Arable Industry Marketing Initiative
Quarterly Survey of Cereals
To November 1 2010

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Report to the
Arable Marketing Initiative Committee

Research to improve decisions and outcomes in agribusiness, resource, environmental, and social issues.

The Agribusiness and Economics Research Unit (AERU) operates from Lincoln University providing research expertise for a wide range of organisations. AERU research focuses on agribusiness, resource, environment, and social issues.

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Research clients include Government Departments, both within New Zealand and from other countries, international agencies, New Zealand companies and organisations, individuals and farmers.

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Section 1
Introduction

1.1 Background

The Quarterly Survey of Cereals commissioned by the Arable Industry Marketing Initiative was started in September 2010 to provide current information on the production, sales, plantings and on-farm stocks of wheat, barley, oats and maize grains in New Zealand. The survey was commissioned by the Arable Marketing Initiative and is conducted by the AERU at Lincoln University. Its aim is to assist industry participants in developing grain sales and acquisitions strategies. Information on cereal prices is reported by Agrifax.

This report presents the results of the November 2010 survey.

1.2 The sample of farmers and survey response rate

The first survey comprised 95 farmers as five had withdrawn before the survey was sent out. These have replaced with five new growers and the base data adjusted to accommodate these. 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. In total, valid responses were received from 100 growers or four percent of industry participants.

The estimates of national production, areas and stocks reported after the September survey have been updated on the basis of the responses from the larger sample of growers surveyed in November but the results were very similar. The main aims of the November survey were to update data crop sales, cereal stocks held on-farm both sold and unsold, and to ascertain the total areas of cereal crops planted for the 2011 harvest.

Survey participants accounted for four percent of registered growers but significantly larger proportions of both areas and production volumes of most cereals, with the exception of barley, as Figure 1 shows. Surveyed barley growers accounted for only 4.7 percent of estimated volume and 5.2 percent of area. In addition, average yields of crops grown by survey participants in 2009 were higher than national averages obtained from the Agricultural Production Survey (Statistics New Zealand, 2009), although the difference in average maize yield was comparatively small (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.

