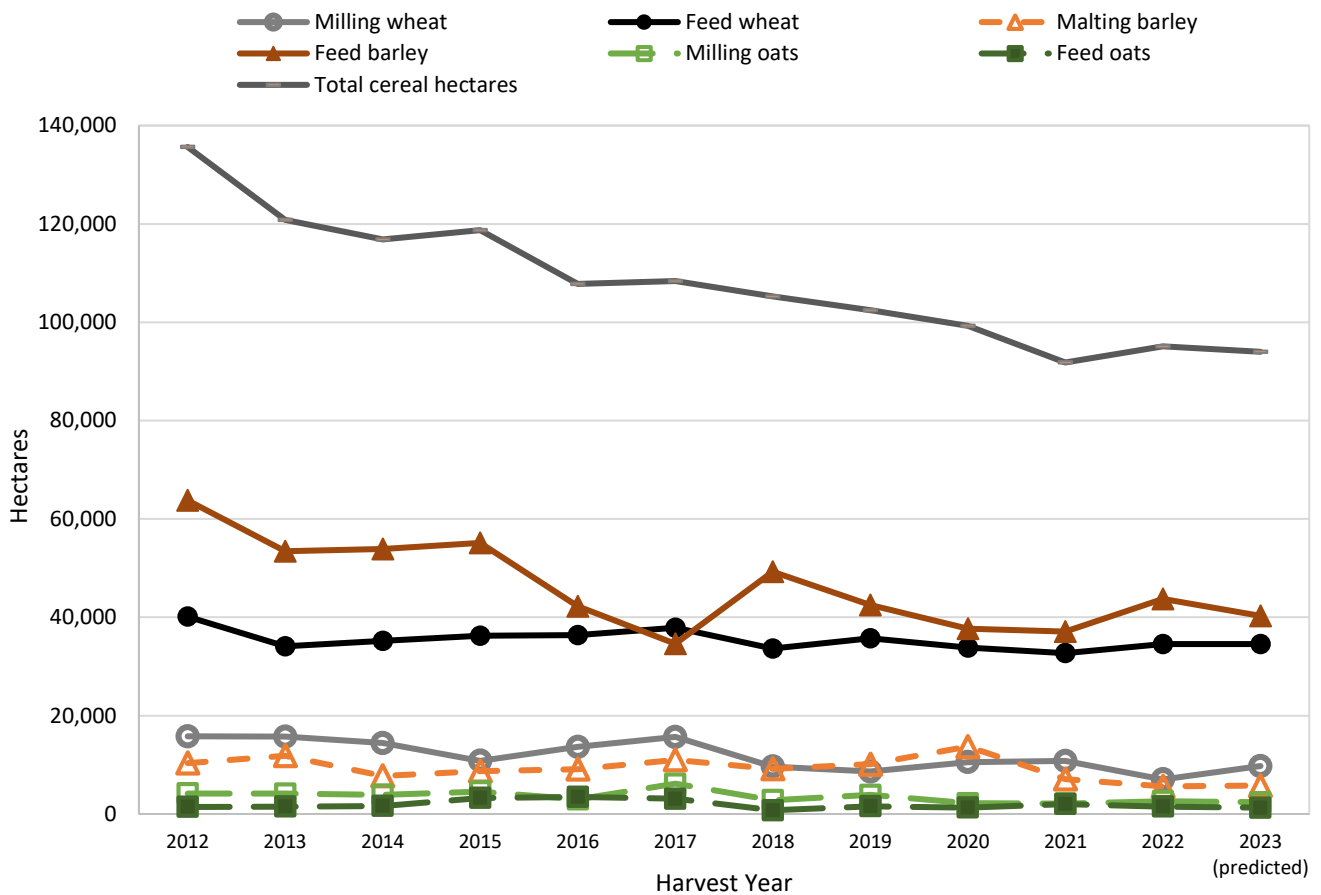
### Comparison of estimated NZ-wide yield (tonnes per hectare) between harvests



