SUMMARY - SURVEY OF CEREAL AREAS AND VOLUMES – APRIL 1, 2016

Introduction

The objective of this AIMI survey of growers was to determine, as at April 1, 2016:

- the size of the 2016 harvest of wheat, barley and oats
- the sales channels, storage status and unsold amount of the 2016 harvest
- the tonnages of carry-over stocks on farms from the 2015 harvest
- the sowing intentions for the autumn/ winter of 2016

The data from 137 survey farms as at April 1, 2016 were scaled up to the national level using the most recent Agricultural Production Statistics. 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 1st April 2016 and there will have been changes since this time.

Key Points at 1 April 2016 (figures have been rounded to nearest 100)**:**
Average yields were identical this season compared to last season, except for feed wheat and feed oats, for which the yields were about 10% higher this season than last season. The most notable features of this report concern feed barley, for which the 2016 harvest tonnage was estimated to be 22% down on the 2015 harvest, and for which autumn /winter sowings are predicted to be down by 47% on predicted sowings a year ago.

Milling wheat: Estimated total tonnage (114,000 t) was up 23% compared to last year's harvest, with all milling wheat on the survey farms harvested by 1 April, 2016. Of this total, 73% has been sold (83,700 t), although most of the sold grain is still stored on farm (91%). The amount of unsold grain is 30,300 tonnes (27%). Carryover of unsold grain from the 2015 harvest was 3,200 t, taking the estimate of unsold grain in the market to approximately 33,500 tonnes which was higher than 2015 (14,300 t) and 2014 (28,800 t) but lower than 2013 (61,200 t).

Feed wheat: Estimated total tonnage (350,600 t) including unharvested grain (1%) was up 5% compared to last year's harvest. Of this total, 54% has been sold (188,200 t), with 85% of the sold grain still stored on farm. The amount of unsold grain is 162,400 tonnes (46%). Unsold stock carried over from last season was 11,600 tonnes, taking the estimate of total unsold grain in the market to 174,000 tonnes, compared to approximately 49,600 t in 2015, 68,100 t in 2014 and 138,700 t in 2013.

Feed barley: Estimated total tonnage (297,700 t) including unharvested grain (4%) was down 22% compared to last year. Of this total tonnage, 52% has been sold (154,200 t), with 69% of the sold grain still stored on farm. About 48% (143,600 t) remains unsold. Carryover of unsold grain was 30,400 t, taking the estimate of total unsold grain in the market to approximately 174,000 tonnes which is higher than last season (75,400 t) and 2014 (56,300 t), but lower than 2013 (188,800 t).

For other cereals: Compared to last year, estimated total tonnages, including unharvested grain, for malting barley (64,800 t) decreased by 9%, milling oats (18,400 t) was down by 6%, and feed oats (21,700 t) was up by 54%. Almost all (99%) of the malting barley crop tonnage had been harvested by 1 April 2016, while 36% of milling oats and 15% of feed oats were yet to be harvested. For malting barley, 9% of the total harvest was unsold, while milling oats had 11% unsold and feed oats had 8% unsold as at 1 April, 2015. Unsold stocks carried over from last season were about 2,500 tonnes for malting barley and minimal for both oats crops.

Sowing intentions: Only a few autumn/winter cereal crops had been sown by 1 April 2016. The area sown or intending to be sown in autumn/winter wheat or barley, as at 1 April 2016, was down 7% overall (or 4,500 hectares) on sowings plus intentions as at 1 April 2015.

Autumn/winter feed barley area sown is predicted to decrease by 47% (or 12,700 hectares) from 2015 to 2016, while feed wheat area sown is predicted to increase by 6% (or 2,000 hectares) and milling wheat area sown is predicted to increase by 55% (or 4,500 hectares).

Autumn/winter malting barley, milling oats and feed oats areas sown are predicted to increase by 118%, 51% and 30% respectively (or 1,700, 460 and 500 hectares respectively) from 2015 to 2016.

Milling Wheat (Tonnes)