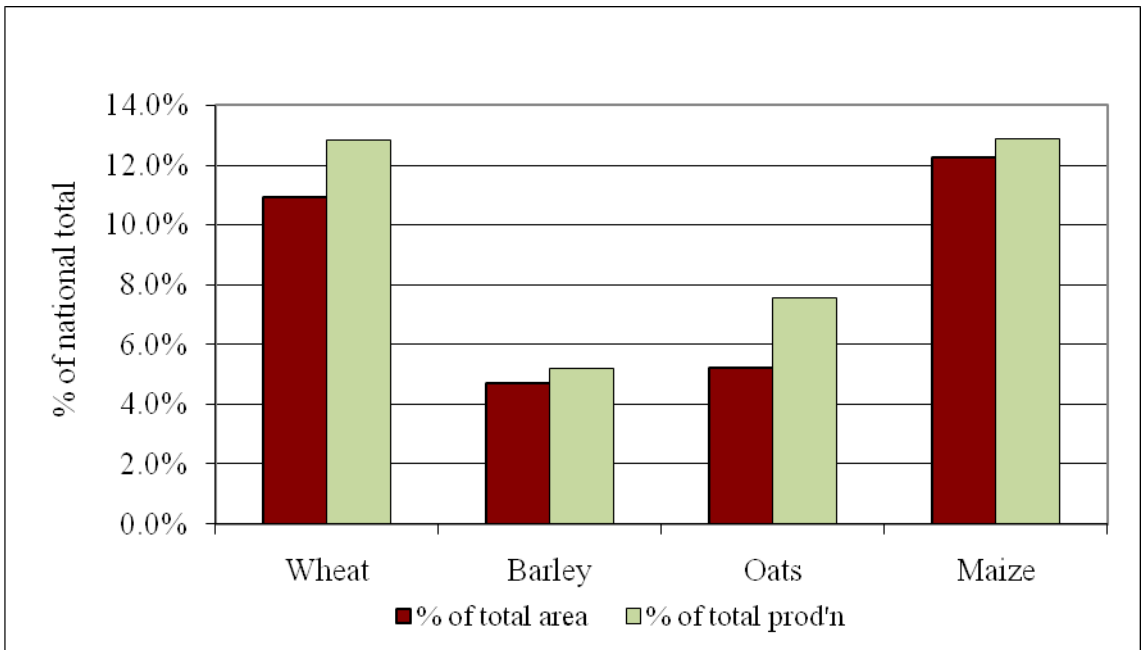

Figure 1: Survey proportions of national cereal crop areas and production 2009

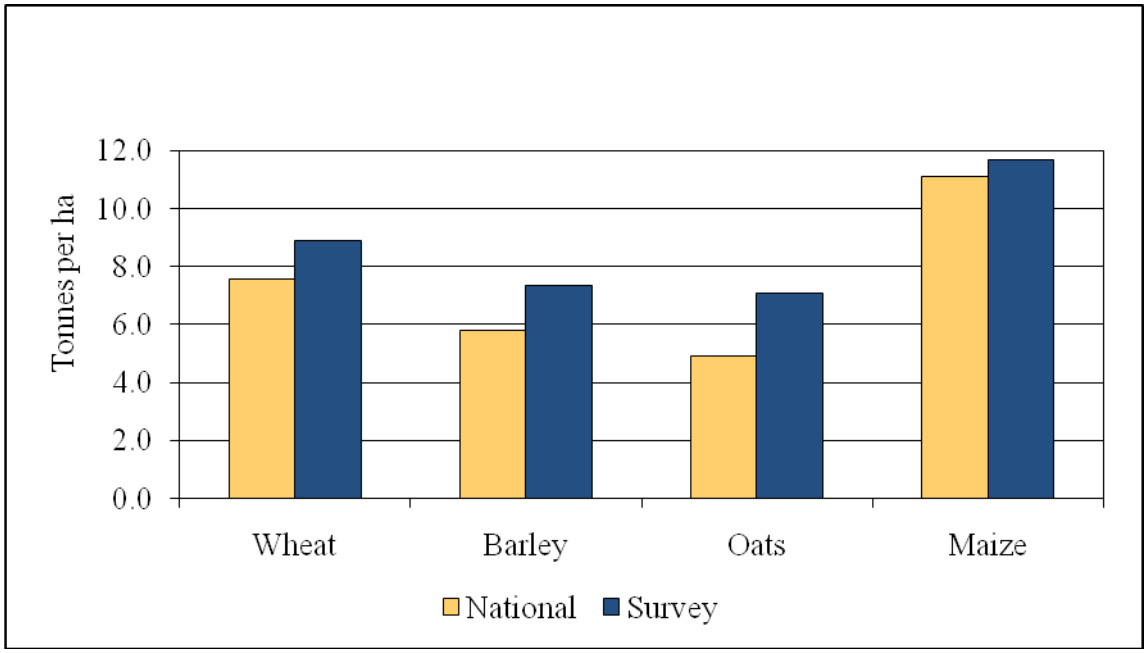

Figure 2: Average crop yields at the national level and on survey farms 2009

Data on national cereal crop areas and yields in 2010 from the 2010 Agricultural Production Survey will not be available until May 2011. Consequently, it has been necessary to continue to use 2009 data as the basis for aggregation from survey parameters to national parameters. Estimation of national production, sales and stocks has been undertaken by calculating the proportion of the total national production of each cereal produced by survey participants and assuming that they produced the same proportion in 2010, and have planted a proportionally similar area for the 2011 harvest. As there are no national statistics on which to base estimates of national maize silage production only year-to year percentage changes in these silage production cannot be estimated on the basis of this survey.

Section 2
Survey and National Results

2.1 Total cereal crop areas

The total area planted (or intended to be planted if planting was not complete at the time of the survey) in wheat, barley, oats and maize grain in 2010 has declined by less than one percent from the area harvested in 2010 (144,900 hectares compared with 146,200 hectares). However, with the exception of barley, individual cereal areas are expected to decline significantly in 2011 from 2010 levels as Table 1 shows. Between the 2009 and 2011 harvests there have been very large reductions in the areas of both wheat and maize grain.

Table 1: Percentage changes in cereal areas and volumes 2009 - 2011

	% change in area 2009-10	% change in area 2010-11	2011 area as % of 2009 area
Wheat	-10.2%	-16.4%	75.1%
Barley	-13.2%	+19.1%	103.4%
Oats	+22.9%	-26.1%	90.8%
Maize grain	-14.2%	-18.0%	70.4%

Figure 3 shows the estimated national areas of wheat, barley, oats and maize in each of the three seasons for which survey data are available.

