NEW ZEALAND SURVEY OF CEREAL AREAS AND VOLUMES: JULY 1, 2021

Arable Industry Marketing Initiative

ISSN 2744-5739

The objective of this AIMI survey of cereal growers in New Zealand (NZ) was to determine, as at July 1, 2021:

- *the final size of the 2021 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 2021 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 2021*

Survey details

The data from 134 NZ survey farms as at July 1, 2021 were scaled up to the national level using the most recent, 2020, 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, 2021 and there will have been changes since this time. Note that unsold and sold grain carried over from the 2020 harvest was not estimated in this survey; however, on April 1, 2021 this carry-over grain was only 2.0% of the 2020 harvest, so adding any grain remaining on farms from 2020 would do little to change the complete picture.

Key Points at July 1, 2021 *(figures have been rounded to the nearest 100):*

- The final harvest data showed that yields were down over all (by 3% over all six crops) compared to last season for a reduced number of hectares (4% down). The net result was a 6% decrease in total tonnage compared to last season.

- Unsold stocks of feed wheat are down compared to this time last year (down 36,500 tonnes), and unsold feed barley stocks are down (down 41,200 tonnes) on last year. Also, unsold stocks of milling oats are up on last year.

- Some autumn/winter sown crops have been affected by flooding and some of these crops will be re-sown. Sowings and intentions for milling wheat are down 27% on last season, while feed wheat is up 14% (and most of the latter has been sown). Sowings and intentions for malting barley are down 13%, feed barley is up 5%, milling oats is up 10% and feed oats is down 13%, although less than half of these four crops had actually been sown by July 1, 2021.

Final estimated average yields were, over all six crops, down by 3% this season compared to last season. Feed wheat yields were down an estimated 6%, feed barley yields down 3%, milling wheat yields down 8%, malting barley yields up 20%, milling oats yields up 11% and feed oats yields down 3% compared to last season. The tonnages of unsold feed grain were estimated at 49,100 t of feed wheat and 48,700 t of feed barley, as at 1 July 2021; in addition, there was an estimated 19,500 t of unsold milling wheat and 6,200 t of unsold malting barley. The predicted 2022 harvest hectares, when totalled over all six cereal crops, are 2% up on the 2021 harvest hectares (from 91,100 hectares to 92,900 hectares).

Milling wheat: Estimated final total tonnage (104,800 t) was down 1% compared to last year's harvest. Of this total, 81% has been sold (85,300 t), although a large amount of the sold grain is still stored on farm (66%). The amount of unsold grain is 19,500 tonnes (19%), which similar to the same time last year, 1 July 2020 (19,300 t). The amount of unsold grain decreased between 1 April and 1 July 2021 by 8,300 t (or 30%).

Feed wheat: Estimated final total tonnage (318,000 t) was down 9% compared to last year's harvest. Of this total, 85% has been sold (268,900 t), with 54% of the sold grain still stored on farm. The amount of unsold grain is 49,100 tonnes (15%), which is much lower than at the same time last year, 1 July 2020 (85,600 t). The amount of unsold grain decreased between 1 April and 1 July 2021 by 39,400 t (or 44%).

Feed barley: Estimated final total tonnage (245,800 t) was down 5% compared to last year. Of this total tonnage 80% has been sold (197,100 t), with 44% of the sold grain still stored on farm. The amount of unsold grain is 48,700 tonnes (20%), which is much lower than at the same time last year, 1 July 2020 (90,000 t). The amount of unsold grain decreased between 1 April and 1 July 2021 by 48,400 t (or 50%).

For other cereals: Compared to last year, estimated final total tonnage for malting barley (59,200 t) was down by 26%, milling oats (18,200 t) was up by 38%, and feed oats (16,000 t) was up by 59%. Malting barley had 10% of the total harvest unsold (6,200 t) while milling oats and feed oats had 14% (2,500 t) and 5% (800 t) unsold, respectively, as at 1 July, 2021. Of the sold grain, 67% of malting barley was still on farm, as compared to 88% of milling oats and 48% of feed oats. Between 1 April and 1 July 2021, the amount of unsold grain decreased by 33% for malting barley, *increased* by 9% for milling oats, and *increased* by 1% for feed oats.

Sowings and sowing intentions: The actual area sown in autumn/winter wheat or barley, as at 1 July 2021, was up 3% overall on autumn/winter sowings plus intentions as at 1 April 2021. 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 up 2% as compared to the area harvested in 2021, or down by 4% on the area harvested in 2020.

Over the two-year period (2020 harvest to predicted 2022 harvest), the harvest area for feed wheat is predicted to increase by 10% and the harvest area for feed barley is predicted to increase by 3%. Conversely, the harvest area for milling wheat is predicted to decrease by 22%, and the harvest area for malting barley is predicted to decrease by 47%. Over this same two-year period, the harvest area for milling oats is predicted to increase by 37%, and the harvest area for feed oats is predicted to increase by 42%.

When totalled over all six cereal crops (including oats), the 2022 harvest hectares are predicted to be 2% up on the 2021 harvest hectares (from 91,100 hectares to 92,900 hectares).

Milling wheat (tonnes)

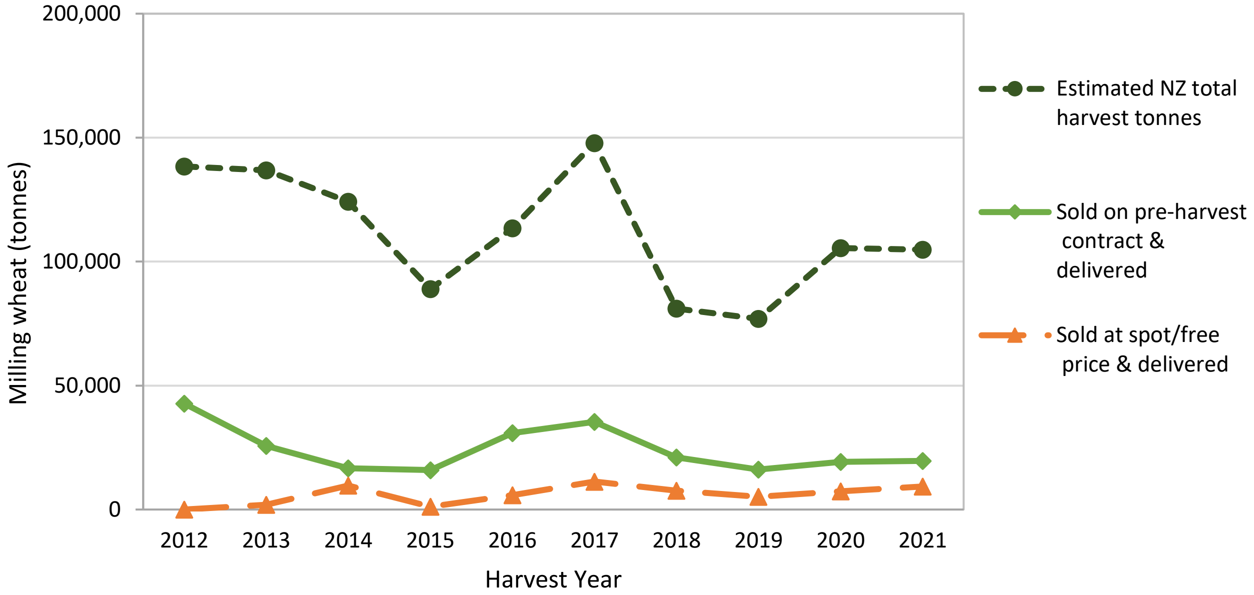

Figure 1a. NZ harvest tonnage and sales channels for milling wheat (tonnes) as estimated on July 1 each year. (Note: All categories relate to that season's harvest, excluding carryover stock. "Sold at spot/free price and delivered" includes grain sold for feed. Historical data are from July AIMI Reports for 2012 to 2019, while 2020 and 2021 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".)