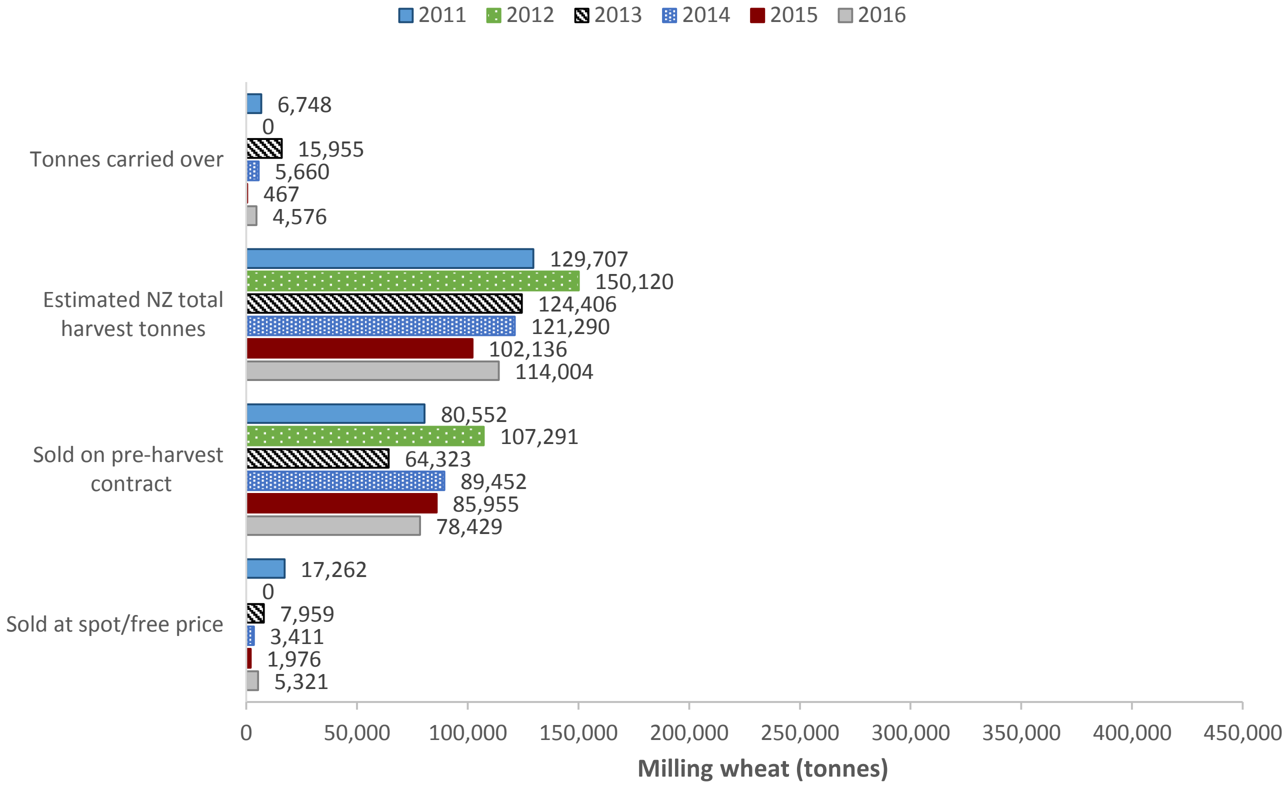

Figure 1a. Estimated NZ tonnage and sales channels at April 1 each year: Milling Wheat (Tonnes)
Note: "Tonnes carried over" is the sum of sold and unsold stock carried over (still on farm) from the previous season. "Total harvest tonnes" includes harvested and unharvested grain for that season's harvest. "Sold on pre-harvest contract" and "Sold at spot/free price" exclude carryover stock. "Sold on pre-harvest contract" includes unharvested, contracted grain (except for the 2011, 2012 and 2013 harvests when this information was not collected). "Sold at spot/free price" includes downgraded stock and stock used on own farm.

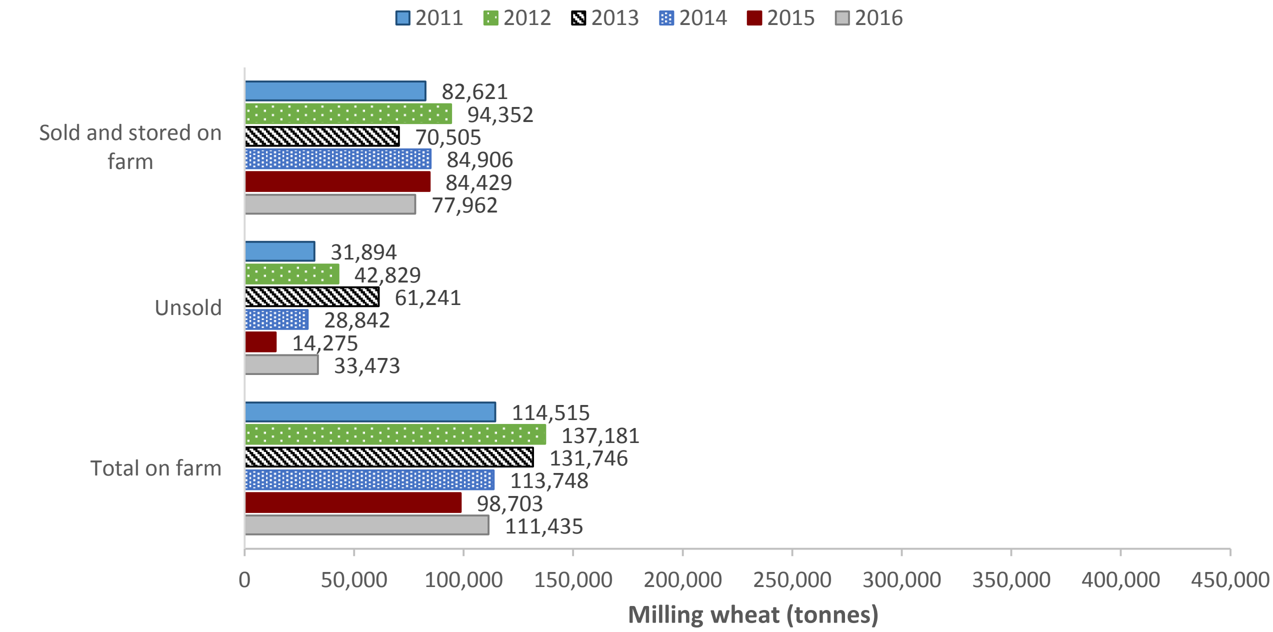

Figure 1b. Estimated NZ stock on farms at 1 April: Milling Wheat (Tonnes)
Note: Carryover stock from the previous season is included in all three bar graphs. Stock used on farm is excluded. Unharvested grain is included. For the 2011, 2012 and 2013 harvests, the sales status of the unharvested grain was unknown, so it was assumed unsold. After this time the sales status of the unharvested grain was determined and has been apportioned between "Sold and stored on farm" and "Unsold".

Feed Wheat (Tonnes)

