



The objective of this AIMI survey of New Zealand (NZ) cereal growers was to determine, as at October 10, 2021:

- *sales of the 2021 NZ harvest of wheat, barley and oats (milling, malting and feed crops) since July 1, 2021*
- *levels of on-farm storage, both sold and unsold, of the 2021 harvest*
- *spring 2021 sowings and sowing intentions of wheat, barley and oats (milling, malting and feed crops)*

Survey details

Data from 134 NZ survey farms who completed each of the last four cereal surveys (October 2020 and April, July and October 2021) were scaled up to the national level using the most recent, 2020, final NZ Agricultural Production Statistics (APS). These data reflect the position at the 10th October 2021 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 2021 (figures have been rounded to nearest 100):

- For the 2020/2021 season, cereal grain production (wheat, barley and oats) in NZ totaled an estimated 761,300 tonnes (down 7% on last year). Maize grain production was estimated at 214,900 tonnes. Total production of grain in NZ was therefore estimated to be 976,200 tonnes.
- Unsold stocks of cereal grain, summed over all six crops, are estimated to have reduced by 62% between 1 July 2021 and 10 October 2021.
- When compared to the same time last year, unsold stocks of cereal grain, summed over all six crops, are estimated to be 54% lower, mainly because of much lower unsold stocks of feed wheat and feed barley. As at 10 October 2021, unsold stocks of feed wheat and feed barley were estimated at 18,300 tonnes (down 37,200 tonnes on last year) and 19,300 tonnes (down 17,900 tonnes), respectively.
- On-farm storage of sold grain is down 20% (down 43,900 tonnes) on this time last year. Total on-farm storage, including both sold and unsold grain, summed over all six crops, is down 31% (down 101,200 tonnes) compared to the same time last year.
- The total area sown or intended to be sown in cereals is estimated to be 98,300 hectares, which is up 7% (up 6,600 ha) on last season. Roughly 87% of this total area had been sown, with 13% still left to sow. Crops are generally growing well, despite a slow start for spring crops as a result of cold and wet weather across NZ.

As at 10 October 2021, the tonnages of unsold feed wheat and feed barley were estimated at 18,300 t and 19,300 t, respectively. In addition, there were an estimated 7,200 t of unsold milling wheat and 3,000 t of unsold malting barley. When totalled over all six cereal crops, the 2022 harvest hectares were predicted to be up 7% on the 2021 harvest hectares (up from an estimated 91,700 ha to 98,300 ha). The 2022 harvest hectares for feed wheat and feed barley were predicted to be 17% and 9% higher, respectively.

Milling wheat: Overall, on-farm storage was 23% down on the same time last year. The estimated tonnage of unsold grain was 7,200 t while the estimated tonnage of sold grain stored on farm was 33,600 t. Both unsold and sold stored grain was 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 down 23% on last season.

Feed wheat: Overall, on-farm storage was down 35% on the same time last year. The estimated tonnage of unsold grain was 18,300 t, which is down on the same time last year. The estimated tonnage of sold grain still stored on farm was 85,600 t, also down on the tonnage at the same time last year. Almost all feed wheat crops (98%) had been sown by October 10, with the area sown (including yet to be sown) estimated to be up 17% on last season.

Feed barley: Overall, on-farm storage was down 31% on the same time last year. The estimated tonnage of unsold grain was 19,300 t, which was down on the same time last year. The estimated tonnage of sold grain still stored on farm was 38,800 t, also down on the tonnage at the same time last year. A total of 78% of feed barley crops were sown by October 10, with the area sown (including yet to be sown) estimated to be up 9% on last season.

Malting barley: Overall, on-farm storage was down 35% on the same time last year. The estimated tonnage of unsold grain was 3,000 t, up on the same time last year, while the estimated tonnage of sold grain still stored on farm was 14,800 t. This was down on the tonnage at the same time last year. Roughly 70% of malting barley crops were sown by October 10, and the area sown (including yet to be sown) was estimated to be almost identical (up 1%) to last season.

Milling oats: Overall, on-farm storage was similar (up 2%) compared to the same time last year. The estimated tonnage of unsold grain was 640 t, which was up on the same time last year. The estimated tonnage of sold grain that was still stored on farm was 5,300 t, slightly lower than at the same time last year. Milling oat crops were only 61% sown by October 10, with the area sown (including yet to be sown) estimated to be 14% down on last season.

Feed oats: Overall, on-farm storage was up 127% on the same time last year. The estimated tonnage of unsold grain is 400 t, slightly up on the same time last year. The estimated tonnage of sold grain still stored on farm was 1,900 t, which was higher than at the same time last year. Feed oat crops were only 63% sown by October 10, although the area to be sown (including yet to be sown) was estimated to be 41% up on last season.

Overall: As a total over all six crops, estimated unsold tonnage of wheat, barley and oats (48,900 t in total) was 54% lower than at the same time last year, and estimated tonnage sold but still stored on farm (180,000 t in total) was 20% lower than at the same time last year. This meant that the total tonnage on farm on October 10, 2021 (228,900 t in total) was estimated to be 31% lower than the amount on October 10, 2020. The total on-farm storage was made up of 104,000 t of feed wheat, 58,100 t of feed barley, 40,800 t of milling wheat, 17,700 t of malting barley, 5,900 t of milling oats and 2,300 t of feed oats.

The total area sown plus intended to be sown in wheat, barley or oats, as at 10 October 2021, was estimated to be up 6,600 ha, or 7%, on the area harvested in 2021. There were increases in sowings of feed wheat, feed barley and feed oats and a decrease in sowings of milling wheat.

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 2021, was estimated to be 4% up on the area harvested in 2020. Feed wheat area was up 13%, feed barley area was up 6%, milling wheat was down 15% and malting barley was down 34% over the two-year period.

The percentage of hectares that have been “forward sold”, as at 10 October 2021, was estimated to be 50% for milling wheat, 84% for malting barley and 97% for milling oats (as compared to 46%, 41% and 74%, respectively, for forward sales at the same time last year). Forward sales of malting barley are markedly up, as are those of milling oats. For the feed crops, the percentages that have been forward sold were 53% of feed wheat, 46% of feed barley and 51% of feed oats hectares (as compared to 37%, 29% and 66%, respectively, for forward sales at the same time last year).

Crops are generally growing well, despite a slow start for spring crops due to cold and wet weather across most regions.

Estimated NZ National Figures as at October each year – Cereals

Table 1. Estimated NZ national figures for the 2021 harvest, plus sold and delivered tonnages, for six cereal crops as at October 10, 2021.

