



**Dairy feeding update**  
Briefing notes 2015



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# Dairy feeding update 2015

This briefing note provides an overview of feed market conditions and a snapshot of on-farm dairy feeding management practices. While it is aimed primarily at nutrition advisers and feed suppliers, this briefing note will also be of general interest to other dairy service providers and farmers.

Analysis is drawn mainly from Dairy Australia's Dairy 2015 Situation & Outlook report and 2015 National Dairy Farmer Survey. This survey is conducted annually in February/March from a random sample of 1,002 dairy farmers stratified across farm size and dairying region. Of the farmers contacted, 71% agreed to take part. While the sample size and high response rate offer considerable confidence in the estimates being representative of the entire industry, they should be used as a guide only.

## Over the past year

There were no significant changes to the proportions of herds calving down seasonally, in batches or year round.

Herd sizes have remained steady. 11% of farms nationally ran more than 500 milking cows, producing 33% of total milk volume.

The average grain / concentrate feeding rate on Australian dairy farms remained steady at 1.6 tonnes per cow per year. Usage of grain / concentrates varied considerably between regions, as in previous years.

Fewer farmers bought fodder, with the exception of farmers in the Murray region.

There has been little change in the proportion of farmers nationally using each of the five main feeding systems.

Sixty four per cent (64%) of farmers nationally used the moderate-high bail system, producing 68% of national milk production.

While farmers using PMR, hybrid and TMR systems represented only 13% of all farmers nationally, they produced 18% of total annual milk production.

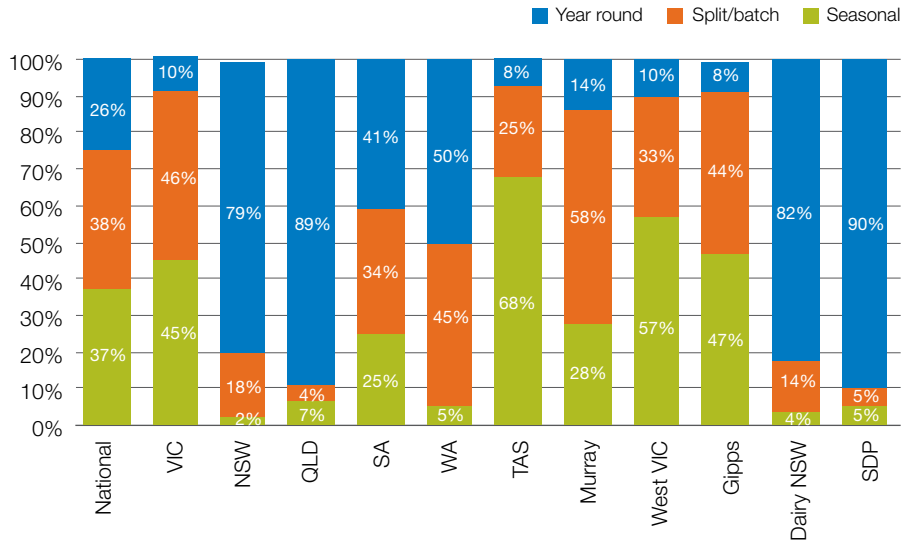
The proportion of farmers investing in feeding infrastructure and equipment was unchanged.

Nationally, 70% of farmers implemented a transition feeding program pre-calving (5% higher than in 2011). More farmers transition fed their cows for the optimal time pre-calving (3 weeks) than they did four years ago.



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**Figure 1** Proportion of farms in each region using each calving system



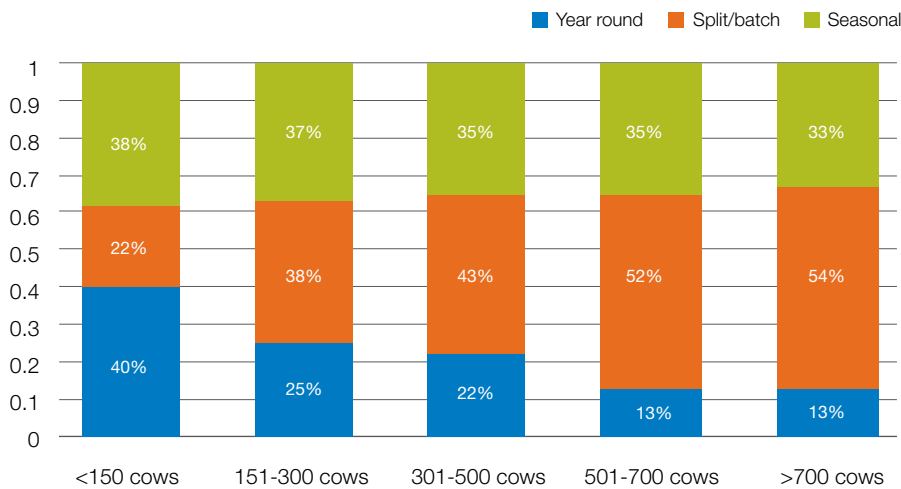
Source: 2015 National Dairy Farmer Survey

