



The objective of this AIMI survey of New Zealand (NZ) cereal growers was to determine, as at October 10, 2022:

- *sales of the 2022 NZ harvest of wheat, barley and oats (milling/malting and feed crops) since July 1, 2022*
- *levels of on-farm storage, both sold and unsold, of the 2022 harvest*
- *spring 2022 sowings and sowing intentions of wheat, barley and oats (milling/malting and feed crops)*

Survey details

Data from 132 NZ survey farms who completed each of the last four cereal surveys (October 2021 and April, July and October 2022) were scaled up to the national level using the most recent, 2021, final NZ Agricultural Production Statistics (APS). These data reflect the position at the 10th October 2022 and there may have been further changes. As with all surveys, there is a margin of error which needs to be considered in relation to this report. The maize survey is currently underway and details will be released in the near future.

Key Points at 10 October 2022 (figures have been rounded to nearest 100):

- For the 2021/2022 season, cereal grain production (wheat, barley and oats) in NZ totaled an estimated 767,000 tonnes (down 1% on last year). Maize grain production was estimated at 195,900 tonnes. Total production of grain in NZ was therefore estimated to be 963,000 tonnes.
- Unsold stocks of cereal grain, summed over all six crops, are estimated to have reduced by 63% between 1 July 2022 and 10 October 2022.
- When compared to the same time last year, unsold stocks of cereal grain, summed over all six crops, are estimated to be 5% lower. As at 10 October 2022, unsold stocks of feed wheat and feed barley were estimated at 14,900 tonnes (down 3,500 tonnes on last year) and 21,200 tonnes (up 1,300 tonnes on last year), respectively.
- On-farm storage of sold grain is down 7% (down 13,400 tonnes) on this time last year. Total on-farm storage, including both sold and unsold grain, summed over all six crops, is down 7% (down 16,000 tonnes) compared to the same time last year.
- The total area sown or intended to be sown in cereals is estimated to be 99,700 hectares, which is up 5% (up 4,900 ha) on last season. An estimated 87% of this total area had been sown, which is similar to the average over the previous eight seasons (86%). The wet and cold winter and spring delayed sowings and slowed growth across all regions, although conditions are starting to dry out now.

As at 10 October 2022, the tonnages of unsold feed wheat and feed barley were estimated at 14,900 t and 21,200 t, respectively. In addition, there were an estimated 1,900 t of unsold milling wheat and 6,500 t of unsold malting barley. When totalled over all six cereal crops, the 2023 harvest hectares were predicted to be up 5% on the 2022 harvest hectares (up from an estimated 94,900 ha to 99,700 ha). The 2023 harvest hectares for milling wheat and malting barley were predicted to be 3,400 and 3,000 hectares higher than the 2022 harvest hectares, respectively, while feed wheat and feed barley harvest hectares were predicted to be within 1% of the last harvest.

Milling wheat: Overall, on-farm storage was 63% down on the same time last year. The estimated tonnage of unsold grain was 1,900 t while the estimated tonnage of sold grain stored on farm was 13,300 t. Both unsold and sold stored grain were down on the same time last year. Almost all milling wheat crops (98%) had been sown by October 10, and the area sown (including yet to be sown) is estimated to be up 44% on last season.

Feed wheat: Overall, on-farm storage was up 8% on the same time last year. The estimated tonnage of unsold grain was 14,900 t, which was down on the same time last year. The estimated tonnage of sold grain still stored on farm was 102,000 t, which was up on the tonnage at the same time last year. Almost all feed wheat crops (97%) had been sown by October 10, with the area sown (including yet to be sown) estimated to be up 1% on last season.

Feed barley: Overall, on-farm storage was up 16% on the same time last year. The estimated tonnage of unsold grain was 21,200 t, which was slightly up on the same time last year. The estimated tonnage of sold grain still stored on farm was 51,500 t, which was up on the tonnage at the same time last year. An estimated 82% of feed barley crops were sown by October 10, with the area sown (including yet to be sown) estimated to be down 1% on last season.

Malting barley: Overall, on-farm storage was down 60% on the same time last year. The estimated tonnage of unsold grain was 6,500 t, up on the same time last year, while the estimated tonnage of sold grain still stored on farm was 1,800 t, which was much lower than the tonnage at the same time last year (17,600 t). An estimated 60% of malting barley crops were sown by October 10, and the area sown (including yet to be sown) was estimated to be up 53% on last season.

Milling oats: Overall, on-farm storage was up 47% compared to the same time last year. The estimated tonnage of unsold grain was 1,600 t, which was up on the same time last year. The estimated tonnage of sold grain that was still stored on farm was 4,800 t, up on the same time last year. Milling oat crops were 84% sown by October 10, with the area sown (including yet to be sown) estimated to be 29% down on last season.

Feed oats: Overall, on-farm storage was up 139% on the same time last year. The estimated tonnage of unsold grain was 1,100 t, up on the same time last year. The estimated tonnage of sold grain still stored on farm was 2,900 t, which was higher than at the same time last year. Feed oat crops were 77% sown by October 10, and the area to be sown (including yet to be sown) was estimated to be 30% down on last season.

Overall: As a total over all six crops, the estimated unsold tonnage of wheat, barley and oats (47,100 t in total) was 5% lower than at the same time last year, and the estimated tonnage sold but still stored on farm (176,400 t in total) was 7% lower than at the same time last year. This meant that the total tonnage on farm on October 10, 2022 (223,500 t in total) was estimated to be 7% lower than the amount on October 10, 2021. The total on-farm storage was made up of 116,900 t of feed wheat,

72,700 t of feed barley, 15,200 t of milling wheat, 8,300 t of malting barley, 6,400 t of milling oats and 4,000 t of feed oats.

The total area sown plus intended to be sown in wheat, barley or oats, as at 10 October 2022, was estimated to be up 4,900 ha, or 5%, on the area harvested in 2022. There were increases in sowings of milling wheat and malting barley and decreases in sowings of milling oats and feed oats. Sowings of feed wheat and feed barley are estimated to be similar to last harvest (within 1%).

As a comparison over the last two years, the total area sown plus intended to be sown in wheat, barley or oats, as at 10 October 2022, was estimated to be 9% up on the area harvested in 2021. Feed wheat area was up 8%, feed barley area was up 17%, milling wheat was down 6% and malting barley was up 12% over the two-year period.

The percentage of hectares that has been “forward sold”, as at 10 October 2022, was estimated to be 53% for milling wheat, 50% for malting barley and 83% for milling oats (as compared to matched estimates of 36%, 78% and 89%, respectively, for forward sales at the same time last year). Forward sales of malting barley are markedly down on last year. For the feed crops, the percentages that have been forward sold were 56% of feed wheat, 47% of feed barley and 61% of feed oats hectares (as compared to 52%, 45% and 31%, respectively, for forward sales at the same time last year).

While the cold, wet winter and spring has delayed sowings and slowed growth across all regions, many crops are generally growing well, although some regions are starting to dry out now.

Table 1. Estimated NZ national figures for the 2022 harvest, plus sold and delivered tonnages, for six cereal crops as at October 10, 2022.

		Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
Number of farmers in the survey who harvested this crop in 2022	Units	41	88	21	101	12	23	128
2021 harvest								
Estimated NZ total hectares, 2021 harvest	ha	11,798	31,702	7,643	36,557	1,966	2,157	91,823
Estimated NZ total tonnes, 2021 harvest	tonnes	103,680	319,120	60,835	264,265	13,293	11,512	772,705
2022 harvest								
Estimated NZ total hectares, 2022 harvest	ha	7,694	33,950	5,618	43,418	2,429	1,747	94,857
Estimated NZ total tonnes, 2022 harvest	tonnes	65,752	333,028	38,512	305,270	14,455	10,017	767,034
Sold under pre-harvest contract and delivered by 10 October, 2022	tonnes	28,686	120,665	27,383	143,551	7,595	4,261	332,141
Pre-harvest contract grain stored on farm on 10 October, 2022	tonnes	7,836	67,008	1,797	34,122	3,832	2,636	117,231
Sold at spot/free price and delivered by 10 October, 2022	tonnes	14,747	91,858	1,159	83,248	484	1,550	193,045
Sold at spot/free price and stored on farm on 10 October, 2022	tonnes	5,475	35,013	0	17,420	981	255	59,144
(For milling or malting only) Sold for feed by 10 October, 2022	tonnes	7,086	-	1,718	-	0	-	8,805
(For feed only) Used on own farm by 10 October, 2022	tonnes	-	3,597	-	5,758	-	218	9,573
Unsold stocks on hand (2022 harvest only) on 10 October, 2022	tonnes	1,922	14,888	6,456	21,172	1,563	1,097	47,097
Sales channels (2022 harvest)								
Sold on pre-harvest contract (total) by 10 October, 2022	tonnes	36,521	187,673	29,180	177,673	11,427	6,897	449,371
Sold at spot/free price (total) by 10 October, 2022	tonnes	20,222	126,871	1,159	100,668	1,465	1,805	252,189
On farm storage (2022 harvest)								
Sold and delivered (total) by 10 October, 2022	tonnes	43,432	212,523	28,541	226,799	8,079	5,811	525,185
Sold and stored on farm (total) on 10 October, 2022	tonnes	13,311	102,020	1,797	51,542	4,813	2,892	176,374
Total sales (2022 harvest)								
Sold (grand total) by 10 October, 2022 (includes sold for feed & used on farm)	tonnes	63,830	318,140	32,057	284,098	12,892	8,920	719,937
Unsold stocks on hand (2022 harvest only) on 10 October, 2022	tonnes	1,922	14,888	6,456	21,172	1,563	1,097	47,097
Comparison of hectares and tonnes between last two harvests								
Estimated % change in hectares, 2021 to 2022 harvest	%	-35%	7%	-26%	19%	24%	-19%	3%
Estimated % change in tonnes, 2021 to 2022 harvest	%	-37%	4%	-37%	16%	9%	-13%	-1%
Comparison of yields (t/ha) between last two harvests								
NZ-wide estimated yield, 2021 harvest	t/ha	8.8	10.1	8.0	7.2	6.8	5.3	8.4
NZ-wide estimated yield, 2022 harvest	t/ha	8.5	9.8	6.9	7.0	6.0	5.7	8.1

Table 1 (continued).