	Units	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 2021		48	85	26	96	9	28	128
2020 harvest								
Estimated NZ total hectares, 2020 harvest	ha	11,347	34,353	11,019	34,081	2,109	1,891	94,800
Estimated NZ total tonnes, 2020 harvest	tonnes	102,756	350,944	75,608	262,092	12,815	10,485	814,700
2021 harvest								
Estimated NZ total hectares, 2021 harvest	ha	12,419	33,363	7,166	33,071	2,697	2,995	91,711
Estimated NZ total tonnes, 2021 harvest	tonnes	103,947	316,801	59,214	247,130	18,220	15,961	761,273
Sold under pre-harvest contract and delivered by 10 October, 2021	tonnes	41,910	151,351	35,566	96,969	12,119	11,568	349,484
Pre-harvest contract grain stored on farm on 10 October, 2021	tonnes	29,702	68,240	14,774	30,382	5,298	1,881	150,278
Sold at spot/free price and delivered by 10 October, 2021	tonnes	9,352	58,222	4,504	82,748	0	1,489	156,314
Sold at spot/free price and stored on farm on 10 October, 2021	tonnes	3,922	17,382	0	8,403	0	0	29,706
(For milling or malting only) Sold for feed by 10 October, 2021	tonnes	11,869	-	1,419	-	163	-	13,451
(For feed only) Used on own farm by 10 October, 2021	tonnes	-	3,257	-	9,291	-	621	13,169
Unsold stocks on hand (2021 harvest only) on 10 October, 2021	tonnes	7,193	18,350	2,950	19,337	640	401	48,871
Sales channels (2021 harvest)								
Sold on pre-harvest contract (total) by 10 October, 2021	tonnes	71,612	219,591	50,341	127,351	17,417	13,450	499,761
Sold at spot/free price (total) by 10 October, 2021	tonnes	13,274	75,603	4,504	91,151	0	1,489	186,021
On farm storage (2021 harvest)								
Sold and delivered (total) by 10 October, 2021	tonnes	51,261	209,573	40,070	179,717	12,119	13,058	505,798
Sold and stored on farm (total) on 10 October, 2021	tonnes	33,624	85,622	14,774	38,785	5,298	1,881	179,984
Total sales (2021 harvest)								
Sold (grand total) by 10 October, 2021 (includes sold for feed & used on farm)	tonnes	96,754	298,451	56,263	227,793	17,580	15,560	712,402
Unsold stocks on hand (2021 harvest only) on 10 October, 2021	tonnes	7,193	18,350	2,950	19,337	640	401	48,871
Comparison of hectares and tonnes between last two harvests								
Estimated % change in hectares, 2020 to 2021 harvest	%	9%	-3%	-35%	-3%	28%	58%	-3%
Estimated % change in tonnes, 2020 to 2021 harvest	%	1%	-10%	-22%	-6%	42%	52%	-7%
Comparison of yields 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	9.5	8.3	7.5	6.8	5.3	8.3

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, 2021 and 10 October, 2021 (based upon matched data)								
Sold and stored on farm (total) on 1 July, 2021 (2021 harvest)	tonnes	56,268	144,768	35,679	87,755	13,795	7,306	345,572
Sold and stored on farm (total) on 10 October, 2021 (2021 harvest)	tonnes	33,624	85,622	14,774	38,785	5,298	1,881	179,984
Unsold stocks on hand (from 2021 harvest) on 1 July, 2021	tonnes	19,434	48,954	6,237	49,026	2,507	789	126,946
Unsold stocks on hand (from 2021 harvest) on 10 October, 2021 (as above)	tonnes	7,193	18,350	2,950	19,337	640	401	48,871
% decrease in total grain stored on-farm from July 2021 to Oct 2021	%	46%	46%	58%	58%	64%	72%	52%
Recalculated 10 October, 2020 survey breakdown to enable more precise, matched comparisons between 10 October, 2020 and 10 October, 2021								
Sold under pre-harvest contract and delivered by 10 October, 2020	tonnes	39,356	142,465	43,439	94,982	6,344	7,885	334,471
Pre-harvest contract grain stored on farm on 10 October, 2020	tonnes	28,920	72,193	24,670	25,312	5,836	649	157,580
Sold at spot/free price and delivered by 10 October, 2020	tonnes	9,538	46,521	2,390	76,960	443	1,368	137,219
Sold at spot/free price and stored on farm on 10 October, 2020	tonnes	12,152	31,172	1,456	21,555	0	0	66,336
(For milling or malting only) Sold for feed by 10 October, 2020	tonnes	861	-	2,547	-	191	-	3,599
(For feed only) Used on own farm by 10 October, 2020	tonnes	-	3,006	-	6,080	-	229	9,314
Unsold stocks on hand (2020 harvest only) on 10 October, 2020	tonnes	11,929	55,588	1,105	37,203	0	355	106,180
Comparison of on-farm storage between last October and this October (based upon matched data)								
Sold and stored on farm (total) on 10 October, 2020 (2020 harvest)	tonnes	41,072	103,365	26,126	46,868	5,836	649	223,916
Sold and stored on farm (total) on 10 October, 2021 (2021 harvest)	tonnes	33,624	85,622	14,774	38,785	5,298	1,881	179,984
Unsold stocks on hand (from 2020 harvest) on 10 October, 2020	tonnes	11,929	55,588	1,105	37,203	0	355	106,180
Unsold stocks on hand (from 2021 harvest) on 10 October, 2021 (as above)	tonnes	7,193	18,350	2,950	19,337	640	401	48,871
% increase in total grain stored on-farm from Oct 2020 to Oct 2021	%	-23%	-35%	-35%	-31%	2%	127%	-31%
Increase in total grain (in TONNES) stored on-farm from Oct 2020 to Oct 2021	tonnes	-12,185	-54,982	-9,507	-25,949	102	1,279	-101,241

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.

Table 2. NZ sowings and sowing intentions for six cereal crops as at October 10, 2021.

	Units	Milling wheat (ha)	Feed wheat (ha)	Malting barley (ha)	Feed barley (ha)	Milling oats (ha)	Feed oats (ha)	Total (all crops)
Number of farmers in survey who have sown or intend to sow this crop as at 10 October, 2021		38	93	25	102	11	25	132
Estimated NZ total hectares, 2020 harvest	ha	11,347	34,353	11,019	34,081	2,109	1,891	94,800
Estimated NZ total hectares, 2021 harvest	ha	12,419	33,363	7,166	33,071	2,697	2,995	91,711
Sowings and intentions for the current season's crop (2021/22)								
Estimated NZ total autumn/winter 2021 sowings (hectares; for harvest in 2022)	ha	6,638	37,192	988	13,370	993	788	59,969
Estimated NZ total spring 2021 sowings already sown by 10 October, 2021 (hectares; for harvest in 2022)	ha	2,814	1,061	4,119	14,866	436	1,870	25,167
Estimated NZ total spring 2021 sowings still to sow (intentions) as at 10 October, 2021 (hectares; for harvest in 2022)	ha	148	617	2,151	7,791	898	1,572	13,176
Estimated NZ total spring 2021 sowings plus intentions as at 10 October, 2021 (hectares; for harvest in 2022)	ha	2,962	1,678	6,270	22,657	1,333	3,442	38,343
Predicted NZ total hectares, 2022 harvest (Autumn/winter 2021 sowings and Spring 2021 sowings & intentions, all combined)	ha	9,600	38,870	7,258	36,026	2,327	4,230	98,312
% of predicted NZ hectares which had already been sown by 10 October, 2021	%	98%	98%	70%	78%	61%	63%	87%
"Forward sales" of 2021/22 crop								
Predicted NZ total hectares that are "forward sold" (2022 harvest) as at 10 October, 2021	ha	4,838	20,600	6,077	16,545	2,250	2,141	52,451
Estimated percentage of NZ total hectares that are "forward sold" (2022 harvest) as at 10 October, 2021	%	50%	53%	84%	46%	97%	51%	53%
Comparison of sowings/intentions between the 2019/20, 2020/21 and 2021/22 seasons (NZ totals) (based upon matched data)								
Estimated % change in NZ total sowings, 2020 to 2021 harvests	%	9%	-3%	-35%	-3%	28%	58%	-3%
Estimated % change in NZ total sowings, 2021 to 2022 (predicted) harvests	%	-23%	17%	1%	9%	-14%	41%	7%
Estimated % change in NZ total sowings, 2020 to 2022 (predicted) harvests (TOTAL over TWO seasons)	%	-15%	13%	-34%	6%	10%	124%	4%
Estimated change in NZ total sowings, 2021 to 2022 (predicted) harvests (in HECTARES)	ha	-2,819	5,507	92	2,955	-370	1,235	6,601
Comparison of spring sowing intentions as at 1 July, 2021 with spring sowings plus intentions as at 10 October, 2021 (based upon matched data)								
Estimated NZ total spring 2021 sowing intentions as at 1 July, 2021 (hectares; for harvest in 2022)	ha	2,890	1,257	5,380	21,586	1,684	2,199	34,997
Estimated NZ total spring 2021 sowings plus intentions as at 10 October, 2021 (hectares, for harvest in 2022) (as above)	ha	2,962	1,678	6,270	22,657	1,333	3,442	38,343
Change in estimated NZ total spring 2021 sowings/intentions between 1 July, 2021 and 10 October, 2021 (hectares; for harvest in 2022)	ha	72	421	890	1,070	-350	1,243	3,346

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 2021 harvest of six grain crops still stored on farm reduced by between 46% and 72% in the period between the AIMI surveys dated July 1, 2021 and October 10, 2021. When totalled over all six crops, the reduction was 52%.

