



*The objective of this AIMI survey of New Zealand (NZ) cereal growers was to determine, as at October 10, 2020:*

- *sales of the 2020 NZ harvest of wheat, barley and oats (both milling/malting and feed crops) since July 1, 2020*
- *levels of on-farm storage, both sold and unsold, of the 2020 harvest*
- *spring 2020 sowings and sowing intentions of wheat, barley and oats (both milling/malting and feed crops)*

### Survey details

Data from 140 NZ survey farms who completed all of the last four cereal surveys (October 2019 and April, July and October 2020) were scaled up to the national level using the most recent, 2019, 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 at the 10th October 2020 and there will have been changes since this time. The maize survey is currently underway and details will be released in the near future.

### Key Points at 10 October 2020 (figures have been rounded to nearest 100):

- For the 2019-2020 season, cereal grain production (wheat, barley and oats) in NZ totalled an estimated 881,800 tonnes, while maize grain production was estimated at 181,800 tonnes. Total production of grain in NZ was therefore estimated to be 1,063,600 tonnes.
- Unsold stocks of cereal grain, summed over all six crops, are estimated to have reduced by 50% between 1 July 2020 and 10 October 2020.
- When compared to the same time last year, unsold stocks of cereal grain, summed over all six crops, are estimated to be unchanged overall, with an increase in unsold stocks of milling and feed wheat offset by a decrease in unsold stocks of malting and feed barley. As at 10 October 2020, unsold stocks of feed wheat were estimated at 57,600 tonnes (up 18,600 tonnes on last year), and of feed barley at 38,700 tonnes (down 18,900 tonnes).
- On-farm storage of sold grain, overall, is up 2% (or 4,500 tonnes) on this time last year. Total on-farm storage, including both sold and unsold grain, summed over all six crops, is up 1% (or 4,000 tonnes) compared to the same time last year.
- The total area sown or intended to be sown in cereals is estimated to be 95,500 hectares, which is down 3% (or down 2,500 ha) on last season. At the date of the survey (10 October 2020), 85% of this total area had been sown, with 15% still left to sow. Spring sowings in Southland have been delayed by wet conditions, while growers in other regions have reported concern over low moisture levels.

In summary, the tonnages of unsold feed grain were estimated at 57,600 t of feed wheat and 38,700 t of feed barley, as at 10 October 2020; in addition, there was an estimated 11,700 t of unsold milling wheat. For feed wheat and feed barley, the 2021 harvest hectares are predicted to be very similar (1% up and no change, respectively) to the 2020 harvest hectares. When totalled over all six cereal crops, the 2021 harvest hectares are predicted to be down 3% on the 2020 harvest hectares (down from an estimated 98,000 hectares to 95,500 hectares).

**Milling wheat:** The estimated tonnage of unsold grain is 11,700 tonnes, which is up on the same time last year. The estimated tonnage of “sold” grain that is still stored on farm is 44,000 tonnes, which is also up on the tonnage at the same time last year. Overall, on-farm storage is 46% up 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 2% on last season.

**Feed wheat:** The estimated tonnage of unsold grain is 57,600 tonnes, which is up on the same time last year. The estimated tonnage of “sold” grain that is still stored on farm is 105,100 tonnes, which is slightly up on the tonnage at the same time last year. Overall, on-farm storage is up 15% on the same time last year. Almost all feed wheat crops (98%) had been sown by October 10, and the area sown (including yet to be sown) is estimated to be up 1% on last season.

**Feed barley:** The estimated tonnage of unsold grain is 38,700 tonnes, which is down on the same time last year. The estimated tonnage of “sold” grain that is still stored on farm is 51,900 tonnes, which is down on the tonnage at the same time last year. Overall, on-farm storage is down 25% on the same time last year. Feed barley crops were 75% sown by October 10, and the area sown (including yet to be sown) is estimated to be identical to last season.

**Malting barley:** The estimated tonnage of unsold grain is 800 tonnes, which is down on the same time last year. The estimated tonnage of “sold” grain that is still stored on farm is 28,000 tonnes, which is higher than the tonnage at the same time last year. Overall, on-farm storage is up 25% on the same time last year. Malting barley crops were 76% sown by October 10, and the area sown (including yet to be sown) is estimated to be 36% down on last season.

**Milling oats:** The estimated tonnage of unsold grain is nil, which is down on the same time last year. The estimated tonnage of “sold” grain that is still stored on farm is 4,700 tonnes, which is much lower than at the same time last year. Overall, on-farm storage is down 65% on the same time last year. Milling oats crops were only 54% sown by October 10, and the area sown (including yet to be sown) is estimated to be 86% up on last season.

**Feed oats:** The estimated tonnage of unsold grain is 290 tonnes, which is similar to the same time last year. The estimated tonnage of “sold” grain that is still stored on farm is 500 tonnes, which is lower than at the same time last year. Overall, on-farm storage is down 58% on the same time last year. Feed oats crops were 87% sown by October 10, and the area sown (including yet to be sown) is estimated to be 2% down on last season.

**Overall:** As a total over all six crops, estimated unsold tonnage of wheat, barley and oats (109,000 t in total) was unchanged compared to the same time last year, while estimated tonnage “sold” but still stored on farm (234,300 t in total) was up by 2% compared to the same time last year. This meant that the total tonnage on farm on October 10, 2020 (343,300 t in total) was estimated to be similar (up 1%) to the amount on October 10, 2019. The total on-farm storage was made up of 162,600 tonnes of feed wheat, 90,600 tonnes of feed barley, 55,700 tonnes of milling wheat, 28,800 tonnes of malting barley, 4,700 tonnes of milling oats and 800 tonnes of feed oats.

The total area sown plus intended to be sown in wheat, barley or oats, as at 10 October 2020, was estimated to be down 2,500 ha, or 3%, on the area harvested in 2020. There was a decrease in sowings of malting barley which was only partially offset by an increase in sowings of milling oats.

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 2020, was estimated to be 9% down on the area harvested in 2019. Feed barley area was down 16%, feed wheat area was down 6%, milling wheat was up 16% and malting barley was down 20% over the two-year period.

The percentage of hectares that have been “forward sold”, as at 10 October 2020, was estimated to be 46% for milling wheat, 41% for malting barley and 74% for milling oats (as compared to 62%, 97% and 69%, respectively, for forward sales at the same time last year). Forward sales of malting barley are markedly down, while those of milling wheat are also down. For the feed crops, the percentages that have been forward sold were 37% of feed wheat, 29% of feed barley and 66% of feed oats hectares (as compared to 46%, 33% and 73%, respectively, for forward sales at the same time last year). Grower comments suggest contracts are slower to come out this season and demand for malting barley is back.

## Estimated NZ National Figures as at October each year – Cereals

Table 1. Detailed estimated NZ national figures for the 2020 harvest, plus sold and delivered tonnages, for six cereal crops as at October 10, 2020.