**Figure 4. Comparison of NZ-wide yield (tonnes per ha) as estimated on July 1 each year, from 2012 to 2022 for six cereal crops.**

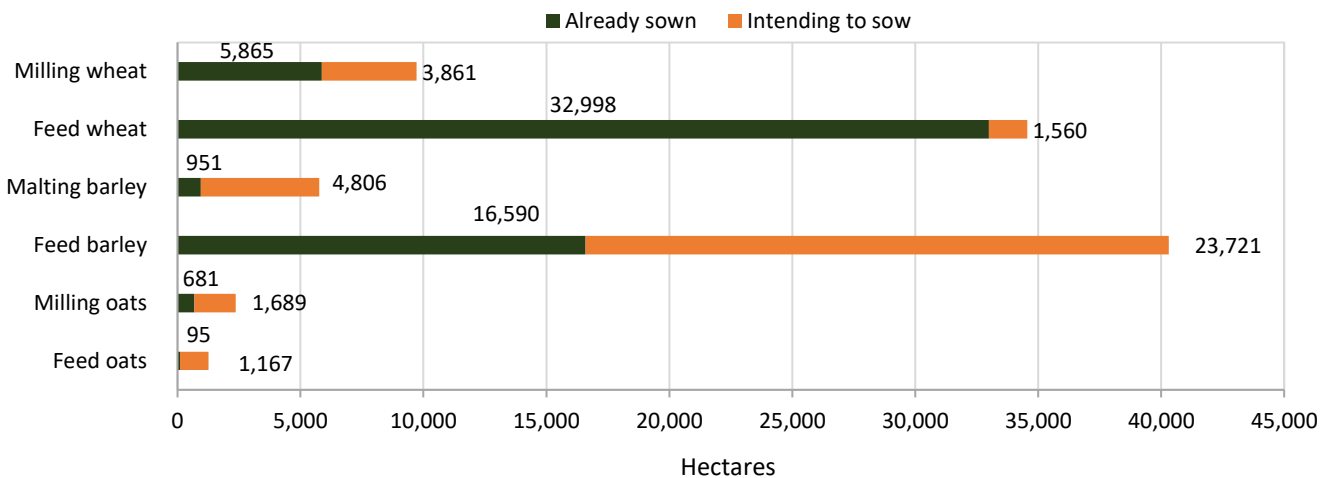
(Note: Milling wheat contains biscuit and gristing varieties. Historical data are from July AIMI Reports for 2012 to 2020, while 2021 and 2022 data are matched data from the current report.)

**Autumn/winter sowings and spring sowing intentions (combined) as at July 1 each year**



**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 2022 and predicted harvest hectares for 2023.**

(Note: All figures represent final harvest hectares except for 2023 which is made up of hectares already sown and hectares intended to be sown for harvest in 2023. Refer to Fig. 6 for hectares already sown. Figures for 2021, 2022 and 2023 (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 – 2020.)



**Figure 6. NZ autumn/winter 2022 sowings and spring 2022 sowing intentions (hectares) for harvest in 2023, for six cereal crops as estimated on July 1, 2022.**

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

**Table 1. Detailed estimated national figures for the 2022 harvest, plus sold and delivered tonnages, for six cereal crops as at July 1, 2022.**