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
Comparison of on-farm storage between 1 July, 2022 and 10 October, 2022 (based upon matched data)								
Sold and stored on farm (total) on 1 July, 2022 (2022 harvest)	tonnes	30,924	142,747	6,448	78,152	6,379	4,179	268,829
Sold and stored on farm (total) on 10 October, 2022 (2022 harvest)	tonnes	13,311	102,020	1,797	51,542	4,813	2,892	176,374
Unsold stocks on hand (from 2022 harvest) on 1 July, 2022	tonnes	13,238	49,394	9,017	52,874	1,563	1,856	127,943
Unsold stocks on hand (from 2022 harvest) on 10 October, 2022 (as above)	tonnes	1,922	14,888	6,456	21,172	1,563	1,097	47,097
% decrease in total grain stored on-farm from July 2022 to Oct 2022	%	66%	39%	47%	45%	20%	34%	44%
Recalculated 10 October, 2021 survey breakdown to enable more precise, matched comparisons between 10 October, 2021 and 10 October, 2022								
Sold under pre-harvest contract and delivered by 10 October, 2021	tonnes	41,349	150,684	33,964	106,339	8,842	8,307	349,485
Pre-harvest contract grain stored on farm on 10 October, 2021	tonnes	27,498	72,981	17,625	34,586	3,865	1,373	157,928
Sold at spot/free price and delivered by 10 October, 2021	tonnes	10,853	56,573	4,753	85,183	0	1,087	158,449
Sold at spot/free price and stored on farm on 10 October, 2021	tonnes	6,342	17,063	0	8,395	0	0	31,800
(For milling or malting only) Sold for feed by 10 October, 2021	tonnes	9,943	-	1,498	-	119	-	11,560
(For feed only) Used on own farm by 10 October, 2021	tonnes	-	3,426	-	9,908	-	453	13,787
Unsold stocks on hand (2021 harvest only) on 10 October, 2021	tonnes	7,695	18,392	2,995	19,855	467	293	49,697
Comparison of on-farm storage between last October and this October (based upon matched data)								
Sold and stored on farm (total) on 10 October, 2021 (2021 harvest)	tonnes	33,840	90,045	17,625	42,980	3,865	1,373	189,728
Sold and stored on farm (total) on 10 October, 2022 (2022 harvest)	tonnes	13,311	102,020	1,797	51,542	4,813	2,892	176,374
Unsold stocks on hand (from 2021 harvest) on 10 October, 2021	tonnes	7,695	18,392	2,995	19,855	467	293	49,697
Unsold stocks on hand (from 2022 harvest) on 10 October, 2022 (as above)	tonnes	1,922	14,888	6,456	21,172	1,563	1,097	47,097
% change in total grain stored on-farm from Oct 2021 to Oct 2022	%	-63%	8%	-60%	16%	47%	139%	-7%
Change in total grain (in TONNES) stored on-farm from Oct 2021 to Oct 2022	tonnes	-26,301	8,471	-12,368	9,878	2,044	2,323	-15,952

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 2021 NZ Agricultural Production Statistics data on total hectares and tonnes for wheat, barley and oats.

Table 2. NZ sowings and sowing intentions for six cereal crops as at October 10, 2022.

	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
Number of farmers who have sown or intend to sow this crop as at 10 October, 2022	46	86	27	97	10	14	131
Estimated NZ total hectares, 2021 harvest	11,798	31,702	7,643	36,557	1,966	2,157	91,823
Estimated NZ total hectares, 2022 harvest	7,694	33,950	5,618	43,418	2,429	1,747	94,857
Sowings and intentions for the current season's crop (2022/23)							
Estimated NZ total autumn/winter 2022 sowings (hectares; for harvest in 2023)	7,559	32,111	689	15,327	848	59	56,593
Estimated NZ total spring 2022 sowings already sown by 10 October, 2022 (hectares; for harvest in 2023)	3,363	1,208	4,481	19,912	604	874	30,443
Estimated NZ total spring 2022 sowings still to sow (intentions) as at 10 October, 2022 (hectares; for harvest in 2023)	192	901	3,403	7,638	283	283	12,699
Estimated NZ total spring 2022 sowings plus intentions as at 10 October, 2022 (hectares; for harvest in 2023)	3,555	2,109	7,884	27,549	887	1,157	43,141
Predicted NZ total hectares, 2023 harvest (Autumn/winter 2022 sowings and Spring 2022 sowings & intentions, all combined)	11,113	34,220	8,573	42,876	1,735	1,216	99,734
% of predicted NZ hectares which had already been sown by 10 October, 2022	98%	97%	60%	82%	84%	77%	87%
Average over previous 8 years of % of predicted NZ hectares which had been sown by 10 October	99%	99%	78%	75%	71%	76%	86%
"Forward sales" of 2022/23 crop							
Predicted NZ total hectares that are "forward sold" (2023 harvest) as at 10 October, 2022	5,852	19,082	4,261	20,331	1,432	738	51,696
Estimated percentage of NZ total hectares that are "forward sold" (2023 harvest) as at 10 October, 2022	53%	56%	50%	47%	83%	61%	52%
Comparison of sowings/intentions between the 2020/21, 2021/22 and 2022/23 seasons (NZ totals) (based upon matched data)							
Estimated % change in NZ total sowings, 2021 to 2022 harvests	-35%	7%	-26%	19%	24%	-19%	3%
Estimated % change in NZ total sowings, 2022 to 2023 (predicted) harvests	44%	1%	53%	-1%	-29%	-30%	5%
Estimated % change in NZ total sowings, 2021 to 2023 (predicted) harvests (TOTAL over TWO seasons)	-6%	8%	12%	17%	-12%	-44%	9%
Estimated change in NZ total sowings, 2022 to 2023 (predicted) harvests (in HECTARES)	3,419	270	2,954	-542	-694	-531	4,877
Comparison of spring sowing intentions as at 1 July, 2022 with spring sowings plus intentions as at 10 October, 2022 (based upon matched data)							
Estimated NZ total spring 2022 sowing intentions as at 1 July, 2022 (hectares; for harvest in 2023)	3,715	1,879	5,062	23,069	1,545	1,325	36,595
Estimated NZ total spring 2022 sowings plus intentions as at 10 October, 2022 (hectares, for harvest in 2023) (as above)	3,555	2,109	7,884	27,549	887	1,157	43,141
Change in estimated NZ total spring 2022 sowings/intentions between 1 July, 2022 and 10 October, 2022 (hectares; for harvest in 2023)	-160	230	2,822	4,481	-658	-168	6,546

Note: The matched comparisons in the last two sections were based upon scaling up data from the exact same survey farms for the last four AIMI surveys.

In Table 1, the tonnages of the 2022 harvest of six grain crops still stored on farm reduced by between 20% and 66% in the period between the AIMI surveys dated July 1, 2022 and October 10, 2022. When tonnages were totalled over all six crops, the reduction was 44%.

When the on-farm storage on October 10, 2022 was compared to that at the same time last year (October 10, 2021), the total tonnage of grain on farms from the most recent harvest was lower than last year for the milling wheat and malting barley crops, and, conversely, higher than last year for the feed wheat and feed barley crops. When summed over all six crops, the total on-farm storage was 7% lower than at this time last year. This corresponded to a 7% decrease in the tonnage of grain sold and stored on farm, and a 5% decrease in unsold stocks on hand, as compared to a year ago.

The number out of the 132 survey growers who have sown or intend to sow each crop this season can be compared with the number who harvested last season (2021/2022) by comparing the top rows in Tables 1 and 2. For milling wheat, grower numbers increased from 41 to 46 between last season and this season, and malting barley numbers increased from 21 to 27. Note that for milling wheat, almost all sowing had been completed by October 10, so these numbers are unlikely to change. Conversely, for malting barley, sowing was only 60% complete, so final grower numbers may be different. For feed wheat, feed barley and milling oats, grower numbers were similar between the last two seasons, while for feed oats, grower numbers decreased from 23 to 14.