When the on-farm storage on October 10, 2021 was compared to that at the same time last year (October 10, 2020), the total tonnage of grain on farms from the most recent harvest was much lower than last year for the four wheat and barley crops. When summed over all six crops, the total on-farm storage was 31% lower than at this time last year. This corresponded to a 20% decrease in the tonnage of grain sold and stored on farm, and a 54% decrease in unsold stocks on hand, as compared to a year ago.

The number out of the 134 survey growers who have sown or intend to sow each crop this season can be compared with the number who harvested last season (2020/2021) by comparing the top rows in Tables 1 and 2. For milling wheat, grower numbers decreased from 48 to 38 between last season and this season, while feed wheat grower numbers increased from 85 to 93. Note that for wheat, almost all sowing had been completed by October 10, so these are unlikely to change this season. For malting barley, grower numbers were similar, while feed barley grower numbers increased from 96 to 102. Milling oat grower numbers increased marginally from 9 to 11, while feed oat grower numbers decreased marginally from 28 to 25.

In Table 2, sowings plus sowing intentions for feed barley (for harvest in 2022) were 9% up on the area harvested in 2021 and up 6% on the area harvested in 2020. For feed wheat, sowings plus sowing intentions (for harvest in 2022) were an estimated 17% up on the area harvested in 2021, and 13% up on the area harvested in 2020. Conversely, for milling wheat, sowings (for harvest in 2022) were an estimated 23% down on the area harvested in 2021, and 15% down on the area harvested in 2020. Malting barley sowings and intentions were similar to last year (up 1%), following a 35% decrease the previous season. As a result, malting barley sowings were down 34% on two years ago. Milling oat sowings and intentions were down 14% on last year, following a 28% increase the previous year, and as a result were up 10% on two years ago. Feed oat sowings and intentions were up 41% on last year, following a 58% increase the previous year. As a result, feed oats sowing was predicted to be up 124% on two years ago.

Summing the sowings and intended sowings for the six cereal crops for the current season (for harvest in 2022) (98,300 ha), an increase of 6,600 ha was estimated when compared with the estimated area harvested in 2021 (91,700 ha).

At the bottom of Table 2 is the estimated change between the spring sowing intentions on July 1, 2021 and the actual sowings plus updated intentions on October 10, 2021. In total, there was an estimated increase of 3,300 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 oats (up 1,200 ha), an increase for feed barley (up 1,100 ha) and an increase for malting barley (up 900 ha).

Milling wheat (tonnes)

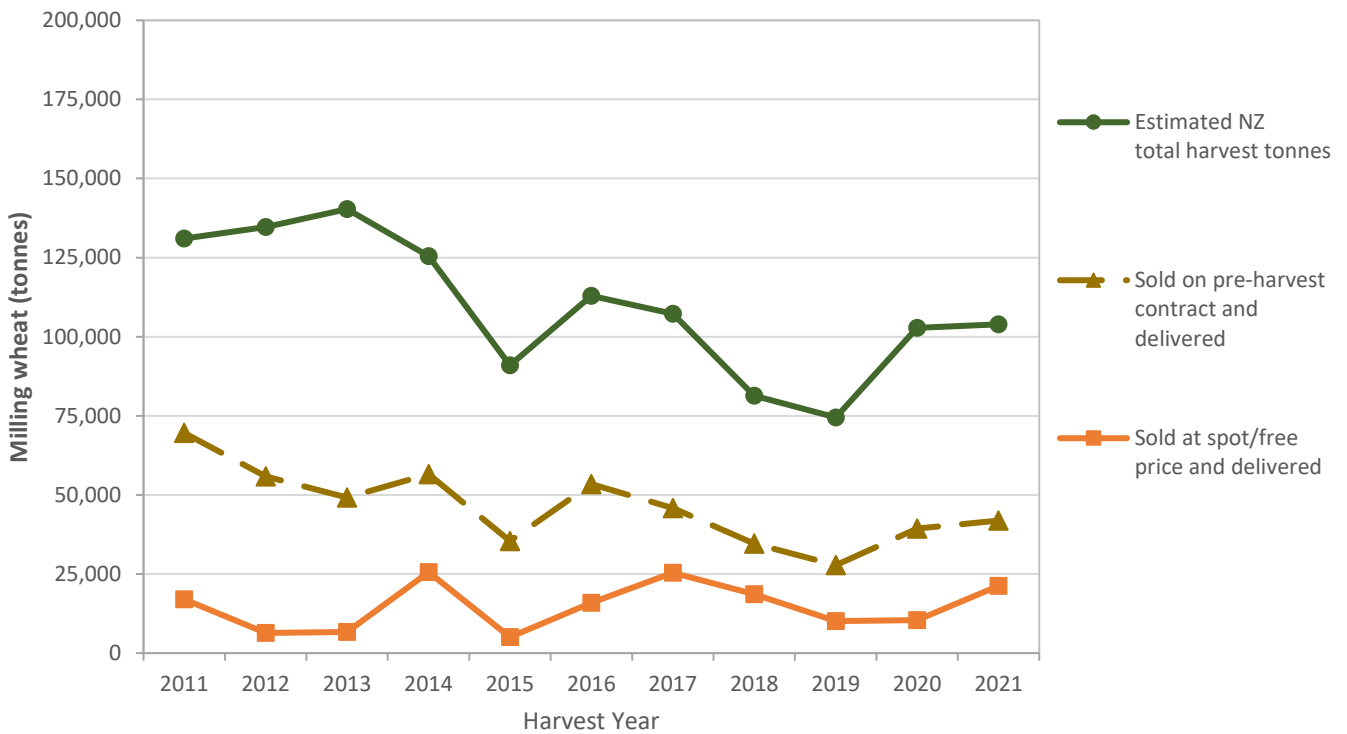


Figure 1a. NZ harvest tonnage and sales channels for milling wheat as estimated in October each year. (Note: Both “sold and delivered” categories relate to the crop harvested that year, excluding carryover stock. “Sold at spot/free price and delivered” includes grain sold for feed. Historical data for 2011 to 2019 are from October AIMI Reports for 2019 and earlier, while data for 2020 and 2021 are matched data from the current report.)