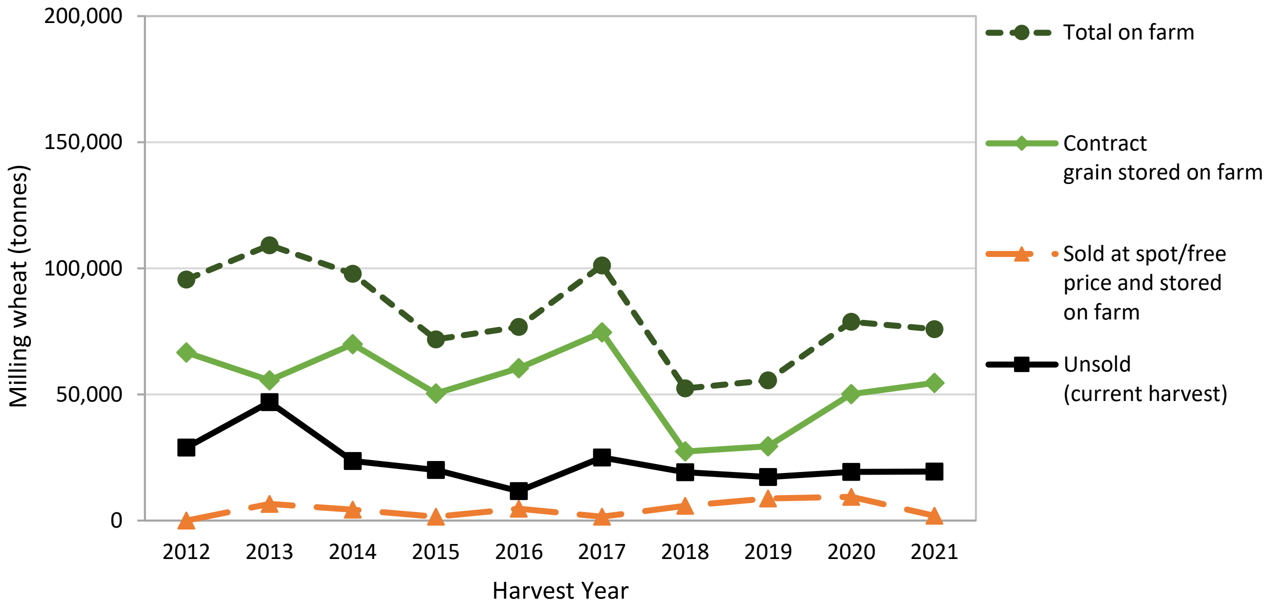

Figure 1b. NZ stocks on farm for milling wheat (tonnes) as estimated on July 1 each year. (Note: Carryover stock from the previous season is excluded. Historical data are from July AIMI Reports for 2012 to 2019, while 2020 and 2021 data are matched data from the current report. In 2012 "Sold at spot/free 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)

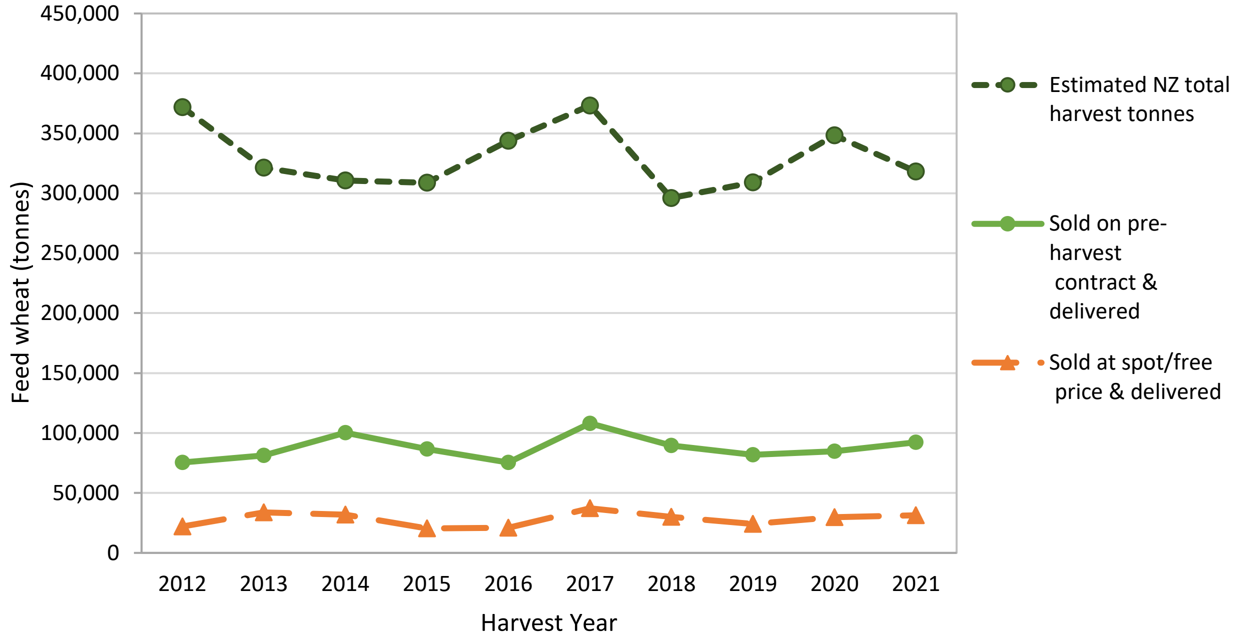

Figure 2a. NZ harvest tonnage and sales channels for feed wheat (tonnes) as estimated on July 1 each year.
(Note: All categories relate to that season's harvest, excluding carryover stock. "Sold at spot/free price and delivered" includes grain used on own farm. Historical data are from July AIMI Reports for 2012 to 2019, while 2020 and 2021 data are matched data from the current report.)