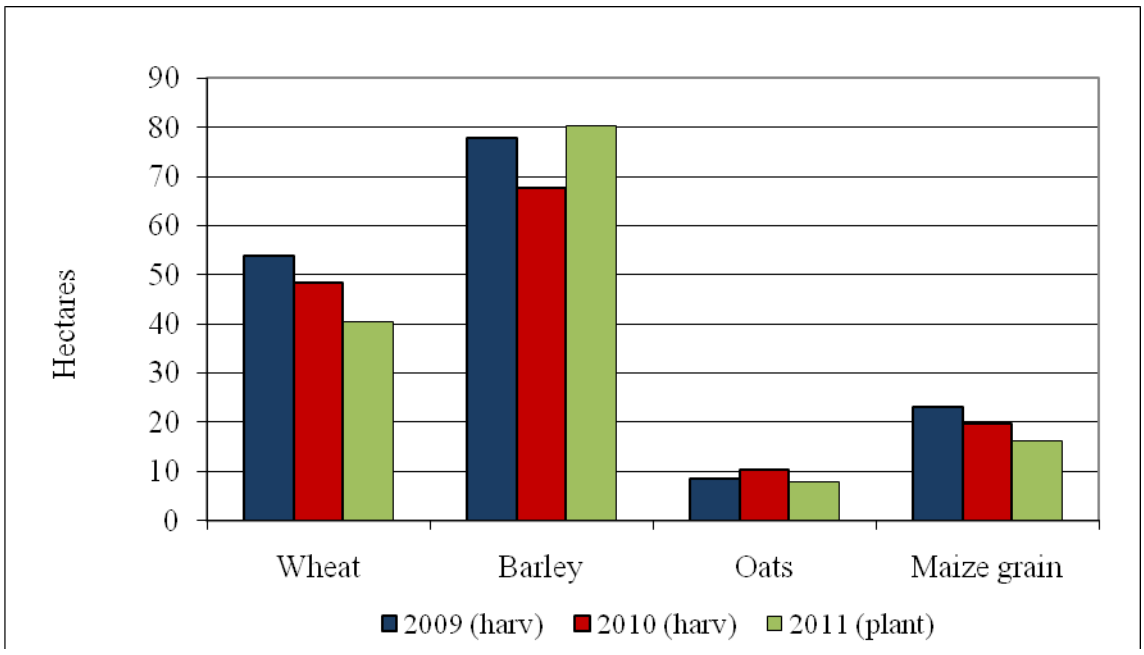

Figure 3: Estimated national total cereal areas 2009 to 2011

The area of maize silage planted by survey respondents in spring 2010 has increased markedly over 2010 harvest levels. It is not possible to estimate the total area of maize silage planted nationally from this survey as the proportion of the national total grown by survey participants cannot be estimated in the absence of statistical data total areas in past years.

The intended end-uses of cereals planted for the 2011 harvest are shown in Figure 4.

