



SUMMARY - SURVEY OF MAIZE AREAS AND VOLUMES - OCTOBER 31, 2016

The objective of this AIMI survey of maize growers was to determine, as at October 31, 2016:

- final figures for the 2016 harvest of maize grain and silage
- sales of the 2016 harvest of maize grain since June 1, 2016
- levels of unsold maize grain from the 2016 harvest
- sowings and sowing intentions for maize grown for grain and silage

Data from 66 survey farms who completed all of the last three maize surveys (October 2015 and June and October 2016) were scaled up to the national level using the most recent Agricultural Production Statistics (APS) which provided final 2015 data on harvest hectares of maize grain and maize silage, and harvest tonnes of maize grain. (Maize grown for green feed was not included in this survey. In the final 2015 APS data, maize green feed made up 9% of total harvest hectares of maize, as compared to 65% for maize silage and 26% for maize grain.)

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 31st October 2016 and there will have been changes since this time.

Key points as at the 31st October 2016 (figures have been rounded to nearest 100):

- Final average yields of maize grain (11.9 t/ha) and maize silage (20.9 t DM/ha) for the 2016 harvest were slightly up on last season (at 11.4 t/ha and 19.7 t DM/ha respectively).
- For maize grain, the estimated final total tonnage of 210,200 tonnes was down 7% on last season's harvest tonnage (226,300 t), as the result of a higher yield (up 4%) from an 11% lower harvest area. About 96% of the total crop had been sold, leaving 8,900 tonnes unsold as at October 31, 2016 (as compared to 48,900 tonnes on June 1, 2016, and 21,200 tonnes on 31 October last year, 2015). Sales under pre-harvest contract were down markedly on the previous year, but this was more than compensated for by a marked increase in sales at a spot/free price. Spring 2016 sowings and sowing intentions as at 31 October, 2016 were an estimated 16% down on last season. Sowing was 84% complete as at October 31, 2016.
- For maize silage, the estimated final total tonnage of 951,400 tonnes DM was down 4% compared to last season's harvest tonnage (987,600 t), as the result of a higher yield (up 6%) from a reduced harvest area (9% down). Spring 2016 sowings and sowing intentions as at 31 October, 2016 were identical to last season. Sowing was 70% complete as at October 31, 2016.
- Many survey respondents commented that sowing had been delayed by wet weather. At the 31st October, 2016 about 74% of the total maize crop had been sown, with 15,900 ha of a total 60,500 ha left to sow.
- Since the June 2016 survey, the estimated area to be sown for maize grain has increased by 2,300 ha and the estimated area to be sown for maize silage has increased by 2,900 ha.

Table 1. Detailed final estimated national figures for the 2016 harvest of maize grain and maize silage crops, plus sold and unsold tonnages of maize grain, as at October 31, 2016.

	Units	Maize grain	Maize silage
Number of farmers in the survey who harvested this crop in 2016		22	47
2015 harvest			
Estimated NZ total hectares, 2015 harvest	Ha	19,778	50,086
Estimated NZ total tonnes, 2015 harvest	Tonnes	226,278	987,602
2016 harvest			
Estimated NZ total hectares, 2016 final harvest figures	Ha	17,674	45,466
Estimated NZ total tonnes, 2016 final harvest figures	Tonnes	210,243	951,404
Sold under pre-harvest contract by October 31, 2016	Tonnes	138,782	-
Sold at spot/free price by October 31, 2016	Tonnes	61,799	-
Used on own farm by October 31, 2016	Tonnes	718	-
Unsold stocks on hand (2016 harvest only) on October 31, 2016	Tonnes	8,944	-
Total sales (2016 harvest)			
Sold (grand total) by October 31, 2016 (includes used on farm)	Tonnes	201,299	-
Unsold stocks on hand (from 2016 harvest) on October 31, 2016	Tonnes	8,944	-
Comparison of hectares and tonnages between the last two harvests			
Estimated % change in hectares, 2015 to 2016 harvest	%	-10.6	-9.2
Estimated % change in tonnes, 2015 to 2016 harvest	%	-7.1	-3.7
Comparison of final yields (t/ha) between the last two harvests			
NZ-wide estimated yield, 2015 harvest	T/ha	11.4	19.7
NZ-wide estimated yield, 2016 harvest	T/ha	11.9	20.9
Unsold stocks on hand on June 1, 2016, the last survey date (based upon matched data)			
Unsold stocks on hand (from 2016 harvest) on June 1, 2016 (of total crop)	Tonnes	48,944	-
Unsold stocks on hand on October 31, 2015, the same time last year (based upon matched data)			
Unsold stocks on hand (from 2015 harvest) on October 31, 2015	Tonnes	21,243	-

Statistics New Zealand is gratefully acknowledged for supplying 2015 APS figures on total hectares and tonnes for maize grain, and total hectares for maize silage.