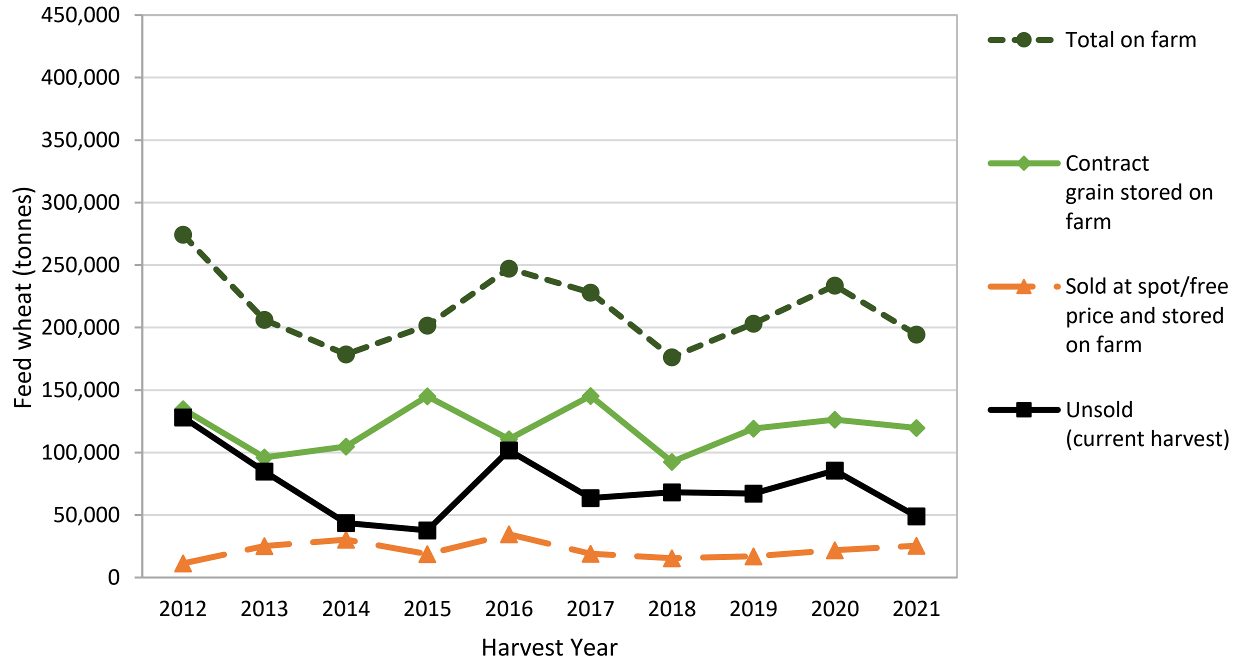

Figure 2b. NZ stocks on farm for feed wheat (tonnes) as estimated on July 1 each year.
(Note: Carryover stock from the previous season is excluded. Historical data are from July AIMI Reports for 2012 to 2019, while 2020 and 2021 data are matched data from the current report.)

Feed barley (tonnes)

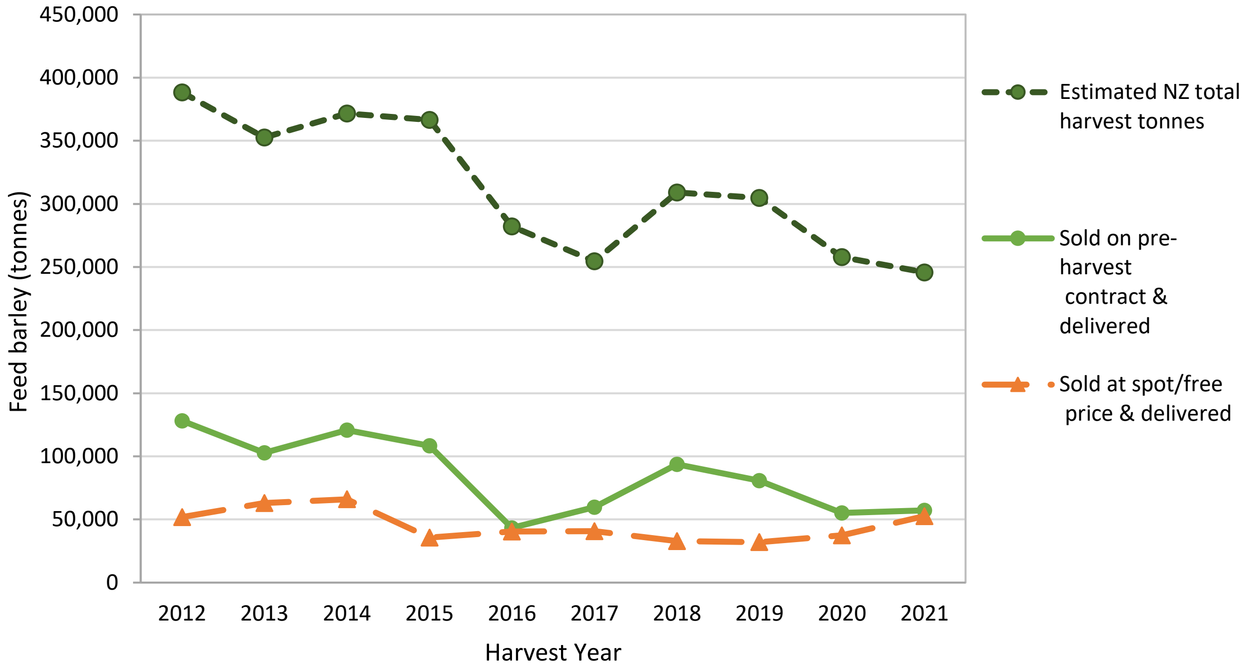

Figure 3a. NZ harvest tonnage and sales channels for feed barley (tonnes) as estimated on July 1 each year.
(Note: All categories relate to that season's harvest, excluding carryover stock. "Sold at spot/free price and delivered" includes grain used on own farm. Historical data are from July AIMI Reports for 2012 to 2019, while 2020 and 2021 data are matched data from the current report.)