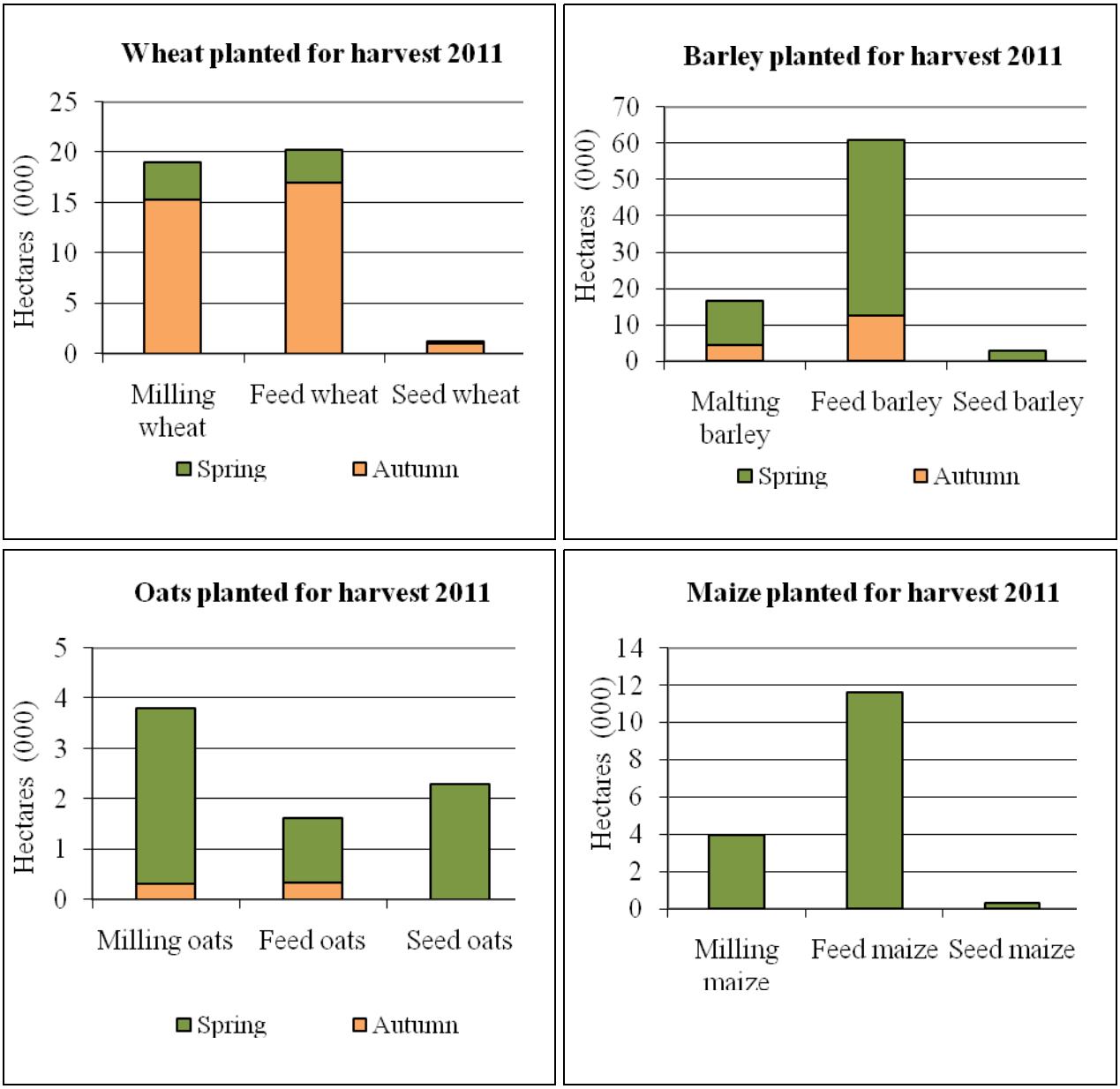

Figure 4: Estimated total cereal areas planted for 2011 harvest (000 hectares)

2.2 National cereal crop volumes 2009 and 2010

While the volumes of both wheat and barley harvested declined from 2009 to 2010, the reductions in volume were smaller than changes in area, reflecting higher average yields. However, the reverse appeared to be true for oats and maize grain for which the change in volume was larger than the change in area harvested. In both years barley comprised the largest volume of cereal crops, followed by wheat, maize grain and oats.

Table 2 shows the estimated percentage changes in cereal volumes between 2009 and 2010, while Figure 5 shows the estimated national cereal volumes in both years.

Table 2: Percentage changes in cereal volumes 2009 – 2010

	% change in volume 2009-10
Wheat	-12.4%
Barley	-8.5%
Oats	23.8%
Maize grain	-20.6%