## Dairy industry snapshot

### Calving systems

- > 38% of farmers nationally have a split calving herd, 37% seasonally calve and 26% calve year round. See *figure 1*.
- > Split calving is more common in larger herds. See *figure 2*.
- > There have been no significant changes to the proportions of herds calving down seasonally, in batches or year round in the past five years.
- > Approximately half of those farmers in an expansion phase have a split calving herd (51%), 28% seasonally calve and 21% calve year round.

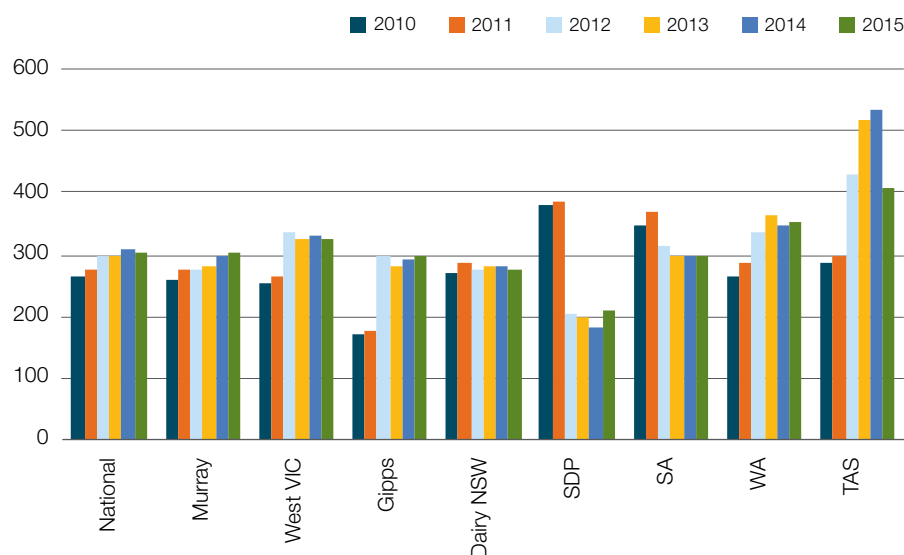
**Figure 2** Calving system by herd size



Source: 2015 National Dairy Farmer Survey

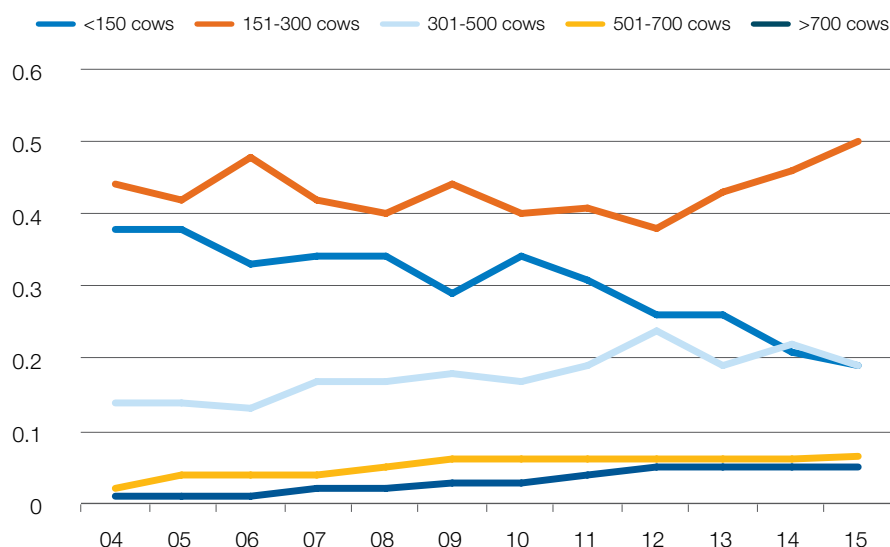
# Dairy feeding update 2015

**Figure 3** Average herd size (respondent herds)



Source: 2015 National Dairy Farmer Survey

**Figure 4** % farms with milking herd size



Source: 2015 National Dairy Farmer Survey

**Table 1** Proportion of farms and milk production by herd size

Milking herd size	Proportion of farms	Proportion of milk production
<150 cows	19%	6%
151 - 300 cows	51%	36%
301 - 500 cows	19%	25%
501 - 700 cows	6%	13%
>700 cows	5%	20%