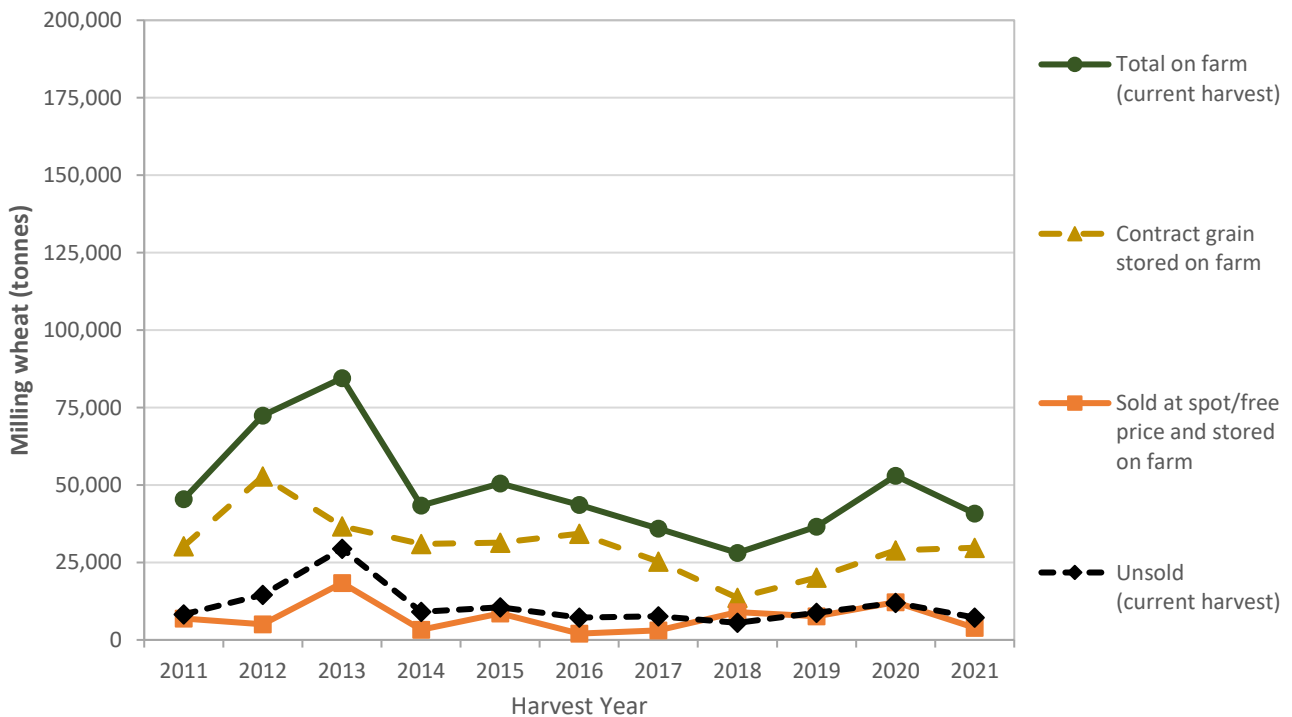


Figure 1b. NZ stocks on farm for milling wheat as estimated in October each year. (Note: Historical data for 2011 to 2019 are from October AIMI Reports for 2019 and earlier, while data for 2020 and 2021 are matched data from the current report.)

Feed wheat (tonnes)

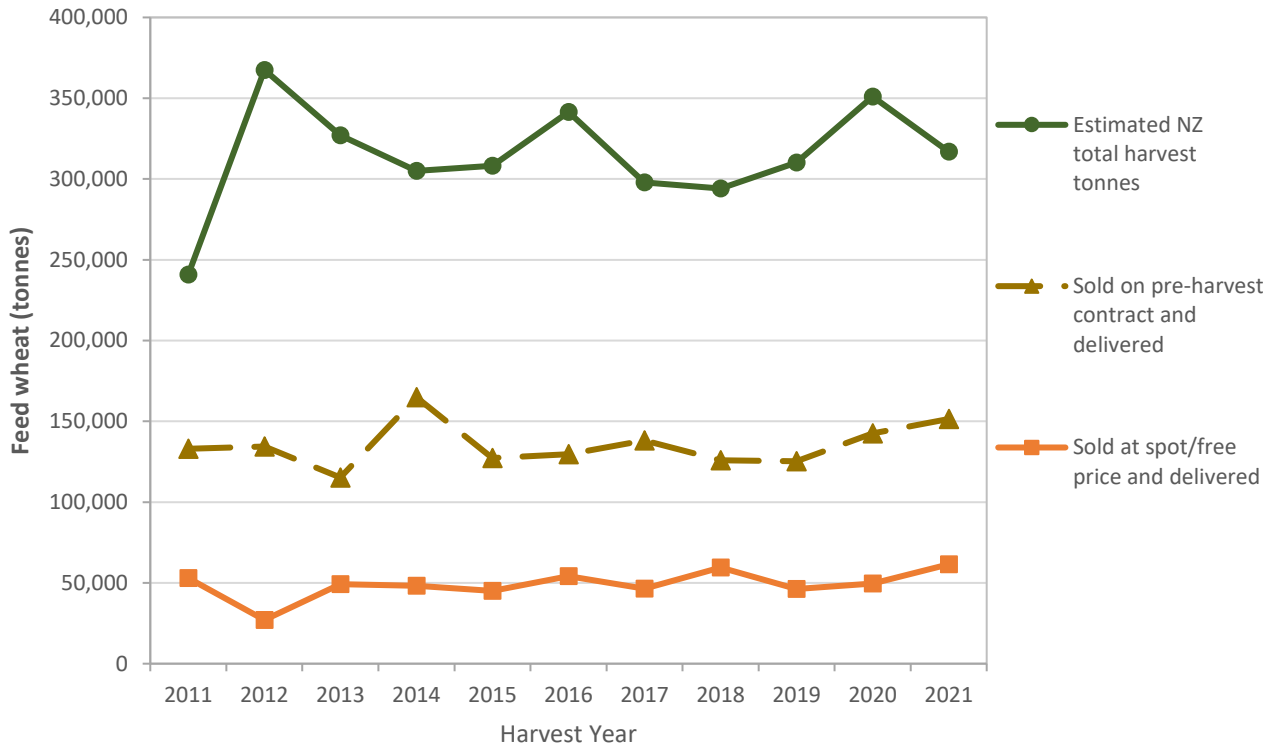


Figure 2a. NZ harvest tonnage and sales channels for feed wheat as estimated in October each year. (Note: Both “sold and delivered” categories relate to the crop harvested that year, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data for 2011 to 2019 are from October AIMI Reports for 2019 and earlier, while data for 2020 and 2021 are matched data from the current report.)