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
<b>Number of farmers in the survey who harvested this crop in 2020</b>		49	95	34	94	12	20	137
<b>2019 harvest</b>								
Estimated NZ total hectares, 2019 harvest	ha	9,812	35,188	10,347	45,153	3,113	1,581	105,194
Estimated NZ total tonnes, 2019 harvest	tonnes	84,674	313,426	73,551	310,149	18,641	8,183	808,624
<b>2020 harvest</b>								
Estimated NZ total hectares, 2020 harvest	ha	11,110	32,998	12,851	37,761	1,779	1,490	97,989
Estimated NZ total tonnes, 2020 harvest	tonnes	112,805	369,258	91,225	289,680	10,702	8,168	881,839
Sold under pre-harvest contract and delivered by 10 October, 2020	tonnes	45,723	148,469	59,599	100,288	5,483	6,071	365,632
Pre-harvest contract grain stored on farm on 10 October, 2020	tonnes	30,858	72,407	26,527	26,341	4,707	523	161,364
Sold at spot/free price and delivered by 10 October, 2020	tonnes	10,468	54,737	1,166	92,469	358	1,103	160,301
Sold at spot/free price and stored on farm on 10 October, 2020	tonnes	13,166	32,678	1,516	25,540	0	0	72,900
(For milling or malting only) Sold for feed by 10 October, 2020	tonnes	880	-	1,640	-	154	-	2,675
(For feed only) Used on own farm by 10 October, 2020	tonnes	-	3,416	-	6,327	-	185	9,928
Unsold stocks on hand (2020 harvest only) on 10 October, 2020	tonnes	11,710	57,552	777	38,715	0	286	109,040
<b>Sales channels (2020 harvest)</b>								
Sold on pre-harvest contract (total) by 10 October, 2020	tonnes	76,580	220,876	86,127	126,629	10,190	6,594	526,996
Sold at spot/free price (total) by 10 October, 2020	tonnes	23,634	87,415	2,681	118,009	358	1,103	233,201
<b>On farm storage (2020 harvest)</b>								
Sold and delivered (total) by 10 October, 2020	tonnes	56,191	203,206	60,765	192,757	5,841	7,174	525,933
Sold and stored on farm (total) on 10 October, 2020	tonnes	44,024	105,085	28,043	51,881	4,707	523	234,263
<b>Total sales (2020 harvest)</b>								
Sold (grand total) by 10 October, 2020 (includes sold for feed & used on farm)	tonnes	101,095	311,707	90,448	250,965	10,702	7,882	772,799
Unsold stocks on hand (2020 harvest only) on 10 October, 2020	tonnes	11,710	57,552	777	38,715	0	286	109,040
<b>Comparison of hectares and tonnes between last two harvests</b>								
Estimated % change in hectares, 2019 to 2020 harvest	%	13%	-6%	24%	-16%	-43%	-6%	-7%
Estimated % change in tonnes, 2019 to 2020 harvest	%	33%	18%	24%	-7%	-43%	0%	9%
<b>Comparison of yields (t/ha) between last two harvests</b>								
NZ-wide estimated yield, 2019 harvest	t/ha	8.6	8.9	7.1	6.9	6.0	5.2	7.7
NZ-wide estimated yield, 2020 harvest	t/ha	10.2	11.2	7.1	7.7	6.0	5.5	9.0

**Table 1 (continued).**

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats	Total (all crops)
<b>Comparison of on-farm storage between 1 July, 2020 and 10 October, 2020 (based upon matched data)</b>								
Sold and stored on farm (total) on 1 July, 2020 (2020 harvest)	tonnes	64,960	149,120	46,378	78,774	9,377	4,067	352,677
Sold and stored on farm (total) on 10 October, 2020 (2020 harvest)	tonnes	44,024	105,085	28,043	51,881	4,707	523	234,263
Unsold stocks on hand (from 2020 harvest) on 1 July, 2020	tonnes	19,795	91,992	5,363	98,127	75	1,152	216,505
Unsold stocks on hand (from 2020 harvest) on 10 October, 2020 (as above)	tonnes	11,710	57,552	777	38,715	0	286	109,040
% decrease in total grain stored on-farm from July 2020 to Oct 2020	%	34%	33%	44%	49%	50%	84%	40%
<b>Recalculated 10 October, 2019 survey breakdown to enable more precise, matched comparisons between 10 October, 2019 and 10 October, 2020</b>								
Sold under pre-harvest contract and delivered by 10 October, 2019	tonnes	35,692	125,483	47,536	119,402	5,039	5,129	338,281
Pre-harvest contract grain stored on farm on 10 October, 2019	tonnes	21,598	81,843	17,682	40,619	12,393	1,793	175,928
Sold at spot/free price and delivered by 10 October, 2019	tonnes	8,237	41,868	1,220	65,631	34	1,043	118,033
Sold at spot/free price and stored on farm on 10 October, 2019	tonnes	7,808	20,637	2,565	22,804	0	0	53,814
(For milling or malting only) Sold for feed by 10 October, 2019	tonnes	2,498	-	1,710	-	0	-	4,208
(For feed only) Used on own farm by 10 October, 2019	tonnes	-	4,673	-	4,034	-	68	8,774
Unsold stocks on hand (2019 harvest only) on 10 October, 2019	tonnes	8,841	38,923	2,837	57,659	1,175	151	109,585
<b>Comparison of on-farm storage between last October and this October (based upon matched data)</b>								
Sold and stored on farm (total) on 10 October, 2019 (2019 harvest)	tonnes	29,406	102,480	20,247	63,423	12,393	1,793	229,742
Sold and stored on farm (total) on 10 October, 2020 (2020 harvest)	tonnes	44,024	105,085	28,043	51,881	4,707	523	234,263
Unsold stocks on hand (from 2019 harvest) on 10 October, 2019	tonnes	8,841	38,923	2,837	57,659	1,175	151	109,585
Unsold stocks on hand (from 2020 harvest) on 10 October, 2020 (as above)	tonnes	11,710	57,552	777	38,715	0	286	109,040
% increase in total grain stored on-farm from Oct 2019 to Oct 2020	%	46%	15%	25%	-25%	-65%	-58%	1%
Increase in total grain (in TONNES) stored on-farm from Oct 2019 to Oct 2020	tonnes	17,487	21,234	5,736	-30,486	-8,861	-1,134	3,976

**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 2019 NZ Agricultural Production Statistics data on total hectares and tonnes for wheat, barley and oats.**

In Table 1, the tonnages of the 2020 harvest of six grain crops still stored on-farm have reduced by between 33% and 84% in the period between the AIMI surveys dated July 1, 2020 and October 10, 2020. When totalled over all six crops, the reduction is 40%.

When the on-farm storage on October 10, 2020 is compared to that at the same time last year (October 10, 2019), the total tonnage of grain on farms from the most recent harvest is very similar between the two years, with an increase of just 1% (when summed over all six crops). This corresponds to a 2% increase in the tonnage of grain “sold” and stored on farm, and no change in unsold stocks on hand, as compared to a year ago.