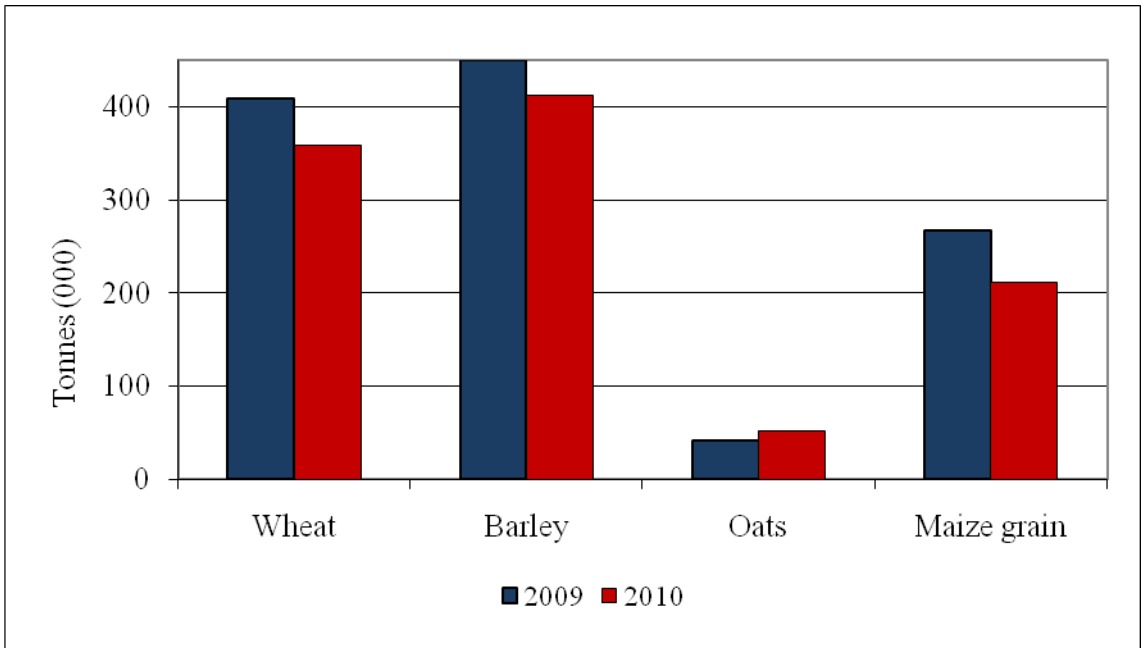

Figure 5: Estimated national total cereal volumes harvested 2009 - 2010

2.3 The disposal of cereal crops 2010 harvest to November 1 2010

By **November 1 2010** over 90 percent of the total wheat and barley grown in 2010 or carried over from previous harvests had been sold, and less than one percent of maize remained to be sold. Twenty percent of the total oats on hand after the 2010 harvest was still unsold. It is estimated that 36,000 tonnes of feed barley, 21,000 tonnes of feed wheat and 17,000 tonnes of milling wheat were still unsold on November 1 (Figure 6).

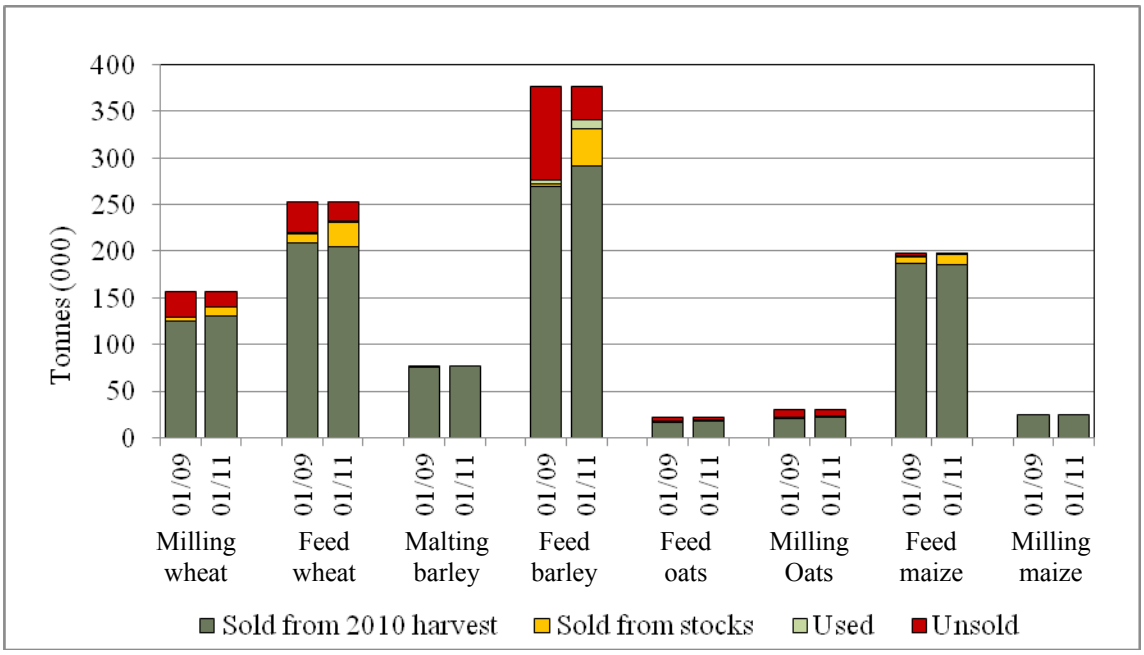

Figure 6: Estimated disposal of cereal crops 2010 harvest as at 01/09 and01/11 2010

2.4 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 sold before November 1 are shown in Figure 7.