In Table 2, sowings plus sowing intentions for feed wheat (for harvest in 2023) were 1% up on the area harvested in 2022 and up 8% on the area harvested in 2021. For feed barley, sowings plus sowing intentions (for harvest in 2023) were an estimated 1% down on the area harvested in 2022, and 17% up on the area harvested in 2021. For milling wheat, sowings (for harvest in 2023) were an estimated 44% up on the area harvested in 2022, and 6% down on the area harvested in 2021. Malting barley sowings and intentions were up 53% on last year, following a 26% decrease the previous season. As a result, malting barley sowings were up 12% on two years ago. Milling oats sowings and intentions were down 29% on last year, following a 24% increase the previous year, and as a result were down 12% on two years ago. Feed oats sowings and intentions were down 30% on last year, following a 19% decrease the previous year, and as a result, feed oats sowings was predicted to be down 44% on two years ago.

Summing the sowings and intended sowings for the six cereal crops for the current season (for harvest in 2023) (99,700 ha), an increase of 4,900 ha was estimated when compared with the estimated area harvested in 2022 (94,900 ha).

At the bottom of Table 2 is the estimated change between the spring sowing intentions on July 1, 2022 and the actual sowings plus updated intentions on October 10, 2022. In total, there was an estimated increase of 6,500 ha in the spring hectares sown plus intended to be sown between the two survey dates. This was dominated by an increase in hectares for feed barley (up 4,500 ha) and an increase in hectares for malting barley (up 2,800 ha).

Milling wheat (tonnes)

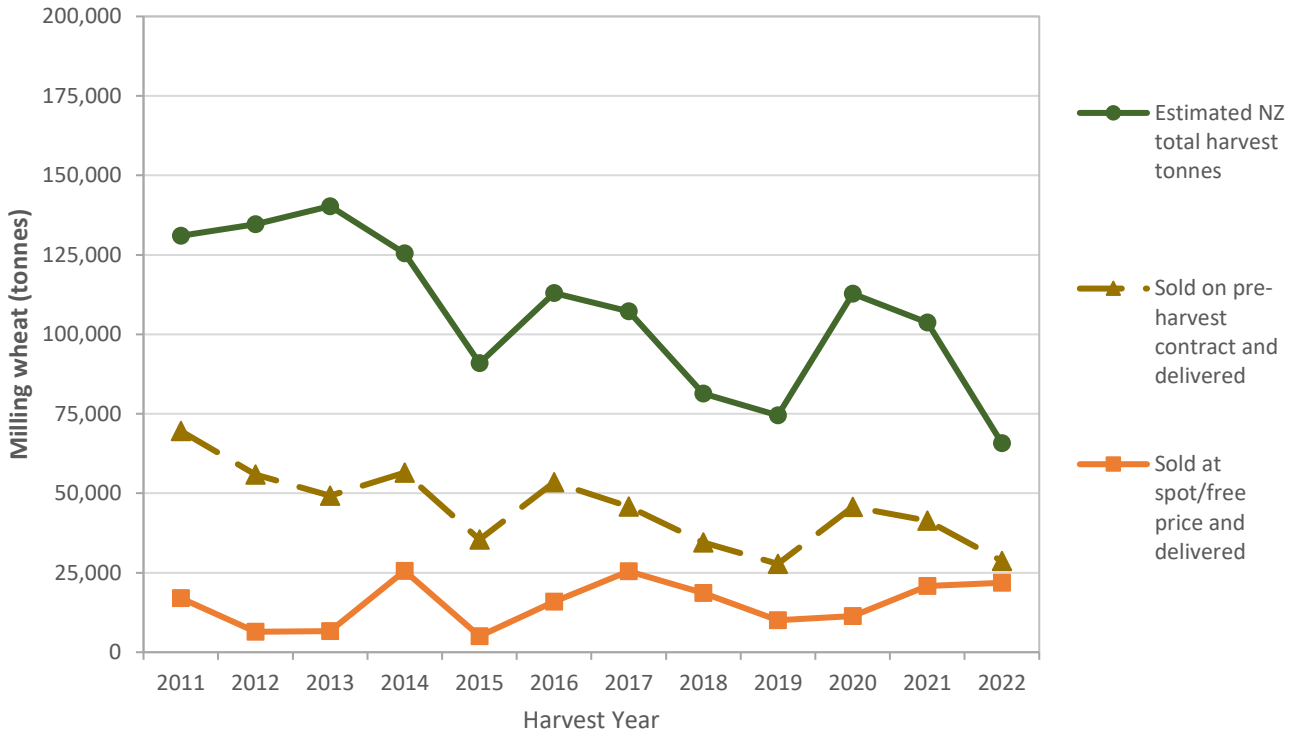


Figure 1a. NZ harvest tonnage and sales channels for milling wheat as estimated in October each year. (Note: Both “sold and delivered” categories relate to the crop harvested that year, excluding carryover stock. “Sold at spot/free price and delivered” includes grain sold for feed. Historical data for 2011 to 2020 are from October AIMI Reports for 2020 and earlier, while data for 2021 and 2022 are matched data from the current report.)

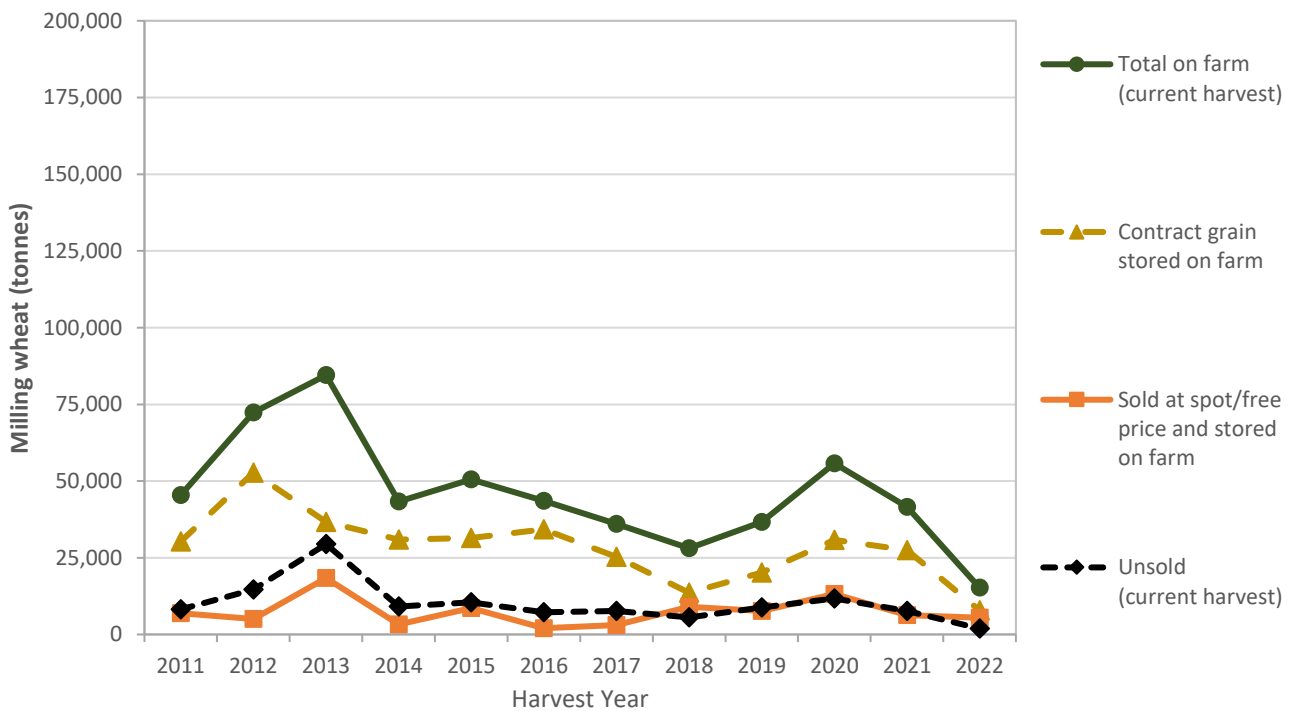


Figure 1b. NZ stocks on farm for milling wheat as estimated in October each year. (Note: Historical data for 2011 to 2020 are from October AIMI Reports for 2020 and earlier, while data for 2021 and 2022 are matched data from the current report.)