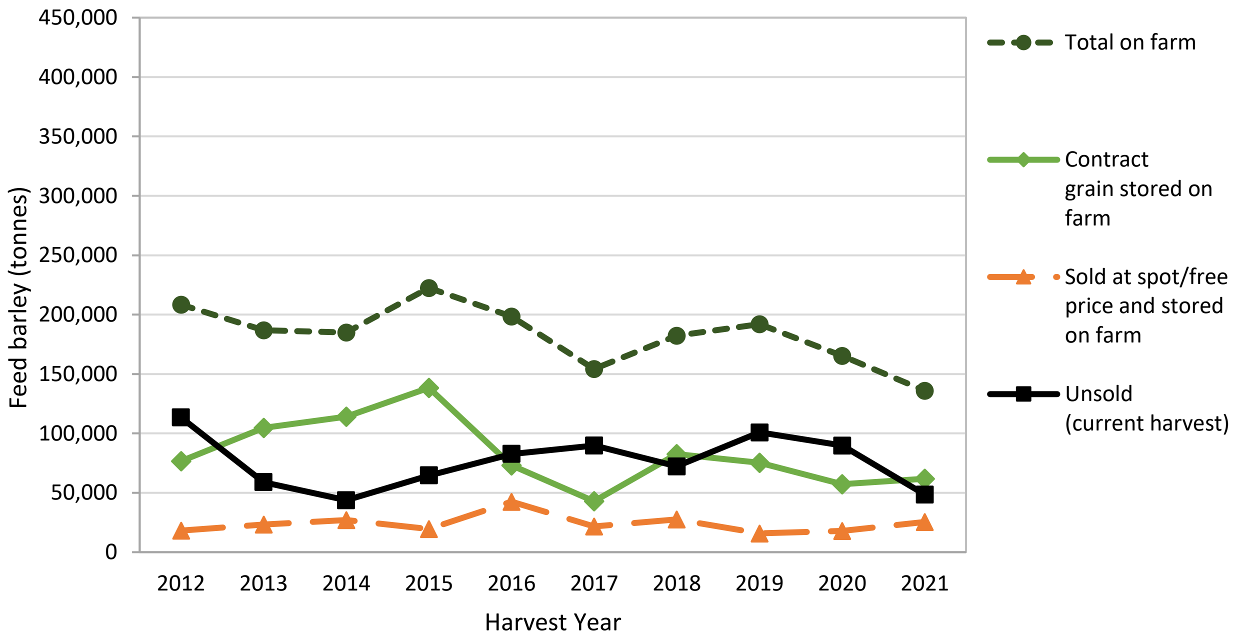

Figure 3b. NZ stocks on farm for feed barley (tonnes) as estimated on July 1 each year.
(Note: Carryover stock from the previous season is excluded. Historical data are from July AIMI Reports for 2012 to 2019, while 2020 and 2021 data are matched data from the current report.)

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

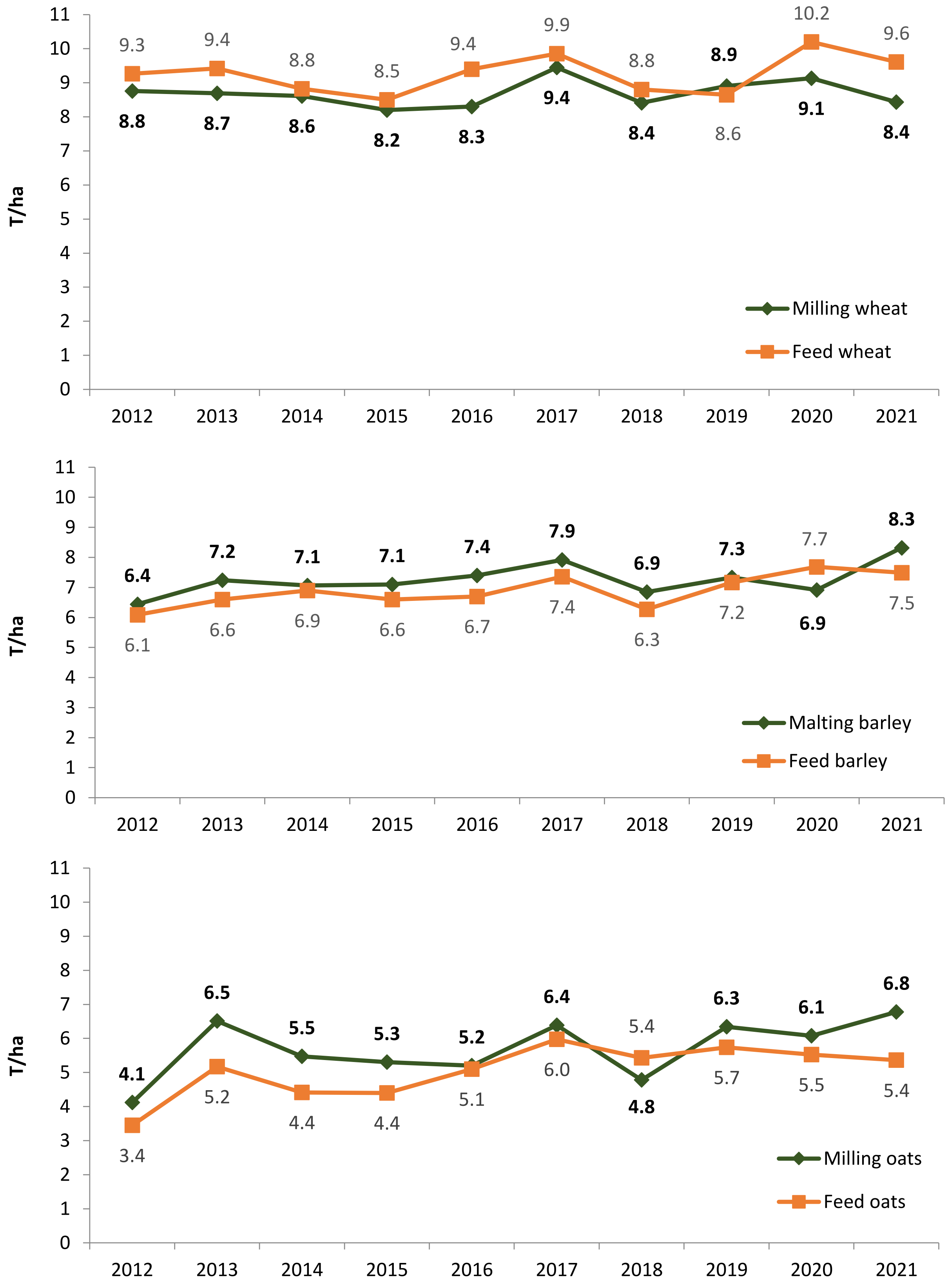

Figure 4. Comparison of NZ-wide yield (tonnes per ha) as estimated on July 1 each year, from 2012 to 2021 for six cereal crops.

(Note: Milling wheat contains biscuit and gristing varieties. Historical data are from July AIMI Reports for 2012 to 2019, while 2020 and 2021 data are matched data from the current report.)