Source: 2015 National Dairy Farmer Survey

## Herd size

- › Surveyed herd sizes have steadily increased over the past decade from 229 in 2005 to 303 in 2015. See figure 3.
- › Surveyed herd sizes have remained steady over the past year, at a national average of 303 cows versus 304 in 2013/14. See figure 3.
- › The proportion of farmers running less than 150 cows has nearly halved over the past ten years. See figure 4.
- › Survey results indicate that the 30% of dairy farms with more than 300 milking cows produced 58% of the nation's milk in 2014/15. 11% of Australian dairy farms ran more than 500 milking cows in 2014/15, producing 33% of total milk volume. See table 1.
- › Younger farmers are more likely to be growing their herd. 57% of respondents aged 18 to 39 increased herd size over the past year (compared to 37% of those older than 39) and 50% predict an increase next year (compared to 30% of those older than 39).
- › Over the next 12 months, 34% of surveyed farmers expect to increase the size of their milking herds, while 62% plan to keep it steady.

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## Survey details

Note abbreviations used for the regions and sample sizes for each in this table.

Regional estimates, particularly those with sample sizes of 50 or fewer farms, should be treated with caution, as the margin for error is high.

### National Dairy Farmer Survey regional sample sizes, 2015

Vic	Victoria	545
NSW	New South Wales	155
Qld	Queensland	101
SA	South Australia	61
WA	Western Australia	60
Tas	Tasmania	80
Murray	Murray region, including northern Victoria and southern Riverina	190
W Vic	Western Victoria, including south-east South Australia	180
Gipps	Gippsland	190
DairyNSW	Central and inland NSW	111
SDP	South-east Queensland, including northern NSW	130

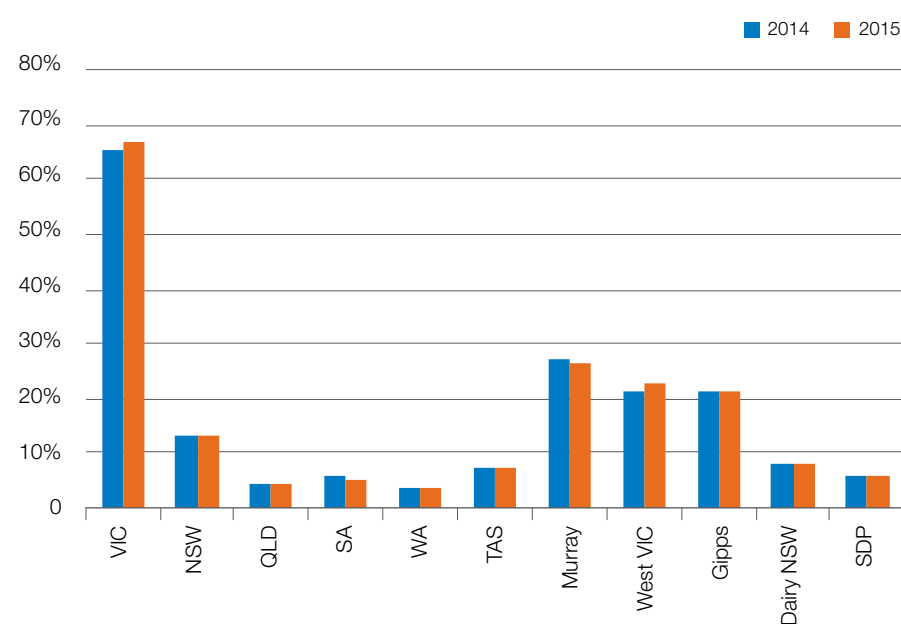
### Confidence limits

Sample base	Margin for error
1000	±2.8%
750	±3.3%
500	±4.0%
200	±6.4%
100	±9.0%
50	±12.7%

## Milk production outlook

- › Seasonal conditions played the major role in determining growth. Favourable conditions and competition amongst processors for milk supply helped to lift Tasmanian and Western Australian production by 10.1%, and 6.9%, respectively.
- › Recovering from a drought last season, New South Wales production increased 5.0% in 2014/15. While the northern and southwestern Victoria were hampered by dry weather, improved conditions in the east of the state enabled an increase of 3.6% overall.
- › Drought across large parts of Queensland played a significant role in production falling 6.1%, while dry conditions also made things difficult in South Australia, with production remaining relatively steady (+0.1%).
- › The 2015/16 season commenced with a strong increase in July milk production: up 5.4% year-on-year.
- › Dairy Australia's current forecast for 2015/16 milk production is for a national total between 9.8 and 10 billion litres – representing around 2% growth on 2014/15.
- › With two good seasons behind them, many farmers are well placed to capitalise, should forecast milk prices and a weaker than expected El Niño impact eventuate. On the other hand, overly cautious early season milk price commitments, coupled with El Niño-induced seasonal challenges could see farmers adopt a more defensive approach.

