arable industry marketing initiative

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

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

- **the final size of the 2016 harvest of wheat, barley and oats**
- **sales channels and levels of on-farm storage, both sold and unsold, of the 2016 harvest**
- **autumn sowings of wheat, barley and oats, and sowing intentions for the spring of 2016**

Data from 124 survey farms as at July 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 as at the 1st July 2016 and there will have been changes since this time. Note also that grain carried over from the 2015 harvest was not estimated in this survey, although only a small percentage was left on farms; for a complete picture, this carry-over grain would need to be added to the figures reported herein.

Key Points at 1 July 2016 (figures have been rounded to nearest 100)**:**
Final estimated average yields were very similar this season compared to last season, except that feed wheat yields were up 7% and feed oats yields were up 13% on last season. The most notable features of this report are as follows: For feed barley, the 2016 final harvest tonnage was estimated to be 22% down on the 2015 harvest, and the 2017 harvest hectares are predicted to be 41% down on the 2015 harvest hectares (this reflects a continuing decline in sowings over the last two seasons). For both feed wheat and feed barley, the tonnages of unsold grain have reduced considerably since the 1 April 2016 survey (by 53,400 and 60,300 t respectively).

Milling wheat: Estimated final total tonnage (113,400 t) was up 30% compared to last year's harvest. Of this total, 90% has been sold (101,800 t), although most of the sold grain is still stored on farm (64%). The amount of unsold grain is 11,700 tonnes (10%), which is less than at the same time last year, 1 July 2015 (20,000 t). The amount of unsold grain decreased between 1 April and 1 July 2016 by 12,600 t (or 52%), as compared to a 3,900 tonne *increase* in unsold grain between the same dates last year.

Feed wheat: Estimated final total tonnage (343,700 t) was up 5% compared to last year's harvest. Of this total, 70% has been sold (241,800 t), with 60% of the sold grain still stored on farm. The amount of unsold grain is 101,800 tonnes (30%), which is higher than at the same time last year, 1 July 2015 (37,700 t). The amount of unsold grain decreased considerably between 1 April and 1 July 2016 (down by 53,400 t, or 34%), as compared to an 11,400 tonne decrease in unsold grain between the same dates last year.

Feed barley: Estimated final total tonnage (282,300 t) was down 22% compared to last year. Of this total tonnage 71% has been sold (199,600 t), with 58% of the sold grain still stored on farm. The amount of unsold grain is 82,600 tonnes (29%), which is more than at the same time last year, 1 July 2015 (64,500 t). The amount of unsold grain decreased considerably between 1 April and 1 July 2016 (down by 60,300 t, or 42%), as compared to a 2,500 tonne *increase* in unsold grain between the same dates last year.

For other cereals: Compared to last year, estimated final total tonnage for malting barley (67,100 t) was down by 11%, milling oats (15,400 t) was down by 9%, and feed oats (17,600 t) was up by 46%. Malting barley had 8% of the total harvest unsold, while milling oats and feed oats had only 4% and 5% unsold, respectively, as at 1 July, 2016. Of the sold grain, 65% of malting barley was still on farm, as compared to

74% of milling oats and 39% of feed oats. Between 1 April and 1 July 2016, the amount of unsold grain decreased by 17% for malting barley, 65% for milling oats and 10% for feed oats.

Sowings and sowing intentions: The area sown in autumn/winter wheat or barley, as at 1 July 2016, was down 5% overall on autumn sowings plus intentions as at 1 April 2016. When autumn/winter sowings were combined with spring sowing intentions, the area sown or to be sown in wheat or barley was down overall by 8% as compared to the area harvested in 2016, or down by 17% on the area harvested in 2015. Over the two-year period (2015 harvest to predicted 2017 harvest), the harvest area for feed barley is predicted to decrease by 41%, while the harvest area for feed wheat is predicted to remain fairly constant (a 4% decrease). Conversely, the harvest area for milling wheat is predicted to increase by 55%, but this is from an unusually low level, so predicted sowings are now back to a level similar to that in the 2011 to 2014 harvests.

Milling wheat (Tonnes)