Feed wheat (tonnes)

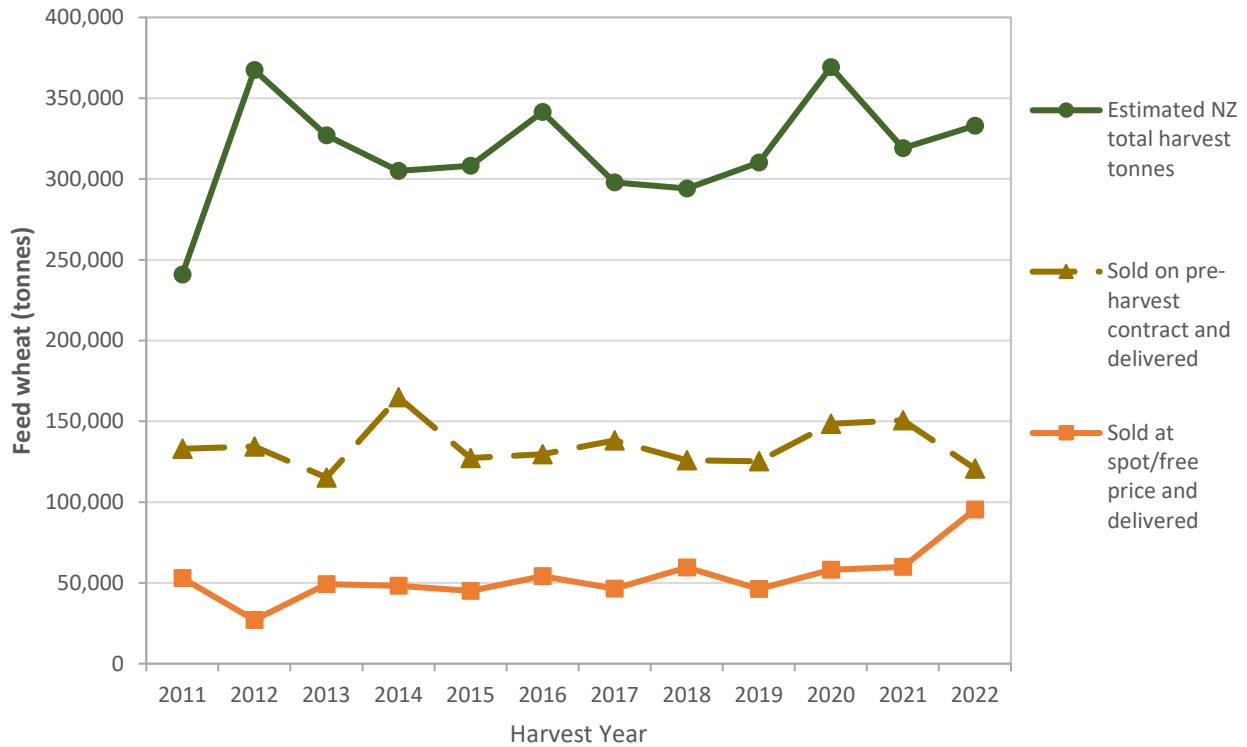


Figure 2a. NZ harvest tonnage and sales channels for feed wheat as estimated in October each year. (Note: Both “sold and delivered” categories relate to the crop harvested that year, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data for 2011 to 2020 are from October AIMI Reports for 2020 and earlier, while data for 2021 and 2022 are matched data from the current report.)

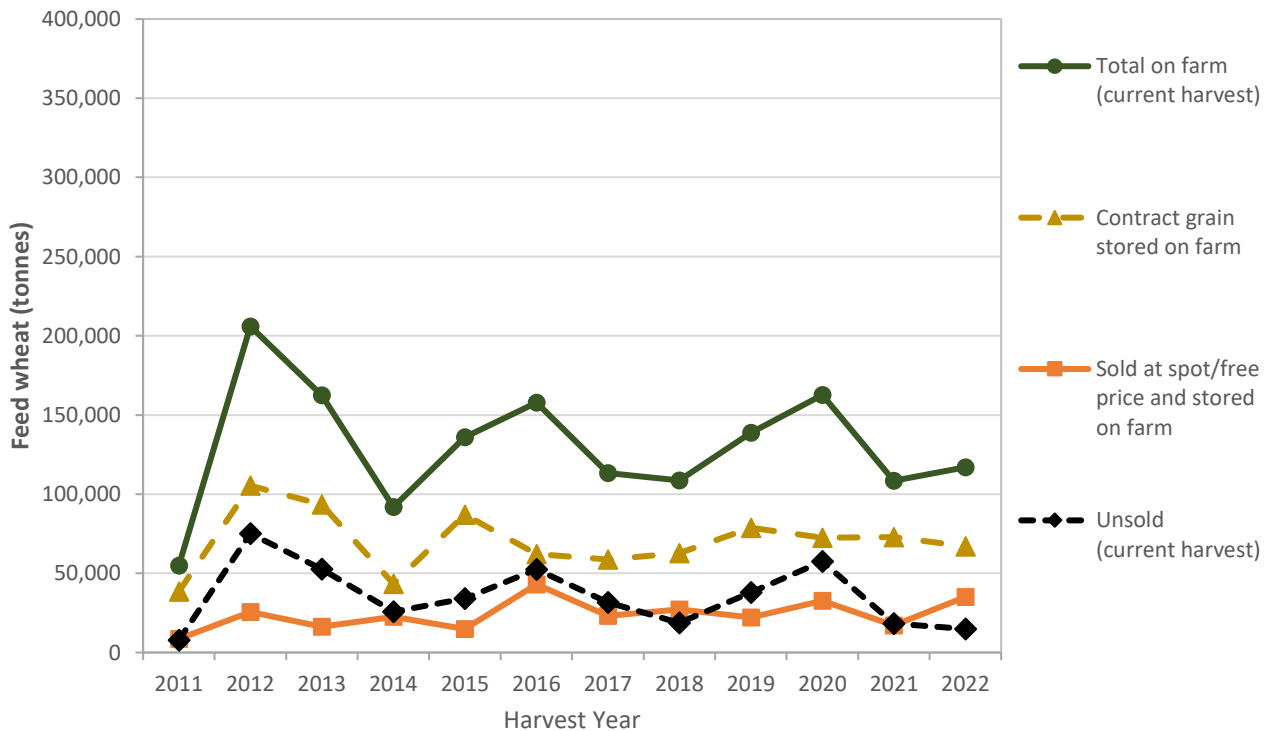


Figure 2b. NZ stocks on farm for feed wheat as estimated in October each year. (Note: Historical data for 2011 to 2020 are from October AIMI Reports for 2020 and earlier, while data for 2021 and 2022 are matched data from the current report.)

Feed barley (tonnes)

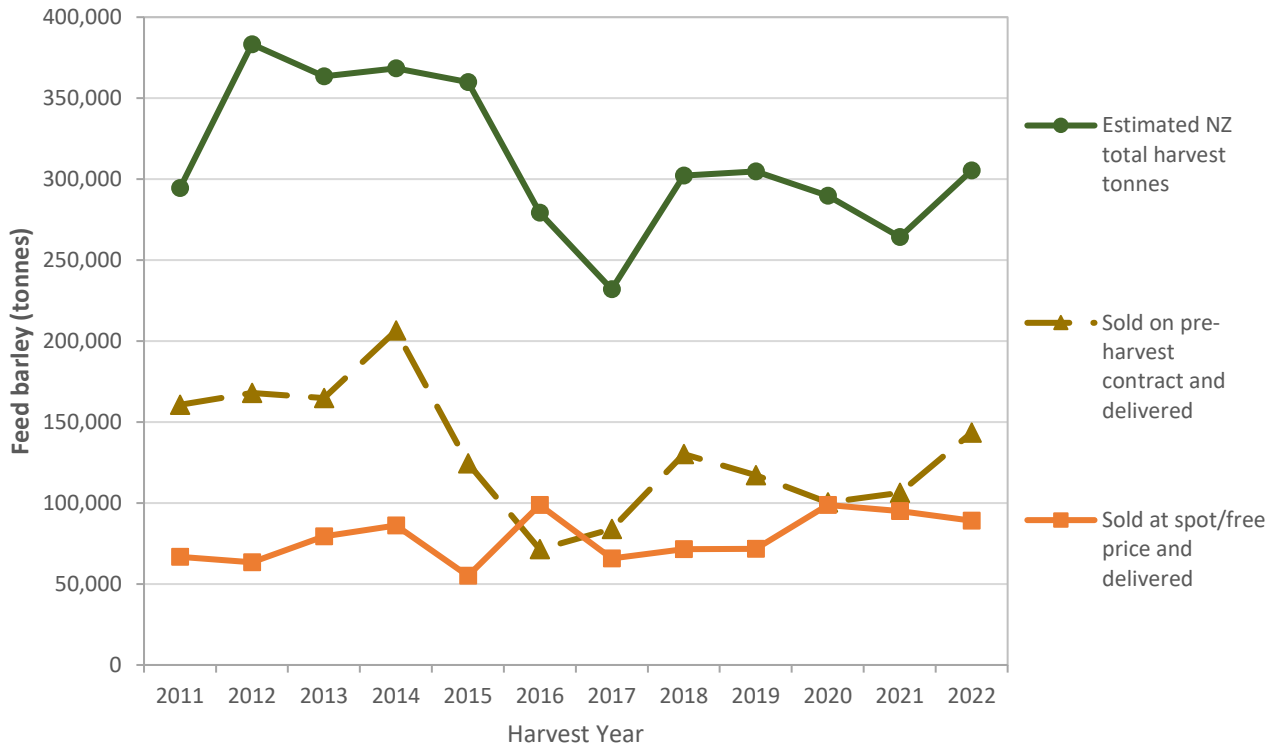


Figure 3a. NZ harvest tonnage and sales channels for feed barley as estimated in October each year. (Note: Both “sold and delivered” categories relate to the crop harvested that year, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data for 2011 to 2020 are from October AIMI Reports for 2020 and earlier, while data for 2021 and 2022 are matched data from the current report.)