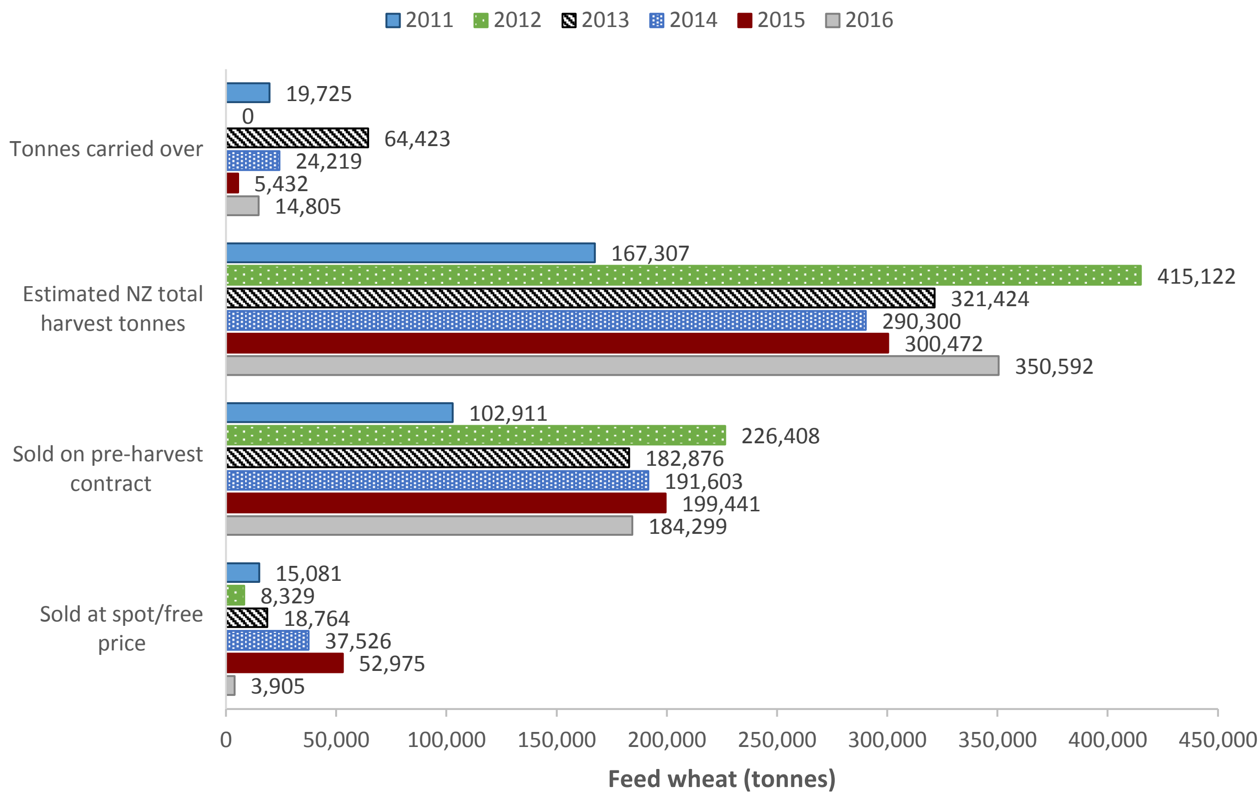

Figure 2a. Estimated NZ tonnage and sales channels at April 1 each year: Feed Wheat (Tonnes)
Note: "Tonnes carried over" is the sum of sold and unsold stock carried over (still on farm) from the previous season. "Total harvest tonnes" includes harvested and unharvested grain for that season's harvest. "Sold on pre-harvest contract" and "Sold at spot/free price" exclude carryover stock. "Sold on pre-harvest contract" includes unharvested, contracted grain (except for the 2011, 2012 and 2013 harvests when this information was not collected). "Sold at spot/free price" includes downgraded stock and stock used on own farm.

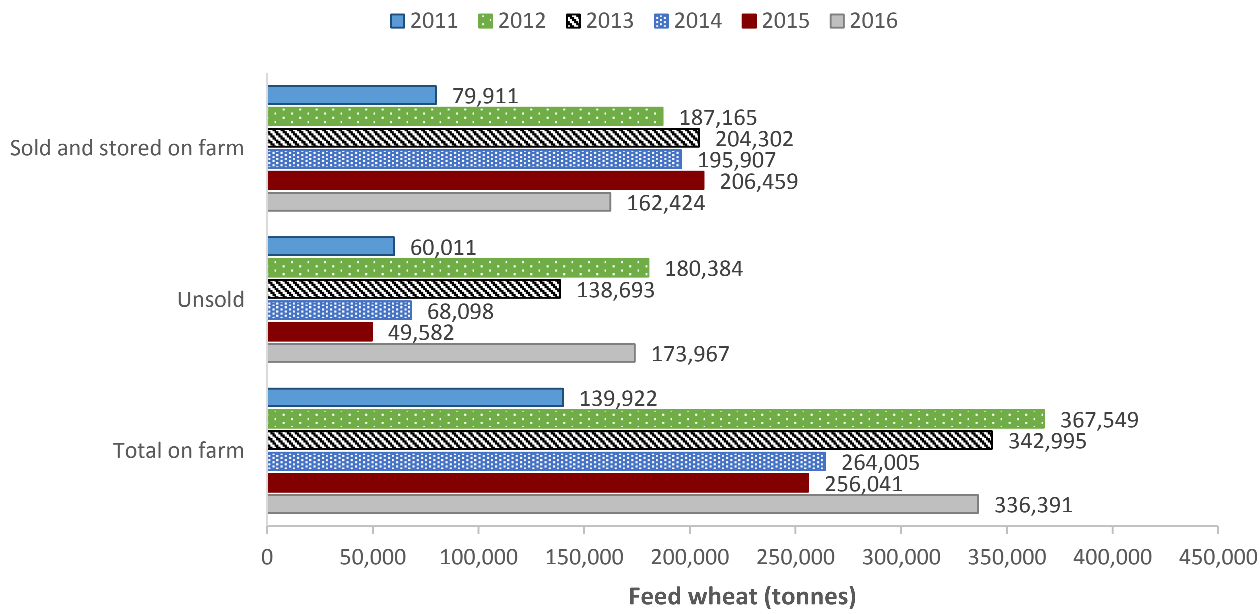

Figure 2b. Estimated NZ stock on farms at 1 April: Feed Wheat (Tonnes)
Note: Carryover stock from the previous season is included in all three bar graphs. Stock used on farm is excluded. Unharvested grain is included. For the 2011, 2012 and 2013 harvests, the sales status of the unharvested grain was unknown, so it was assumed unsold. After this time the sales status of the unharvested grain was determined and has been apportioned between "Sold and stored on farm" and "Unsold".

Feed Barley (Tonnes)