**Table 2. NZ sowings and sowing intentions for six cereal crops as at October 10, 2020.**

	Units	Milling wheat (ha)	Feed wheat (ha)	Malting barley (ha)	Feed barley (ha)	Milling oats (ha)	Feed oats (ha)	Total (all crops)
<b>Number of farmers in survey who have sown or intend to sow this crop as at 10 October, 2020</b>		<b>51</b>	<b>89</b>	<b>30</b>	<b>97</b>	<b>14</b>	<b>19</b>	<b>136</b>
Estimated NZ total hectares, 2019 harvest	ha	9,812	35,188	10,347	45,153	3,113	1,581	105,194
Estimated NZ total hectares, 2020 harvest	ha	11,110	32,998	12,851	37,761	1,779	1,490	97,989
<b>Sowings and intentions for the current season's crop (Sown in 2020; for harvest in 2021)</b>								
Estimated NZ total autumn/winter 2020 sowings (hectares; for harvest in 2021)	ha	7,601	32,085	1,802	12,324	1,321	233	55,368
Estimated NZ total spring 2020 sowings already sown by 10 October, 2020	ha	3,520	492	4,504	16,115	475	1,033	26,139
Estimated NZ total spring 2020 sowings still to sow (intentions) as at 10 October, 2020 (hectares)	ha	257	666	1,977	9,373	1,516	188	13,976
Estimated NZ total spring 2020 sowings plus intentions as at 10 October, 2020	ha	3,778	1,158	6,481	25,488	1,991	1,221	40,116
Predicted NZ total hectares, 2021 harvest (Autumn/winter 2020 sowings and Spring 2020 sowings & intentions, all combined)	ha	11,379	33,243	8,283	37,812	3,312	1,454	95,484
% of predicted NZ hectares which had already been sown by 10 October, 2020	%	98%	98%	76%	75%	54%	87%	85%
<b>"Forward sales" of 2020/21 crop</b>								
Predicted NZ total hectares that are "forward sold" (2021 harvest) as at 10 October, 2020	ha	5,234	12,433	3,390	10,942	2,437	964	35,400
Estimated percentage of NZ total hectares that are "forward sold" (2021 harvest) as at 10 October, 2020	%	46%	37%	41%	29%	74%	66%	37%
<b>Comparison of sowings/intentions between the 2018/19, 2019/20 and 2020/21 seasons (NZ totals) (based upon matched data)</b>								
Estimated % change in NZ total sowings, 2019 to 2020 harvests	%	13%	-6%	24%	-16%	-43%	-6%	-7%
Estimated % change in NZ total sowings, 2020 to 2021 (predicted) harvests	%	2%	1%	-36%	0%	86%	-2%	-3%
Estimated % change in NZ total sowings, 2019 to 2021 (predicted) harvests (TOTAL over TWO seasons)	%	16%	-6%	-20%	-16%	6%	-8%	-9%
Estimated change in NZ total sowings, 2020 to 2021 (predicted) harvests	ha	269	245	-4,568	51	1,533	-36	-2,505
<b>Comparison of spring sowing intentions as at 1 July, 2020 with spring sowings plus intentions as at 10 October, 2020; for harvest in 2021 (based upon matched data)</b>								
Estimated NZ total spring 2020 sowing intentions as at 1 July, 2020	ha	4,761	1,321	10,276	24,922	1,369	1,103	43,751
Estimated NZ total spring 2020 sowings plus intentions as at 10 October, 2020 (as above)	ha	3,778	1,158	6,481	25,488	1,991	1,221	40,116
Change in estimated NZ total spring 2020 sowings/intentions between 1 July, 2020 and 10 October, 2020	ha	-983	-164	-3,795	566	622	118	-3,636

**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.

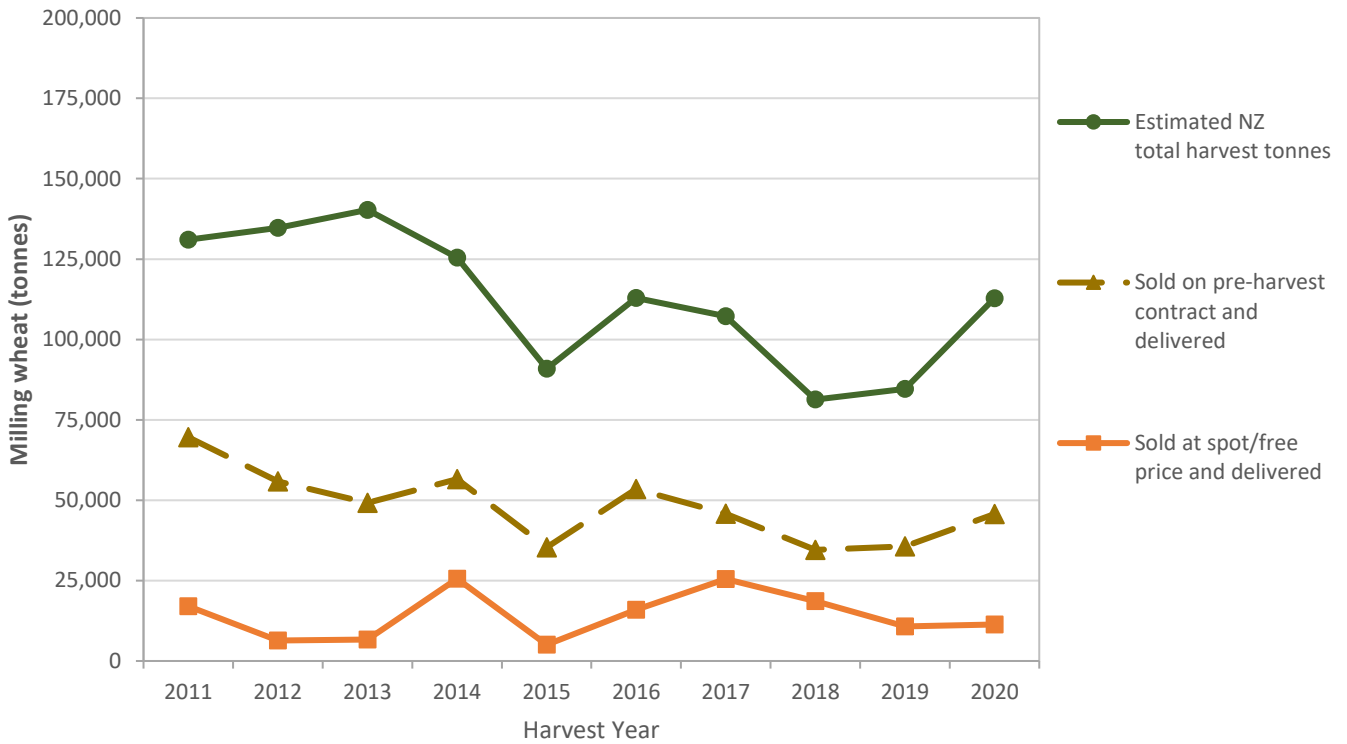
The number out of the 140 survey growers who have sown or intend to sow each crop this season can be compared with the number who harvested last season (2019-2020) by comparing the top rows of Tables 1 and 2. For milling wheat, grower numbers increased from 49 to 51 in the last two seasons, while feed wheat grower numbers decreased from 95 to 89. Note that for wheat, almost all sowing had been completed by October 10, so these are firm figures. For malting barley, grower numbers decreased from 34 to 30, while feed barley grower numbers increased from 94 to 97. Milling oats grower numbers increased from 12 to 14, while feed oats grower numbers decreased from 20 to 19.

In Table 2, sowings plus sowing intentions for feed barley (for harvest in 2021) are very similar to the area harvested in 2020, but as a change over two seasons, they are 16% down on the area harvested in 2019. For feed wheat, sowings plus sowing intentions (for harvest in 2021) are an estimated 1% up on the area harvested in 2020, but 6% down on the area harvested in 2019. Conversely, for milling wheat, sowings (for harvest in 2021) are an estimated 2% up on the area harvested in 2020, and 16% up on the area harvested in 2019. Malting barley sowings and intentions are down considerably, by 36%, on last year, following a 24% increase the previous season, and as a result are down 20% on two years ago. Milling oats sowings and intentions are up 86% on last year, following a 43% decrease the previous year. As a result, they are up 6% on two years ago. Feed oats sowings and intentions are down 2% on last year, and down 8% on two years ago.