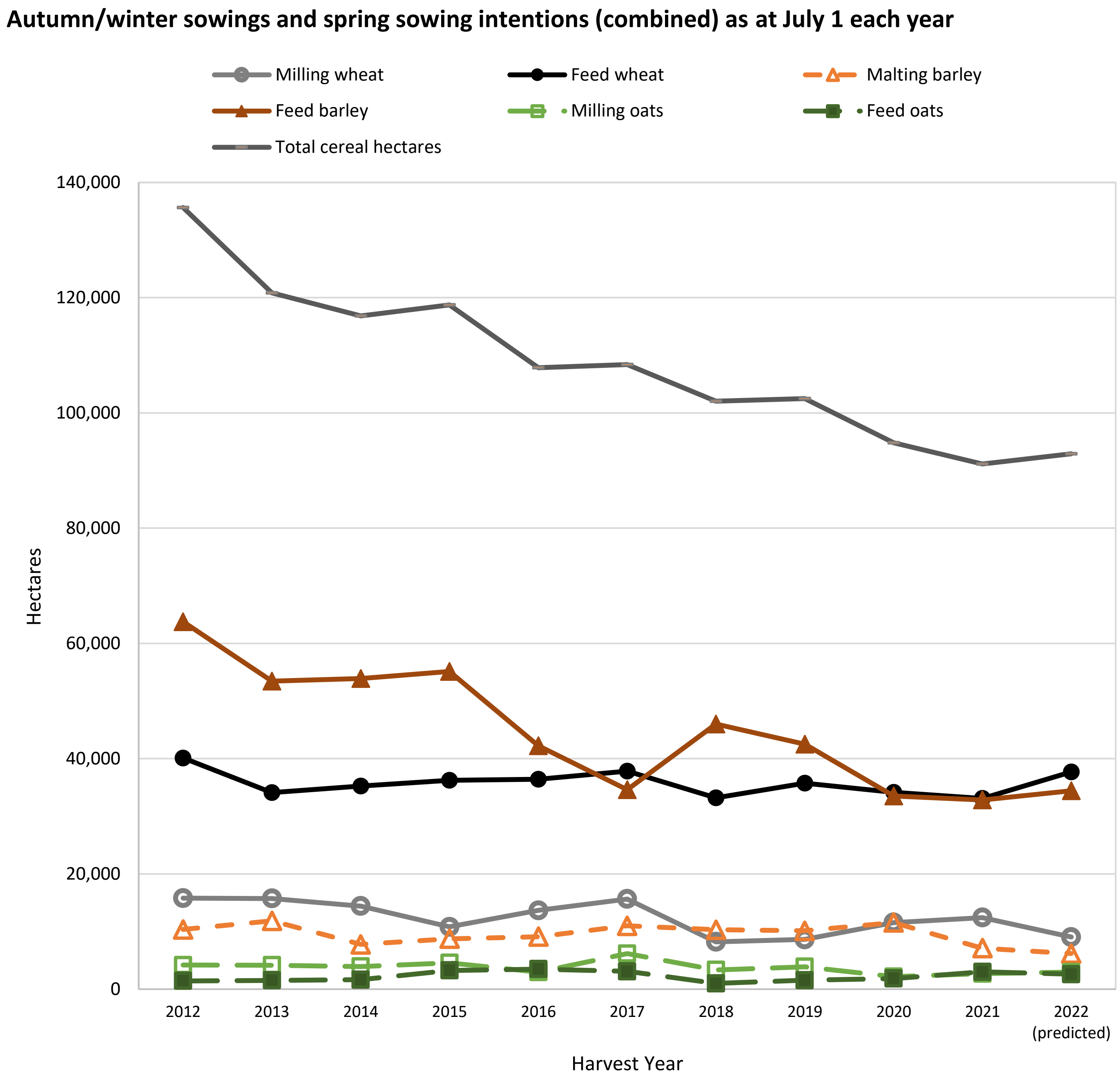

Figure 5. NZ harvest hectares for six cereal crops (and the total over the six crops) as estimated on July 1 each year, from 2012 to 2021 and predicted harvest hectares for 2022.
(Note: All figures represent final harvest hectares except for 2022 which is made up of hectares already sown and hectares intended to be sown for harvest in 2022. Refer to Fig. 6 for hectares already sown. Figures for 2020, 2021 and 2022 (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 – 2019.)

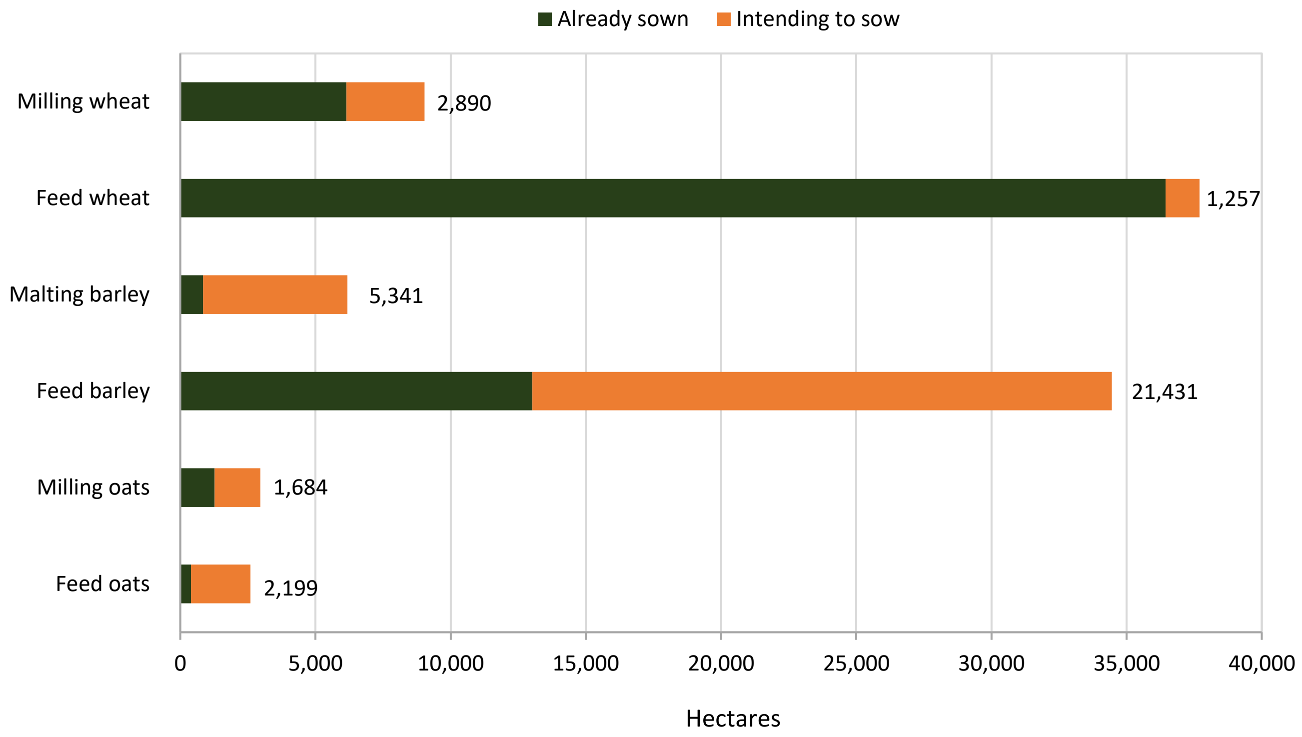

Figure 6. NZ autumn/winter 2021 sowings and spring 2021 sowing intentions (hectares) for harvest in 2022, for six cereal crops as estimated on July 1, 2021.
(Note: Numbers at the end of each bar are sowing intentions.)

Table 1. Detailed estimated national figures for the 2021 harvest, plus sold and delivered tonnages, for six cereal crops as at July 1, 2021.