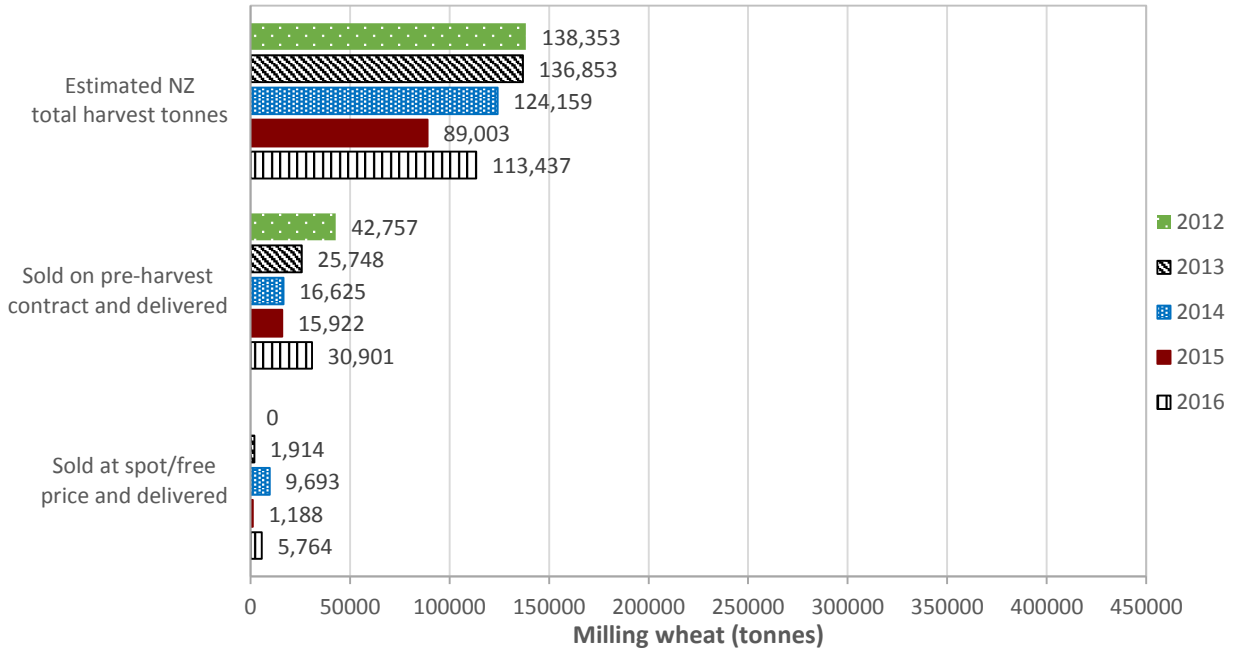

Figure 1a. Estimated NZ harvest tonnage and sales channels for Milling wheat (tonnes) as at July 1 each year. (Note: Both "sold and delivered" categories relate to the current crop, excluding carryover stock. "Sold at spot/free price and delivered" includes grain downgraded and sold for feed. Historical data are sourced from previous AIMI July Reports. In 2012 "Sold at spot/free price and delivered" was zero since the question was simply "sold and delivered", with responses reported as "Sold on pre-harvest contract and delivered"; also, there was no question on "grain downgraded and sold for feed".)

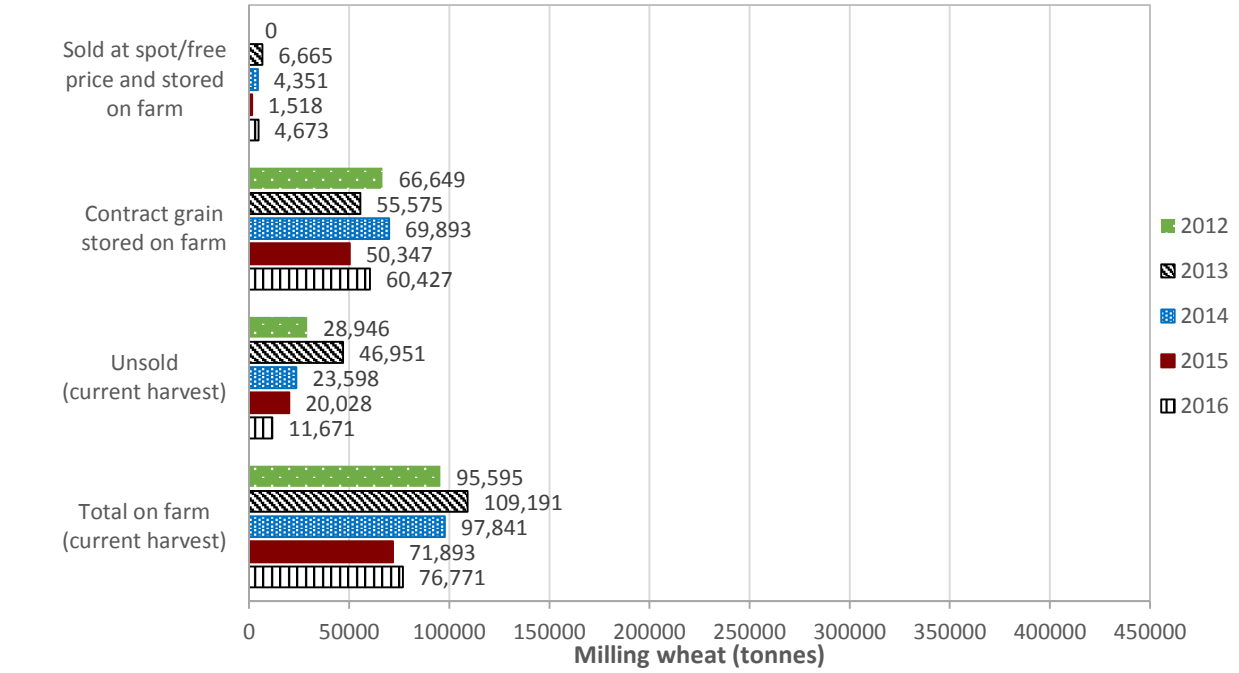

Figure 1b. Estimated NZ stocks on farm for Milling wheat (tonnes) as at July 1 each year. (Note: Carryover stock from the previous season is excluded. Historical data are sourced from previous AIMI July Reports. In 2012 "Sold at spot/free price and stored on farm" was zero since the question was simply "sold and stored on farm", with responses reported as "Contract grain stored on farm".)