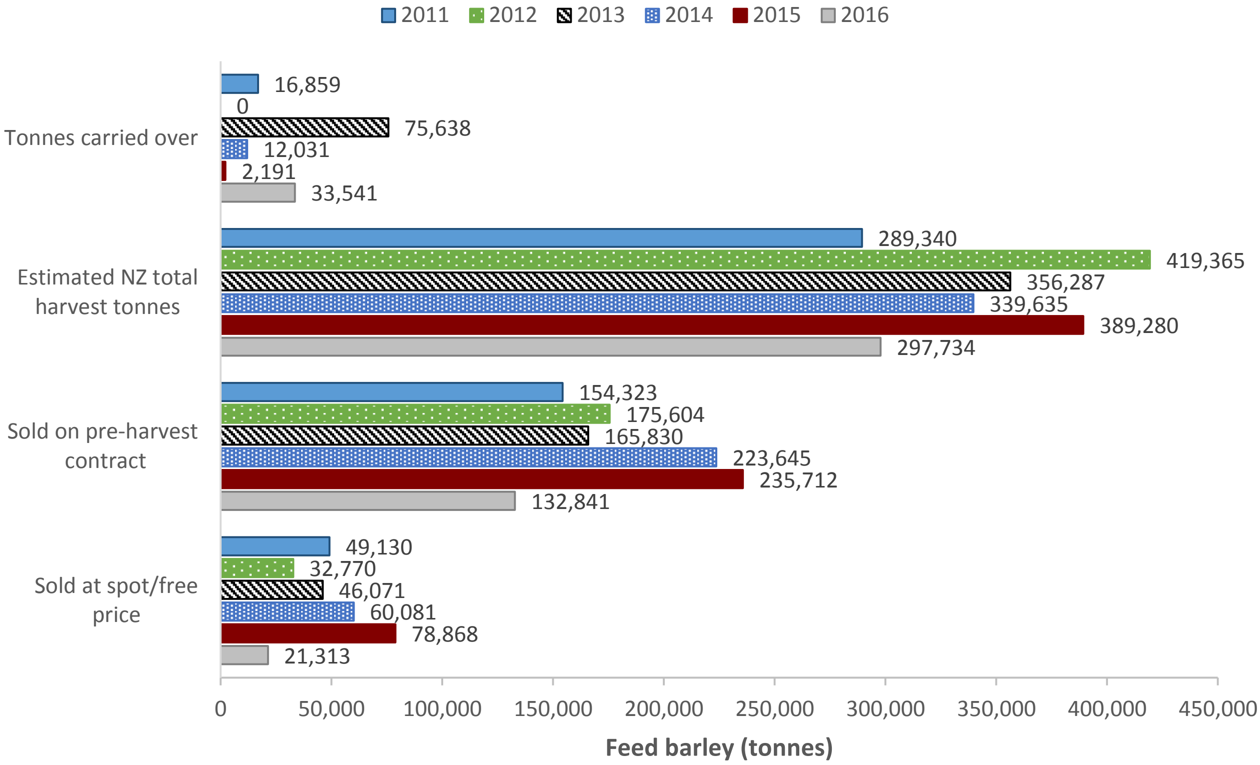

Figure 3a. Estimated NZ tonnage and sales channels at April 1 each year: Feed Barley (Tonnes)
Note: "Tonnes carried over" is the sum of sold and unsold stock carried over (still on farm) from the previous season. "Total harvest tonnes" includes harvested and unharvested grain for that season's harvest. "Sold on pre-harvest contract" and "Sold at spot/free price" exclude carryover stock. "Sold on pre-harvest contract" includes unharvested, contracted grain (except for the 2011, 2012 and 2013 harvests when this information was not collected). "Sold at spot/free price" includes downgraded stock and stock used on own farm.

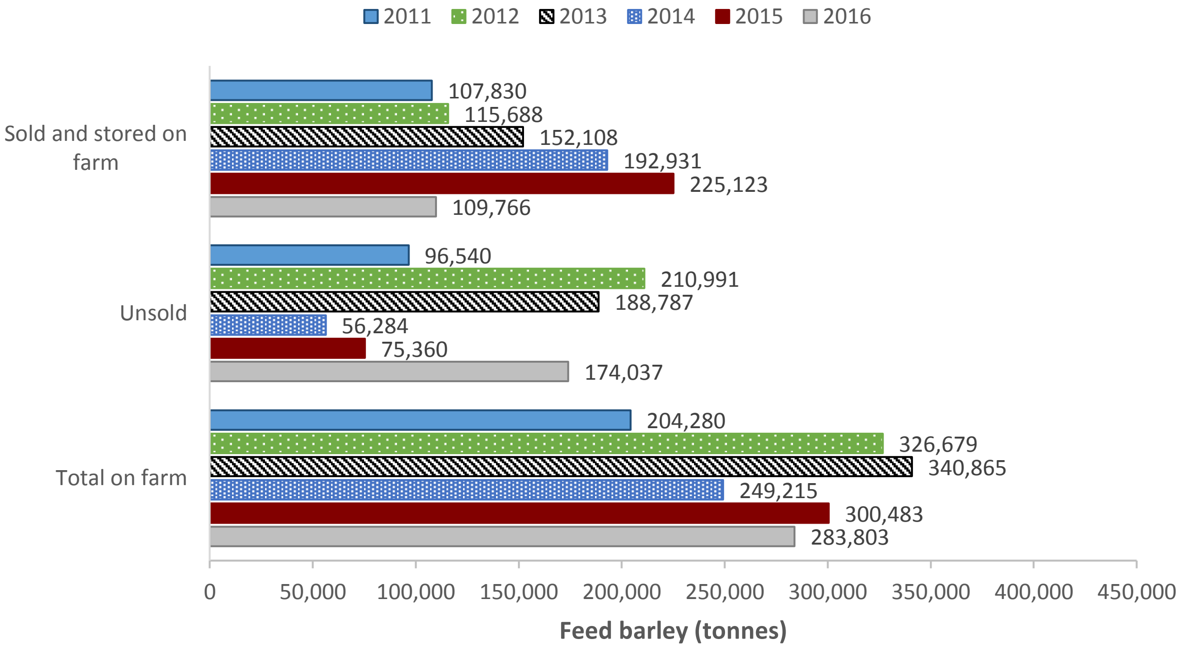

Figure 3b. Estimated NZ stock on farms at 1 April: Feed Barley (Tonnes)
Note: Carryover stock from the previous season is included in all three bar graphs. Stock used on farm is excluded. Unharvested grain is included. For the 2011, 2012 and 2013 harvests, the sales status of the unharvested grain was unknown, so it was assumed unsold. After this time the sales status of the unharvested grain was determined and has been apportioned between "Sold and stored on farm" and "Unsold".

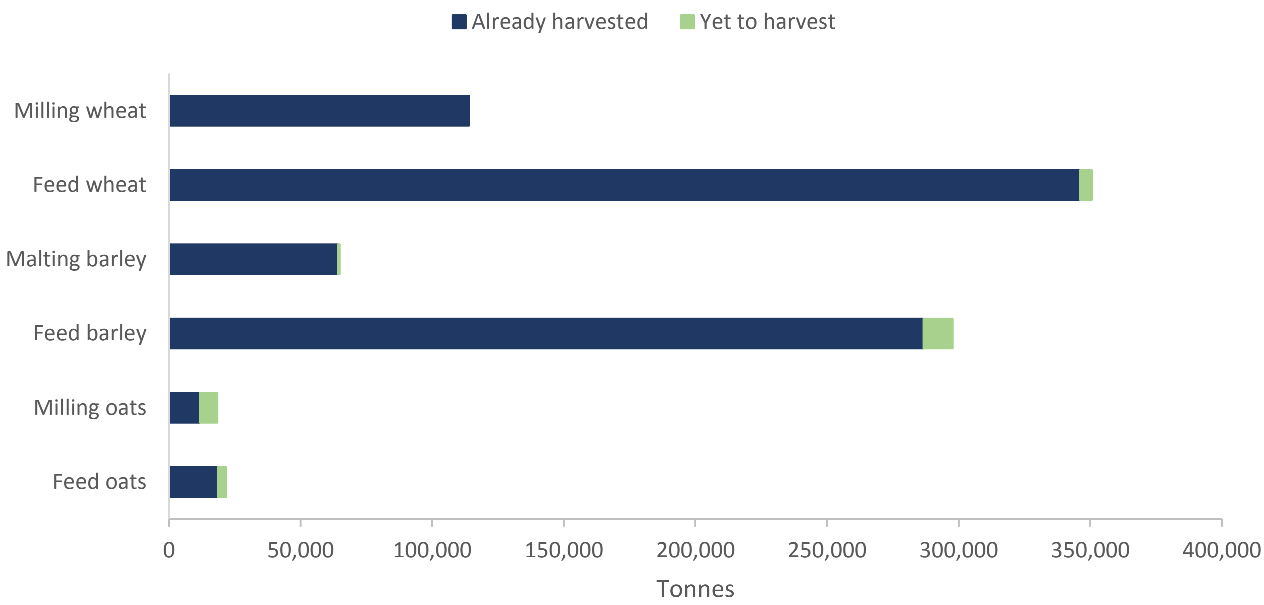

Figure 4. Estimated NZ tonnes harvested before April 1 2016, and yet to harvest as at April 1 2016.