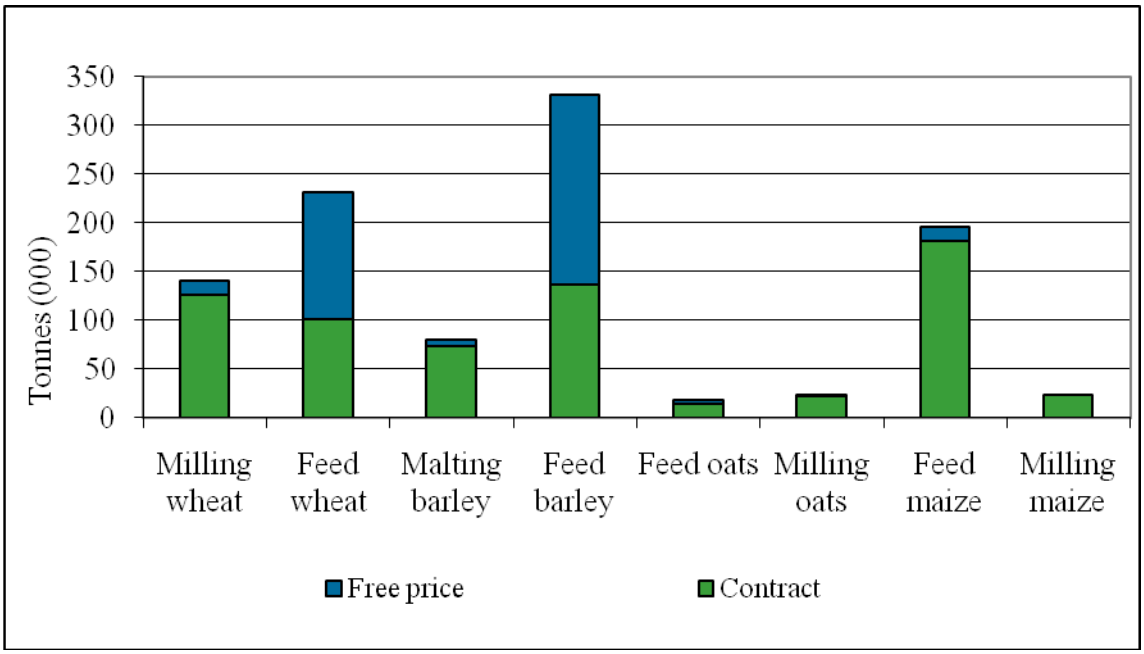

Figure 7: Estimated sales channels for cereals sold harvest 2010 to November 1 2010

2.5 On-farm storage of cereals as at November 1 2010

Although the volumes of cereals stored on-farm declined significantly between September 1 and November 1 as Figure 8 shows, almost half of the milling wheat on-hand after the 2010 harvest, approximately 60 percent of all oats, and 25 percent of feed barley remains on-farm. Figure 8 shows estimated quantities of sold and unsold wheat, barley and oats stored on-farm at September 1 2010.