Feed Wheat (Tonnes)

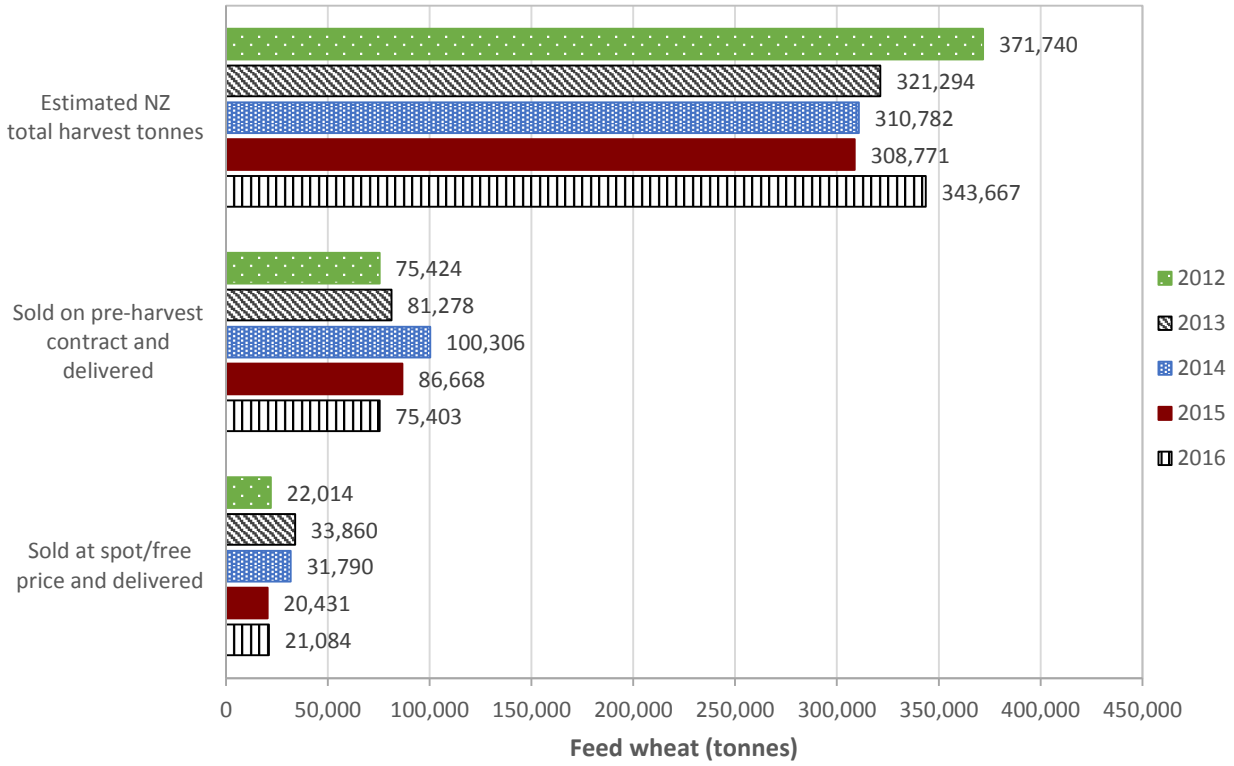

Figure 2a. Estimated NZ harvest tonnage and sales channels for Feed wheat (tonnes) as at July 1 each year.
(Note: Both "sold and delivered" categories relate to the current crop, excluding carryover stock. "Sold at spot/free price and delivered" includes grain used on own farm. Historical data are sourced from previous AIMI July Reports.)