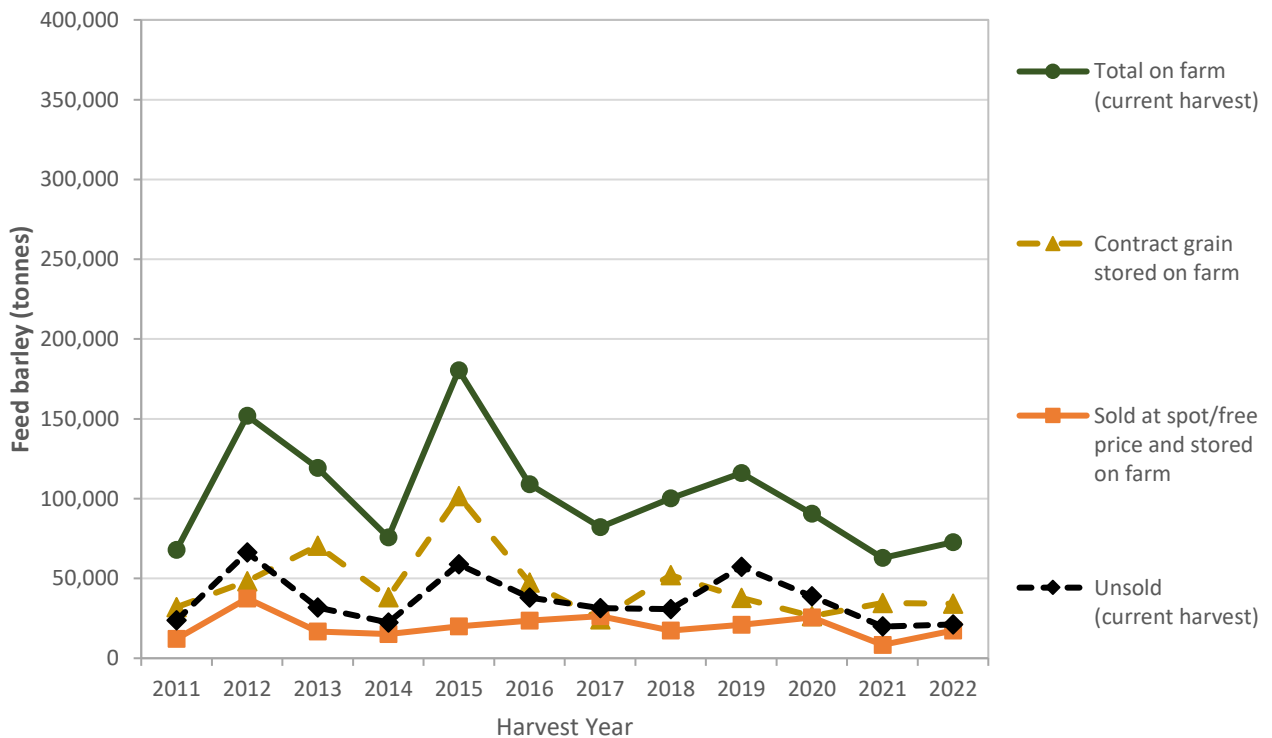


Figure 3b. NZ stocks on farm for feed barley as estimated in October each year. (Note: Historical data for 2011 to 2020 are from October AIMI Reports for 2020 and earlier, while data for 2021 and 2022 are matched data from the current report.)

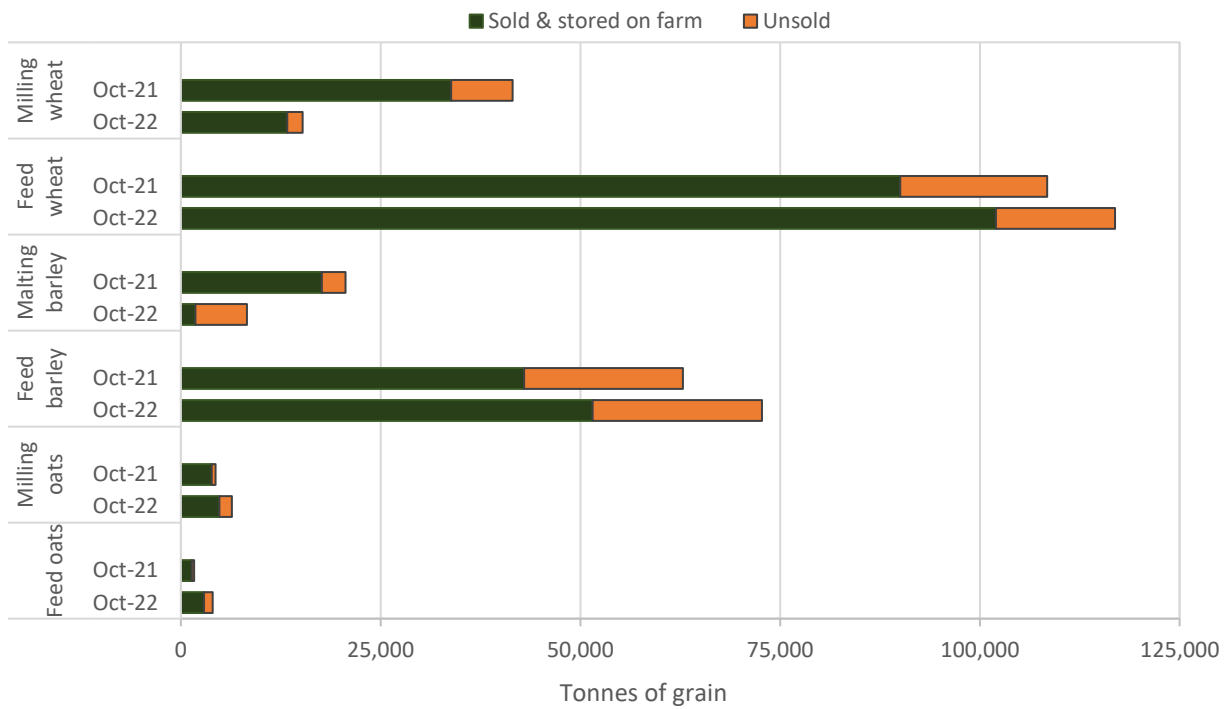


Figure 4. Changes in NZ stocks on farm for wheat, barley and oats between October 10, 2021 and October 10, 2022. These data are also reported in Table 1 and Figures 1b, 2b and 3b.

All estimates are based upon scaling up from the current survey sample, which consists of only those growers who responded to each of the last four AIMI surveys; these estimates therefore provide more precise, matched comparisons.

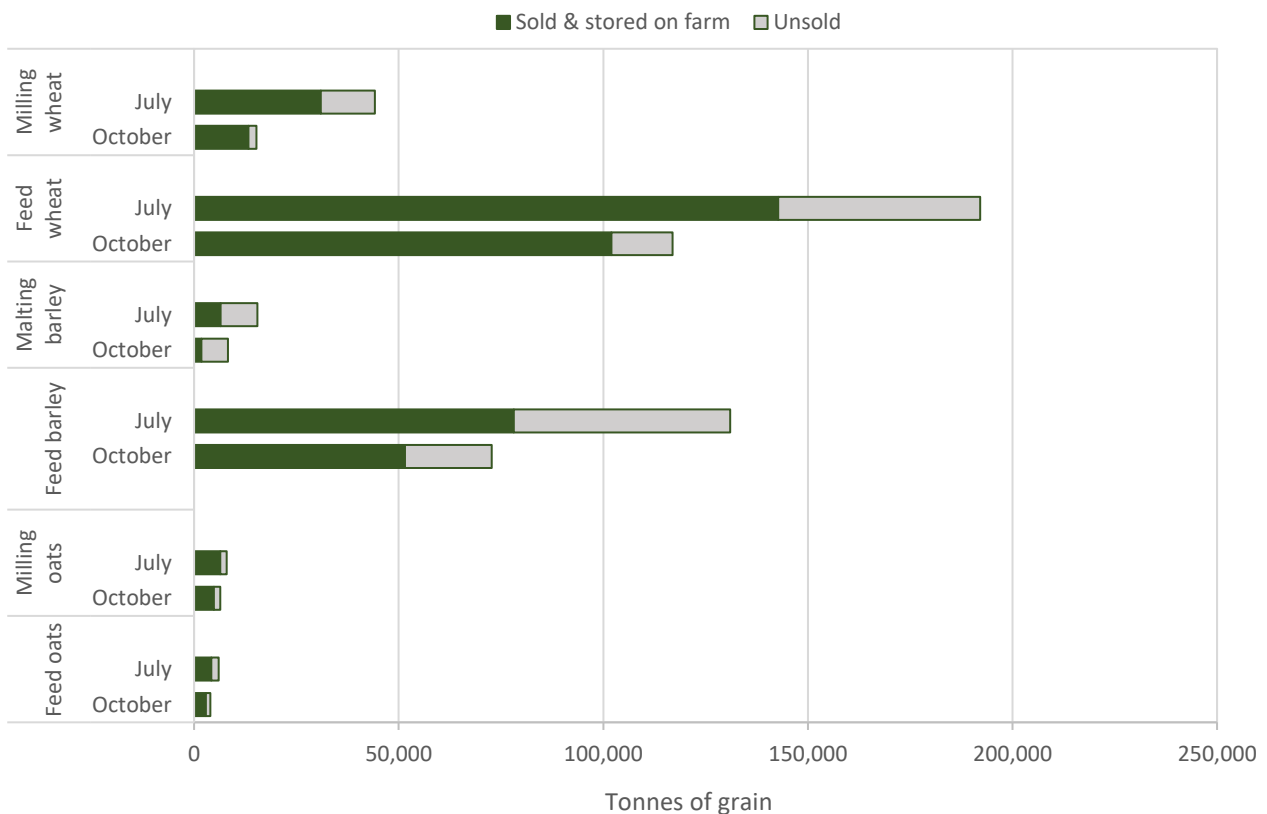


Figure 5. Changes in NZ stocks on farm for wheat, barley and oats between July 1 and October 10, 2022. These data are also reported in Table 1. As in Figure 4, this is a matched comparison.