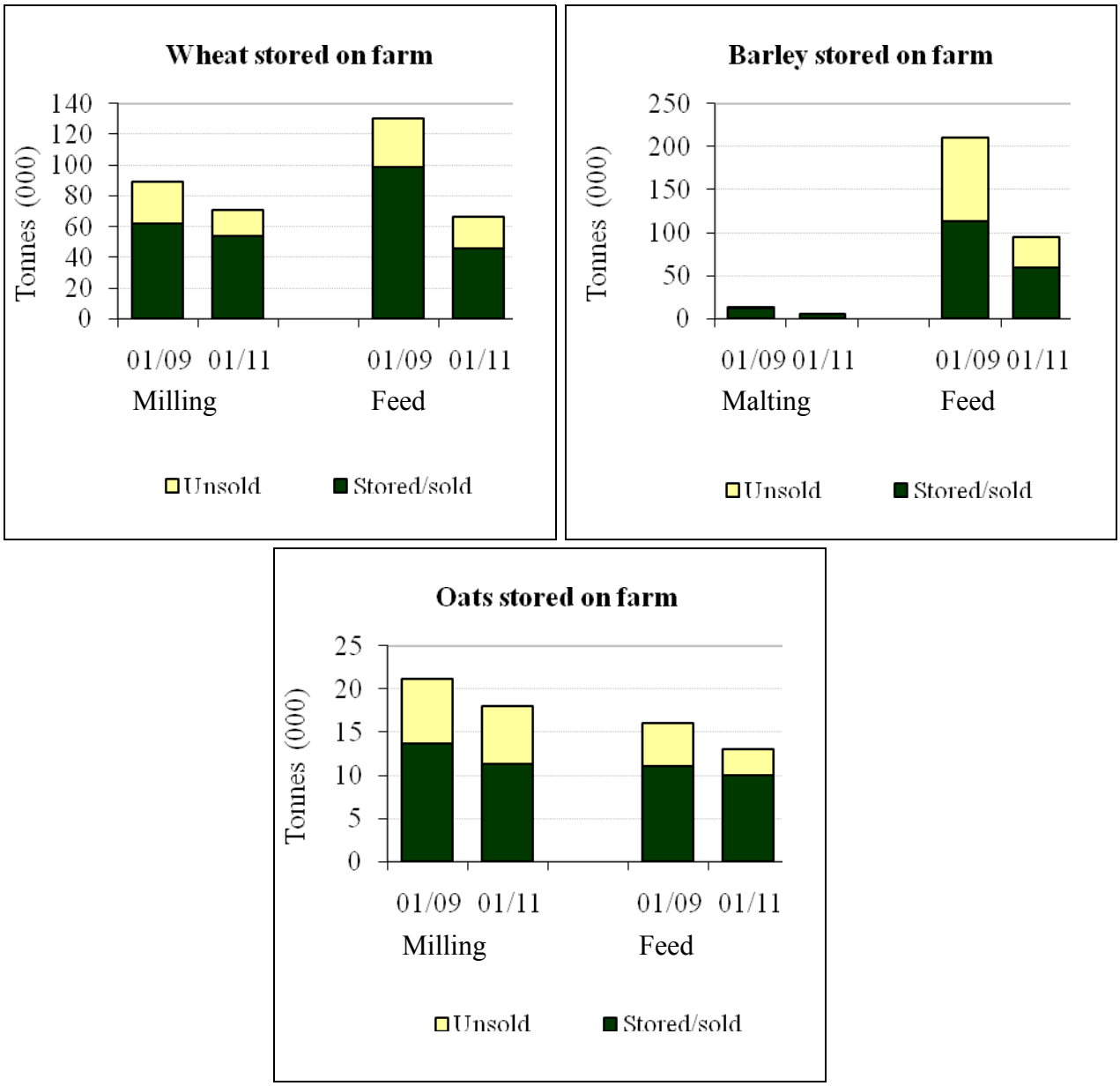

Figure 8: On-farm storage of cereals as at 01/09 and 01/11 2010

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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

Appendix A
National crop estimates based on survey data

Wheat	Tonnes
Harvest 2009	
Area harvested 09	53,900
Milling tonnes sold 09	122,355
Feed tonnes sold 09	247,665
Milling tonnes on hand at harvest 10	6,538
Feed tonnes on hand at harvest 10	31,842
Total tonnes harvested 09	408,400
Total tonnes on hand at harvest 10	38,380
Harvest 2010 - Production and disposal	
Hectares	48,420
Total tonnes harvested	357,617
Milling tonnes sold	129,936
Feed tonnes sold	204,424
Used on farm	286
Unsold	22,971
Total sales and disposal harvest 2010 to 01/11/10	
Milling sold from 2010 harvest	129,936
Milling sold from stocks on hand	10,118
Total milling sold	140,055
Milling unsold/on-hand	16,565
Feed sold from 2010 harvest	204,424
Feed sold from stocks on hand	27,600
Total feed sold	232,024
Feed used on-farm	286
Feed unsold/on-hand	20,930
Sales Channels for crop sold since harvest 2010	
Milling pre-harvest contract tonnes	125,578
Milling free price tonnes	14,477
Feed pre-harvest contract tonnes	101,216
Feed free price tonnes	130,808
On-farm storage	
Milling sold on contract stored on-farm	49,409
Milling sold at free price stored on-farm	4,942
Feed sold on contract stored on-farm	22,486
Feed sold at free price stored on-farm	23,374
Unsold	20,930
Total stored on farm	121,141
Plantings 2010	
Milling wheat autumn sown	15,373
Milling wheat spring sown	3,651
Total milling wheat	19,024
Feed wheat autumn sown	16,997
Feed wheat spring sown	3,230
Total feed wheat	20,227
Seed wheat autumn sown	1,043
Seed wheat spring sown	174
Total seed wheat	1,217
Total wheat	40,468