In Table 1, the unsold tonnage of the 2016 harvest of maize grain has reduced by 82% in the period between the AIMI surveys dated June 1, 2016 and October 31, 2016. The unsold tonnage is also lower than at the same time last year (8,900 t this year versus 21,200 t last year).

Table 2. Sowings and sowing intentions for maize grain and maize silage as at October 31, 2016.

	Maize grain	Maize silage
	(ha)	(ha)
Number of farmers in survey who have sown or intend to sow this crop as at October 31, 2016	20	44
Estimated NZ total hectares, 2015 harvest	19,778	50,086
Estimated NZ total hectares, 2016 harvest	17,674	45,466
Sowings and intentions, 2016/2017 season (hectares, for harvest in 2017)		
Estimated NZ total hectares already sown by October 31, 2016	12,535	32,033
Estimated NZ total hectares intending to sow after October 31, 2016	2,390	13,496
Estimated NZ total hectares (sowings and intentions), 2017 harvest	14,925	45,529
Comparison of hectares between the 2015, 2016 and 2017 (predicted) harvests		
Estimated % change in NZ total sowings, 2015 to 2016 harvest	-10.6	-9.2
Estimated % change in NZ total sowings, 2016 to 2017 (predicted) harvest	-15.6	0.1
Comparison of sowing intentions as at June 1, 2016 with sowings plus intentions as at Oct 31, 2016 (based upon matched data)		
Estimated NZ total 2016 sowing intentions as at June 1, 2016 (hectares, for harvest in 2017)	12,618	42,594
Change in estimated NZ total 2016 sowings & intentions between June 1, 2016 and Oct 31, 2016 (hectares, for harvest in 2017)	2,307	2,935

In Table 2, there is an estimated drop of 16% in sowings and intentions for maize grown for grain between the last two seasons. By comparison, the estimated change in sowings and intentions for maize grown for silage is virtually zero (0.1% up).