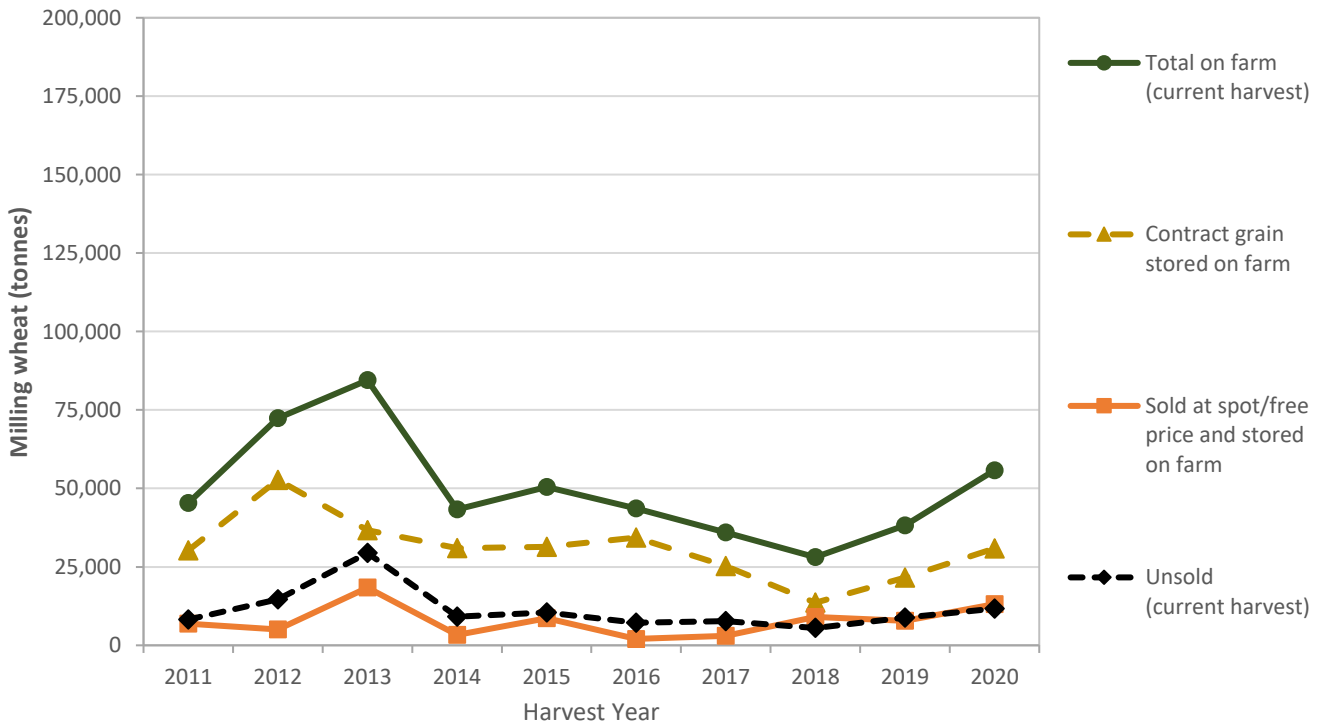
As a sum over the six cereal crops, the estimated change between the area harvested in 2020 and the sowings plus sowing intentions for the current season (for harvest in 2021) is a decrease of 2,500 hectares. In total, sowings plus sowing intentions for the current season (for harvest in 2021) sum to 95,500 hectares, as compared to 98,000 hectares for the 2020 harvest.

At the bottom of Table 2 is the estimated change between the spring sowing intentions on July 1, 2020 and the actual sowings plus updated intentions on October 10, 2020. In total, there is a decrease of 3,600 hectares in the “spring hectares sown plus intended to be sown” between the two survey dates. This is dominated by a large decrease in hectares for malting barley (down 3,800 hectares) and a smaller decrease for milling wheat (down 1,000 hectares), which are partially offset by increases for milling oats (up 600 hectares) and feed barley (up 600 hectares).

### Milling wheat (tonnes)



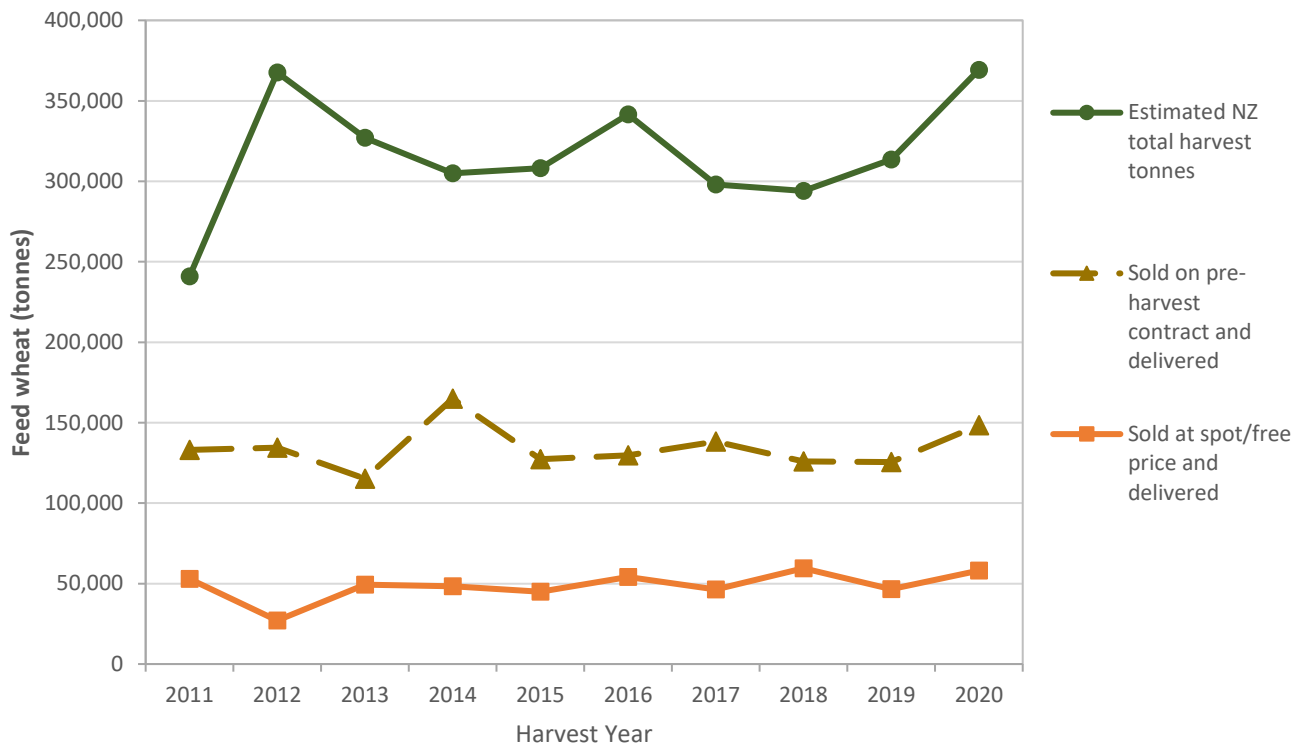
**Figure 1a. NZ harvest tonnage and sales channels for milling wheat (tonnes) as estimated in October each year.** (Note: Both “sold and delivered” categories relate to the crop harvested that year, excluding carryover stock. “Sold at spot/free price and delivered” includes grain sold for feed. Historical data for 2011 to 2018 are from October AIMI Reports for 2018 and earlier, while data for 2019 and 2020 are matched data from the current report.)