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
<b>Number of farmers in the survey who harvested this crop in 2022</b>		<b>36</b>	<b>85</b>	<b>20</b>	<b>98</b>	<b>14</b>	<b>22</b>	<b>123</b>
<b>2021 harvest</b>								
Estimated NZ total hectares, 2021 harvest	ha	10,795	32,705	7,090	37,110	2,111	2,012	91,823
Estimated NZ total tonnes, 2021 harvest	tonnes	95,205	327,595	56,961	268,139	14,265	10,540	772,705
<b>2022 harvest</b>								
Estimated NZ total hectares, 2022 harvest (final figures)	ha	7,025	34,547	5,621	43,760	2,617	1,504	95,075
Estimated NZ total tonnes, 2022 harvest (final figures)	tonnes	59,913	340,985	39,250	304,535	16,264	8,583	769,529
Sold under pre-harvest contract and delivered by July 1, 2022	tonnes	12,918	93,965	23,778	119,305	4,860	3,216	258,043
Pre-harvest contract grain stored on farm on July 1, 2022	tonnes	22,547	95,973	8,647	56,415	8,202	2,841	194,626
Sold at spot/free price and delivered by July 1, 2022	tonnes	5,445	46,916*	464	52,779	1,019	887	107,509
Sold at spot/free price and stored on farm on July 1, 2022	tonnes	8,118	51,125	325	20,622	262	170	80,622
(For milling or malting only) Sold for feed by July 1, 2022	tonnes	1,413	-	1,773	-	0	-	3,186
(For feed only) Used on own farm (2022 harvest only) by July 1, 2022	tonnes	-	1,664	-	2,514	-	83	4,261
Unsold stocks on hand (2022 harvest only) on July 1, 2022	tonnes	9,472	51,342	4,263	52,901	1,921	1,385	121,283
<b>Sales channels (2022 harvest)</b>								
"Sold" under pre-harvest contract (total) by July 1, 2022	tonnes	35,465	189,938	32,425	175,720	13,062	6,058	452,668
Sold at spot/free price (total) by July 1, 2022 (includes sold for feed and used on farm)	tonnes	14,976	99,705	2,562	75,914	1,281	1,141	195,578
<b>Delivery status of sold grain (2022 harvest)</b>								
Sold and delivered (total) by July 1, 2022 (includes sold for feed and used on farm)	tonnes	19,776	142,545	26,015	174,597	5,879	4,187	372,999
"Sold" and stored on farm (total) on July 1, 2022	tonnes	30,665	147,099	8,973	77,037	8,464	3,011	275,248
<b>Total sales (2022 harvest)</b>								
Sold (grand total) by July 1, 2022 (includes sold for feed and used on farm)	tonnes	50,441	289,643	34,988	251,634	14,343	7,198	648,247
Unsold stocks on hand (2022 harvest only) on July 1, 2022	tonnes	9,472	51,342	4,263	52,901	1,921	1,385	121,283
<b>Comparison of hectares and tonnages between last two harvests</b>								
Estimated % change in hectares, 2021 to 2022 harvest	%	-35%	6%	-21%	18%	24%	-25%	4%
Estimated % change in tonnes, 2021 to 2022 harvest	%	-37%	4%	-31%	14%	14%	-19%	0%
<b>Comparison of yields between last two harvests</b>								
NZ-wide estimated yield, 2021 harvest	t/ha	8.8	10.0	8.0	7.2	6.8	5.2	8.4
NZ-wide estimated yield, 2022 harvest	t/ha	8.5	9.9	7.0	7.0	6.2	5.7	8.1



Table 1 continued.