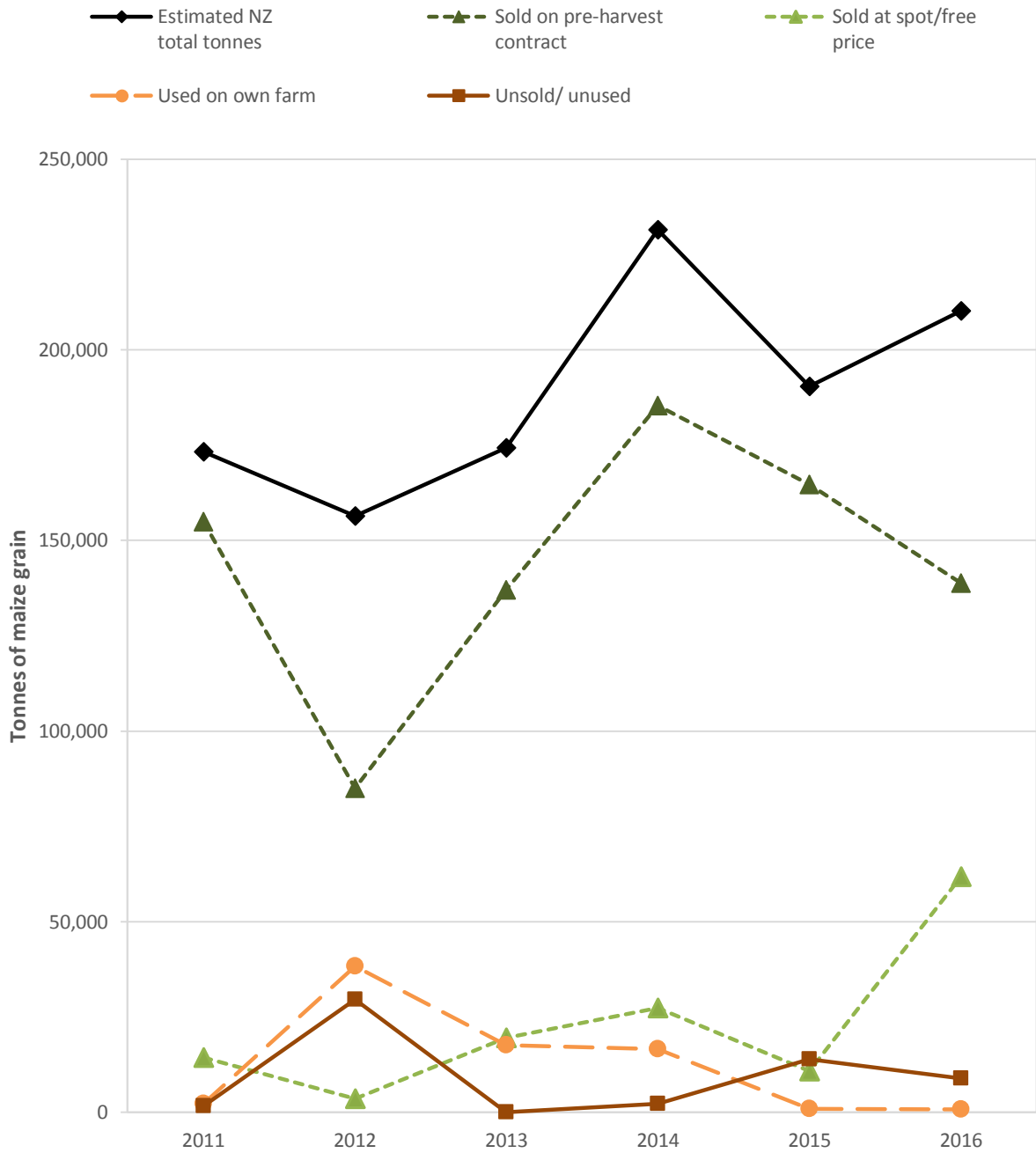


Figure 1. Maize grain final harvest tonnages and sales by October each year.

Note: data are sourced from the annual October AIMI reports.

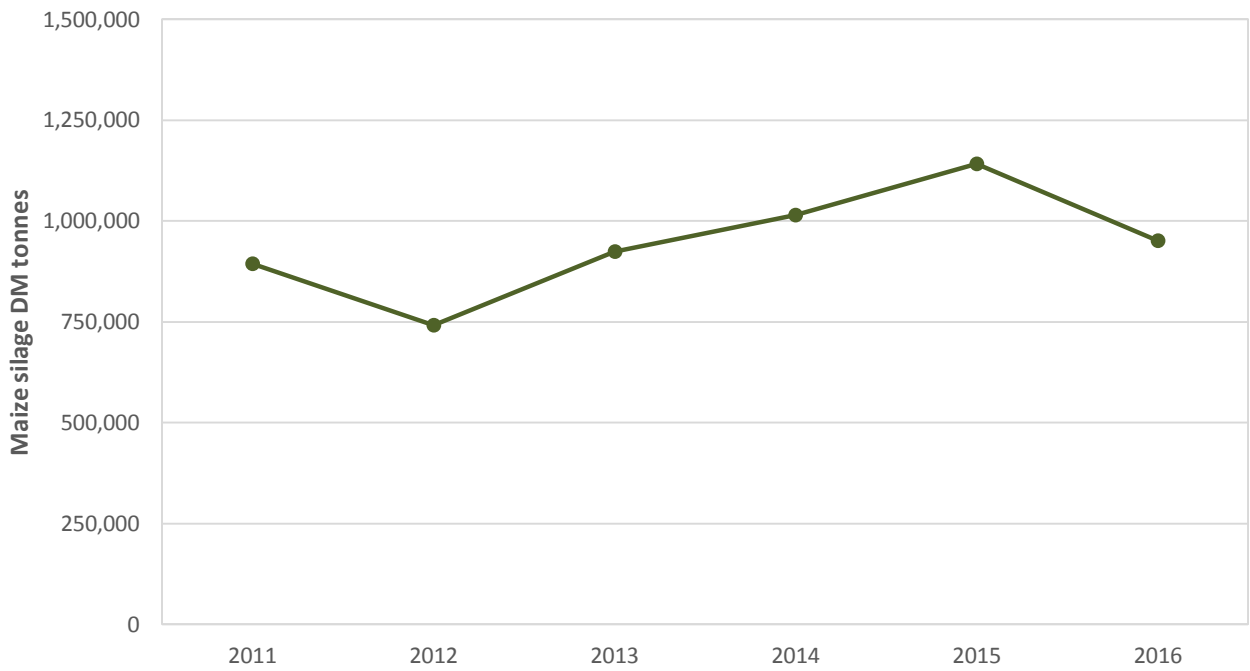


Figure 2. Maize silage harvest tonnages (dry matter) estimated in October each year.
Note: data are from the annual October AIMI reports (except that estimates for 2011 to 2014 have been retrospectively adjusted in the light of recently obtained APS hectare estimates for each preceding year).