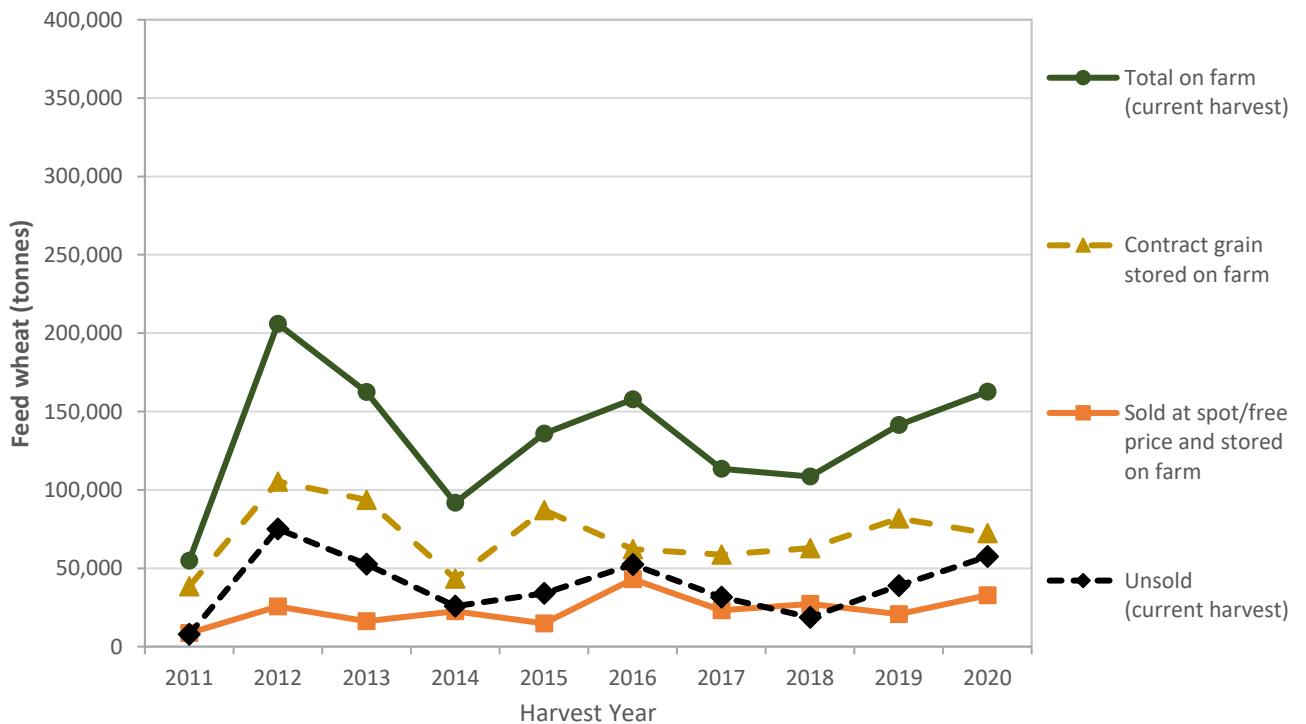
**Figure 1b. NZ stocks on farm for milling wheat (tonnes) as estimated in October each year.** (Note: Historical data for 2011 to 2018 are from October AIMI Reports for 2018 and earlier, while data for 2019 and 2020 are matched data from the current report.)



### Feed wheat (tonnes)

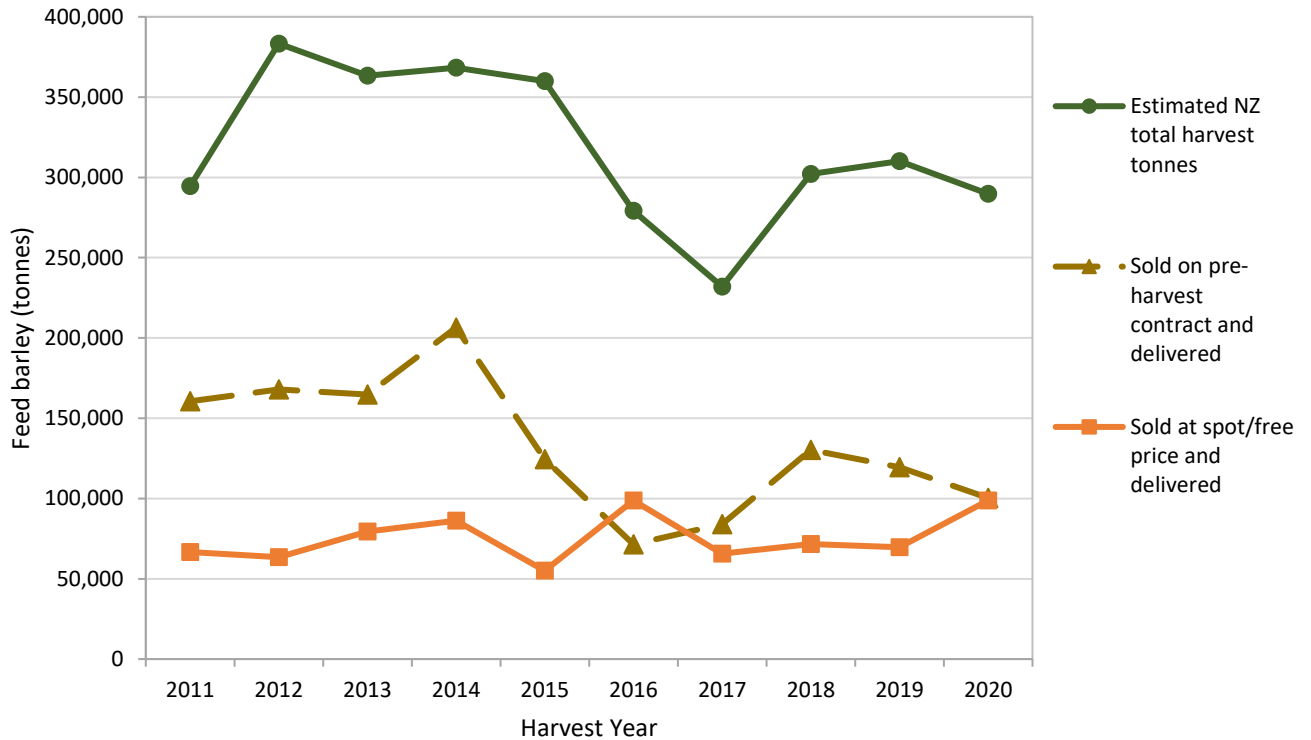


**Figure 2a. NZ harvest tonnage and sales channels for feed wheat (tonnes) as estimated in October each year.** (Note: Both “sold and delivered” categories relate to the crop harvested that year, excluding carryover stock. “Sold at spot/free price and delivered” includes grain used on own farm. Historical data for 2011 to 2018 are from October AIMI Reports for 2018 and earlier, while data for 2019 and 2020 are matched data from the current report.)

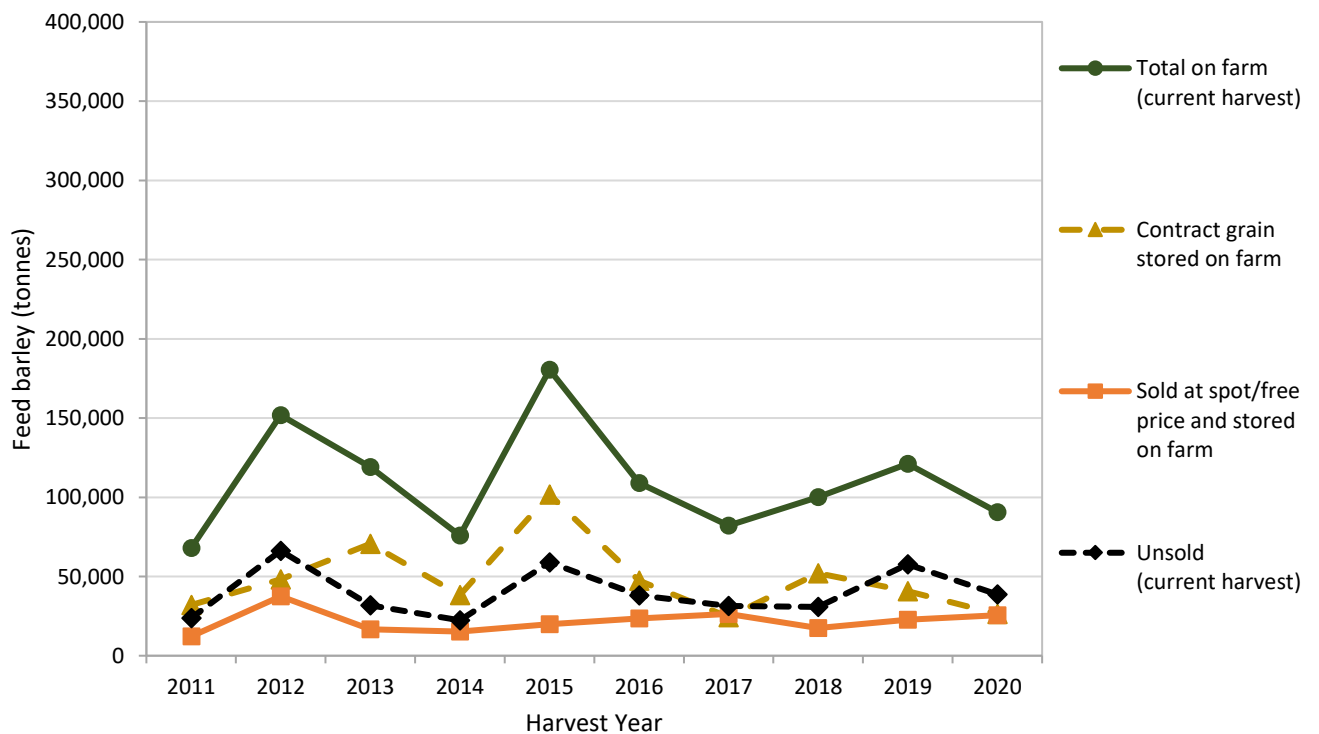


**Figure 2b. NZ stocks on farm for feed wheat (tonnes) as estimated in October each year.** (Note: Historical data for 2011 to 2018 are from October AIMI Reports for 2018 and earlier, while data for 2019 and 2020 are matched data from the current report.)