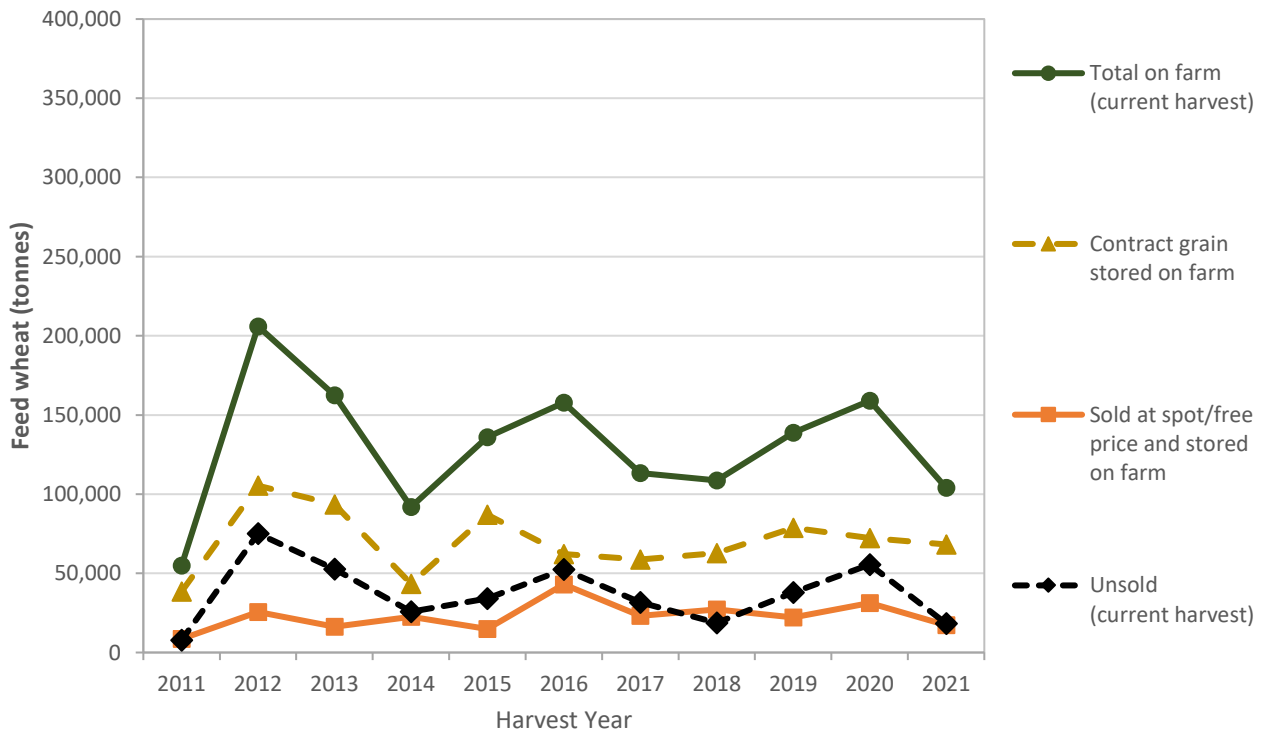


Figure 2b. NZ stocks on farm for feed wheat as estimated in October each year. (Note: Historical data for 2011 to 2019 are from October AIMI Reports for 2019 and earlier, while data for 2020 and 2021 are matched data from the current report.)

Feed barley (tonnes)

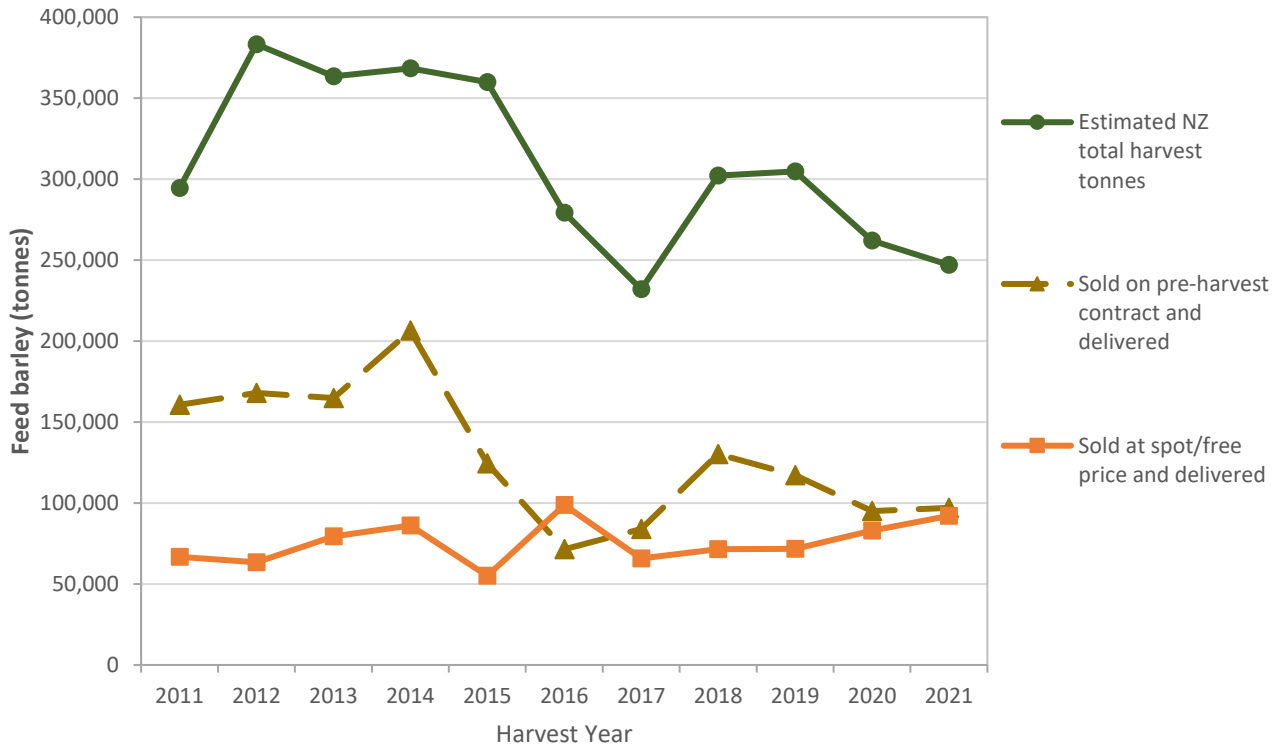


Figure 3a. NZ harvest tonnage and sales channels for feed barley as estimated in October each year. (Note: Both “sold and delivered” categories relate to the crop harvested that year, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data for 2011 to 2019 are from October AIMI Reports for 2019 and earlier, while data for 2020 and 2021 are matched data from the current report.)