Number of farmers in the survey who harvested this crop in 2021	Units	Milling wheat 48	Feed wheat 85	Malting barley 26	Feed barley 96	Milling oats 9	Feed oats 28	Total (all crops) 128
2020 harvest								
Estimated NZ total hectares, 2020 harvest	ha	11,551	34,149	11,565	33,535	2,167	1,833	94,800
Estimated NZ total tonnes, 2020 harvest	tonnes	105,462	348,238	79,957	257,743	13,174	10,126	814,700
2021 harvest								
Estimated NZ total hectares, 2021 harvest (final figures)	ha	12,419	33,096	7,114	32,829	2,688	2,995	91,141
Estimated NZ total tonnes, 2021 harvest (final figures)	tonnes	104,790	318,020	59,196	245,796	18,216	16,050	762,068
Sold under pre-harvest contract and delivered by July 1, 2021	tonnes	19,620	92,278	15,468	57,284	1,751	6,433	192,833
Pre-harvest contract grain stored on farm on July 1, 2021	tonnes	54,528	119,781	34,729	61,879	13,795	7,306	292,017
Sold at spot/free price and delivered by July 1, 2021	tonnes	3,565	30,022	1,136	42,406	0	957	78,087
Sold at spot/free price and stored on farm on July 1, 2021	tonnes	1,913	25,434	743	25,365	0	0	53,456
(For milling or malting only) Sold for feed by July 1, 2021	tonnes	5,670	-	921	-	163	-	6,754
(For feed only) Used on own farm (2021 harvest only) by July 1, 2021	tonnes	-	1,400	-	10,121	-	565	12,086
Unsold stocks on hand (2021 harvest only) on July 1, 2021	tonnes	19,494	49,105	6,200	48,740	2,507	789	126,835
Sales channels (2021 harvest)								
"Sold" under pre-harvest contract (total) by July 1, 2021	tonnes	74,147	212,058	50,196	119,163	15,546	13,739	484,850
Sold at spot/free price (total) by July 1, 2021 (includes sold for feed and used on farm)	tonnes	11,149	56,857	2,799	77,892	163	1,522	150,383
Delivery status of sold grain (2021 harvest)								
Sold and delivered (total) by July 1, 2021 (includes sold for feed and used on farm)	tonnes	28,855	123,700	17,525	109,811	1,914	7,955	289,760
"Sold" and stored on farm (total) on July 1, 2021	tonnes	56,441	145,215	35,471	87,244	13,795	7,306	345,473
Total sales (2021 harvest)								
Sold (grand total) by July 1, 2021 (includes sold for feed and used on farm)	tonnes	85,297	268,915	52,996	197,055	15,709	15,261	635,233
Unsold stocks on hand (2021 harvest only) on July 1, 2021	tonnes	19,494	49,105	6,200	48,740	2,507	789	126,835
Comparison of hectares and tonnages between last two harvests								
Estimated % change in hectares, 2020 to 2021 harvest	%	8%	-3%	-38%	-2%	24%	63%	-4%
Estimated % change in tonnes, 2020 to 2021 harvest	%	-1%	-9%	-26%	-5%	38%	59%	-6%
Comparison of yields (t/ha) between last two harvests								
NZ-wide estimated yield, 2020 harvest	t/ha	9.1	10.2	6.9	7.7	6.1	5.5	8.6
NZ-wide estimated yield, 2021 harvest	t/ha	8.4	9.6	8.3	7.5	6.8	5.4	8.4

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, 2021, with unsold grain as at April 1, 2021 (based upon matched data)								
Unsold (2021 harvest only) as at April 1, 2021 (including unharvested grain) (new matched estimate, based upon scaling up data from exact same 134 survey farms as above)	tonnes	27,789	88,470	9,319	97,139	2,292	783	225,792
Unsold (2021 harvest only) on July 1, 2021 (as above)	tonnes	19,494	49,105	6,200	48,740	2,507	789	126,835
Estimated drop in tonnes of unsold grain, April 1, 2021 to July 1, 2021	tonnes	8,295	39,365	3,119	48,398	-215	-6	98,957
Estimated % drop in tonnes of unsold grain, April 1, 2021 to July 1, 2021	%	30%	44%	33%	50%	-9%	-1%	44%
Note: A negative drop means that the tonnage of unsold grain from the 2021 harvest has increased since the last survey date (1 April, 2021).								
Recalculated July 1, 2020 survey breakdown to enable more precise comparisons between July 1, 2020 and July 1, 2021 (based upon matched data)								
Sold under pre-harvest contract and delivered by July 1, 2020	tonnes	19,260	84,779	32,805	55,141	1,265	3,132	196,383
Pre-harvest contract grain stored on farm on July 1, 2020	tonnes	50,094	126,332	39,251	57,250	11,531	5,042	289,500
Sold at spot/free price and delivered by July 1, 2020	tonnes	7,234	26,858	0	32,820	210	317	67,439
Sold at spot/free price and stored on farm on July 1, 2020	tonnes	9,422	21,724	260	18,007	0	0	49,413
(For milling or malting only) Sold for feed by July 1, 2020	tonnes	140	-	668	-	75	-	883
(For feed only) Used on own farm by July 1, 2020	tonnes	-	2,954	-	4,567	-	205	7,726
Unsold stocks on hand (2020 harvest only) on July 1, 2020	tonnes	19,312	85,591	6,972	89,959	93	1,429	203,355
Comparison of unsold grain between last July and this July (based upon matched data)								
Unsold (2020 harvest only) as at July 1, 2020 (as above)	tonnes	19,312	85,591	6,972	89,959	93	1,429	203,355
Unsold (2021 harvest only) on July 1, 2021 (as above)	tonnes	19,494	49,105	6,200	48,740	2,507	789	126,835
Change in tonnes of unsold grain, July 1, 2020 to July 1, 2021	tonnes	182	-36,486	-772	-41,218	2,414	-640	-76,520

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).

Statistics NZ is gratefully acknowledged for supplying Final 2020 NZ Agricultural Production Statistics data on total hectares and tonnes for wheat, barley and oats.

In Table 2, feed wheat sowings/intentions, as at July 1, 2021, show a 14% increase as compared to the last harvest (2021), and a 10% increase as compared to the previous (2020) harvest. Feed barley sowings/intentions show an estimated 5% increase compared to the last harvest (2021), and an estimated 3% increase over the previous harvest (2020). Milling wheat sowings/intentions have decreased by a total of 22% over two years, and malting barley sowings/intentions have decreased by 47% over two years. As a total over all six cereal crops, sowings/intentions are 2% up on the last harvest (2021), and 2% down on the previous harvest (2020). Autumn/winter actual sowings, as at July 1, 2021, were up 3% on autumn/winter sowings/intentions as at April 1, 2021.

Table 2. Sowings and sowing intentions for six cereal crops as at July 1, 2021.

	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)	(ha)
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, 2021	**36**	**94**	**22**	**94**	**11**	**18**	**131**
Estimated NZ total hectares, 2020 harvest	11,551	34,149	11,565	33,535	2,167	1,833	94,800
Estimated NZ total hectares, 2021 harvest	12,419	33,096	7,114	32,829	2,688	2,995	91,141
Estimated NZ total autumn/winter 2021 sowings as at July 1, 2021 (hectares, for harvest in 2022)	6,146	36,442	845	13,018	1,275	398	58,124
Estimated NZ total spring 2021 sowing intentions at at July 1, 2021 (hectares, for harvest in 2022)	2,890	1,257	5,341	21,431	1,684	2,199	34,803
Predicted NZ total hectares, 2022 harvest (autumn/winter sowings 2021 and spring 2021 sowing intentions combined)	9,036	37,699	6,186	34,449	2,959	2,598	92,927
Comparison of hectares between 2020, 2021 and 2022 (predicted) harvests							
Estimated % change in NZ total harvest hectares, 2020 to 2021 harvest	8%	-3%	-38%	-2%	24%	63%	-4%
Estimated % change in NZ total harvest hectares, 2021 to 2022 harvest (predicted)	-27%	14%	-13%	5%	10%	-13%	2%
Estimated % change in NZ total harvest hectares over two seasons, 2020 to 2022 harvest (predicted)	-22%	10%	-47%	3%	37%	42%	-2%
Comparison of autumn/winter 2021 actual sowings (as at July 1, 2021) with autumn/winter sowings plus intended sowings as at April 1, 2021 (based upon matched data)							
Estimated NZ total autumn/winter 2021 sowings and sowing intentions as at April 1, 2021 (date of previous survey) (hectares, for harvest in 2022)	6,532	32,352	1,588	14,595	834	486	56,388
Change in autumn/winter 2021 actual sowings (as at July 1, 2021) compared to autumn/winter sowings and sowing intentions as at April 1, 2021 (ha)	-386	4,090	-743	-1,578	441	-88	1,737
Percentage change in autumn/winter 2021 actual sowings (as at July 1, 2021) compared to autumn/winter sowings and sowing intentions as at April 1, 2021	-6%	13%	-47%	-11%	53%	-18%	3%