NZ harvest hectares for 2011 to 2022 and predicted hectares for 2023 as estimated in October each year

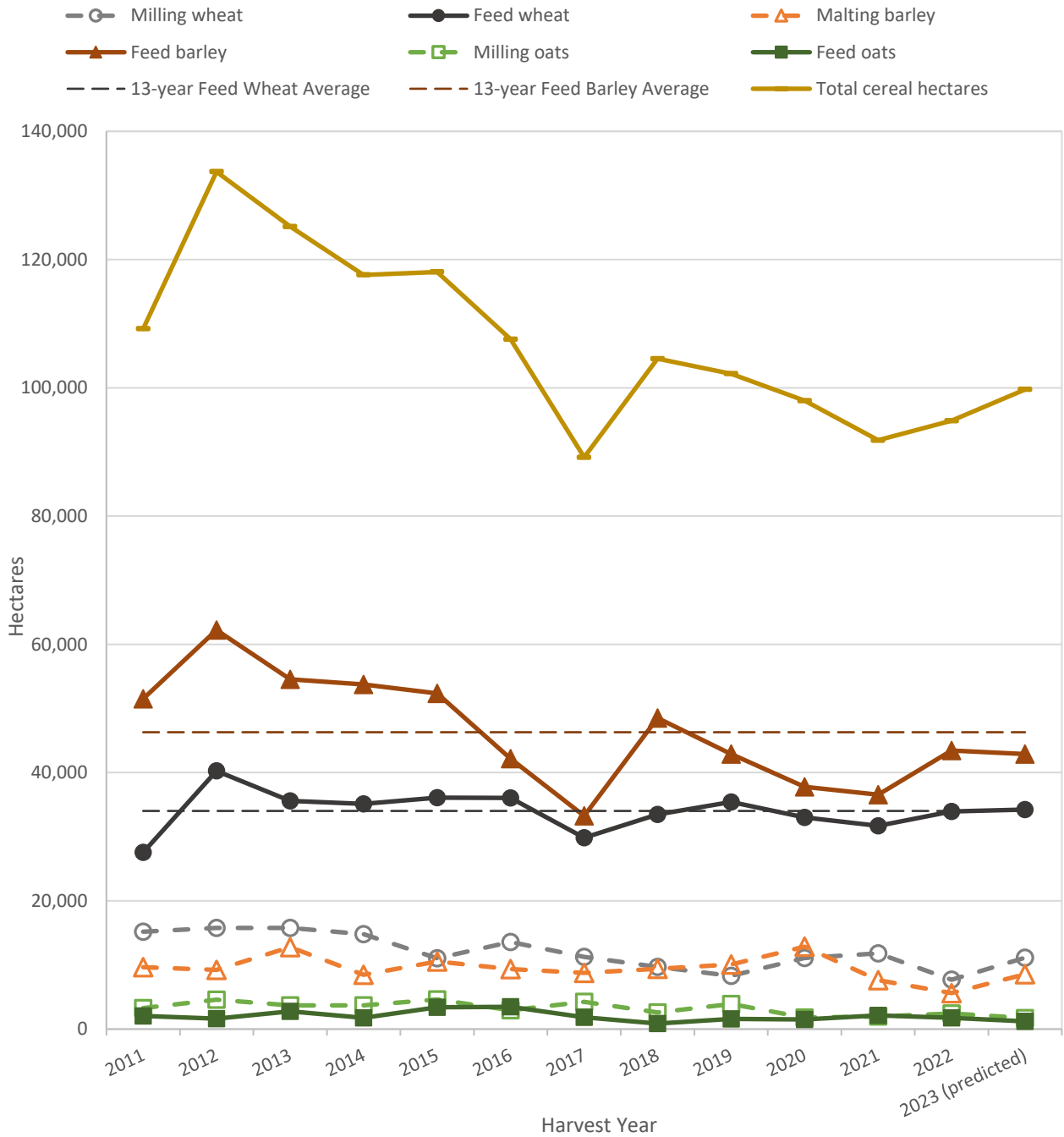


Figure 6. NZ harvest hectares for six cereal crops (and the total over the six crops) as estimated in October each year from 2011 to 2022, and predicted harvest hectares for 2023. For feed wheat and feed barley, “long-term” means (13-year averages) are included as dashed horizontal lines.

(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. 7 for hectares already sown by October 10, 2022. 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 October AIMI reports for 2011 – 2020.)

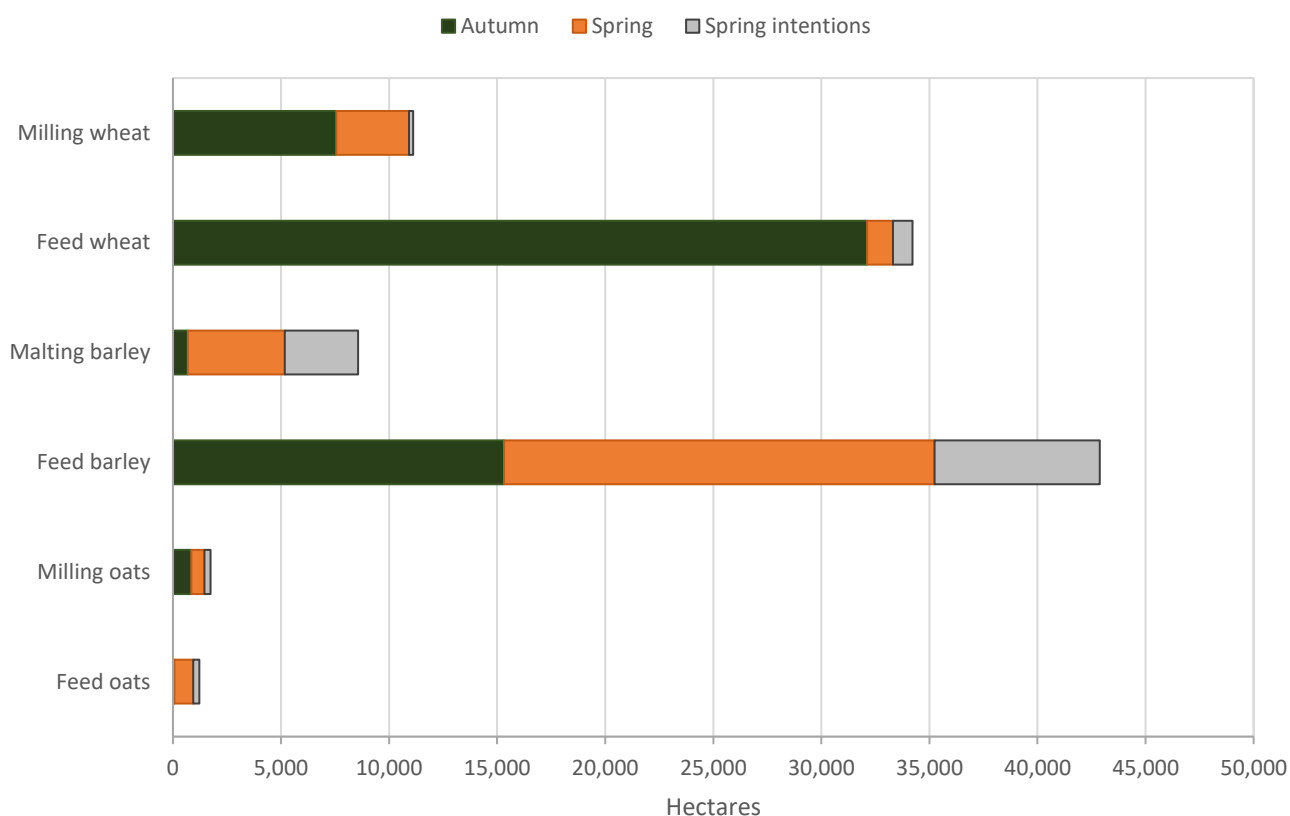


Figure 7. Estimated NZ hectares sown in autumn and spring 2022, plus NZ spring hectares yet to sow (spring intentions) for harvest in 2023, based on data collected on October 10, 2022. These data are also reported in Table 2.