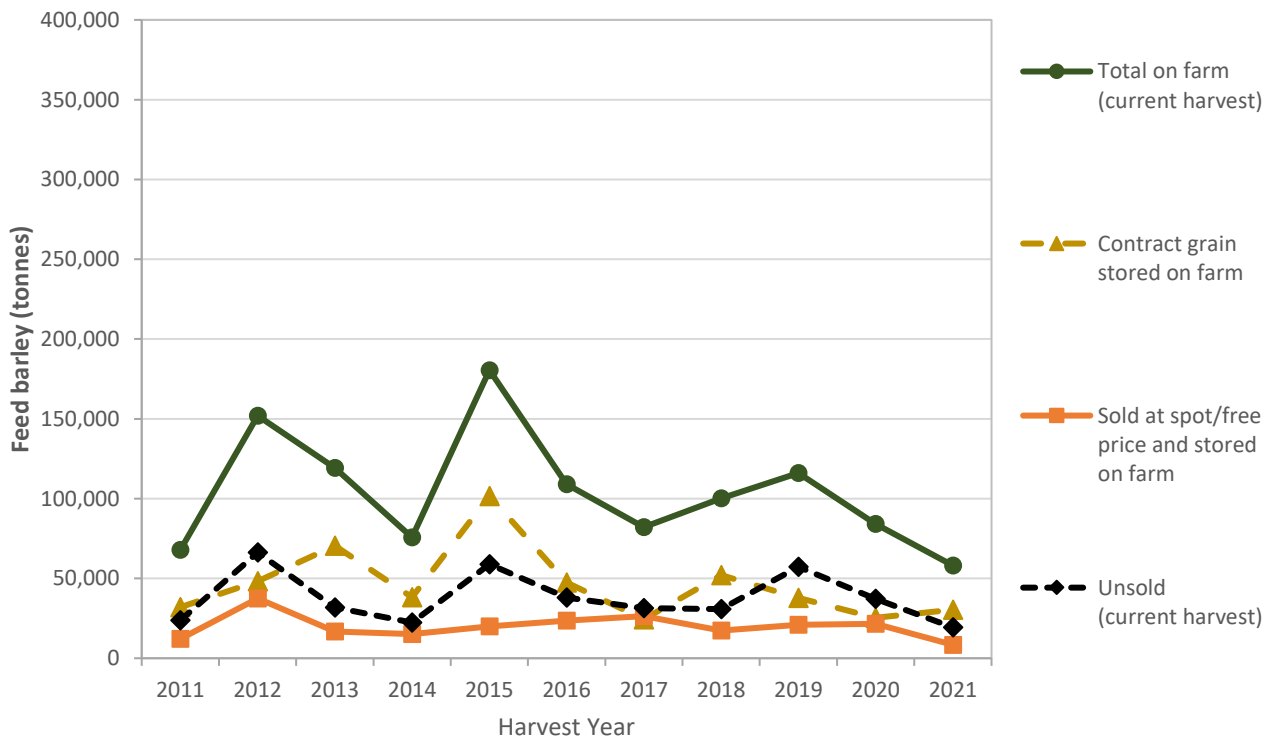


Figure 3b. NZ stocks on farm for feed barley as estimated in October each year. (Note: Historical data for 2011 to 2019 are from October AIMI Reports for 2019 and earlier, while data for 2020 and 2021 are matched data from the current report.)

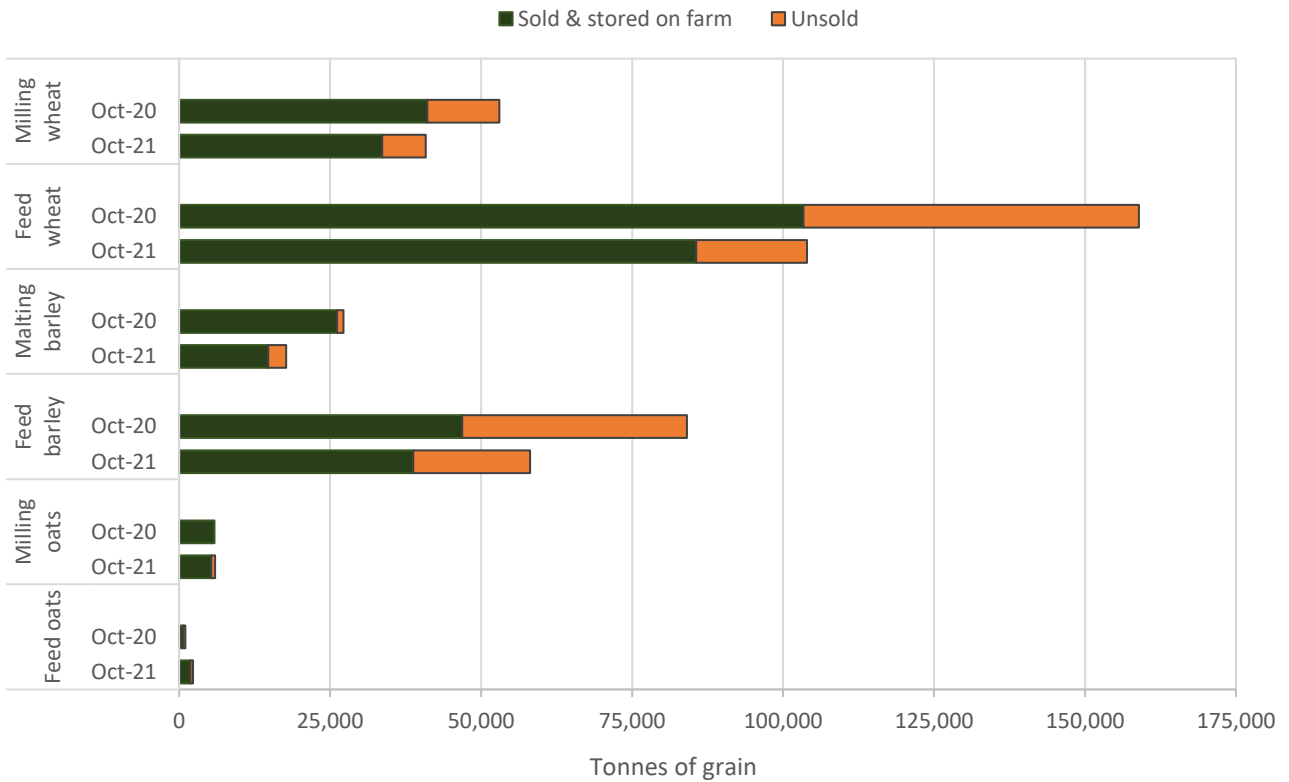


Figure 4. Changes in NZ stocks on farm for wheat, barley and oats between October 10, 2020 and October 10, 2021. These data are also reported in Table 1 and Figures 1b, 2b and 3b.

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.

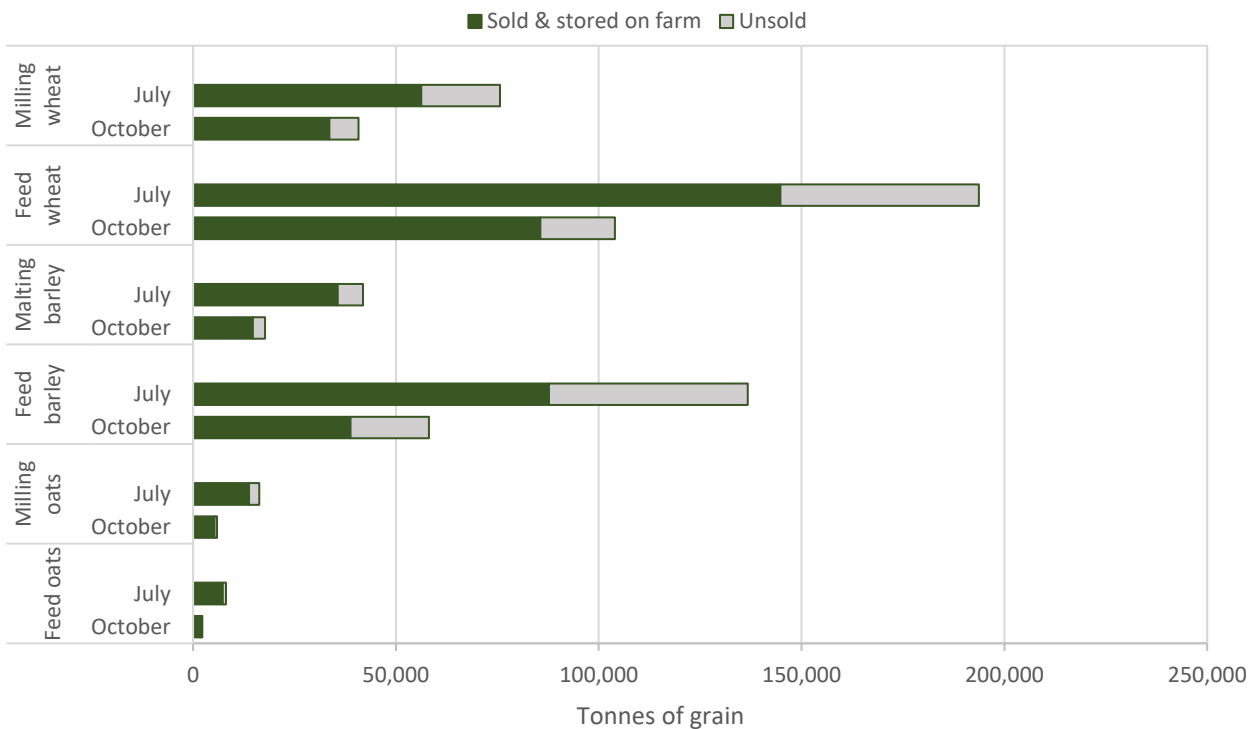


Figure 5. Changes in NZ stocks on farm for wheat, barley and oats between July 1 and October 10, 2021. These data are also reported in Table 1. As in Figure 4, this is a matched comparison.