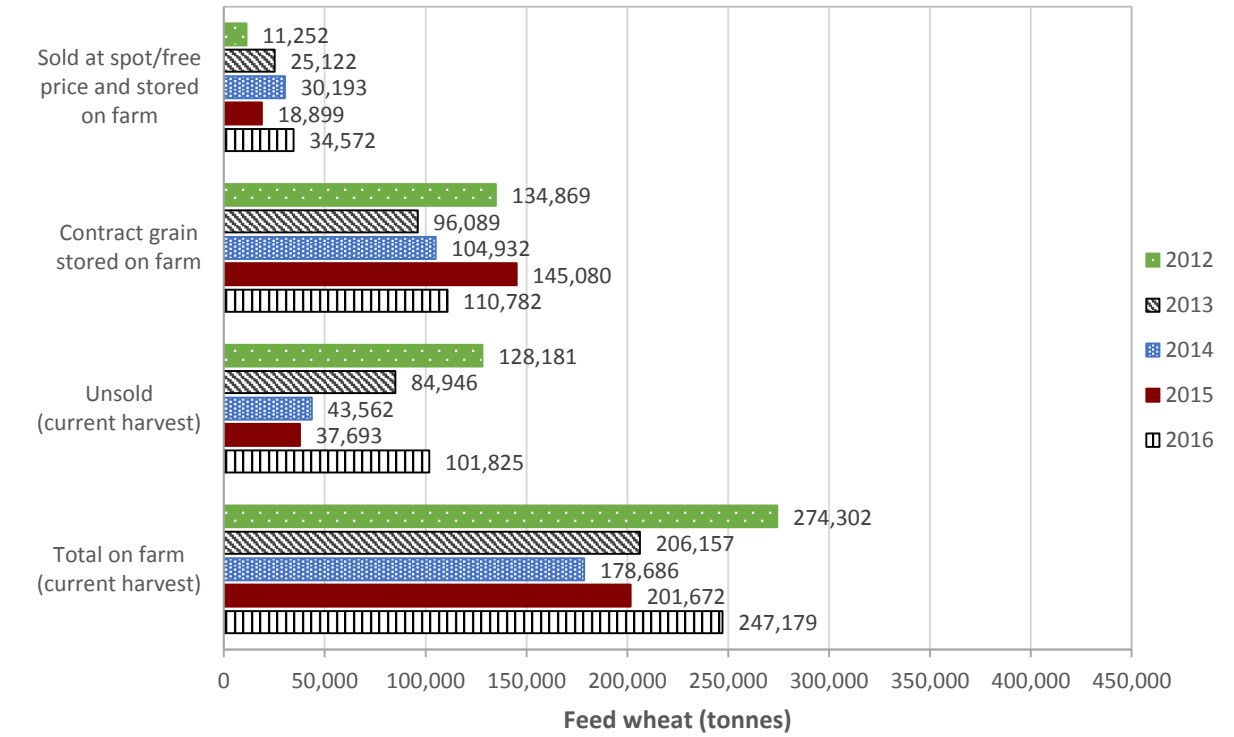

Figure 2b. Estimated NZ stocks on farm for Feed wheat (tonnes) as at July 1 each year.
(Note: Carryover stock from the previous season is excluded. Historical data are sourced from previous AIMI July Reports.)

Feed Barley (Tonnes)

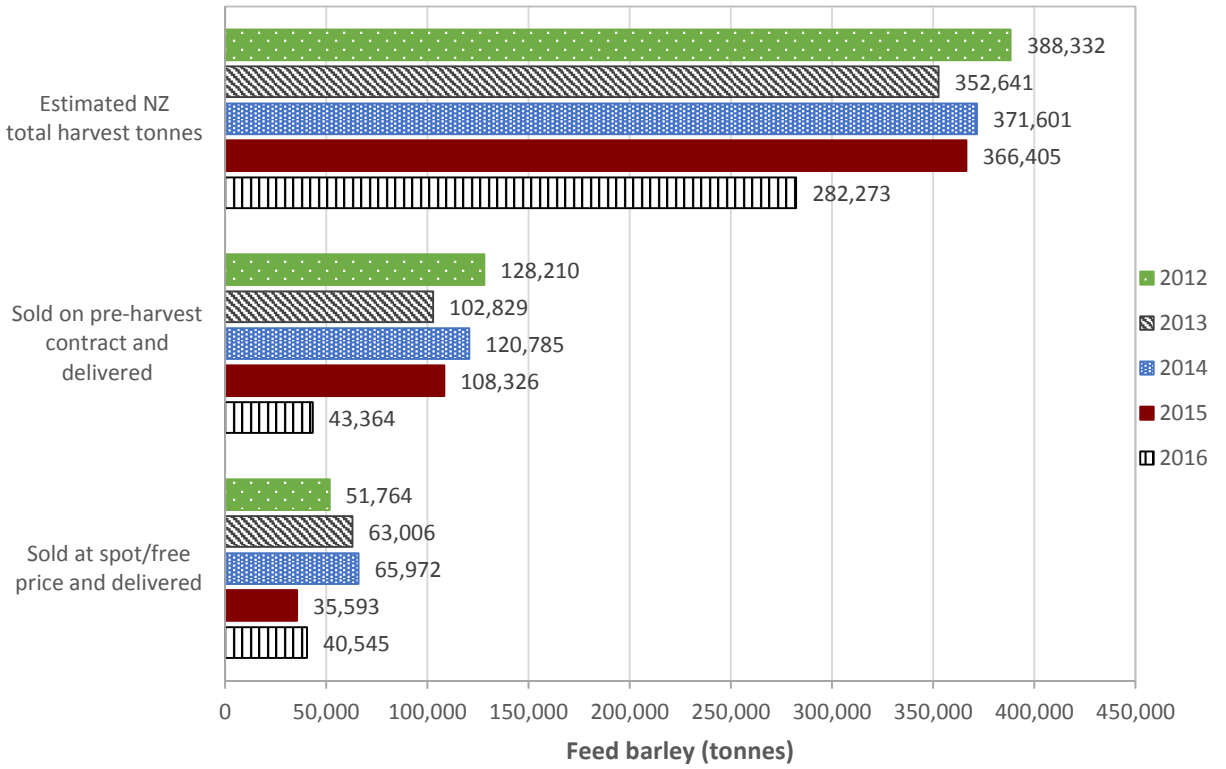

Figure 3a. Estimated NZ harvest tonnage and sales channels for Feed barley (tonnes) as at July 1 each year.
(Note: Both "sold and delivered" categories relate to the current crop, excluding carryover stock. "Sold at spot/free price and delivered" includes grain used on own farm. Historical data are sourced from previous AIMI July Reports.)