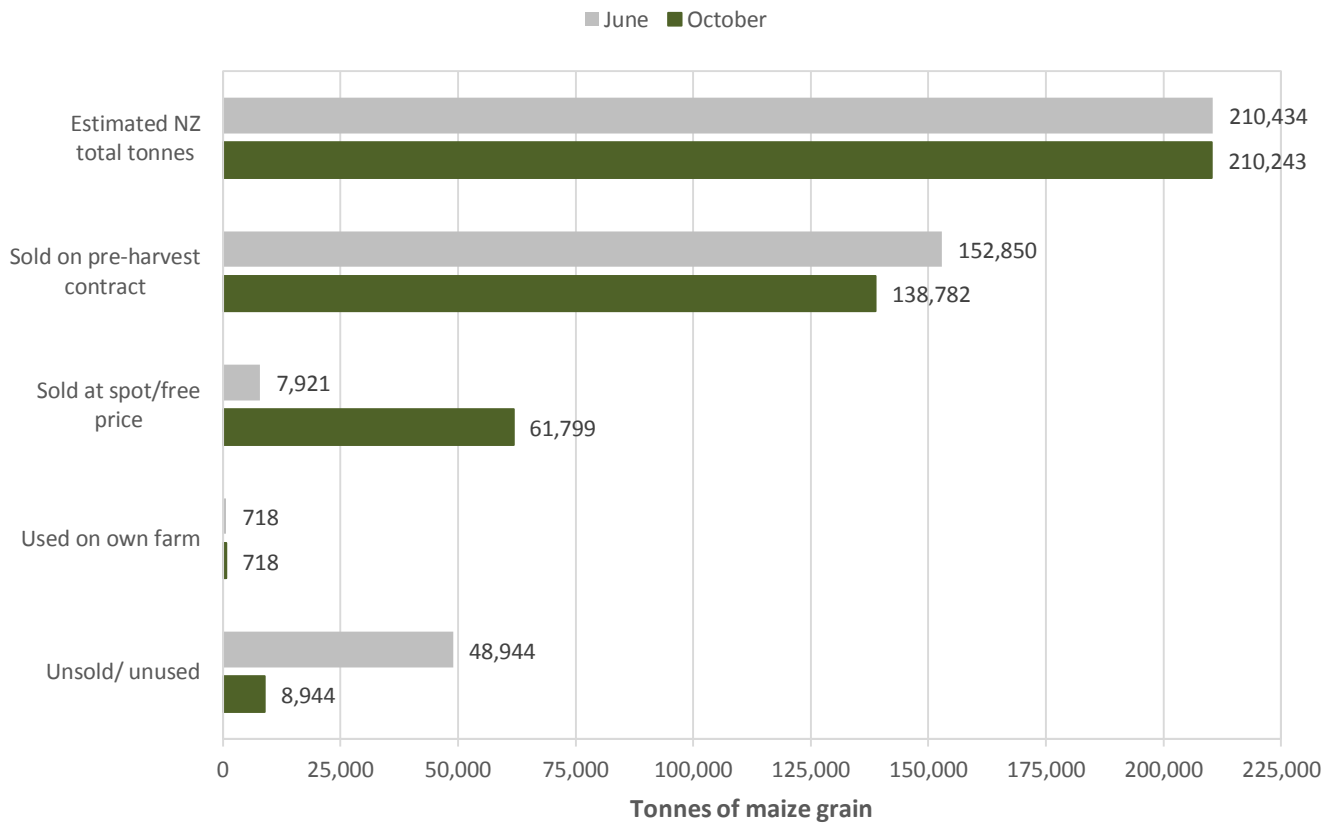


Figure 3. Comparison of maize grain tonnages and sales for the 2016 harvest between June 1 and October 31, 2016. All estimates are based upon scaling up data from growers in the current survey sample, so provide a more precise matched comparison.