NZ harvest hectares for 2011 to 2021 and predicted hectares for 2022 as estimated in October each year

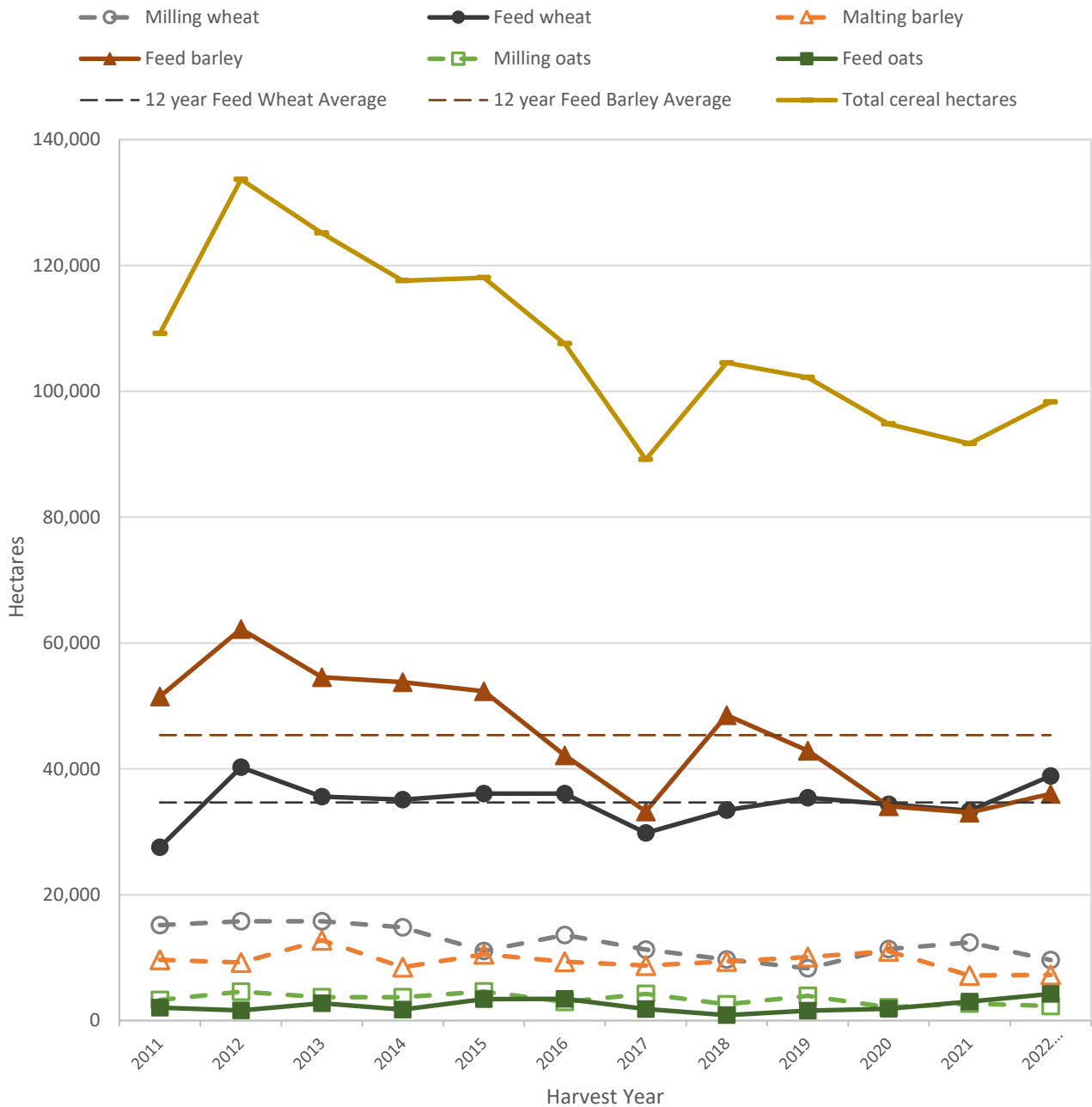


Figure 6. NZ harvest hectares for six cereal crops (and the total over the six crops) as estimated in October each year from 2011 to 2021, and predicted harvest hectares for 2022. For feed wheat and feed barley, “long-term” means (12-year averages) are included as dashed horizontal lines.

(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. 7 for hectares already sown by October 10, 2021. 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 October AIMI reports for 2011 – 2019.)

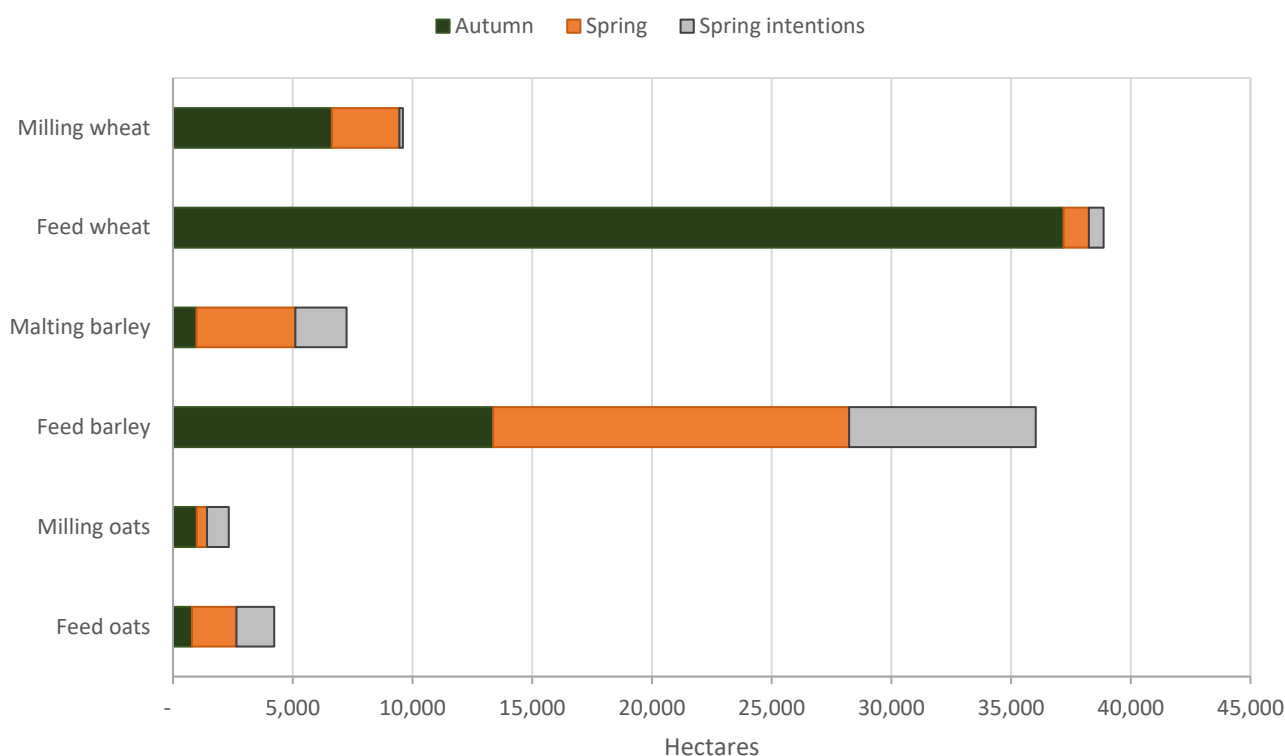


Figure 7. Estimated NZ hectares sown in autumn and spring 2021, plus NZ spring hectares yet to sow (spring intentions) for harvest in 2022, based on data collected on October 10, 2021. These data are also reported in Table 2.