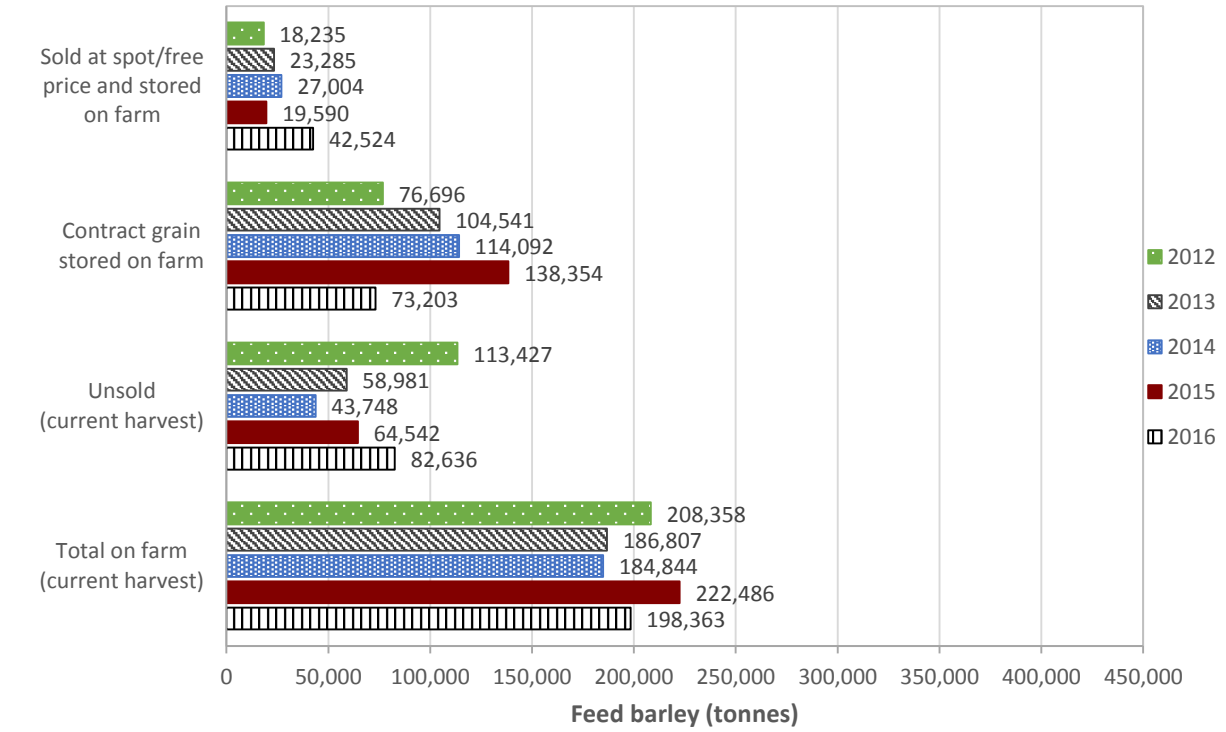

Figure 3b. Estimated NZ stocks on farm for Feed barley (tonnes) as at July 1 each year.
(Note: Carryover stock from the previous season is excluded. Historical data are sourced from previous AIMI July Reports.)

Autumn/winter sowings and spring sowing intentions (combined) as at July 1 each year