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
<b>Comparison of unsold grain as at July 1, 2022, with unsold grain as at April 1, 2022 (based upon matched data)</b>								
Unsold (2022 harvest only) as at April 1, 2022 (including unharvested grain) (new matched estimate, based upon scaling up data from exact same 127 survey farms as above)	tonnes	18,617	102,676	6,630	72,914	6,358	1,441	208,637
Unsold (2022 harvest only) on July 1, 2022 (as above)	tonnes	9,472	51,342	4,263	52,901	1,921	1,385	121,283
Estimated drop of unsold grain, April 1, 2022 to July 1, 2022	tonnes	9,145	51,334	2,367	20,014	4,437	57	87,355
Estimated drop of unsold grain, April 1, 2022 to July 1, 2022	%	49%	50%	36%	27%	70%	4%	42%
Note: A negative drop means that the tonnage of unsold grain from the 2022 harvest has increased since the last survey date (1 April, 2022).								
<b>Recalculated July 1, 2021 survey breakdown to enable more precise comparisons between July 1, 2021 and July 1, 2022 (based upon matched data)</b>								
Sold under pre-harvest contract and delivered by July 1, 2021	tonnes	20,155	94,732	14,912	67,800	1,379	4,405	203,383
Pre-harvest contract grain stored on farm on July 1, 2021	tonnes	47,689	120,003	32,637	68,116	11,183	4,661	284,288
Sold at spot/free price and delivered by July 1, 2021	tonnes	3,761	29,060	1,245	43,041	0	611	77,718
Sold at spot/free price and stored on farm on July 1, 2021	tonnes	2,018	30,030	813	26,812	0	0	59,674
(For milling or malting only) Sold for feed by July 1, 2021	tonnes	4,258	-	1,009	-	104	-	5,371
(For feed only) Used on own farm by July 1, 2021	tonnes	-	1,477	-	11,088	-	360	12,925
Unsold stocks on hand (2021 harvest only) on July 1, 2021	tonnes	17,324	52,292	6,345	51,282	1,599	503	129,345
<b>Comparison of unsold grain between last July and this July (based upon matched data)</b>								
Unsold (2021 harvest only) as at July 1, 2021 (as above)	tonnes	17,324	52,292	6,345	51,282	1,599	503	129,345
Unsold (2022 harvest only) on July 1, 2022 (as above)	tonnes	9,472	51,342	4,263	52,901	1,921	1,385	121,283
Change in tonnes of unsold grain, July 1, 2021 to July 1, 2022	tonnes	-7,852	-950	-2,083	1,619	322	882	-8,063

Statistics NZ is gratefully acknowledged for supplying Final 2021 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).

\*Feed wheat (2022 harvest) "sold at spot/free price and delivered by July 1, 2022" includes an estimated 6,301 tonnes sold as milling wheat. This is based upon scaling up data from three growers who commented, and is an under-estimate if there are other sales not commented upon.

In Table 2 below, feed wheat sowings/intentions, as at July 1, 2022, show no change as compared to the last harvest (2022), and a 6% increase as compared to the previous (2021) harvest. Feed barley sowings/intentions show an estimated 8% decrease compared to the last harvest (2022), and an estimated 9% increase over the previous harvest (2021). Milling wheat sowings/intentions increased by 38% as compared to the last harvest (2022), following a 35% decrease between the 2021 and 2022 harvests, resulting in a nett decrease of 10% over two years. Malting barley sowings/intentions

show only a small change (2% increase) as compared to the last (2022) harvest. As a total over all six cereal crops, sowings/intentions are 1% down on the last harvest (2022), and 2% up on the previous harvest (2021). Autumn/winter actual sowings, as at July 1, 2022, were up 1% on autumn/winter sowings/intentions as at April 1, 2022.