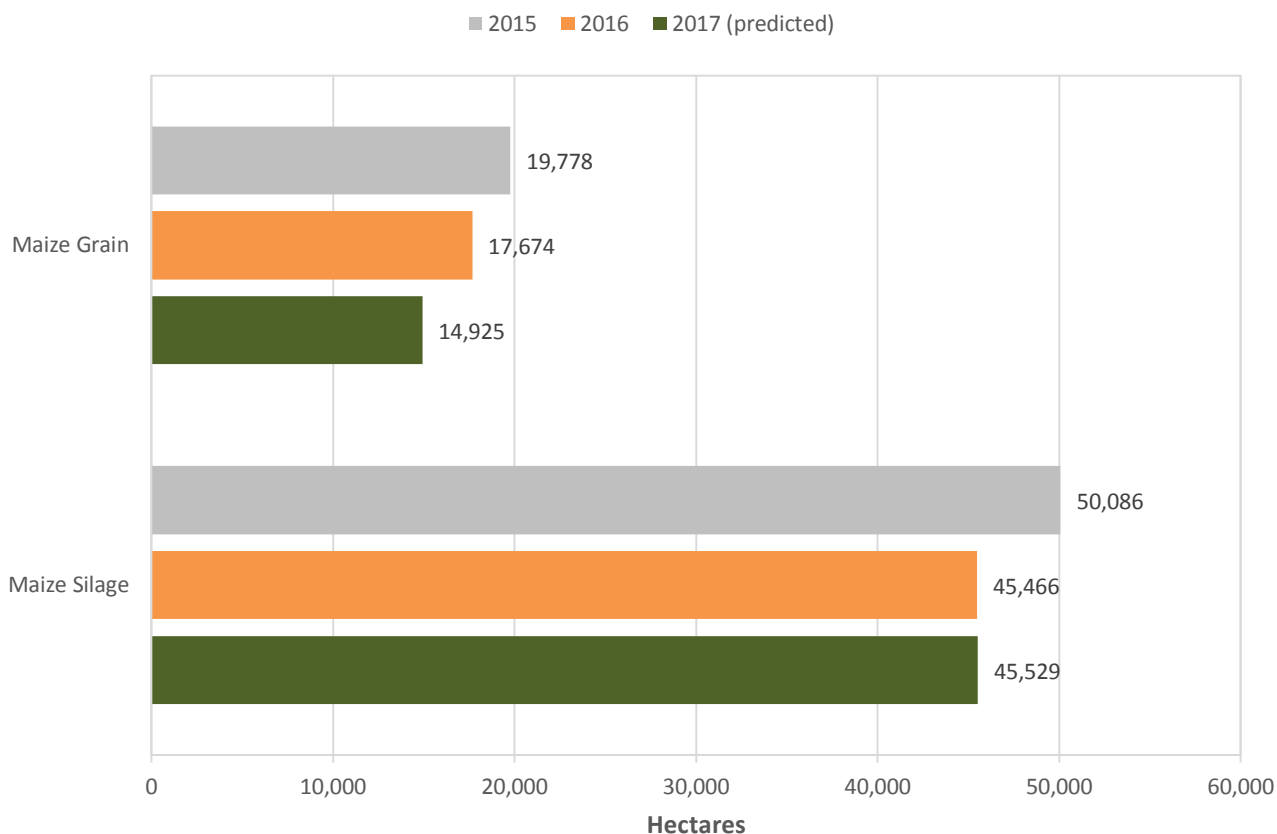


Figure 4. Estimated total hectares sown or intended to be sown in 2016 (for harvest in 2017) as compared to total hectares harvested in 2015 and 2016. All estimates are based upon scaling up from the current survey sample, which consists of only those growers who responded to all of the last three AIMI maize surveys; these estimates therefore provide more precise matched comparisons.