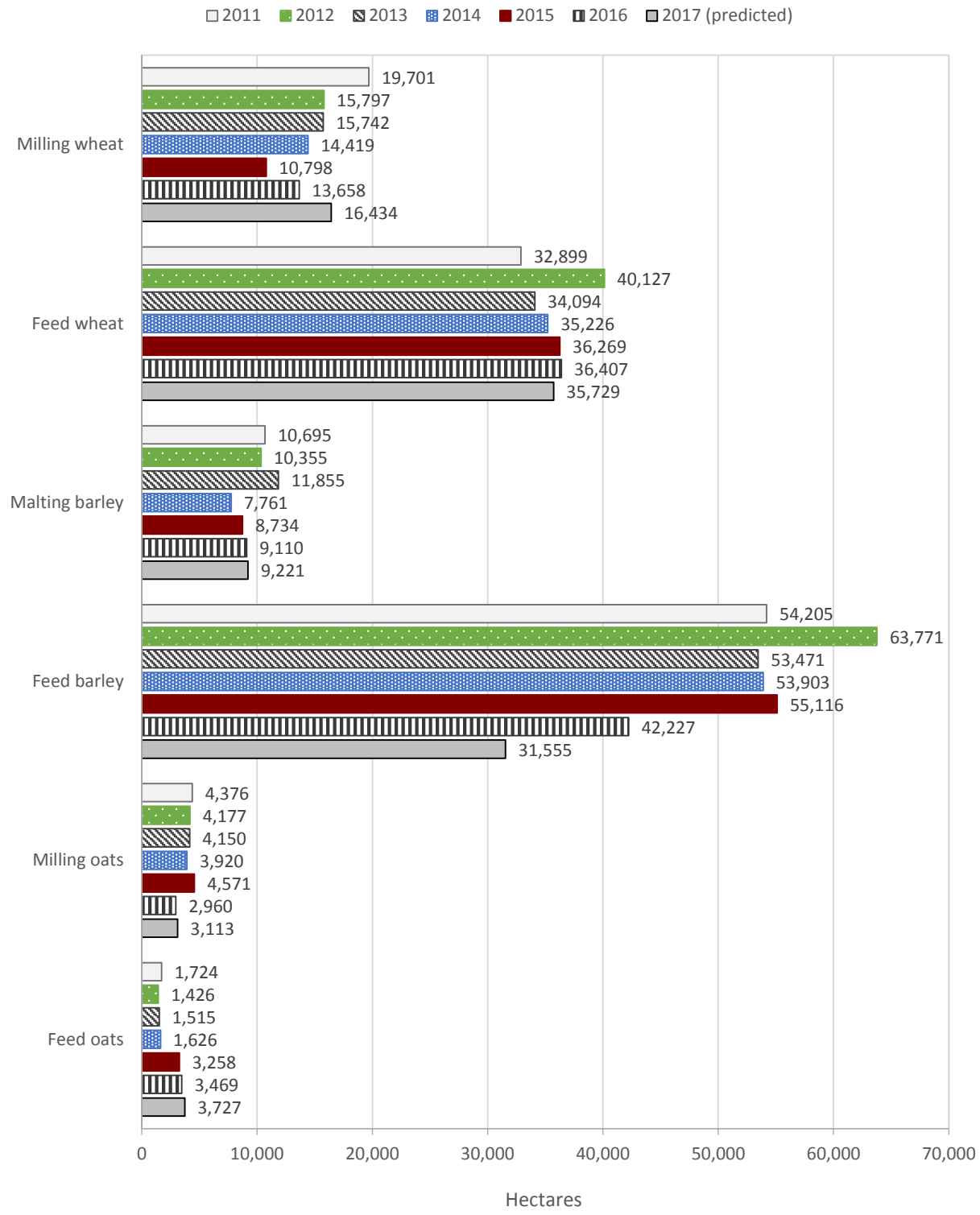

Figure 4. Estimated NZ harvest hectares for six cereal crops as at July 1, from 2011 to 2016 and predicted harvest hectares for 2017.

(Note: Figures for 2016 and 2017 (predicted) are from the current report and are a matched comparison (scaled up from a common set of growers), while other figures are from previous AIMI July reports.)

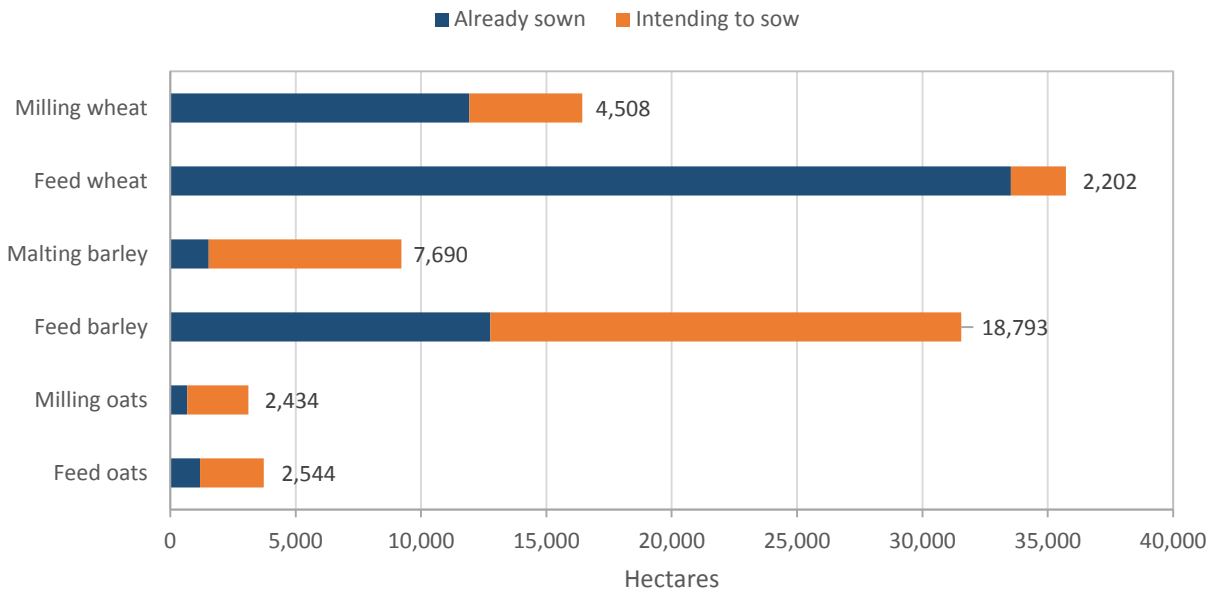

Figure 5. Estimated NZ autumn/winter 2016 sowings and spring 2016 sowing intentions (hectares) for six cereal crops as at July 1, 2016.
(Note: Numbers at the end of each bar represent sowing intentions.)