**Table 2. Sowings and sowing intentions (ha) for six cereal crops as at July 1, 2022.**

	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
<b>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, 2022</b>	<b>38</b>	<b>80</b>	<b>18</b>	<b>90</b>	<b>12</b>	<b>16</b>	<b>121</b>
Estimated NZ total hectares, 2021 harvest	10,795	32,705	7,090	37,110	2,111	2,012	91,823
Estimated NZ total hectares, 2022 harvest	7,025	34,547	5,621	43,760	2,617	1,504	95,075
Estimated NZ total autumn/winter 2022 sowings as at July 1, 2022 (hectares, for harvest in 2023)	5,865	32,998	951	16,590	681	95	57,180
Estimated NZ total spring 2022 sowing intentions as at July 1, 2022 (hectares, for harvest in 2023)	3,861	1,560	4,806	23,721	1,689	1,167	36,804
Predicted NZ total hectares, 2023 harvest (autumn/winter sowings 2022 and spring 2022 sowing intentions combined)	9,726	34,558	5,757	40,311	2,370	1,262	93,984
<b>Comparison of hectares between 2021, 2022 and 2023 (predicted) harvests</b>							
Estimated change in NZ total harvest hectares, 2021 to 2022 harvest	-35%	6%	-21%	18%	24%	-25%	4%
Estimated change in NZ total harvest hectares, 2022 to 2023 harvest (predicted)	38%	0%	2%	-8%	-9%	-16%	-1%
Estimated change in NZ total harvest hectares over two seasons, 2021 to 2023 harvest (predicted)	-10%	6%	-19%	9%	12%	-37%	2%
<b>Comparison of autumn/winter 2022 actual sowings (as at July 1, 2022) with autumn/winter sowings plus intended sowings as at April 1, 2022 (based upon matched data)</b>							
Estimated NZ total autumn/winter 2022 sowings and sowing intentions as at April 1, 2022 (date of previous survey) (hectares, for harvest in 2023)	4,641	31,883	509	18,629	435	322	56,419
Change in autumn/winter 2022 actual sowings (as at July 1, 2022) compared to autumn/winter sowings and sowing intentions as at April 1, 2022 (hectares)	1,224	1,115	442	-2,040	246	-226	761
Change in autumn/winter 2022 actual sowings (as at July 1, 2022) compared to autumn/winter sowings and sowing intentions as at April 1, 2022 (as %)	26%	3%	87%	-11%	57%	-70%	1%

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.

Cereal Survey Panel:

**Count of completed:** 139

**Out of:** 144

**Report group\*** 127 (\*Must have completed July and October 2021, April and July 2022 Surveys)

### Comments

- Market strong – good demand – price increasing but so are expenses – fuel, fertiliser, wages.
- 3 growers sold intended feed wheat crops into the milling market
- Good autumn conditions in South Canterbury and Southland for crop establishment, but now too much water in Canterbury, some crops flooded and may need re-drilling. Later sown crops struggling with the wet and cold.
- A bit of uncertainty around what and how much to sow. Some opting for lower input crops such as peas to ease cash flow. Others waiting for contracts for cereals and other crops before deciding.

### Regional Summary

**Table A.1 Average regional yields (t/ha) of harvested grain (from 127 responses), scaled up to NZ estimates.**

Region	Milling Wheat	Feed Wheat	Malting Barley	Feed Barley	Milling Oats	Feed Oats	Total Growers Surveyed
ENI	7.5	7.3	5.6	5.0	3.8	6.3	8
SWNI	8.3	4.9	7.3	3.4	-	-	5
NSI	8.3	9.9	7.3	7.0	-	4.9	30
MC	9.0	10.1	7.7	6.9	6.2	6.1	36
SCNO	8.3	9.0	6.4	6.5	-	4.3	22
SOS	-	10.7	7.2	8.0	6.2	5.8	26
<b>NZ Average</b>	<b>8.5</b>	<b>9.9</b>	<b>7.0</b>	<b>7.0</b>	<b>6.2</b>	<b>5.7</b>	<b>127</b>

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 127 responses), scaled up to NZ estimates.**

Region	Milling Wheat	Feed Wheat	Malting Barley	Feed Barley	Milling Oats	Feed Oats	Region Total
ENI	689	-	-	716	-	-	1,405
SWNI	-	-	-	-	-	-	-
NSI	1,600	2,678	-	13,252	-	39	17,568
MC	6,543	18,313	1,472	21,565	-	611	48,504
SCNO	640	13,784	2,790	8,468	-	92	25,775
SOS	-	16,566	-	8,899	1,921	643	28,029
<b>NZ Total</b>	<b>9,472</b>	<b>51,342</b>	<b>4,263</b>	<b>52,901</b>	<b>1,921</b>	<b>1,385</b>	<b>121,283</b>

**Table A.3 Comparison of hectares harvested in 2022 with hectares already sown and intended to be sown (predicted) for harvest in 2023, scaled up to NZ estimates.**