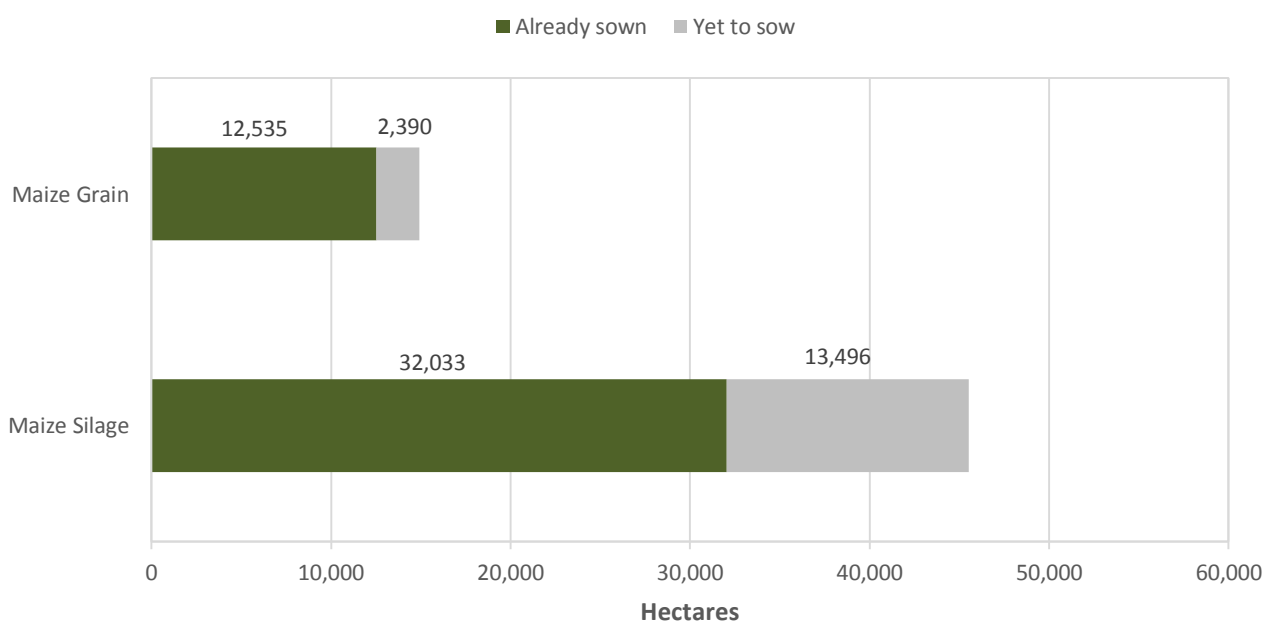


Figure 5. Estimated hectares of maize already sown in spring 2016, together with hectares yet to sow (spring intentions) for harvest in 2017, based on data collected on October 31, 2016.

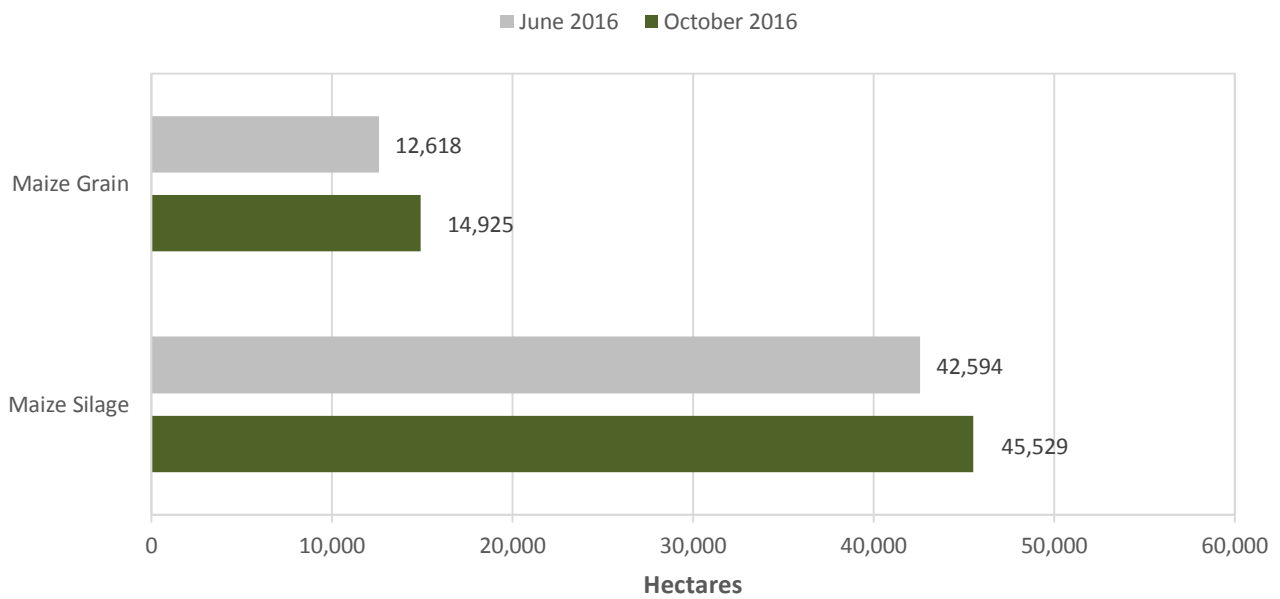


Figure 6. Comparison of spring maize sowing intentions as at June 1, 2016 with actual sowings plus intentions as at October 31, 2016. As in Figures 3 and 4, this is a matched comparison.