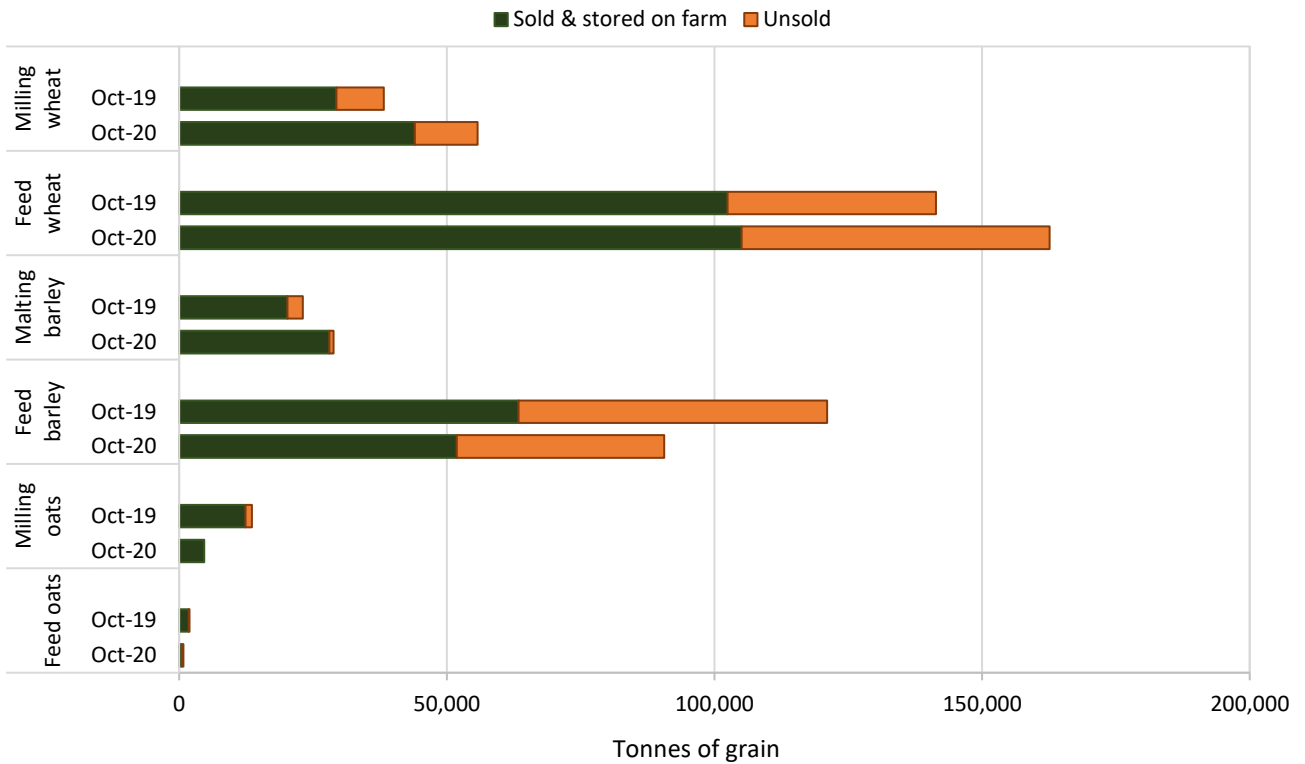
### Feed barley (tonnes)



**Figure 3a. NZ harvest tonnage and sales channels for feed barley (tonnes) 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 2018 are from October AIMI Reports for 2018 and earlier, while data for 2019 and 2020 are matched data from the current report.)

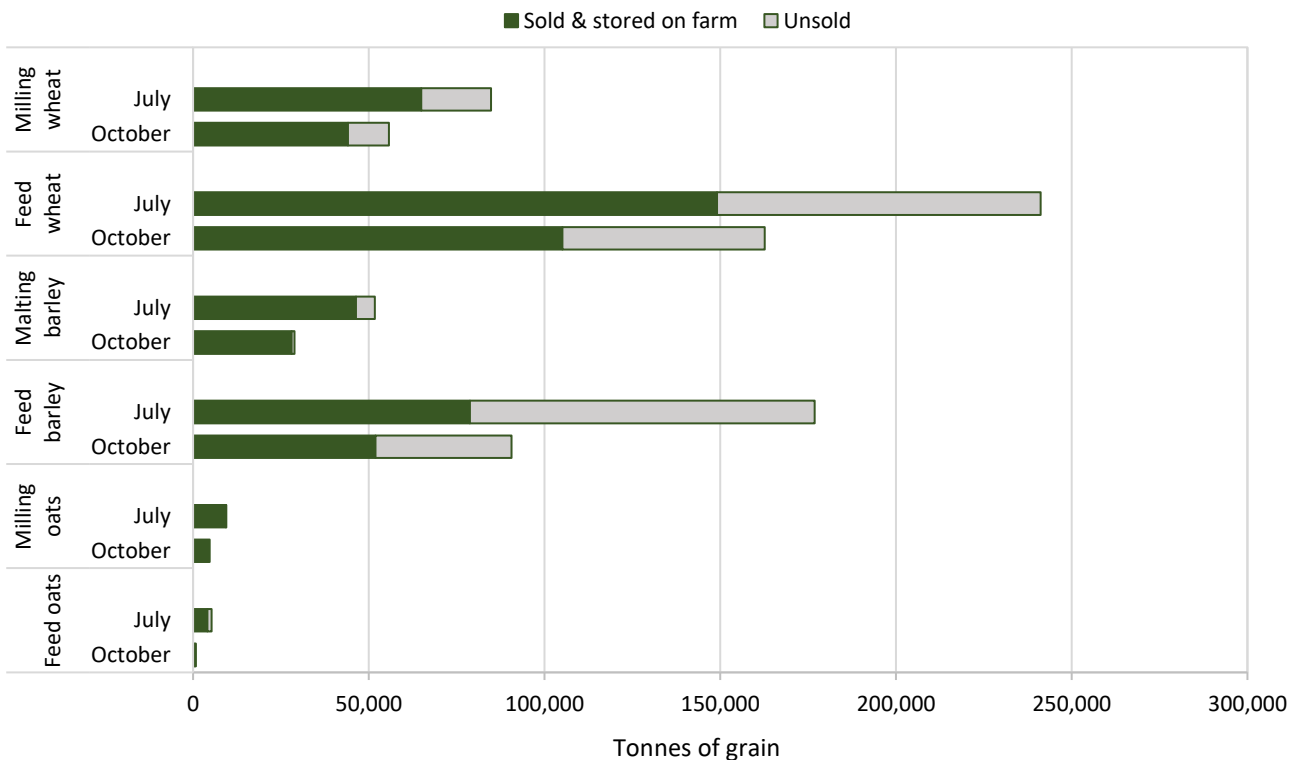


**Figure 3b. NZ stocks on farm for feed barley (tonnes) as estimated in October each year.** (Note: Historical data for 2011 to 2018 are from October AIMI Reports for 2018 and earlier, while data for 2019 and 2020 are matched data from the current report.)



