

**Arable Industry Marketing Initiative  
Quarterly Survey of Cereals  
to September 1 2010**

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Report to the  
Arable Marketing Initiative Committee



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# Section 1

## Introduction

### Background

Industry consultation conducted as part of the Arable Industry Marketing Initiative has indicated that a lack of up-to-date market information is the most critical of a number of key issues confronting the New Zealand cereal grains industry. Consequently, one of the proposed action areas of the Arable Industry Marketing Initiative is the removal of market uncertainty through the capture and reporting of market information that is not currently available. Systems of regular reporting of new information on planting intentions, stocks on-farm and in-store, movements from storage and prices are to be established.

Consequently the AERU at Lincoln University has been commissioned to conduct a quarterly survey of grain farmers that will provide current information on the production, sales, plantings and on-farm stocks of wheat, barley, oats and maize grains in New Zealand. The information will be made available to industry participants to assist in developing grain sales and acquisitions strategies.

### The sample of farmers and survey response rate

In order to sample approximately four percent of arable farmers, one hundred farmer names were drawn from the list of 2535 registered arable levy payers (both Arable Commodity and Maize levypayers). The sample selection was “semi-random” in that a larger random sample, stratified by FAR regions, of approximately 450 growers was drawn at the outset, and members of regional Arable Research Committees (ARGs) were asked to identify individual growers from the lists who were considered likely to be willing to participate in an on-going survey. A member of staff from the Foundation for Arable Research telephoned the growers identified and obtained their agreement to participate. While this approach does compromise the validity of the sample to some extent, it was considered to be a more robust approach than a truly random postal survey of farmers since, the latter approach would be most unlikely to achieve a response rate higher than 30 percent.

Growers were given the option of receiving questionnaires by email or post, and non-respondents were followed up initially by email then by telephone calls from the researcher in which the questionnaire was completed verbally. Valid responses were received from 91 participants. Four indicated that they were no longer willing to participate at all and one that he would participate in future but had suffered severe earthquake damage and would not take part in this round. Four other participants were unable to be contacted. Additional participants will be required for the next survey. Thus the sample included 3.6 percent of registered growers.

Comparison of the survey data with national yield and area data obtained from the Agricultural Production Survey (Statistics New Zealand, 2009) shows that while survey participants accounted for only 3.6 percent of registered growers the proportions of both total cereal areas and yields covered by the survey were considerably higher as Figure 1 shows. In addition, average yields of survey farms in 2009 were higher than estimated national yields (Figure 2). Given that survey participants were growers known to ARG members, this is not surprising, since farmers who grow only small areas of cereal crops are less likely to be identified with the industry than larger growers.

Figure : Survey proportions of national cereal crop areas and yields 2009

Figure : Average crop yields at the national level and on survey farms 2009

No data are available on the national cereal crop areas and yields in 2010 to use as the basis for aggregation from survey parameters to national parameters. Rather, the proportions of national totals accounted for by survey participants in 2009 have been calculated, and these proportions applied to 2010 survey data. Although it was intended initially to use levy data on which to calculate national tonnages, it proved impossible to separate data on sales of grain from the 2009 harvest from those of the subsequent and previous harvests. Consequently it was decided to use the Agricultural Production Survey data as the basis for aggregation. Only percentage changes in maize silage production have been estimated as there are no national statistics on which to base estimates of national maize silage production.

Section 2 presents the results of the national level analysis and Appendix A contains a summary of data aggregated to the national level.

## 1. Section 2

### Survey and National Results

#### 2.1 Total cereal crop areas and volumes 2009 and 2010

With the exception of oats, the estimated total areas and volumes of the cereal crops declined in 2010 over 2009 levels. In the cases of wheat and barley the changes in area exceeded the changes in volume, reflecting higher average yields. However, the reverse appears to be true for oats and maize grain in which the change in area was smaller than the change in total crop volume. In both years barley comprised the largest area and volume of cereal crops, followed by wheat, maize grain and oats. Maize grain experienced the largest estimated percentage reduction in crop area and production between years, while the percentage reduction in barley area was nearly twice the percentage reduction in wheat area.

Table 1 shows the estimated percentage changes in cereal areas and volumes, while Figures 3 and 4 show the estimated national areas and volumes in both years.