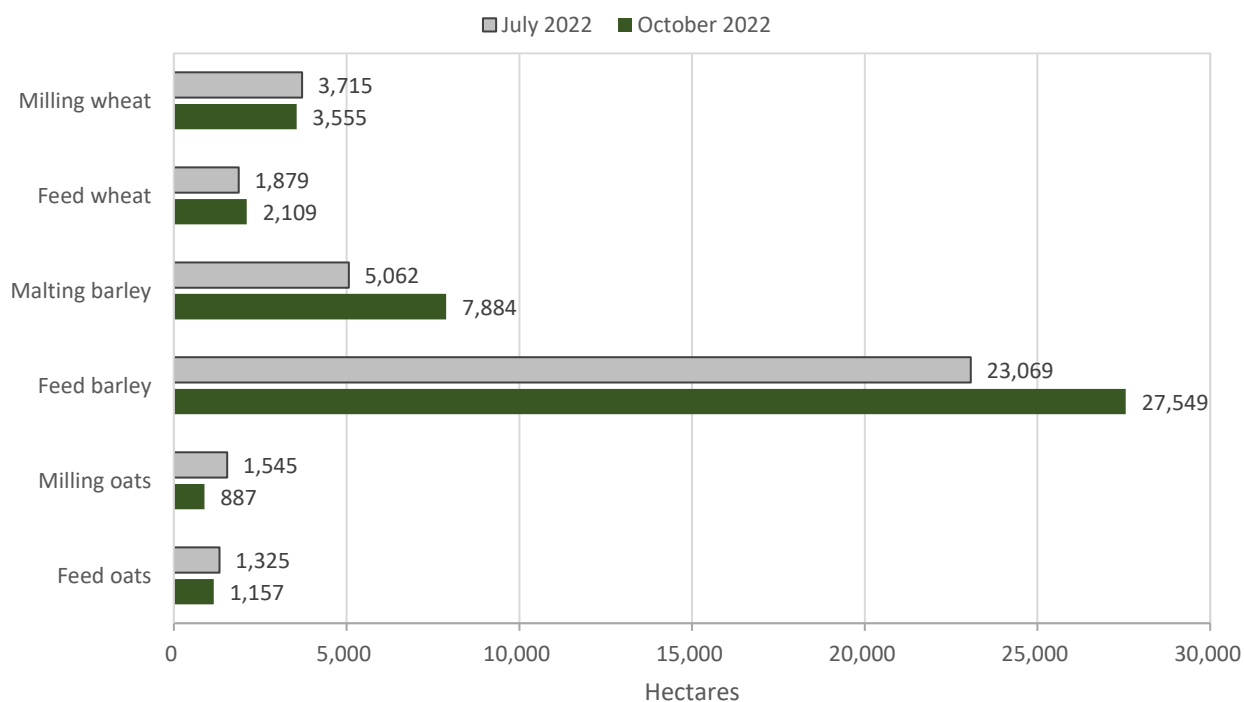


Figure 8. Comparison of NZ spring sowing intentions as at July 1 2022 with actual NZ spring sowings plus intentions as at October 10, 2022. These data are also reported in Table 2. As in Figures 4 and 5, this is a matched comparison.

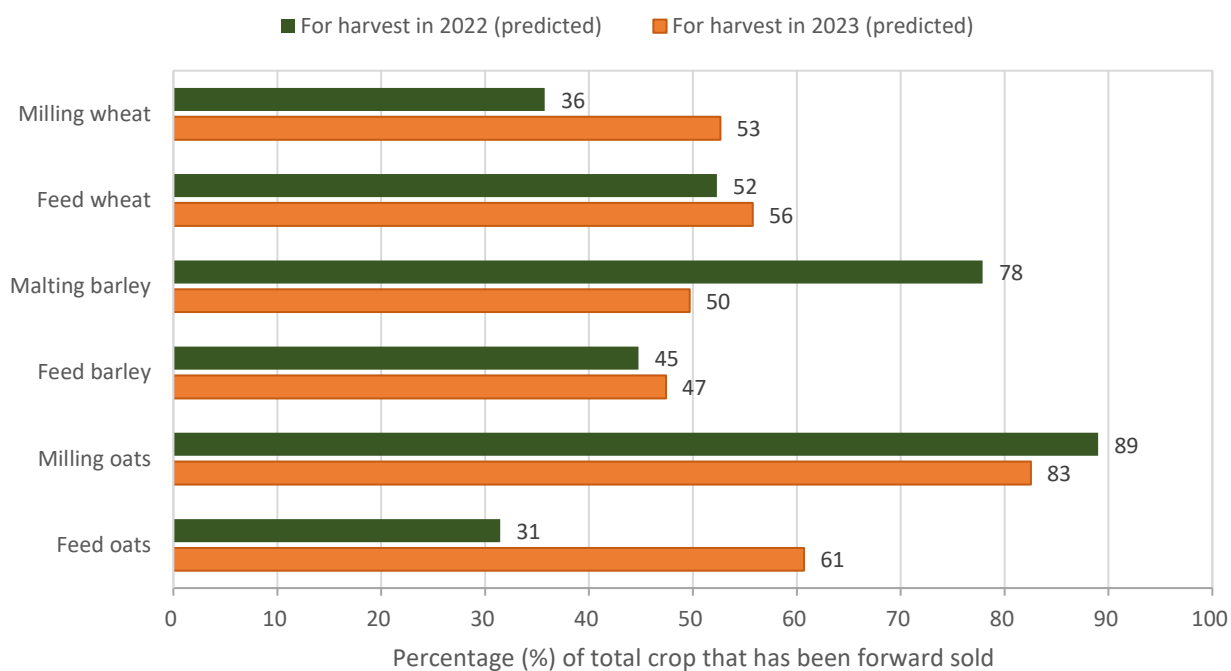


Figure 9. Comparison of percentage of total NZ crop sown (autumn and spring sowings plus spring intentions) that had been forward sold as at October 10, 2021 and 2022 for predicted 2022 and predicted 2023 harvests, respectively. As in Figures 4, 5 and 8, this is a matched comparison.

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AIMI receives funding from Ministry for Primary Industries, FAR, Arable Food Industry Council, NZ Flour Millers Association, NZ Feed Manufacturers Association, Federated Farmers and United Wheat Growers.

Report group*	132
Completed current survey	138
Number in survey group	144

* Must have completed October 2021, April 2022, July 2022 and current survey.

Comments

- Wet and cold winter across all regions. Some autumn sown crops were drowned out and many spring sowings were delayed or slow to grow.
- Drying out in many regions, wet ground has hardened up.
- Concern about input costs, grain prices will have to stay at the level they currently are to cover increase in inputs. Uncertainty around what prices will do in the future.

Region	Eastern NI	Sth West NI	Northern SI	Mid Canterbury	Sth Cant & Nth Otago	Sth Otago & Sthland	Total
No. of participants	7	5	32	40	22	26	132

Hectares harvested in 2022 and harvest intentions for 2023 (from 132 SCALED responses)

Region	Milling Wheat		Feed Wheat		Malting Barley		Feed Barley		Milling Oats		Feed Oats	
	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
ENI	221	336	1,544	2,028	1,427	1,353	6,191	2,365	27	-	271	401
SWNI	24	-	288	264	66	365	100	-	-	-	-	-
NSI	1,831	2,343	3,250	3,207	531	282	6,888	7,685	-	-	101	59
MC	3,087	4,969	7,507	6,107	2,979	5,909	10,581	10,128	-	-	627	496
SCNO	2,531	3,466	9,036	8,192	498	498	5,170	7,507	-	-	85	-
SOS	-	-	12,326	14,423	116	166	14,488	15,191	2,402	1,735	662	260
Total	7,694	11,113	33,950	34,220	5,618	8,573	43,418	42,876	2,429	1,735	1,747	1,216

Unsold grain at 10 October 2022 (from 132 SCALED responses)

Region	Milling Wheat	Feed Wheat	Malting Barley	Feed Barley	Milling Oats	Feed Oats
Eastern NI	-	-	-	694	-	-
Sth West NI	-	-	-	-	-	-
Northern SI	852	1,966	-	4,256	-	27
Mid Canterbury	1,071	3,358	4,461	9,585	-	674
Sth Cant & Nth Otago	-	7,670	1,994	3,169	-	-
Sth Otago & Sthland	-	1,893	-	3,468	1,563	395
Crop total	1,922	14,888	6,456	21,172	1,563	1,097

Totals over 132 survey responses

In Table A.1, the yields per hectare on the survey farms were lower for the 2022 harvest than for the 2021 harvest for milling wheat, feed wheat, malting barley, feed barley and milling oats, and higher for feed oats.