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

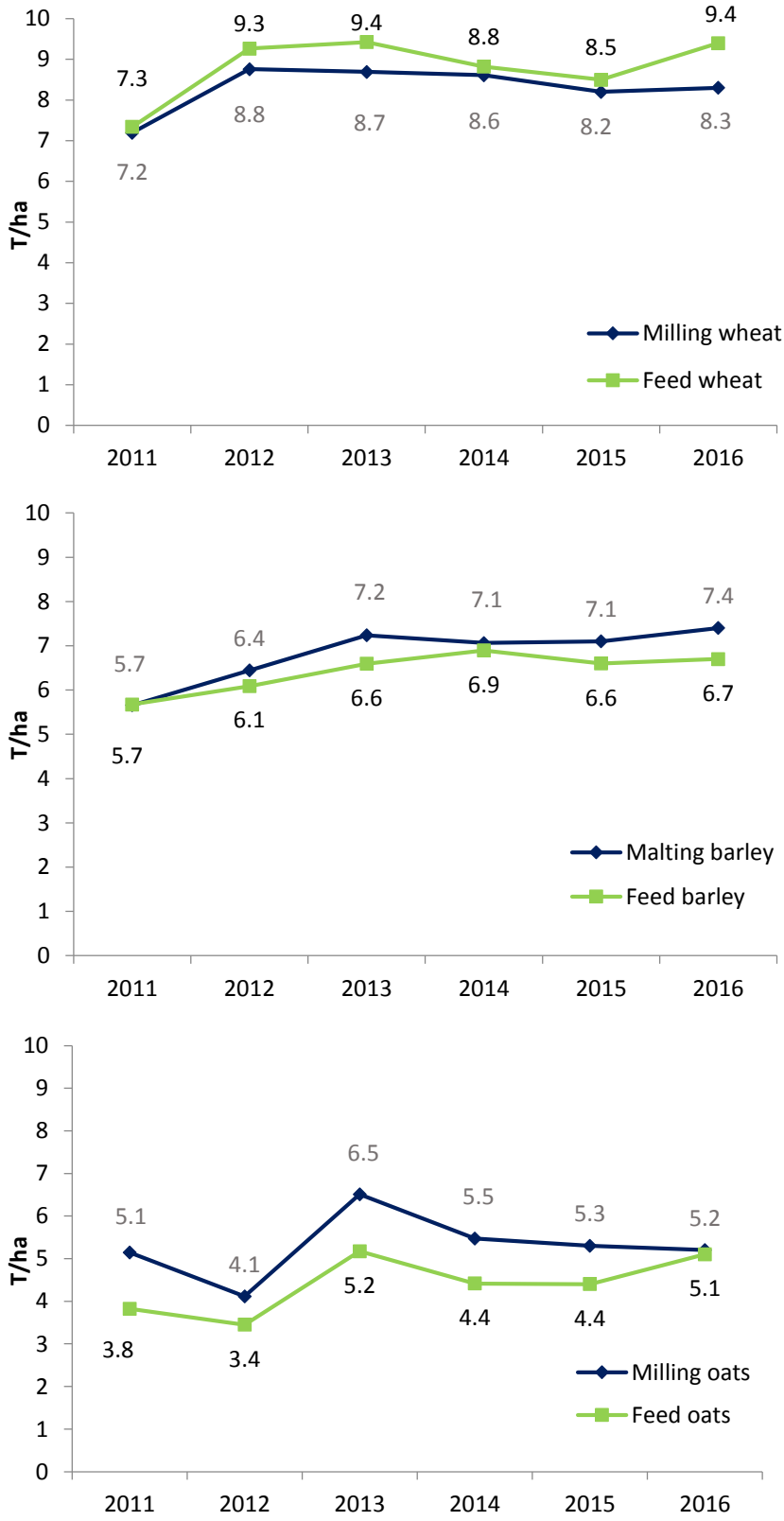

Figure 6. Comparison of NZ-wide yield (tonnes per ha) from 2011 to 2016 for six cereal crops.

(Note: Milling wheat contains biscuit and gristing varieties. Historical data are from AIMI reports for July 2012 to 2015.)