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APPENDIX

Totals over 66 survey responses

In Table A.1, the average yield per hectare of maize grain on the survey farms was up 0.5 t/ha between the 2015 and 2016 harvests. For maize silage, the average yield per hectare on the survey farms was up 1.2 t DM/ha between the 2015 and 2016 harvests.

Table A.1 Maize grain and silage data totalled over all survey respondents			
	Units	Maize grain	Maize silage
Number of farmers in the survey who harvested this crop in 2016		22	47
2015 harvest			
Total hectares on survey farms, 2015 harvest	Ha	993	1,683
Total tonnes on survey farms, 2015 harvest	Tonnes	12,612	33,180
2016 harvest			
Total hectares on survey farms, 2016 final harvest figures	Ha	887	1,528
Total tonnes on survey farms, 2016 final harvest figures	Tonnes	11,718	31,964
Sold under pre-harvest contract by October 31, 2016	Tonnes	7,735	-
Sold at spot/free price by October 31, 2016	Tonnes	3,445	-
Used on own farm by October 31, 2016	Tonnes	40	-
Unsold stocks on hand (2016 harvest only) on October 31, 2016	Tonnes	499	-
Comparison of yield (tonnes per ha) on survey farms between harvests			
Survey farms, 2015 harvest	T/ha	12.7	19.7
Survey farms, 2016 harvest	T/ha	13.2	20.9
Unsold grain on June 1, 2016 (last survey) on these SAME survey farms			
Unsold (from 2016 harvest) on June 1, 2016 (of total crop)	Tonnes	2,728	-
Unsold grain on October 31, 2015 (last year) on these SAME survey farms			
Unsold stocks on hand (from 2015 harvest) on October 31, 2015	Tonnes	1,184	-

In Table A.2, the data on sales of the maize grain crop in Table A.1 are expressed as percentages.

Table A.2 Fate of 2016 maize grain crop, in percentages (by tonnes)		
		Maize grain
Number of farmers in the survey who harvested this crop in 2016		22
2016 harvest		
% Sold under pre-harvest contract by October 31, 2016		66.0
% Sold at spot/free price by October 31, 2016		29.4
% Used on own farm by October 31, 2016		0.3
% Unsold stocks on hand on October 31, 2016		4.3
Total sales (2016 harvest)		
% Sold (of total crop) by October 31, 2016 (includes used on own farm)		95.7
% Unsold (of total crop) on October 31, 2016		4.3

In Table A.3, the 2016 spring sowings and sowing intentions as at October 31, 2016 for maize grain and maize silage are given as hectares totalled over the survey farms. For comparison, the total hectares harvested in 2015 and 2016 are given for the exact same set of farms. For maize grain, sowings and sowing intentions as at October 31, 2016 on the survey farms are down 16% on last season. For maize silage, sowings and sowing intentions as at October 31, 2016 on the survey farms are almost identical to last season (0.1% up).

Table A.3 Maize grain and silage sowings and intentions (totalled over all survey respondents)		
	Maize grain	Maize silage
	(ha)	(ha)
Number of farmers in survey who have sown or intend to sow this crop as at October 31, 2016	20	44
Number of farmers in survey who have sown this crop by Oct 31, 2016	15	30
Number of farmers in survey who intend to sow this crop after Oct 31, 2016	6	19
Total hectares on survey farms, 2015 harvest	993	1,683
Total hectares on survey farms, 2016 harvest	887	1,528
Sowings and intentions, 2016/2017 season (hectares, for harvest in 2017)		
Hectares already sown on survey farms by October 31, 2016	629	1,076
Hectares intending to sow on survey farms after October 31, 2016	120	453
Total hectares (sowings and intentions) on survey farms for harvest in 2017	749	1,530
Estimated % change in sowings on survey farms, 2016 to 2017 (pred) harvest	-15.6	0.1

Calculation of scale-up factors

To scale the 66-farmer survey totals up to NZ national totals, Final 2015 APS statistics for maize grain and maize silage were used (Table A.4).

For maize grain, the 2015 harvest yields in tonnes/ha are also included in the table, to give an indication of how the survey farms compared with the APS figures; overall, survey farm yields were higher than APS yields (12.7 versus 11.4 tonnes/ ha). For maize silage, the average 2015 harvest dry matter (DM) yield on the survey farms was 19.7 tonnes DM/ ha.