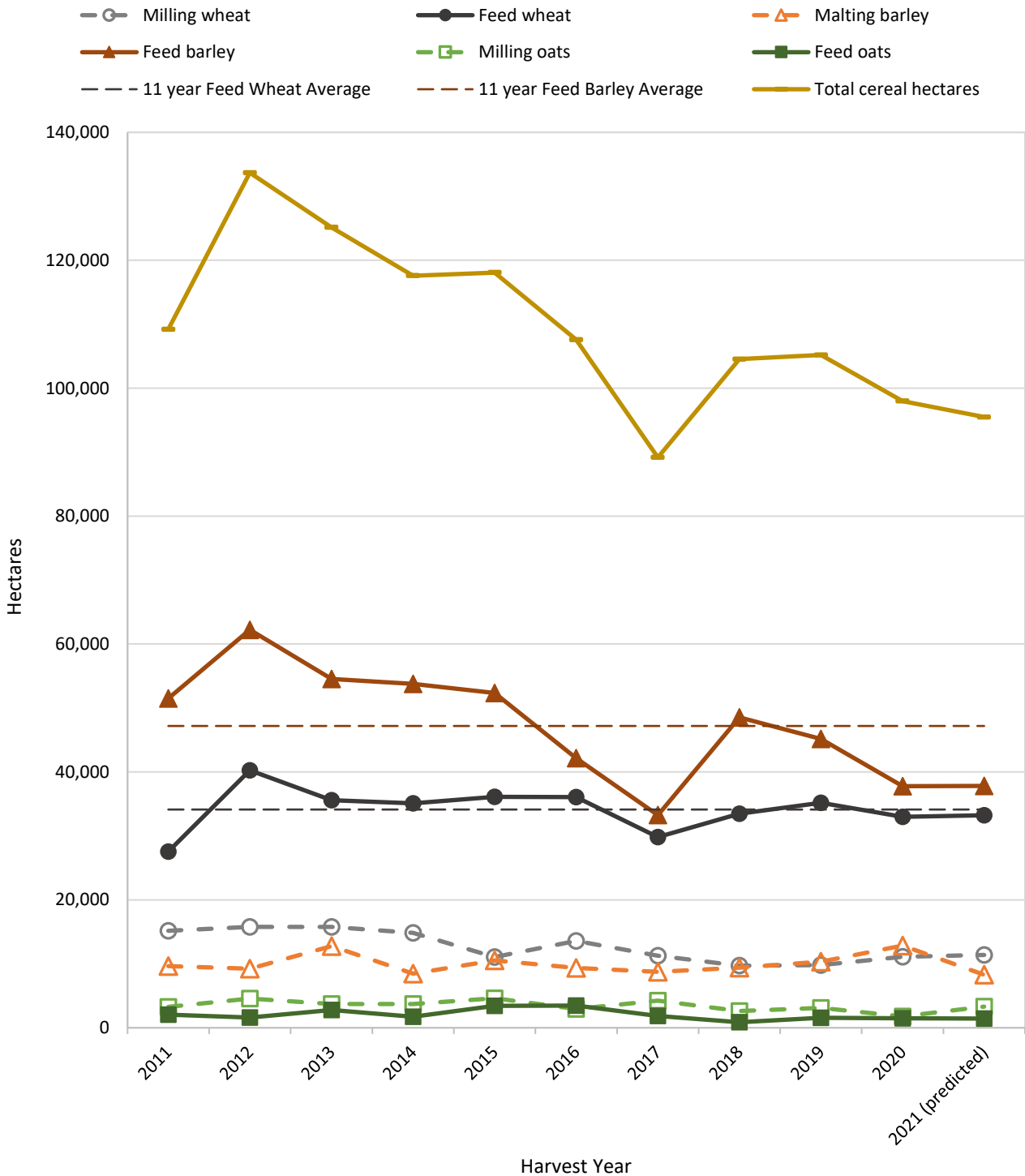
**Figure 4. Changes in NZ stocks on farm for wheat, barley and oats between October 10, 2019 and October 10, 2020. These data are also reported in Figures 1b, 2b and 3b.**

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



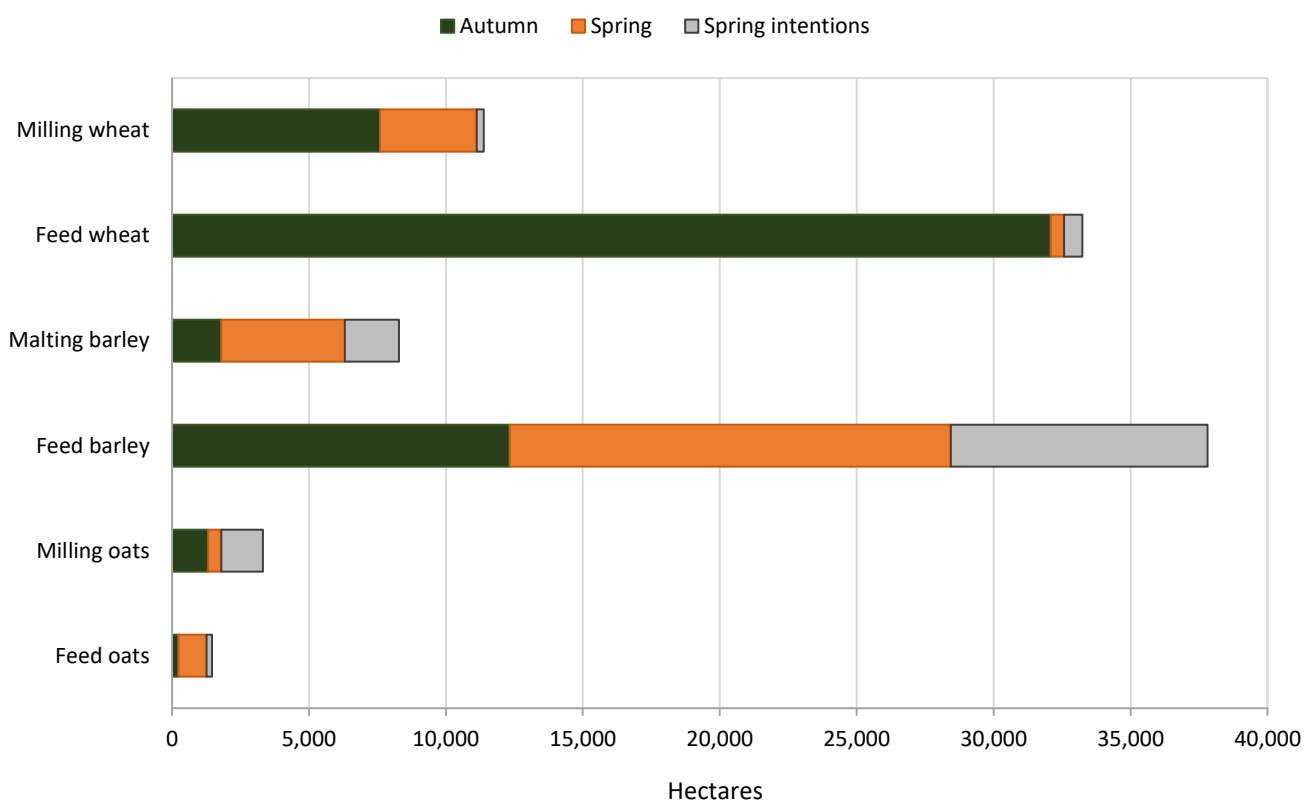
**Figure 5. Changes in NZ stocks on farm for wheat, barley and oats between July 1 and October 10, 2020. As in Figure 4, this is a matched comparison.**