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

	Units	Milling wheat	Feed wheat	Malting barley	Feed barley	Milling oats	Feed oats
Number of farmers in the survey who harvested this crop in 2016		46	75	28	92	13	22
2015 harvest							
Estimated NZ total hectares, 2015 harvest	Ha	10,610	37,090	10,344	53,856	3,111	2,692
Estimated NZ total tonnes, 2015 harvest	Tonnes	87,216	326,284	75,074	362,026	17,023	12,096
2016 harvest							
Estimated NZ total hectares, 2016 harvest (final figures)	Ha	13,658	36,407	9,110	42,227	2,960	3,469
Estimated NZ total tonnes, 2016 harvest (final figures)	Tonnes	113,437	343,667	67,059	282,273	15,424	17,632
Sold under pre-harvest contract and delivered by July 1 2016	Tonnes	30,901	75,403	19,391	43,364	3,780	9,757
Pre-harvest contract grain stored on farm on July 1 2016	Tonnes	60,427	110,782	39,596	73,203	10,454	6,628
Sold at spot/free price and delivered by July 1 2016	Tonnes	5,196	19,888	0	37,370	51	392
Sold at spot/free price and stored on farm on July 1 2016	Tonnes	4,673	34,572	515	42,524	509	10
(For milling or malting only) Downgraded and sold for feed by July 1 2016	Tonnes	568	-	2,381	-	0	-
(For feed only) Used on own farm (2016 harvest only) by July 1 2016	Tonnes	-	1,196	-	3,175	-	46
Unsold stocks on hand (2016 harvest only) on July 1 2016	Tonnes	11,671	101,825	5,175	82,636	631	799
Sales channels (2016 harvest)							
"Sold" under pre-harvest contract (total) by July 1 2016	Tonnes	91,328	186,185	58,987	116,568	14,233	16,385
Sold at spot/free price (total) by July 1 2016	Tonnes	9,869	54,460	515	79,894	560	402
On farm storage (2016 harvest)							
Sold and delivered (total) by July 1 2016	Tonnes	36,098	95,291	19,391	80,734	3,831	10,149
"Sold" and stored on farm (total) on July 1 2016	Tonnes	65,100	145,355	40,112	115,728	10,962	6,639
Total sales (2016 harvest)							
Sold (grand total) by July 1 2016 (includes used on farm)	Tonnes	101,766	241,842	61,884	199,637	14,793	16,833
Unsold stocks on hand (2016 harvest only) on July 1 2016	Tonnes	11,671	101,825	5,175	82,636	631	799
Comparison of hectares and tonnages between last two harvests							
Estimated % change in hectares, 2015 to 2016 harvest	%	29%	-2%	-12%	-22%	-5%	29%
Estimated % change in tonnes, 2015 to 2016 harvest	%	30%	5%	-11%	-22%	-9%	46%
Comparison of yields (t/ha) between last two harvests							
NZ-wide estimated yield, 2015 harvest	T/ha	8.2	8.8	7.3	6.7	5.5	4.5
NZ-wide estimated yield, 2016 harvest	T/ha	8.3	9.4	7.4	6.7	5.2	5.1
Comparison of Unsold grain as at July 1, 2016, with Unsold grain as at April 1, 2016							
Unsold (2016 harvest only) as at April 1 2016 (includes unharvested grain) (new matched estimate, based upon scaling up data from exact same 124 survey farms as above)	Tonnes	24,269	155,193	6,237	142,943	1,801	885
Unsold (2016 harvest only) on July 1 2016 (as above)	Tonnes	11,671	101,825	5,175	82,636	631	799
Estimated drop in tonnes of Unsold grain, 1 April 2016 to 1 July 2016	Tonnes	12,598	53,368	1,062	60,307	1,170	86
Estimated % drop in tonnes of Unsold grain, 1 April 2016 to 1 July 2016	%	52%	34%	17%	42%	65%	10%
Note: A negative drop means that the tonnage of unsold grain from the 2016 harvest has *increased* since the last survey date (1 April, 2016) [none here though].							
Comparison of Unsold grain as at July 1, 2016, with Unsold grain at the same date last year (July 1, 2015)							
Unsold (2015 harvest only) as at July 1 2015 (from July 1 2015 AIMI report)	Tonnes	20,028	37,693	6,979	64,542	347	148
Unsold (2016 harvest only) on July 1 2016 (as above)	Tonnes	11,671	101,825	5,175	82,636	631	799
Difference in tonnes of Unsold grain, 1 July 2015 to 1 July 2016	Tonnes	-8,357	64,132	-1,804	18,094	284	651

Table 2. Sowings and sowing intentions for six cereal crops as at July 1, 2016.

	Milling wheat (ha)	Feed wheat (ha)	Malting barley (ha)	Feed barley (ha)	Milling oats (ha)	Feed oats (ha)
Number of farmers in the survey who have sown this crop in the autumn or winter or intend to sow in the spring, as at 1 July 2016	**49**	**69**	**26**	**75**	**8**	**23**
Estimated NZ total hectares, 2015 harvest	10,610	37,090	10,344	53,856	3,111	2,692
Estimated NZ total hectares, 2016 harvest	13,658	36,407	9,110	42,227	2,960	3,469
Estimated NZ total autumn/winter 2016 sowings as at July 1, 2016 (hectares, for harvest in 2017)	11,925	33,527	1,531	12,763	679	1,182
Estimated NZ total spring 2016 sowing intentions at at July 1, 2016 (hectares, for harvest in 2017)	4,508	2,202	7,690	18,793	2,434	2,544
Predicted NZ total hectares, 2017 harvest (Autumn/winter sowings 2016 and Spring 2016 sowing intentions combined)	16,434	35,729	9,221	31,555	3,113	3,727
Comparison of hectares between 2015, 2016 and 2017 (predicted) harvests						
Estimated % change in NZ total harvest hectares, 2015 to 2016 harvest	29%	-2%	-12%	-22%	-5%	29%
Estimated % change in NZ total harvest hectares, 2016 to 2017 harvest (predicted)	20%	-2%	1%	-25%	5%	7%
Estimated % change in NZ total harvest hectares over *two seasons,* 2015 to 2017 harvest (predicted)	55%	-4%	-11%	-41%	0%	38%
Comparison of Autumn/winter 2016 actual sowings (as at July 1, 2016) with autumn/winter sowings plus intended sowings as at April 1, 2016 (based upon *matched* data)						
Estimated NZ total autumn/winter 2016 sowings and sowing intentions as at April 1, 2016 (date of previous survey) (hectares, for harvest in 2017)	12,708	33,466	2,983	13,638	1,252	1,975
Percentage change in autumn/winter 2016 actual sowings (as at July 1, 2016) compared to autumn/winter sowings and sowing intentions as at April 1, 2016	-6%	0%	-49%	-6%	-46%	-40%
Note: The matched comparison in the last two rows was based upon scaling up data from the *exact same* survey farms for both survey dates.						

In Table 2, feed barley sowings show a continuing decline over the last two seasons (down by 41%), while feed wheat sowings have remained relatively constant (down by 4%). Milling wheat sowings have increased (up by 55%), but this is from an unusually low level, so sowings are now back to a level similar to that in the 2011 to 2014 harvests.