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.

AIMI Arable Industry Marketing Initiative	**APPENDIX & REGIONAL DATA** NEW ZEALAND SURVEY OF CEREAL AREAS AND VOLUMES: JULY 1, 2021

Cereal Survey Panel:		
Count of completed:	137	
Out of:	**138**	
Report group	**134**	(Completed July and October 2020, April and July 2021)

Comments

- Some autumn crops drowned out (SOS, SCNO, MC, NSI). Others were sown later than expected due to the dry, then the wet. Some grazing stock for longer so crops going in later than expected. Heavy rainfall episode supplied some long-awaited moisture and many autumn sown crops are looking good.
- 12 growers indicated they will sow in spring but were unsure what and how much – usually its just 1 or 2 undecided.
- Rising costs – chemical/fertiliser
- Market strong - demand for feed grains – price increasing but could do with more
- General disappointment in the milling area, price disappointing, new system is hard to deal with, growers opting for feed grains while market is good

Regional Summary

Table 1. Average regional yields (t/ha) of harvested grain (from 134 responses). From **unscaled data.**

Region	Milling Wheat	Feed Wheat	Malting Barley	Feed Barley	Milling Oats	Feed Oats
Eastern NI	8.3	8.4	7.5	6.8	-	5.1
Sth West NI	-	8.5	6.8	7.0	-	-
Northern SI	9.5	10.5	8.6	7.4	-	4.0
Mid Canterbury	9.7	11.9	8.5	8.9	-	7.3
Sth Cant & Nth Otago	7.4	7.9	9.4	6.5	-	4.4
Sth Otago & Sthland	-	10.6	9.0	7.6	7.7	6.0
Regional Average	**8.9**	**10.2**	**8.5**	**7.6**	**7.7**	**6.1**

Table 2. Tonnes of unsold grain (from 134 responses), **scaled up** to NZ estimates.

Region	Milling Wheat	Feed Wheat	Malting Barley	Feed Barley	Milling Oats	Feed Oats	Region Total
Eastern NI	168	0	0	8,472	0	0	**8,640**
Sth West NI	0	0	0	0	0	0	**0**
Northern SI	4,340	3,057	0	7500	0	33	**14,929**
Mid Canterbury	11,999	19,410	4,195	16,588	0	107	**52,299**
Sth Cant & Nth Otago	2,987	10,164	2,005	6,022	0	47	**21,225**
Sth Otago & Sthland	0	16,474	0	10,158	2,507	602	**29,741**
Region Total	**19,494**	**49,105**	**6,200**	**48,740**	**2,507**	**789**	**126,835**

Table 2. Comparison of hectares harvested in 2021 with hectares sown and intended to be sown for harvest in 2022. From **unscaled data.**

Region	Milling Wheat		Feed Wheat		Malting Barley		Feed Barley		Milling Oats		Feed Oats		Total Growers
	Ha's Harvested	Ha's to be sown/sown	Ha's Harvested	Ha's to be sown/sown	Ha's Harvested	Ha's to be sown/sown	Ha's Harvested	Ha's to be sown/sown	Ha's Harvested	Ha's to be sown/sown	Ha's Harvested	Ha's to be sown/sown	
ENI	45	44	251	268	116	148	622	510	0	0	66	94	9
SWNI	0	6	51	60	20	22	5	0	0	0	0	0	5
NSI	640	425	562	700	61	28	852	916	0	0	30	18	32
MC	1063	713	1785	1807	652	528	965	930	0	17	151	117	42
SCNO	770	645	1718	1852	80	80	571	585	0	0	16	8	21
SOS	0	0	2344	2956	15	15	1337	1626	506	540	301	253	25
Total	**2,518**	**1,832**	**6,711**	**7,644**	**943**	**820**	**4,352**	**4,566**	**506**	**557**	**564**	**489**	**134**

Totals over 134 survey responses (Unscaled data)

In Table A.1, the yields per hectare on the survey farms were lower for the 2021 harvest as compared to the 2020 harvest for four out of the six crops. Yields were down by 0.7 t/ha for milling wheat, down by 0.6 t/ha for feed wheat, up by 1.4 t/ha for malting barley, down by 0.2 t/ha for feed barley, up by 0.8 t/ha for milling oats and down by 0.2 t/ha for feed oats, from the 2020 to 2021 harvests.

Table A.1. 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 2021		48	85	26	96	9	28
2020 harvest							
Total hectares on survey farms, 2020 harvest	ha	2,342	6,924	1,533	4,445	408	345
Total tonnes on survey farms, 2020 harvest	tonnes	22,598	74,619	10,768	34,711	2,822	2,169
2021 harvest							
Total hectares on survey farms, 2021 harvest (final figures)	ha	2,518	6,711	943	4,352	506	564
Total tonnes on survey farms, 2021 harvest (final figures)	tonnes	22,454	68,144	7,972	33,102	3,902	3,438
Sold under pre-harvest contract and delivered by July 1, 2021	tonnes	4,204	19,773	2,083	7,715	375	1,378
Pre-harvest contract grain stored on farm on July 1, 2021	tonnes	11,684	25,666	4,677	8,333	2,955	1,565
Sold at spot/free price and delivered by July 1, 2021	tonnes	764	6,433	153	5,711	0	205
Sold at spot/free price and stored on farm on July 1, 2021	tonnes	410	5,450	100	3,416	0	0
(For milling or malting only) Sold for feed by July 1, 2021	tonnes	1,215	-	124	-	35	-
(For feed only) Used on own farm (2021 harvest only) by July 1, 2021	tonnes	-	300	-	1,363	-	121
Unsold stocks on hand (2021 harvest only) on July 1, 2021	tonnes	4,177	10,522	835	6,564	537	169
Comparison of yield (tonnes per ha) on survey farms between harvests							
Survey farms, 2020 harvest	t/ha	9.6	10.8	7.0	7.8	6.9	6.3
Survey farms, 2021 harvest	t/ha	8.9	10.2	8.5	7.6	7.7	6.1
Data for these SAME survey farms for comparisons of unsold grain between April 1, 2021 and July 1, 2021							
Unsold stocks on hand (from 2021 harvest) on April 1, 2021	tonnes	5,955	18,957	1,255	13,082	491	168
Unsold stocks on hand (from 2021 harvest) on July 1, 2021	tonnes	4,177	10,522	835	6,564	537	169
Data for these SAME survey farms from July 1, 2020 survey, to enable more precise, matched comparisons between July 1, 2020 and July 1, 2021							
Sold under pre-harvest contract and delivered by July 1, 2020	tonnes	4,127	18,166	4,418	7,426	271	671
Pre-harvest contract grain stored on farm on July 1, 2020	tonnes	10,734	27,070	5,286	7,710	2,470	1,080
Sold at spot/free price and delivered by July 1, 2020	tonnes	1,550	5,755	0	4,420	45	68
Sold at spot/free price and stored on farm on July 1, 2020	tonnes	2,019	4,655	35	2,425	0	0
(For milling or malting only) Sold for feed by July 1, 2020	tonnes	30	-	90	-	16	-
(For feed only) Used on own farm by July 1, 2020	tonnes	-	633	-	615	-	44
Unsold stocks on hand (2020 harvest only) on July 1, 2020	tonnes	4,138	18,340	939	12,115	20	306
Data for these SAME survey farms for matched comparisons of unsold grain between July 1, 2020 and July 1, 2021							
Unsold stocks on hand (from 2020 harvest) on July 1, 2020	tonnes	4,138	18,340	939	12,115	20	306
Unsold stocks on hand (from 2021 harvest) on July 1, 2021	tonnes	4,177	10,522	835	6,564	537	169