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 2022		41	88	21	101	12	23
2021 harvest							
Total hectares on survey farms, 2021 harvest	ha	2,461	6,613	921	4,405	508	557
Total tonnes on survey farms, 2021 harvest	tonnes	21,303	65,569	7,718	33,527	3,903	3,380
2022 harvest							
Total hectares on survey farms, 2022 harvest	ha	1,605	7,082	677	5,232	627	451
Total tonnes on survey farms, 2022 harvest	tonnes	13,510	68,427	4,886	38,729	4,244	2,941
Sold under pre-harvest contract and delivered by 10 October, 2022	tonnes	5,894	24,793	3,474	18,212	2,230	1,251
Pre-harvest contract grain stored on farm on 10 October, 2022	tonnes	1,610	13,768	228	4,329	1,125	774
Sold at spot/free price and delivered by 10 October, 2022	tonnes	3,030	18,874	147	10,562	142	455
Sold at spot/free price and stored on farm on 10 October, 2022	tonnes	1,125	7,194	0	2,210	288	75
(For milling or malting only) Sold for feed by 10 October, 2022	tonnes	1,456	-	218	-	0	-
(For feed only) Used on own farm by 10 October, 2022	tonnes	-	739	-	731	-	64
Unsold stocks on hand (2022 harvest only) on 10 October, 2022	tonnes	395	3,059	819	2,686	459	322
Comparison of yield (tonnes per ha) on survey farms between harvests							
Survey farms, 2021 harvest	t/ha	8.7	9.9	8.4	7.6	7.7	6.1
Survey farms, 2022 harvest	t/ha	8.4	9.7	7.2	7.4	6.8	6.5
Data for these SAME survey farms for comparisons of on-farm storage between 1 July, 2022 and 10 October, 2022							
Sold and stored on farm (total) on 1 July, 2022 (2022 harvest)	tonnes	6,354	29,330	818	9,915	1,873	1,227
Sold and stored on farm (total) on 10 October, 2022 (2022 harvest)	tonnes	2,735	20,962	228	6,539	1,413	849
Unsold stocks on hand (from 2022 harvest) on 1 July, 2022	tonnes	2,720	10,149	1,144	6,708	459	545
Unsold stocks on hand (from 2022 harvest) on 10 October, 2022	tonnes	395	3,059	819	2,686	459	322

Table A.1 continued

Data for these SAME survey farms from 10 October, 2021 survey, to enable more precise, matched comparisons between 10 October, 2021 and 10 October, 2022							
Sold under pre-harvest contract and delivered by 10 October, 2021	tonnes	8,496	30,961	4,309	13,491	2,596	2,439
Pre-harvest contract grain stored on farm on 10 October, 2021	tonnes	5,650	14,995	2,236	4,388	1,135	403
Sold at spot/free price and delivered by 10 October, 2021	tonnes	2,230	11,624	603	10,807	0	319
Sold at spot/free price and stored on farm on 10 October, 2021	tonnes	1,303	3,506	0	1,065	0	0
(For milling or malting only) Sold for feed by 10 October, 2021	tonnes	2,043	-	190	-	35	-
(For feed only) Used on own farm by 10 October, 2021	tonnes	-	704	-	1,257	-	133
Unsold stocks on hand (2021 harvest only) on 10 October, 2021	tonnes	1,581	3,779	380	2,519	137	86
Data for these SAME survey farms for comparisons of on-farm storage between 10 October, 2021 and 10 October, 2022							
Sold and stored on farm (total) on 10 October, 2021 (2021 harvest)	tonnes	6,953	18,501	2,236	5,453	1,135	403
Sold and stored on farm (total) on 10 October, 2022 (2022 harvest)	tonnes	2,735	20,962	228	6,539	1,413	849
Unsold stocks on hand (from 2021 harvest) on 10 October, 2021	tonnes	1,581	3,779	380	2,519	137	86
Unsold stocks on hand (from 2022 harvest) on 10 October, 2022	tonnes	395	3,059	819	2,686	459	322

Table A.2 Fate of 2022 crop, in percentages (by tonnes)

	Milling wheat 41	Feed wheat 88	Malting barley 21	Feed barley 101	Milling oats 12	Feed oats 23
Number of farmers in the survey who harvested this crop in 2022						
2022 harvest						
% Sold under pre-harvest contract and delivered by 10 October, 2022	43.6	36.2	71.1	47.0	52.5	42.5
% Pre-harvest contract grain stored on farm on 10 October, 2022	11.9	20.1	4.7	11.2	26.5	26.3
% Sold at spot/free price and delivered by 10 October, 2022	22.4	27.6	3.0	27.3	3.3	15.5
% Sold at spot/free price and stored on farm on 10 October, 2022	8.3	10.5	0.0	5.7	6.8	2.6
(For milling or malting only) % Sold for feed by 10 October, 2022	10.8	-	4.5	-	0.0	-
(For feed only) % Used on own farm by 10 October, 2022	-	1.1	-	1.9	-	2.2
% Unsold stocks on hand (2022 harvest only) on 10 October, 2022	2.9	4.5	16.8	6.9	10.8	10.9
Sales channels (2022 harvest)						
% Sold on pre-harvest contract (total) by 10 October, 2022	55.5	56.4	75.8	58.2	79.1	68.9
% Sold at spot/free price (total) by 10 October, 2022	30.8	38.1	3.0	33.0	10.1	18.0
On-farm storage (2022 harvest)						
% Sold and delivered (total) by 10 October, 2022	66.1	63.8	74.1	74.3	55.9	58.0
% Sold and stored on farm (total) on 10 October, 2022	20.2	30.6	4.7	16.9	33.3	28.9
Total sales (2022 harvest)						
% Sold (of total crop) by 10 October, 2022 (includes sold for feed and used on farm)	97.1	95.5	83.2	93.1	89.2	89.1
% Unsold (of total crop) on 10 October, 2022	2.9	4.5	16.8	6.9	10.8	10.9

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

In Table A.3, autumn/winter sowings, spring sowings, and spring sowing intentions are given as sums over the 132 survey farms.

Table A.3 Autumn/winter sowings and spring sowings and intentions (data totalled over all survey respondents)

	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
Number of farmers in survey who have sown or intend to sow this crop as at 10 October, 2022	46	86	27	97	10	14
Number of survey farmers who have sown in Autumn/winter 2022	36	78	5	45	6	2
Number of survey farmers who have already sown in Spring 2022, as at 10 October, 2022	19	11	14	62	5	7
Number of survey farmers who still intend to sow in Spring 2022, as at 10 October, 2022	2	5	12	31	2	6
Total hectares on survey farms, 2021 harvest	2,461	6,613	921	4,405	508	557
Total hectares on survey farms, 2022 harvest	1,605	7,082	677	5,232	627	451
Sowings and intentions for the current season's crop (2022/23)						
Autumn/winter sowings on survey farms (hectares; for harvest in 2023)	1,577	6,699	83	1,847	219	15
Spring sowings already sown on survey farms by 10 October, 2022 (hectares; for harvest in 2023)	702	252	540	2,399	156	226
Spring sowings still to sow on survey farms (intentions) as at 10 October, 2022 (hectares; for harvest in 2023)	40	188	410	920	73	73
Total spring 2022 sowings plus intentions on survey farms as at 10 October, 2022 (hectares; for harvest in 2023)	742	440	950	3,320	229	299
Total predicted hectares on survey farms for 2023 harvest, as at 10 October, 2022	2,318	7,139	1,033	5,166	448	314
"Forward sales" of 2022/23 crop						
Total hectares on survey farms that are "forward sold", as at 10 October, 2022	1,221	3,981	513	2,450	370	191
Percentage of hectares on survey farms that are "forward sold", as at 10 October, 2022	53%	56%	50%	47%	83%	61%
Comparison of sowings/intentions over the 2020/21, 2021/22 and 2022/23 seasons (on survey farms)						
Estimated % change in total sowings on survey farms, 2021 to 2022 harvests	-35%	7%	-26%	19%	24%	-19%
Estimated % change in total sowings on survey farms, 2022 to 2023 (predicted) harvests	44%	1%	53%	-1%	-29%	-30%
Estimated % change in total sowings on survey farms, 2021 to 2023 (predicted) harvests (TOTAL over TWO seasons)	-6%	8%	12%	17%	-12%	-44%
Comparison of spring sowing intentions as at July 1, 2022 with spring sowings plus intentions as at 10 October, 2022 (on survey farms)						
Estimated spring 2022 sowing intentions on survey farms as at 1 July, 2022 (hectares; for harvest in 2023)	775	392	610	2,780	399	342
Estimated spring 2022 sowings plus spring intentions on survey farms as at 10 October, 2022 (hectares; for harvest in 2023) (as above)	742	440	950	3,320	229	299
Change in spring 2022 sowings/intentions on survey farms between 1 July, 2022 and 10 October, 2022 (hectares; for harvest in 2023)	-33	48	340	540	-170	-43

For scaling up to NZ-wide totals, the most recent figures are the Final 2021 Agricultural Production Statistics (APS) figures, as in Table A.4. On average, the yields on the survey farms were higher than the APS yields for barley and oats, and similar for wheat.

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 $100/4.794 = 20.9\%$. For barley, it was $100/8.299 = 12.0\%$. For oats, it was $100/3.873 = 25.8\%$. That is, the percentages were relatively high for both wheat (with about one fifth of hectares sampled in the survey) and oats (with about one quarter of hectares sampled), and lower for barley (with about one eighth of hectares sampled).

Table A.4 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	9,074	5,326	1,065
Total tonnes on survey farms, 2021 harvest	86,872	41,245	7,283
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
Multiplier for scaling up from survey farms to APS statistics			
Hectares	4.794	8.299	3.873
Tonnes	4.867	7.882	3.406
Comparison of yields between survey and APS statistics			
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 1-5, where the last two years are matched, and Figure 6, where the last three years are matched).

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