Barley	Tonnes
Harvest 2009	
Area harvested 09	77,800
Malting tonnes 09	371,087
Feed tonnes 09	39,357
Malting tonnes on hand at harvest 10	0
Feed tonnes on hand at harvest 10	39,357
Total tonnes harvested 09	449,800
Total tonnes on hand at harvest 10	39,357
Harvest 2010 - Production and disposal	
Hectares	67,540
Total tonnes harvested	411,635
Malting tonnes sold	77,293
Feed tonnes sold	290,792
Used on farm	9,048
Unsold	34,502
Total sales and disposal harvest 2010 to 01/11/10	
Malting sold from 2010 harvest	77,293
Malting sold from stocks on hand	3,070
Total malting sold	80,364
Malting unsold/on-hand	0
Feed sold from 2010 harvest	290,792
Feed sold from stocks on hand	40,853
Total feed sold	331,646
Feed used on-farm	9,048
Feed unsold/on-hand	35,749
Sales Channels for crop sold since harvest 2010	
Malting pre-harvest contract tonnes	73,340
Malting free price tonnes	7,023
Feed pre-harvest contract tonnes	136,445
Feed free price tonnes	195,200
On-farm storage	
Malting sold on contract stored on-farm	5,661
Malting sold at free price stored on-farm	0
Feed sold on contract stored on-farm	13,643
Feed sold at free price stored on-farm	46,457
Unsold	35,749
Total stored on farm	101,510
Plantings 2010	
Malting barley autumn sown	4,509
Malting barley spring sown	11,944
Total Malting barley	16,453
Feed barley autumn sown	12,506
Feed barley spring sown	48,509
Total feed barley	61,015
Seed barley autumn sown	447
Seed barley spring sown	2,531
Total seed barley	2,978
Total barley	80,446

Oats	Tonnes
Harvest 2009	
Area harvested 09	8,500
Feed tonnes 09	16,876
Milling tonnes 09	23,796
Feed tonnes on hand at harvest 10	265
Milling tonnes on hand at harvest 10	663
Total tonnes harvested 09	41,600
Total tonnes on hand at harvest 10	928
Harvest 2010 - Production and disposal	
Hectares	10,445
Total tonnes harvested	51,503
Feed tonnes sold	18,043
Milling tonnes sold	22,749
Used on farm	1,392
Unsold	9,320
Total sales and disposal harvest 2010 to 01/11/10	
Feed sold from 2010 harvest	18,043
Feed sold from stocks on hand	0
Total feed sold	18,043
Milling used on-farm	1,392
Feed unsold/on-hand	2,956
Milling sold from 2010 harvest	22,749
Milling sold from stocks on hand	663
Total milling sold	23,412
Milling unsold/on-hand	6,628
Sales Channels for crop sold since harvest 2010	
Feed pre-harvest contract tonnes	14,463
Feed free price tonnes	3,579
Milling pre-harvest contract tonnes	22,616
Milling free price tonnes	795
On-farm storage	
Feed sold on contract stored on-farm	10,088
Feed sold at free price stored on-farm	0
Milling sold on contract stored on-farm	11,427
Milling sold at free price stored on-farm	0
Unsold	6,628
Total stored on farm	28,144
Plantings 2010	
Feed oats autumn sown	335
Feed oats spring sown	1,284
Total Feed oats	1,619
Milling oats autumn sown	307
Milling oats spring sown	3,507
Total Milling oats	3,813
Seed oats autumn sown	0
Seed oats spring sown	2,290
Total seed oats	2,290

Total oats	7,722
Maize	**Tonnes**
Harvest 2009	
Area harvested 09	23,100
Feed tonnes 09	246,354
Milling tonnes 09	20,147
Feed tonnes on hand at harvest 10	266
Milling tonnes on hand at harvest 10	0
Total tonnes harvested 09	266,768
Total tonnes on hand at harvest 10	266
Harvest 2010 - Production and disposal	
Hectares	19,824
Total tonnes harvested	211,695
Feed tonnes sold	185,254
Milling tonnes sold	24,056
Used on farm	1,804
Unsold	580
Total sales and disposal harvest 2010 to 01/11/10	
Feed sold from 2010 harvest	185,254
Feed sold from stocks on hand	10,899
Total feed sold	196,154
Milling used on-farm	1,804
Feed unsold/on-hand	580
Milling sold from 2010 harvest	24,056
Milling sold from stocks on hand	0
Total milling sold	24,056
Milling unsold/on-hand	0
Sales Channels for crop sold since harvest 2010	
Feed pre-harvest contract tonnes	181,479
Feed free price tonnes	14,674
Milling pre-harvest contract tonnes	24,056
Milling free price tonnes	0
On-farm storage	
Feed sold on contract stored on-farm	0
Feed sold at free price stored on-farm	0
Milling sold on contract stored on-farm	0
Milling sold at free price stored on-farm	0
Unsold	580
Total stored on farm	580
Plantings 2010	
Feed maize	11,648
Milling maize	3,993
Seed	332
Starch	277
Total maize	16,251