In Table A.2, the data in Table A.1 are expressed as percentages.

Table A.2 Fate of 2021 crop, in percentages (by tonnes)	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
Number of farmers in the survey who harvested this crop in 2021		48	85	26	96	9	28
2021 harvest							
% Sold under pre-harvest contract and delivered by July 1, 2021	%	18.7	29.0	26.1	23.3	9.6	40.1
% Pre-harvest contract grain stored on farm on July 1, 2021	%	52.0	37.7	58.7	25.2	75.7	45.5
% Sold at spot/free price and delivered by July 1, 2021	%	3.4	9.4	1.9	17.3	0.0	6.0
% Sold at spot/free price and stored on farm on July 1, 2021	%	1.8	8.0	1.3	10.3	0.0	0.0
(For milling or malting only) % Sold for feed by July 1, 2021	%	5.4	-	1.6	-	0.9	-
(For feed only) % Used on own farm by July 1, 2021	%	-	0.4	-	4.1	-	3.5
% Unsold stocks on hand (2021 harvest only) on July 1, 2021	%	18.6	15.4	10.5	19.8	13.8	4.9
Sales channels (2021 harvest)							
% "Sold" under pre-harvest contract (total) by July 1, 2021	%	70.8	66.7	84.8	48.5	85.3	85.6
% Sold at spot/free price (total) by July 1, 2021 (includes sold for feed and used on farm)	%	10.6	17.9	4.7	31.7	0.9	9.5
Delivery status of sold grain (2021 harvest)							
% Sold and delivered (total) by July 1, 2021 (includes sold for feed and used on farm)	%	27.5	38.9	29.6	44.7	10.5	49.6
% "Sold" and stored on farm (total) on July 1, 2021	%	53.9	45.7	59.9	35.5	75.7	45.5
Total sales (2021 harvest)							
% Sold (of total crop) by July 1, 2021 (includes sold for feed and used on farm)	%	81.4	84.6	89.5	80.2	86.2	95.1
% Unsold (of total crop) on July 1, 2021	%	18.6	15.4	10.5	19.8	13.8	4.9

In Table A.3, autumn/winter sowings and spring sowing intentions are given as sums over the 134 survey farms.

Table A.3 Autumn/winter sowings and spring sowing intentions (data totalled over all survey respondents)	Milling wheat (ha)	Feed wheat (ha)	Malting barley (ha)	Feed barley (ha)	Milling oats (ha)	Feed oats (ha)
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, 2021	**36**	**94**	**22**	**94**	**11**	**18**
Number of farmers in the survey who sowed in autumn/winter 2021	**23**	**88**	**4**	**40**	**6**	**8**
Number of farmers in the survey who intend to sow in spring 2021, as at July 1, 2021	**19**	**12**	**20**	**76**	**7**	**11**
Total hectares on survey farms, 2020 harvest	2,342	6,924	1,533	4,445	408	345
Total hectares on survey farms, 2021 harvest	2,518	6,711	943	4,352	506	564
Autumn/winter 2021 sowings on survey farms as at July 1, 2021 (hectares, for harvest in 2022)	1,246	7,389	112	1,726	240	75
Spring 2021 sowing intentions on survey farms as at July 1, 2021 (hectares, for harvest in 2022)	586	255	708	2,841	317	414
Total predicted hectares for 2022 harvest, as at July 1, 2021	1,832	7,644	820	4,566	557	489
Comparison of autumn/winter actual sowings (as at July 1, 2021) with intended sowings (as at April 1, 2021)						
Autumn/winter 2021 sowings and intentions on these same survey farms as at April 1, 2021 (date of previous survey) (hectares, for harvest in 2022)	1,325	6,560	211	1,935	157	92
Change in autumn/winter 2021 sowings (as at July 1, 2021) compared to autumn/winter sowings and intentions as at April 1, 2021 (hectares)	-78	829	-99	-209	83	-17
Percentage change in autumn/winter 2021 sowings (as at July 1, 2021) compared to autumn/winter sowings and intentions as at April 1, 2021	-6%	13%	-47%	-11%	53%	-18%

For scaling up to NZ-wide totals, the most recent figures are the Final 2020 Agricultural Production Statistics (APS) figures, as in Table A.4. On average, the yields on the survey farms were similar to the APS yields for barley, and higher on the survey farms for wheat and oats.

From the scale-up factors, we can see what percentage of the area of each 2020 harvest crop was on the survey farms. For wheat, it was 100/ 4.932 = 20.3%. For barley, it was 100/ 7.544 = 13.3%. For oats, it was 100/ 5.312 = 18.8%. That is, the percentages were relatively high for both wheat and oats, and lower for barley.

Table A.4 Scaling up from survey totals to NZ-wide totals using Final 2020 Agricultural Production Statistics (APS) data	Units	Total wheat	Total barley	Total oats
Total hectares on survey farms, 2020 harvest	ha	9,266	5,978	753
Total tonnes on survey farms, 2020 harvest	tonnes	97,217	45,479	4,991
Final APS statistics for 2020 harvest, total hectares	ha	45,700	45,100	4,000
Final APS statistics for 2020 harvest, total tonnes	tonnes	453,700	337,700	23,300
Multiplier for scaling up from survey farms to APS statistics				
Hectares		4.932	7.544	5.312
Tonnes		4.667	7.425	4.668
Comparison of yields between survey and APS statistics				
Survey farms, 2020 harvest	t/ha	10.5	7.6	6.6
APS statistics, 2020 harvest	t/ha	9.9	7.5	5.8