Region	Milling Wheat		Feed Wheat		Malting Barley		Feed Barley		Milling Oats		Feed Oats	
	2022 Harvest	2023 Harvest	2022 Harvest	2023 Harvest	2022 Harvest	2023 Harvest	2022 Harvest	2023 Harvest	2022 Harvest	2023 Harvest	2022 Harvest	2023 Harvest
ENI	223	242	1,560	1,953	1,460	1,486	6,453	2,318	24	-	236	337
SWNI	24	-	291	213	68	119	102	-	-	-	-	-
NSI	1,759	2,272	2,970	2,868	543	943	7,048	6,941	-	-	88	38
MC	2,679	4,000	7,587	6,133	2,921	2,615	10,300	10,458	111	88	394	344
SCNO	2,340	3,212	9,380	8,526	509	425	5,511	5,984	-	-	209	125
SOS	-	-	12,759	14,864	119	170	14,347	14,609	2,482	2,283	577	418
<b>NZ Total</b>	<b>7,025</b>	<b>9,726</b>	<b>34,547</b>	<b>34,558</b>	<b>5,621</b>	<b>5,757</b>	<b>43,760</b>	<b>40,311</b>	<b>2,617</b>	<b>2,370</b>	<b>1,504</b>	<b>1,262</b>

**Totals over 127 survey responses (Unscaled data)**

In Table A.4, the yields per hectare on the survey farms were lower for the 2022 harvest as compared to the 2021 harvest for five out of the six crops. Yields were down by 0.3 t/ha for milling wheat, down by 0.1 t/ha for feed wheat, down by 1.1 t/ha for malting barley, down by 0.3 t/ha for feed barley, down by 0.6 t/ha for milling oats and up by 0.5 t/ha for feed oats, from the 2021 to 2022 harvests.

**Table A.4 Data totalled over all survey respondents**

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
<b>Number of farmers in the survey who harvested this crop in 2022</b>		<b>36</b>	<b>85</b>	<b>20</b>	<b>98</b>	<b>14</b>	<b>22</b>
<b>2021 harvest</b>							
Total hectares on survey farms, 2021 harvest	ha	2,228	6,750	835	4,371	626	597
Total tonnes on survey farms, 2021 harvest	tonnes	19,339	66,544	7,002	32,962	4,790	3,539
<b>2022 harvest</b>							
Total hectares on survey farms, 2022 harvest (final figures)	ha	1,450	7,130	662	5,154	776	446
Total tonnes on survey farms, 2022 harvest (final figures)	tonnes	12,170	69,264	4,825	37,436	5,461	2,882
Sold under pre-harvest contract and delivered by July 1, 2022	tonnes	2,624	19,087	2,923	14,666	1,632	1,080
Pre-harvest contract grain stored on farm on July 1, 2022	tonnes	4,580	19,495	1,063	6,935	2,754	954
Sold at spot/free price and delivered by July 1, 2022	tonnes	1,106	9,530*	57	6,488	342	298
Sold at spot/free price and stored on farm on July 1, 2022	tonnes	1,649	10,385	40	2,535	88	57
(For milling or malting only) Sold for feed by July 1, 2022	tonnes	287	-	218	-	0	-
(For feed only) Used on own farm (2022 harvest only) by July 1, 2022	tonnes	-	338	-	309	-	28
Unsold stocks on hand (2022 harvest only) on July 1, 2022	tonnes	1,924	10,429	524	6,503	645	465
<b>Comparison of yield on survey farms between harvests</b>							
Survey farms, 2021 harvest	t/ha	8.7	9.9	8.4	7.5	7.7	5.9
Survey farms, 2022 harvest	t/ha	8.4	9.7	7.3	7.3	7.0	6.5
<b>Data for these SAME survey farms for comparisons of unsold grain between April 1, 2022 and July 1, 2022</b>							
Unsold stocks on hand (from 2022 harvest) on April 1, 2022	tonnes	3,782	20,857	815	8,963	2,135	484
Unsold stocks on hand (from 2022 harvest) on July 1, 2022	tonnes	1,924	10,429	524	6,503	645	465
<b>Data for these SAME survey farms from July 1, 2021 survey, to enable more precise, matched comparisons between July 1, 2021 and July 1, 2022</b>							
Sold under pre-harvest contract and delivered by July 1, 2021	tonnes	4,094	19,243	1,833	8,335	463	1,479
Pre-harvest contract grain stored on farm on July 1, 2021	tonnes	9,687	24,376	4,012	8,373	3,755	1,565
Sold at spot/free price and delivered by July 1, 2021	tonnes	764	5,903	153	5,291	0	205
Sold at spot/free price and stored on farm on July 1, 2021	tonnes	410	6,100	100	3,296	0	0
(For milling or malting only) Sold for feed by July 1, 2021	tonnes	865	-	124	-	35	-
(For feed only) Used on own farm by July 1, 2021	tonnes	-	300	-	1,363	-	121
Unsold stocks on hand (2021 harvest only) on July 1, 2021	tonnes	3,519	10,622	780	6,304	537	169
<b>Data for these SAME survey farms for matched comparisons of unsold grain between July 1, 2021 and July 1, 2022</b>							
Unsold stocks on hand (from 2021 harvest) on July 1, 2021	tonnes	3,519	10,622	780	6,304	537	169
Unsold stocks on hand (from 2022 harvest) on July 1, 2022	tonnes	1,924	10,429	524	6,503	645	465