Table 1: Percentage changes in cereal areas and volumes 2009 - 2010

	% change in area 2009-2010	% change in volume 2009-2010	Average yield 2009 (tonnes/ha)	Average yield 2010 (tonnes/ha)
Wheat	-8.1%	-5.8%	9.1	9.3
Barley	-13.7%	-11.6%	6.8	7.0
Oats	22.9%	23.8%	7.1	7.1
Maize grain	-16.1%	-18.8%	11.5	11.1

Figure 3: Estimated national total cereal areas 2009 - 2010

Figure 4: Estimated national total cereal volumes harvested 2009 - 2010

## **2.2 The disposal of cereal crops 2010 harvest to September 1 2010**

Most of the cereal crops harvested in summer/autumn 2010 had been sold by September 1 2010, although approximately 25 percent of all feed barley, feed oats and milling oats, and 20 percent of milling wheat remained unsold at that time. In total, 98 thousand tonnes of feed barley, 51,000 tonnes of feed wheat and 27,000 tonnes of milling wheat remained uncommitted (Figure 5). Six percent of total wheat sales and 11 percent of malting barley sales between harvest 2010 and September 1 comprised stocks carried over from previous harvests

Figure 5: Disposal of cereal crops 2010 harvest to September 1 2010

### **2.3 Sales channels for cereals sold harvest 2010 to September 1 2010**

Almost all milling and malting crops sold during the period were contracted for sale before harvest as might be expected (96 percent of wheat and barley and all oats and maize), and most of the free-price sales of these commodities were of stocks carried over from previous harvests. However, although only small quantities of feed oats and maize are traded at a free price approximately half of all feed wheat and barley were uncontracted at harvest. The sales channels for cereal grains are shown in Figure 6.

Figure 6: Sales channels for cereals sold harvest 2010 to September 1 2010

### **2.4 On-farm storage of cereals as at September 1 2010**

Cereal volumes in excess of half the volumes harvested in 2010 remained in storage on-farm as at September 1 2010. Approximately 64 percent of wheat and oats, 56 percent of barley but only 6 percent of maize (almost exclusively milling maize) harvested was still on farm at this time. However, in all cases more than half the volume stored on-farm had already been sold. With the exception of milling wheat (11 percent) less than eight percent of the sold grain stored on farm had been sold on pre-harvest contract. Figure 7 shows estimated quantities of sold and unsold cereal grains stored on-farm at September 1 2010.

## Figure 7: On-farm storage of cereals as at September 1 2010

### 2.5 Autumn planting of cereal crops for harvest summer/autumn 2011

There are no comparative statistics available as yet on which to produce estimates of year-to-year changes in areas of autumn-sown cereal crops. Future surveys will make such estimates possible. Table 2 shows the areas of autumn-sown cereal crops in New Zealand, estimated on the basis of survey data.

Table 2: Areas of autumn sown cereals for 2011 harvest

	Hectares
Wheat	34,168
Barley	21,408
Oats	438
Maize	-

### 2.6 Maize silage

Survey respondents reported a 26 percent reduction in 2010 from the 2009 harvest in the area of maize silage harvested. Of the total area harvested, 81.2 percent had been contracted before harvest, 13.6 percent was sold at a free price after harvest and 4.6 percent had been used on-farm.

## Reference

Statistics New Zealand (2010). *Agricultural Production Statistics: June 2009 (provisional)*. Retrieved 20 October 2010 from the World Wide Web at:  
[http://www.stats.govt.nz/browse\\_for\\_stats/industry\\_sectors/agriculture-horticulture-forestry/AgriculturalProduction\\_HOTPJun09prov/Tables.aspx](http://www.stats.govt.nz/browse_for_stats/industry_sectors/agriculture-horticulture-forestry/AgriculturalProduction_HOTPJun09prov/Tables.aspx)

## Appendix A

### National crop estimates based on survey data

<b>Wheat</b>	<b>Tonnes</b>
<b>Harvest 2009</b>	
Hectares harvested 09	45043
Milling tonnes sold 09	115044
Feed tonnes sold 09	248233
Milling tonnes still on hand at harvest 10	10482
Feed tonnes still on hand at harvest 10	34581
Total tonnes harvested 09	408340
Total tonnes still on hand at harvest 10	45063
<b>Harvest 2010 - Production and disposal</b>	
Hectares harvested	41413
Total tonnes harvested	384583
Milling tonnes sold	120480
Feed tonnes sold	209024
Used on farm	57
Unsold	55023
<b>Total sales and disposal harvest 2010 to 01/09/10</b>	
Milling sold from 2010 harvest	120480
Milling sold from stocks on hand	7608
Total milling sold	128087
Milling unsold/on-hand	27331
Feed sold from 2010 harvest	209024
Feed sold from stocks on hand	11310
Total feed sold	220334
Feed used on-farm	57
Feed unsold/on-hand	50684
<b>Sales Channels for crop sold since harvest 2010</b>	
Milling pre-harvest contract tonnes	122762
Milling free price tonnes	5325
Feed pre-harvest contract tonnes	108206
Feed free price tonnes	112128
<b>On-farm storage</b>	
Milling sold on contract stored on-farm	62941
Milling sold at free price stored on-farm	254
Feed sold on contract stored on-farm	49872
Feed sold at free price stored on-farm	52493
Unsold	50684
Total stored on farm	216243
<b>Autumn sown 2010</b>	34168