**NZ harvest hectares for 2011 to 2020 and predicted hectares for 2021 as estimated in October each year**

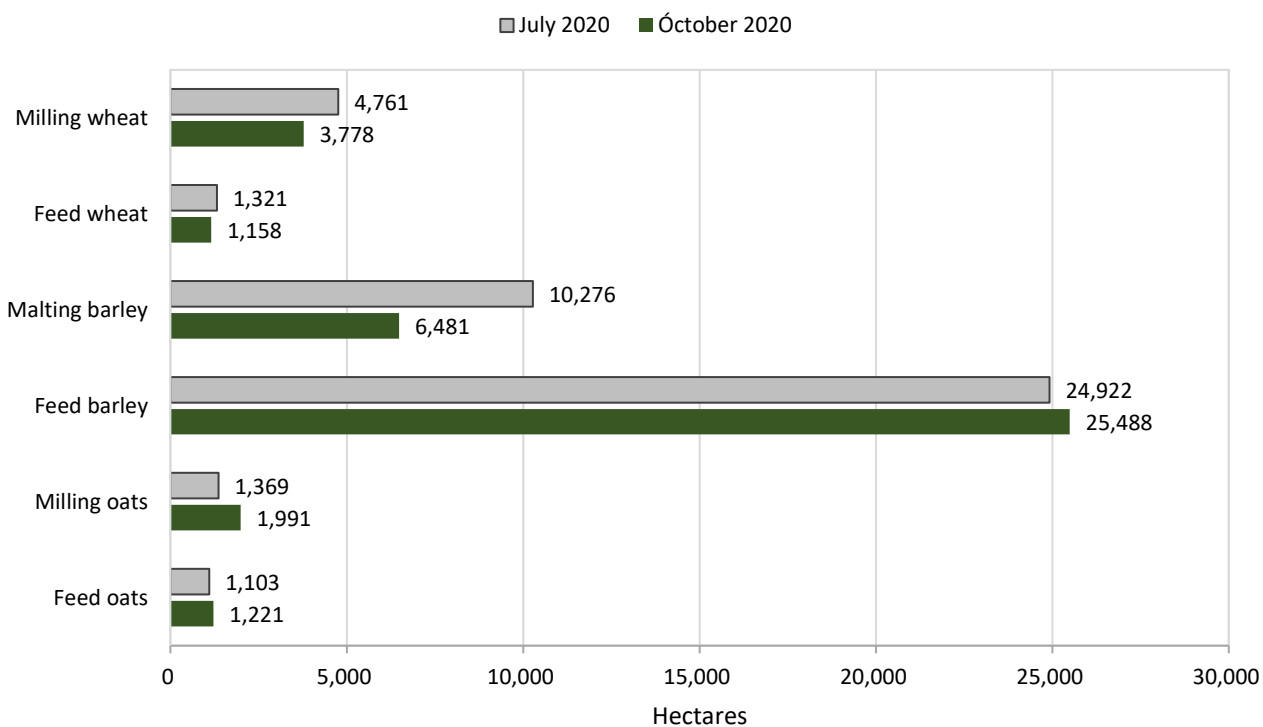


**Figure 6. NZ harvest hectares for six cereal crops (and the total over the six crops) as estimated in October each year from 2011 to 2020, and predicted harvest hectares for 2021. For feed wheat and feed barley, “long-term” means (11-year averages) are included as dashed horizontal lines.**

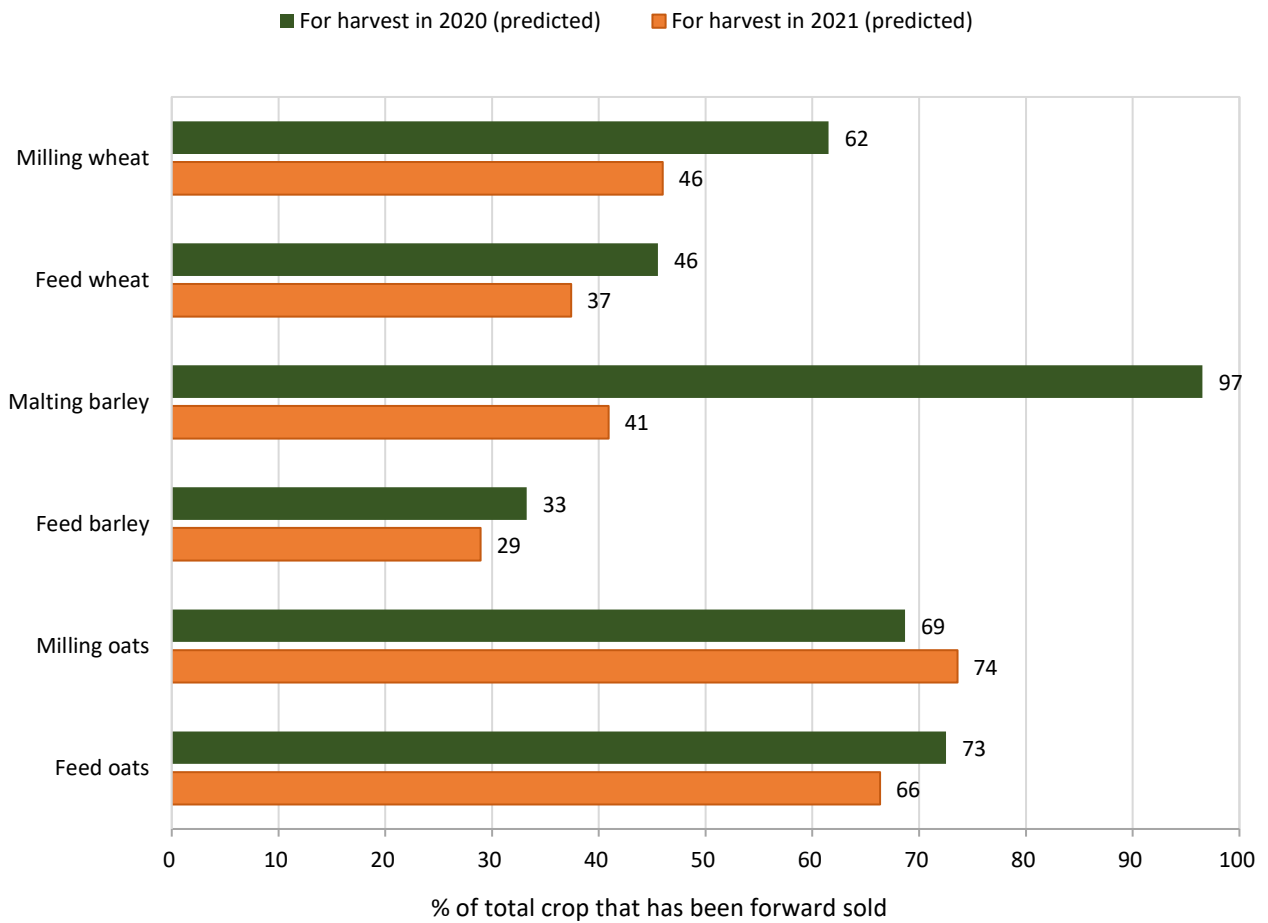
(Note: All figures represent final harvest hectares except for 2021 which is made up of hectares already sown and hectares intended to be sown for harvest in 2021. Refer to Fig. 7 for hectares already sown by October 10, 2020. Figures for 2019, 2020 and 2021 (predicted) are from the current report and are a matched comparison (scaled up from a common set of growers), while other figures are from previous October AIMI reports for 2011 – 2018.)



**Figure 7. Estimated NZ hectares sown in autumn and spring 2020, plus NZ spring hectares yet to sow (spring intentions) for harvest in 2021, based on data collected on October 10, 2020.**



**Figure 8. Comparison of NZ spring sowing intentions as at July 1 2020 with actual NZ spring sowings plus intentions as at October 10, 2020. 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, 2019 and 2020 for predicted 2020 and predicted 2021 harvests, respectively. As in Figures 4, 5 and 8, this is a matched comparison.**

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