Autumn/winter sowings and sowing intentions as at 1 April each year

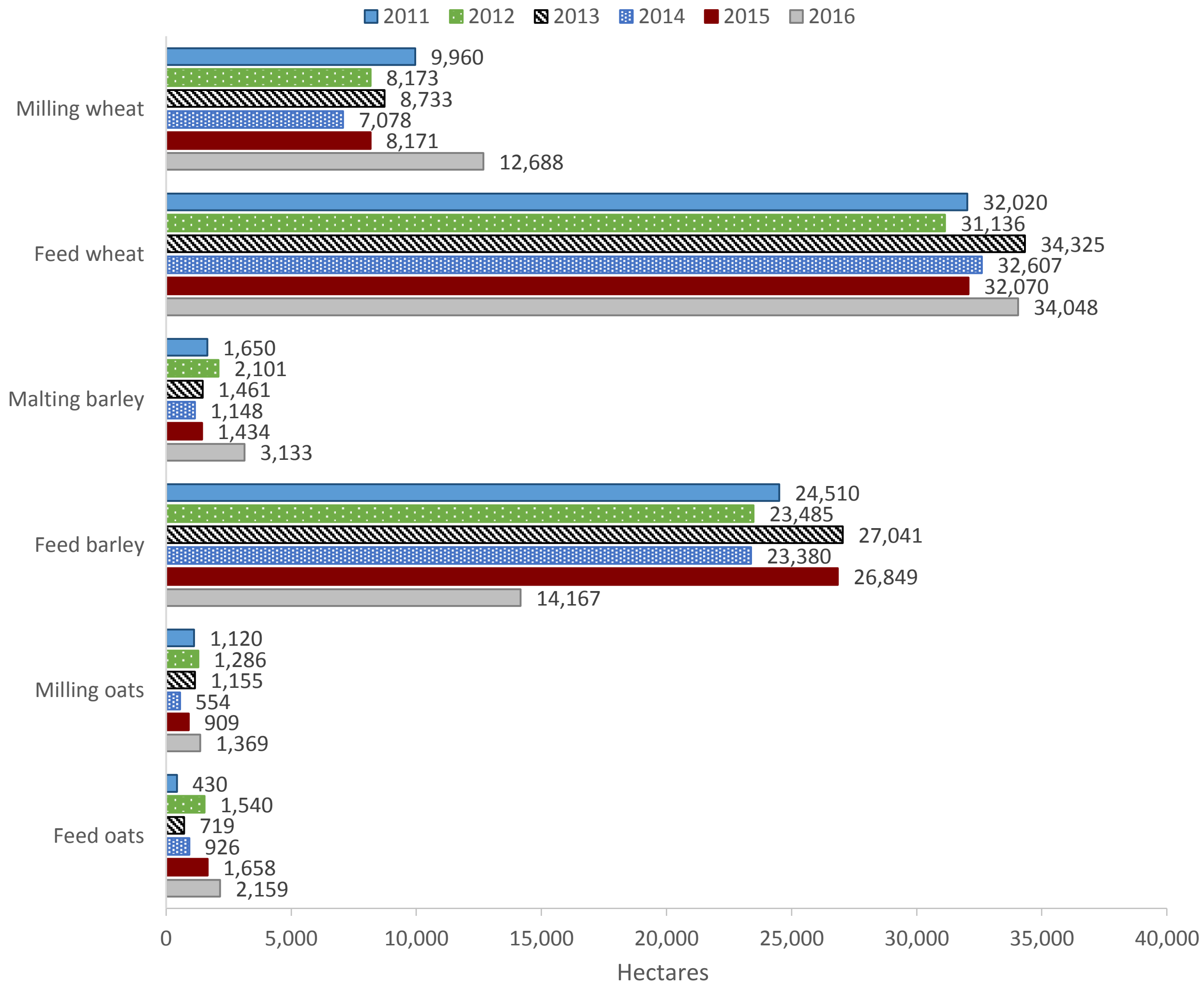

Figure 5. Estimated NZ total hectares sown or intended to be sown in autumn/winter 2016, along with the corresponding estimates from the four previous April 1 AIMI survey reports.
This information is also presented in Table 3 above.

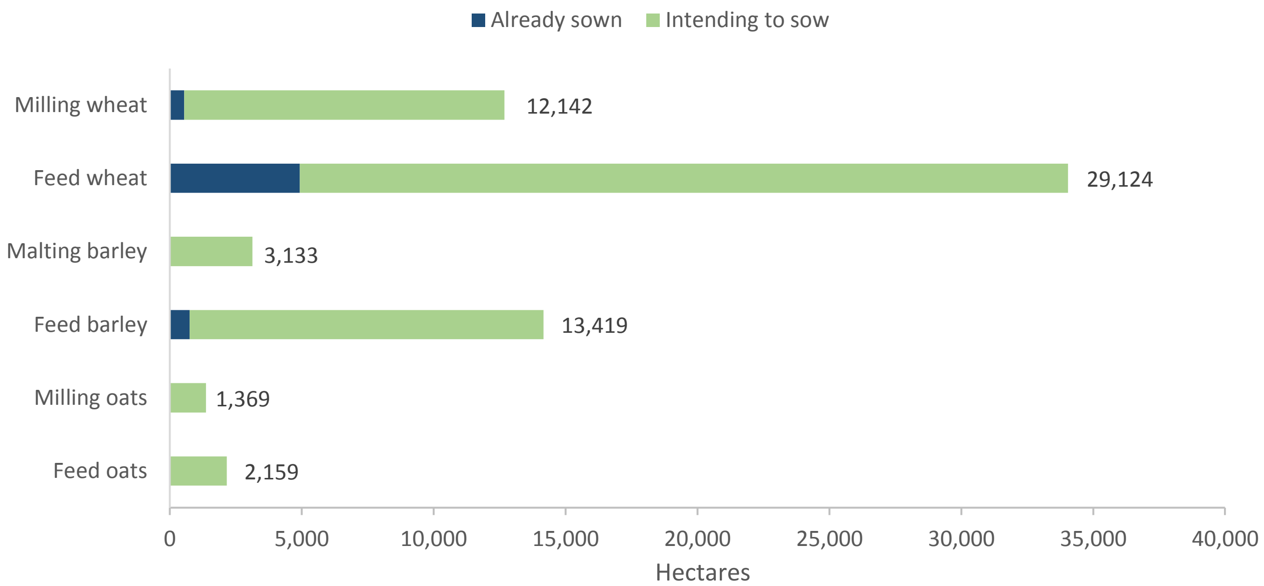

Figure 6. Estimated NZ Autumn/winter sowings and sowing intentions (hectares) as at 1st April 2016.
Note: Numbers at the end of the bars represent sowing intentions. These are estimated totals derived from the survey, and have an associated margin of error.