<b>Barley</b>	
<b>Harvest 2009</b>	
Hectares harvested 09	65000
Malting tonnes sold 09	362309
Feed tonnes sold 09	40188
Malting tonnes still on hand at harvest 10	2441
Feed tonnes still on hand at harvest 10	40188
Total tonnes harvested 09	445125
Total tonnes still on hand at harvest 10	42628
<b>Harvest 2010 - Production and disposal</b>	
Hectares harvested	56084
Total tonnes harvested	393275
Malting tonnes sold	63332
Feed tonnes sold	262950
Used on farm	4088
Unsold	62905
<b>Total sales and disposal harvest 2010 to 01/09/10</b>	
Malting sold from 2010 harvest	63332
Malting sold from stocks on hand	7484
Total malting sold	70816
Malting unsold/on-hand	1220
Feed sold from 2010 harvest	262950
Feed sold from stocks on hand	1749
Total feed sold	264699
Feed used on-farm	4088
Feed unsold/on-hand	98293
<b>Sales Channels for crop sold since harvest 2010</b>	
Malting pre-harvest contract tonnes	67969
Malting free price tonnes	2847
Feed pre-harvest contract tonnes	131802
Feed free price tonnes	132898
<b>On-farm storage</b>	
Malting sold on contract stored on-farm	12508
Malting sold at free price stored on-farm	0
Feed sold on contract stored on-farm	47814
Feed sold at free price stored on-farm	60922
Unsold	98293
Total stored on farm	219537
<b>Autumn sown 2010</b>	21408

<b>Oats</b>	
<b>Harvest 2009</b>	
Hectares harvested 09	5797
Feed tonnes sold 09	16637
Milling tonnes sold 09	23459
Feed tonnes still on hand at harvest 10	261
Milling tonnes still on hand at harvest 10	653
Total tonnes harvested 09	41011
Total tonnes still on hand at harvest 10	915
<b>Harvest 2010 - Production and disposal</b>	
Hectares harvested	7124
Total tonnes harvested	50774
Feed tonnes sold	16219
Milling tonnes sold	21773
Used on farm	719
Unsold	12063
<b>Total sales and disposal harvest 2010 to 01/09/10</b>	
Feed sold from 2010 harvest	16219
Feed sold from stocks on hand	0
Total feed sold	16219
Feed used on-farm	719
Feed unsold/on-hand	4875
Milling sold from 2010 harvest	21773
Milling sold from stocks on hand	653
Total milling sold	22427
Milling unsold/on-hand	7449
<b>Sales Channels for crop sold since harvest 2010</b>	
Feed pre-harvest contract tonnes	14193
Feed free price tonnes	2026
Milling pre-harvest contract tonnes	22296
Milling free price tonnes	131
<b>On-farm storage</b>	
Feed sold on contract stored on-farm	10991
Feed sold at free price stored on-farm	0
Milling sold on contract stored on-farm	13514
Milling sold at free price stored on-farm	0
Unsold	7449
Total stored on farm	31954
<b>Autumn sown 2010</b>	438

<b>Maize</b>	
<b>Harvest 2009</b>	
Hectares harvested 09	22344
Feed tonnes sold 09	235584
Milling tonnes sold 09	20062
Feed tonnes still on hand at harvest 10	265
Milling tonnes still on hand at harvest 10	0
Total tonnes harvested 09	
Total tonnes still on hand at harvest 10	265
<b>Harvest 2010 - Production and disposal</b>	
Hectares harvested 09	18748
Total tonnes harvested	208153
Feed tonnes sold	179691
Milling tonnes sold	23954
Used on farm	882
Unsold	3626
<b>Total sales and disposal harvest 2010 to 01/09/10</b>	
Feed sold from 2010 harvest	179691
Feed sold from stocks on hand	265
Total feed sold	179956
Feed used on-farm	882
Feed unsold/on-hand	3626
Milling sold from 2010 harvest	23954
Milling sold from stocks on hand	0
Total milling sold	23954
Milling unsold/on-hand	0
<b>Sales Channels for crop sold since harvest 2010</b>	
Feed pre-harvest contract tonnes	168517
Feed free price tonnes	11439
Milling pre-harvest contract tonnes	23954
Milling free price tonnes	0
<b>On-farm storage</b>	
Feed sold on contract stored on-farm	0
Feed sold at free price stored on-farm	64
Milling sold on contract stored on-farm	0
Milling sold at free price stored on-farm	0
Unsold	3626
Total stored on farm	3690
<b>Autumn sown 2010</b>	0