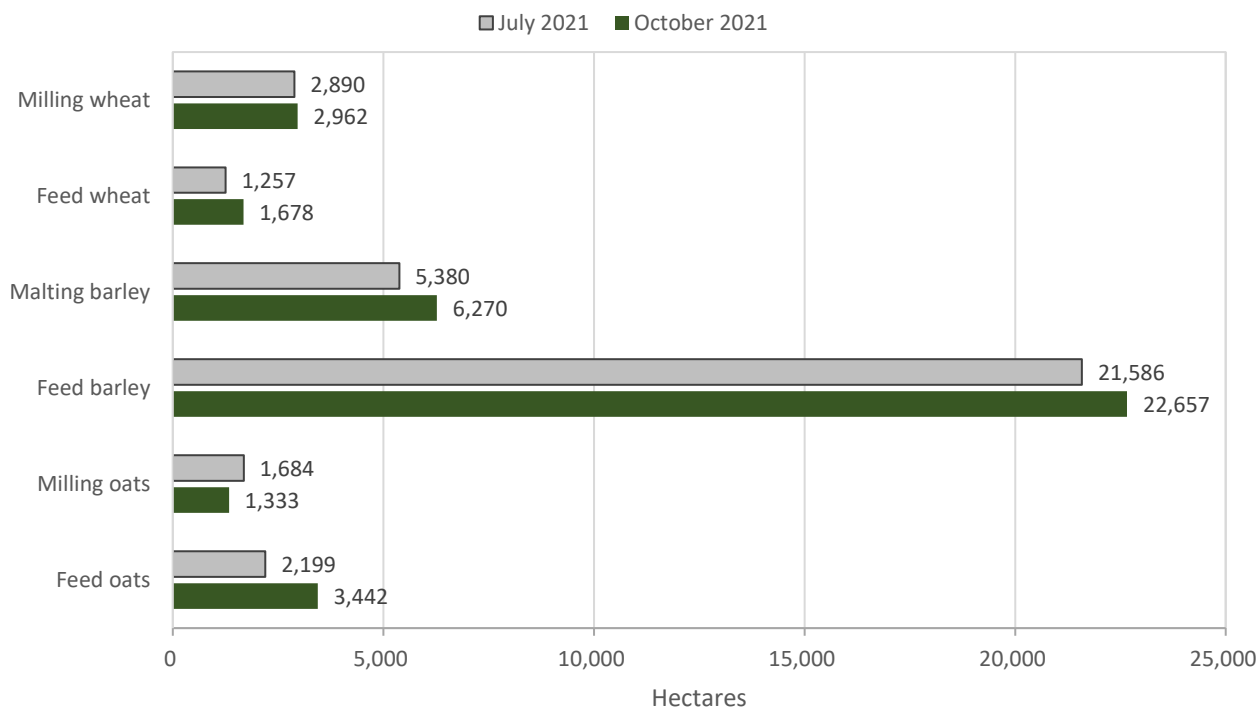


Figure 8. Comparison of NZ spring sowing intentions as at July 1 2021 with actual NZ spring sowings plus intentions as at October 10, 2021. These data are also reported in Table 2. As in Figures 4 and 5, this is a matched comparison.

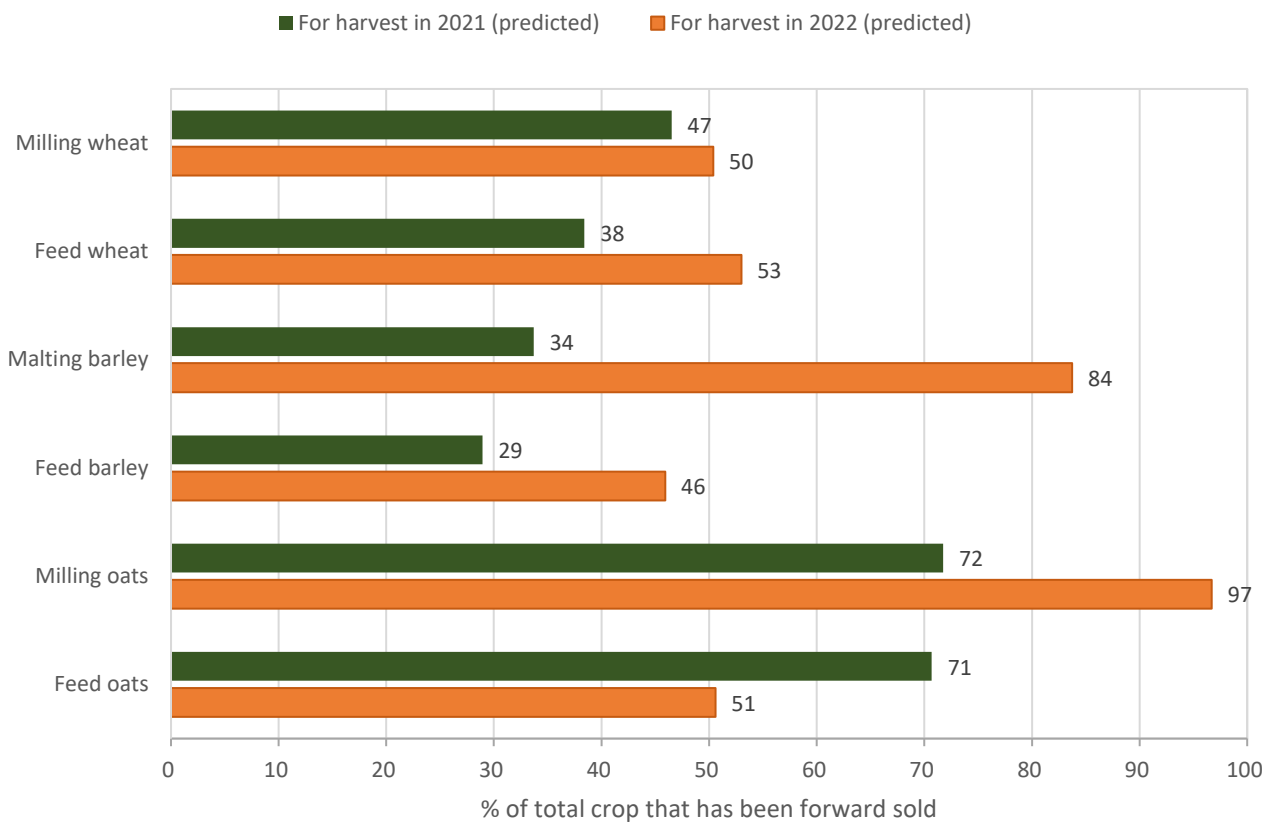


Figure 9. Comparison of percentage of total NZ crop sown (autumn and spring sowings plus spring intentions) that had been forward sold as at October 10, 2020 and 2021 for predicted 2021 and predicted 2022 harvests, respectively. As in Figures 4, 5 and 8, this is a matched comparison.

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