Comparison of yield (tonnes per ha) between harvests

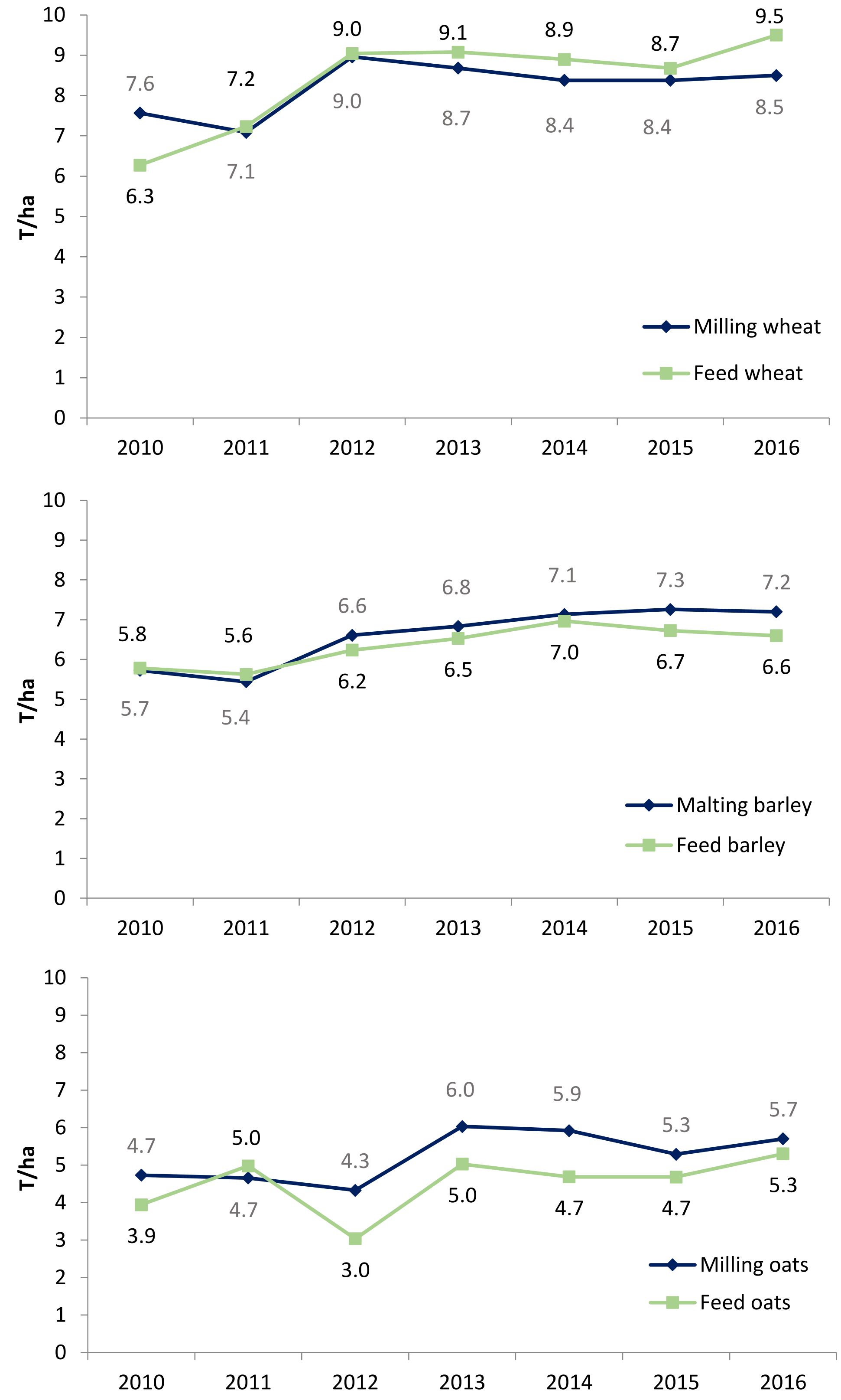

Figure 7. Comparison of yields (T/Ha) between the 2010, 2011, 2012, 2013, 2014, 2015 and 2016 harvests for the six cereal crops.
Data are from this survey and from previous April 1 AIMI reports for 2012, 2013, 2014 and 2015.
Note: Milling wheat includes biscuit and gristing varieties.

Table 1. Detailed estimated national figures for the 2016 harvest, plus sold and delivered tonnages, for six cereal crops as at April 1, 2016.