\*NOTE: For feed wheat harvested in 2022, "sold at spot/free price and delivered by July 1, 2022" includes 1,280 tonnes sold as milling wheat.

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

**Table A.5 Fate of 2022 crop, in percentages (by tonnes)**

	<b>Milling wheat</b>	<b>Feed wheat</b>	<b>Malting barley</b>	<b>Feed barley</b>	<b>Milling oats</b>	<b>Feed oats</b>
<b>Number of farmers in the survey who harvested this crop in 2022</b>	<b>36</b>	<b>85</b>	<b>20</b>	<b>98</b>	<b>14</b>	<b>22</b>
<b>2022 harvest</b>						
% Sold under pre-harvest contract and delivered by July 1, 2022	21.6	27.6	60.6	39.2	29.9	37.5
% Pre-harvest contract grain stored on farm on July 1, 2022	37.6	28.1	22.0	18.5	50.4	33.1
% Sold at spot/free price and delivered by July 1, 2022	9.1	13.8	1.2	17.3	6.3	10.3
% Sold at spot/free price and stored on farm on July 1, 2022	13.5	15.0	0.8	6.8	1.6	2.0
(For milling or malting only) % Sold for feed by July 1, 2022	2.4	-	4.5	-	0.0	-
(For feed only) % Used on own farm by July 1, 2022	-	0.5	-	0.8	-	1.0
% Unsold stocks on hand (2022 harvest only) on July 1, 2022	15.8	15.1	10.9	17.4	11.8	16.1
<b>Sales channels (2022 harvest)</b>						
% "Sold" under pre-harvest contract (total) by July 1, 2022	59.2	55.7	82.6	57.7	80.3	70.6
% Sold at spot/free price (total) by July 1, 2022 (includes sold for feed and used on farm)	25.0	29.2	6.5	24.9	7.9	13.3
<b>Delivery status of sold grain (2022 harvest)</b>						
% Sold and delivered (total) by July 1, 2022 (includes sold for feed and used on farm)	33.0	41.8	66.3	57.3	36.1	48.8
% "Sold" and stored on farm (total) on July 1, 2022	51.2	43.1	22.9	25.3	52.0	35.1
<b>Total sales (2022 harvest)</b>						
% Sold (of total crop) by July 1, 2022 (includes sold for feed and used on farm)	84.2	84.9	89.1	82.6	88.2	83.9
% Unsold (of total crop) on July 1, 2022	15.8	15.1	10.9	17.4	11.8	16.1

In Table A.6, autumn/winter sowings and spring sowing intentions are given as sums over the 127 survey farms.