From the scale-up factors, we can see what percentage of the area of each 2015 harvest crop was on the survey farms. For maize grain, it was $100/19.918 = 5.0\%$, while for maize silage it was $100/29.765 = 3.4\%$. That is, a higher percentage of the maize grain area was sampled than for maize silage. Part of the reason may be that maize grain growers are better represented in the FAR levy list than maize silage growers, so a higher percentage of the entire population of maize grain growers was selected for the survey than of the entire population of maize silage growers.

Table A.4 Scaling up from survey totals to NZ-wide totals using Final 2015 Agricultural Production Statistics (APS)			
Based upon 2015 hectares and tonnes			
	Units	Maize Grain	Maize Silage
Total hectares on survey farms, 2015 harvest	Ha	993	1,683
Total tonnes on survey farms, 2015 harvest	Tonnes	12,612	33,180
Total hectares for 2015 harvest (Final APS statistics for Silage and Grain)	Ha	19,778	50,086
Total tonnes for 2015 harvest (Final APS statistics for Maize Grain only)	Tonnes	226,278	-
Multiplier for scaling up from survey farms to APS statistics			
Hectares		19.918	29.765
Tonnes		17.941	29.765
Comparison of yields between survey and APS statistics			
Survey farms, 2015 harvest	T/ha	12.7	19.7
APS statistics, 2015 harvest	T/ha	11.4	-

REGIONAL DETAILS

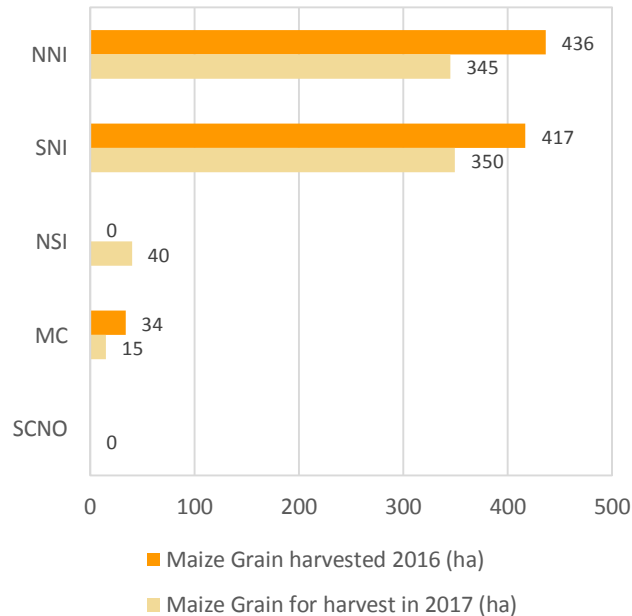
Number of participants	
Completed current survey	86
Report group *	66

* Must have completed all 3 surveys: Oct 15, Jun 16 & Oct 16

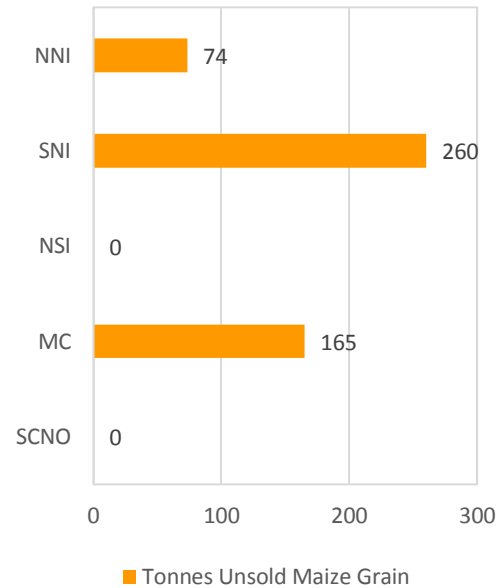
Regional figures	No. who harvested Maize Grain	No. who harvested Maize Silage
NNI – Northern North Island	11	23
SNI - Southern North Island	10	19
NSI - Northern South Island	0	2
MC - Mid Canterbury	1	2
SCNO - Sth Canterbury & Nth Otago	0	1
Regional total	22	47

Comments	
Increase in hectares	2
Sowing less due to low demand & return and/or seed too expensive	18
Sowing alternatives	6
Weather delayed planting	18

Maize Grain: Hectares harvested in 2016, and for harvest in 2017 (includes intentions) (66 surveyed)



Maize Grain: Unsold Grain (tonnes) (66 surveyed)



Maize Silage: Hectares harvested in 2016, and for harvest in 2017 (includes intentions) (66 surveyed)