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
Number of farmers in the survey who harvested or will harvest this crop in 2016		51	82	29	101	13	25
2015 harvest							
Estimated NZ total hectares, 2015 harvest	Ha	11,013	37,587	9,910	57,290	3,402	2,998
Estimated NZ total tonnes, 2015 harvest	Tonnes	92,583	332,617	71,296	381,104	19,506	14,094
2016 harvest							
Estimated NZ total hectares, 2016 harvest	Ha	13,430	36,920	8,964	44,959	3,236	4,109
Estimated NZ total tonnes, 2016 harvest	Tonnes	114,004	350,592	64,800	297,734	18,373	21,684
Estimated NZ total hectares already harvested by 1 April 2016	Ha	13,430	36,402	8,854	43,219	2,088	3,487
Estimated NZ total tonnes already harvested by 1 April 2016	Tonnes	114,004	346,118	64,115	286,642	11,734	18,443
Estimated NZ total hectares yet to harvest as at 1 April 2016	Ha	0	518	110	1,740	1,149	622
Estimated NZ total tonnes yet to harvest as at 1 April 2016	Tonnes	0	4,474	685	11,092	6,639	3,241
Percentage of estimated 2016 crop tonnage which had been harvested by 1 April 2016	%	100%	99%	99%	96%	64%	85%
2016 harvest so far							
Sold under pre-harvest contract and delivered by 1 April 2016	Tonnes	5,484	26,525	9,408	33,149	1,108	8,487
Sold under pre-harvest contract and stored on farm on 1 April 2016	Tonnes	72,945	157,503	45,670	95,776	10,044	8,534
Sold at spot/ free price and delivered by 1 April 2016	Tonnes	1,220	2,345	0	11,973	0	303
Sold at spot/ free price and stored on farm on 1 April 2016	Tonnes	3,660	1,424	0	6,990	0	0
(For milling or malting only) Downgraded and sold for feed by 1 April 2016	Tonnes	441	-	3,799	-	0	-
(For feed only) Used on own farm by 1 April 2016	Tonnes	-	136	-	2,350	-	105
Unsold stocks on hand (2016 harvest only) on 1 April 2016	Tonnes	30,253	158,186	5,238	136,404	583	1,014
2016 yet to harvest							
Unharvested grain sold under pre-harvest contract by 1 April 2016	Tonnes	0	271	0	3,916	5,159	2,623
Unharvested grain unsold on 1 April 2016	Tonnes	0	4,203	685	7,176	1,481	618
Sales channels (2016 harvest): includes unharvested grain							
Sold under pre-harvest contract (total) by 1 April 2016	Tonnes	78,429	184,299	55,079	132,841	16,310	19,644
Sold at spot/ free price (total) by 1 April 2016	Tonnes	4,881	3,769	0	18,963	0	303
Delivery status of sold grain (2016 harvest): excludes unharvested grain							
Sold and delivered (total) by 1 April 2016	Tonnes	6,704	28,870	9,408	45,122	1,108	8,790
Sold and stored on farm (total) on 1 April 2016	Tonnes	76,606	158,926	45,670	102,766	10,044	8,534
Total sales (2016 harvest): includes unharvested grain							
Sold (of total crop) by 1 April 2016 (includes downgraded and sold for feed, and used on farm)	Tonnes	83,751	188,203	58,877	154,154	16,310	20,052
Unsold (of total crop) on 1 April 2016	Tonnes	30,253	162,389	5,923	143,580	2,063	1,632
Comparison of hectares and tonnes between last two harvests							
Estimated % change in hectares, 2015 to 2016 harvest (%)	%	21.9	-1.8	-9.5	-21.5	-4.9	37.0
Estimated % change in tonnes, 2015 to 2016 harvest (%)	%	23.1	5.4	-9.1	-21.9	-5.8	53.9
Estimated change in tonnes, 2015 to 2016 harvest (tonnes)	Tonnes	21,421	17,976	-6,496	-83,370	-1,133	7,590
Comparison of yields (t/ha) between last two harvests							
NZ-wide estimated yield, 2015 harvest	T/ha	8.4	8.8	7.2	6.7	5.7	4.7
NZ-wide estimated yield, 2016 harvest	T/ha	8.5	9.5	7.2	6.6	5.7	5.3

Table 1 (continued).

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
Comparison of on-farm storage (including unharvested grain) between last April and this April							
Sold but not delivered (total) on 1 April 2015 (from 2015 harvest) (April 2015 Report)	Tonnes	84,030	202,713	37,751	223,592	23,486	5,774
Sold but not delivered (total) on 1 April 2016 (from 2016 harvest) (from above)	Tonnes	76,606	159,197	45,670	106,682	15,202	11,157
Unsold (from 2015 harvest) on 1 April 2015 (April 2015 AIMI Report)	Tonnes	14,206	47,897	6,460	74,700	888	1,411
Unsold (from 2016 harvest) on 1 April 2016 (as above)	Tonnes	30,253	162,389	5,923	143,580	2,063	1,632
Change in sold but not delivered (including unharvested grain) as at 1 April (for most recent harvest) between 2015 and 2016	Tonnes	-7,424	-43,515	7,920	-116,910	-8,284	5,382
Change in unsold as at 1 April (from most recent harvest) between 2015 and 2016	Tonnes	16,047	114,492	-537	68,880	1,175	221
Change in total grain on farm (both sold and unsold, and including unharvested grain) as at 1 April (for most recent harvest) between 2015 and 2016	Tonnes	8,623	70,977	7,383	-48,030	-7,108	5,604
Note: The comparisons in the last seven rows do not include carryover stock from the previous season (as given in Table 2).							

In Table 1 (on the previous page), the estimated 2016 harvest tonnes of feed barley was 22% (or 83,400 tonnes) *lower* than for the 2015 harvest. For feed wheat, the estimated 2016 harvest tonnes was 5% (or 18,000 tonnes) *up* on 2015, and for milling wheat, the estimated 2016 harvest tonnes was 23% (or 21,400 tonnes) *up* on 2015. Estimated 2016 harvest tonnes of malting barley and milling oats were *down* by 9% and 6% respectively (6,500 and 1,100 tonnes respectively), while feed oats was *up* by 54% (or 7,600 tonnes).

The last few rows of Table 1 (on this page) show the changes in on-farm storage between 1 April 2015 and 1 April 2016 for the 2015 and 2016 harvests respectively. Unharvested grain has been included in the estimates to take account of the differing percentages of grain harvested by 1 April between the two years. For feed barley, there is a large drop (116,900 tonnes) in the tonnage of grain sold but not delivered by 1 April between the two seasons (a reflection of the poor demand) and a large increase (68,900 tonnes) in the unsold tonnage. The nett effect is that there is *less* feed barley from the most recent harvest stored on farms (by an estimated 48,000 tonnes) on 1 April 2016 than on 1 April 2015. These figures do not include the grain carried over from the previous harvest (Table 2); this carry-over grain needs to be added to give the total picture.

For feed wheat, there is again a drop (43,500 tonnes) in the tonnage of grain sold but not delivered by 1 April between the two seasons, and a large increase (114,500 tonnes) in the unsold tonnage. The nett effect is that there is *more* feed wheat from the most recent harvest stored on farms (by an estimated 71,000 tonnes) on 1 April 2016 than on 1 April 2015. These figures do not include the grain carried over from the previous harvest (Table 2); again, this carry-over grain needs to be added to give the total picture.

Table 2. Carry-over stock on hand from the 2015 harvest, as at April 1, 2016.