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

	<b>Milling wheat</b>	<b>Feed wheat</b>	<b>Malting barley</b>	<b>Feed barley</b>	<b>Milling oats</b>	<b>Feed oats</b>
<b>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, 2022</b>	<b>38</b>	<b>80</b>	<b>18</b>	<b>90</b>	<b>12</b>	<b>16</b>
<b>Number of farmers in the survey who sowed in autumn/winter 2022</b>	<b>27</b>	<b>76</b>	<b>5</b>	<b>43</b>	<b>6</b>	<b>3</b>
<b>Number of farmers in the survey who intend to sow in spring 2022, as at July 1, 2022</b>	<b>22</b>	<b>12</b>	<b>15</b>	<b>73</b>	<b>8</b>	<b>13</b>
Total hectares on survey farms, 2021 harvest	2,228	6,750	835	4,371	626	597
Total hectares on survey farms, 2022 harvest	1,450	7,130	662	5,154	776	446
Autumn/winter 2022 sowings on survey farms as at July 1, 2022 (hectares, for harvest in 2023)	1,211	6,811	112	1,954	202	28
Spring 2022 sowing intentions on survey farms as at July 1, 2022 (hectares, for harvest in 2023)	797	322	566	2,794	501	346
Total predicted hectares for 2023 harvest, as at July 1, 2022	2,007	7,133	678	4,748	703	374
<b>Comparison of autumn/winter actual sowings (as at July 1, 2022) with intended sowings (as at April 1, 2022)</b>						
Autumn/winter 2022 sowings and intentions on these same survey farms as at April 1, 2022 (date of previous survey) (hectares, for harvest in 2023)	958	6,580	60	2,194	129	95
Change in autumn/winter 2022 sowings (as at July 1, 2022) compared to autumn/winter sowings and intentions as at April 1, 2022 (hectares)	253	230	52	-240	73	-67
Change in autumn/winter 2022 sowings (as at July 1, 2022) compared to autumn/winter sowings and intentions as at April 1, 2022 (as %)	26%	3%	87%	-11%	57%	-70%

For scaling up to NZ-wide totals, the most recent figures are the Final 2021 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 wheat, and higher on the survey farms for barley and oats.

From the scale-up factors, we can see what percentage of the area of each 2021 harvest crop was on the survey farms. For wheat, it was  $100/4.845 = 20.6\%$ . For barley, it was  $100/8.491 = 11.8\%$ . For oats, it was  $100/3.372 = 29.7\%$ . That is, the percentages were relatively high for both wheat and oats, and lower for barley.

**Table A.7 Scaling up from survey totals to NZ-wide totals using Final 2021 Agricultural Production Statistics (APS) data**

	Total wheat	Total barley	Total oats
Total hectares on survey farms, 2021 harvest	8,978	5,206	1,223
Total tonnes on survey farms, 2021 harvest	85,883	39,964	8,329
Final APS statistics for 2021 harvest, total hectares	43,500	44,200	4,123
Final APS statistics for 2021 harvest, total tonnes	422,800	325,100	24,805
<b>Multiplier for scaling up from survey farms to APS statistics</b>			
Hectares	4.845	8.491	3.372
Tonnes	4.923	8.135	2.978
<b>Comparison of yields between survey and APS statistics</b>			
Survey farms, 2021 harvest (t/ha)	9.6	7.7	6.8
APS statistics, 2021 harvest (t/ha)	9.7	7.4	6.0

**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.4). Data in the tables consist of matched data except when a previous AIMI survey is referenced.

\* *Unmatched data* – Data comes from annual AIMI reports and doesn'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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