	Milling wheat (Tonnes)	Feed wheat (Tonnes)	Malting barley (Tonnes)	Feed barley (Tonnes)	Milling oats (Tonnes)	Feed oats (Tonnes)
Number of survey farmers who harvested this crop in 2015	**43**	**91**	**27**	**116**	**11**	**23**
Number of survey farmers with carry-over grain from 2015 crop on 1 April 2016	**3**	**23**	**4**	**38**	**2**	**1**
Estimated NZ total sold and stored on farm (2015 crop) on 1 April 2016	1,356	3,227	930	3,084	2,040	0
Estimated NZ total unsold stocks on hand (2015 crop) on 1 April 2016	3,220	11,578	2,496	30,457	0	35
Estimated NZ Total 2015 harvest still on farms on 1 April 2016 (tonnes)	4,576	14,805	3,427	33,541	2,040	35
Estimated NZ unsold stocks on hand of 2015 harvest on 1 April 2016 as a percentage of tonnes harvested in 2015 (%)	3.5%	3.5%	3.5%	8.0%	0.0%	0.2%
Comparative figures from last year (1 April 2015 AIMI survey)						
Estimated NZ total sold and stored on farm (2014 crop) on 1 April 2015	399	3,747	227	1,532	0	0
Estimated NZ total unsold stocks on hand (2014 crop) on 1 April 2015	68	1,685	0	660	197	395
Comparative figures from year before that (1 April 2014 AIMI survey)						
Estimated NZ total sold and stored on farm (2013 crop) on 1 April 2014	5,245	17,293	0	11,656	298	0
Estimated NZ total unsold stocks on hand (2013 crop) on 1 April 2014	415	6,927	0	375	223	722
Comparative figures from two years before that (1 April 2013 AIMI survey)						
Estimated NZ total sold and stored on farm (2012 crop) on 1 April 2013	6,838	45,514	2,236	31,266	852	0
Estimated NZ total unsold stocks on hand (2012 crop) on 1 April 2013	9,117	18,909	0	44,372	852	501
Change in unsold 2015 harvest grain between 10 Oct 2015 and 1 April 2016 (based upon matched data)						
Estimated NZ total unsold stocks on hand (2015 crop) on 10 October 2015	9,111	42,245	7,881	61,328	309	157
Estimated NZ total unsold stocks on hand (2015 crop) on 1 April 2016 (as above)	3,220	11,578	2,496	30,457	0	35
Reduction in estimated NZ total unsold stocks on hand (2015 crop) between 10 October 2015 and 1 April 2016 (tonnes)	5,891	30,667	5,385	30,871	309	122

Note: The matched comparison in the last section was based upon scaling up data from the exact same survey farms for the last two AIMI surveys (Oct 2015 and April 2016).

Table 2 above shows that for a reasonable percentage of surveyed feed wheat and feed barley growers, there were unsold carry-over stocks on hand on 1 April 2016 from the previous (2015) harvest (in the last three rows, Table 2 also tracks the movement of unsold grain since 10 October 2015, which was slower for feed barley than for the other five crops). For feed barley, unsold carryover stock was estimated to be about 30,500 tonnes, which was higher than in the two previous years but lower than on 1 April 2013 (following the bumper 2012 harvest). For feed wheat, unsold carryover stock was estimated to be about 11,600 tonnes, which was again higher than in the two previous years but lower than on 1 April 2013. When the tonnage of unsold carry-over grain was added to the unsold tonnage from the current harvest, the estimated tonnage of unsold grain as at 1 April, 2016 was 174,000 tonnes for both feed barley and feed wheat (identical, by coincidence!). The amount of carry-over grain “sold and stored on farm” from the 2015 harvest was less than 3,500 tonnes for all six crops, which was not unusually high in comparison with previous years (Table 2).

Table 3. Sowings and sowing intentions as at April 1, 2016, and comparisons with previous years' estimates.

	Milling wheat (ha)	Feed wheat (ha)	Malting barley (ha)	Feed barley (ha)	Milling oats (ha)	Feed oats (ha)
Number of farmers in the survey who have sown or intend to sow this crop in the autumn or winter, as at 1 April 2016	46	72	12	45	8	13
Estimated NZ total hectares, 2015 harvest (autumn/winter plus spring sown crops, combined)	11,013	37,587	9,910	57,290	3,402	2,998
Estimated NZ total hectares, 2016 harvest (autumn/winter plus spring sown crops, combined)	13,430	36,920	8,964	44,959	3,236	4,109
Estimated NZ total hectares already sown, as at 1 April 2016	546	4,924	0	749	0	0
Estimated NZ total hectares intending to sow in autumn or winter, as at 1 April 2016	12,142	29,124	3,133	13,419	1,369	2,159
Estimated percentage of autumn/ winter 2016 sowings already sown by 1 April 2016	4.3%	14.5%	0.0%	5.3%	0.0%	0.0%
Estimated NZ total autumn/ winter 2016 sowings and/or sowing intentions as at April 1 2016 (hectares, for harvest in 2017)	12,688	34,048	3,133	14,167	1,369	2,159
Comparative figures from the same time in five previous years (1 April AIMI surveys)						
Estimated NZ total autumn/ winter 2015 sowings & intentions (from the April 2015 AIMI Survey Report)	8,171	32,070	1,434	26,849	909	1,658
Estimated NZ total autumn/ winter 2014 sowings & intentions (from the April 2014 AIMI Survey Report)	7,078	32,607	1,148	23,380	554	926
Estimated NZ total autumn/ winter 2013 sowings & intentions (from the April 2013 AIMI Survey Report)	8,733	34,325	1,461	27,041	1,155	719
Estimated NZ total autumn/ winter 2012 sowings & intentions (from the April 2012 AIMI Survey Report)	8,173	31,136	2,101	23,485	1,286	1,540
Estimated NZ total autumn/ winter 2011 sowings & intentions (from the April 2011 AIMI Survey Report)	9,960	32,020	1,650	24,510	1,120	430
Estimated change in autumn/ winter sowings & intentions, 2014 to 2015 (hectares)	1,094	-537	287	3,469	355	732
Estimated change in autumn/ winter sowings & intentions, 2015 to 2016 (hectares)	4,517	1,978	1,699	-12,681	459	502
Estimated % change in autumn/ winter sowings & intentions, 2015 to 2016 (%)	55%	6%	118%	-47%	51%	30%

Table 3 above shows that most autumn/ winter cereal crops had not been sown by 1 April 2016. For feed wheat, 14% had been sown, while for the other five crops, either none or less than 6% had been sown. Therefore the estimates in the table are primarily sowing *intentions*. For feed barley, autumn/ winter sowings plus sowing intentions for 2016, as at 1 April 2016, are dramatically *lower* for feed barley (47% lower) than at the same time last year (2015). Conversely, for all other crops, autumn/ winter sowings plus sowing intentions for 2016 are *higher* than sowings plus sowing intentions at the same time in 2015 (with the lowest being a 6% increase for feed wheat). These results presumably reflect the state of the feed cereal market.