**Figure 5** Percentage of national milk production (respondent herds)



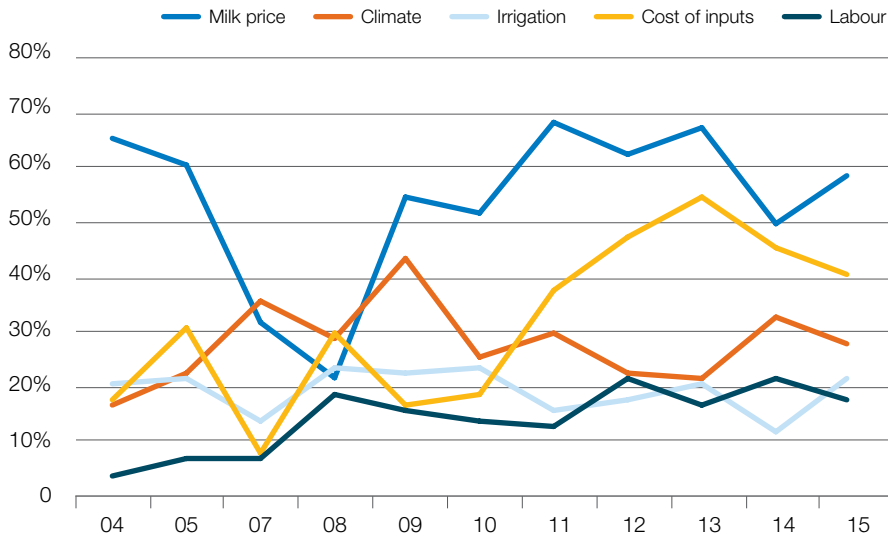
Source: 2015 National Dairy Farmer Survey

For a clear, timely picture of what is happening to milk prices and the factors driving them, refer to Dairy Australia's Situation and Outlook reports.

Visit [dairyaustralia.com.au/Markets-and-statistics/Market-situation-and-outlook.aspx](http://dairyaustralia.com.au/Markets-and-statistics/Market-situation-and-outlook.aspx) to download the latest report. This webpage also enables you to subscribe to automatically receive the latest reports by email as they become available.

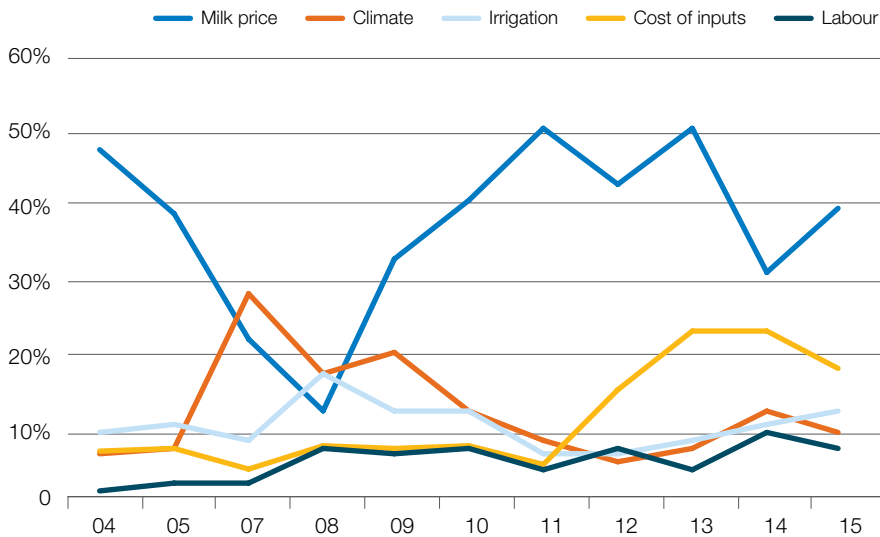
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**Figure 6** Anticipated future challenges



Source: 2015 National Dairy Farmer Survey

**Figure 7** Greatest anticipated future challenge



Source: 2015 National Dairy Farmer Survey

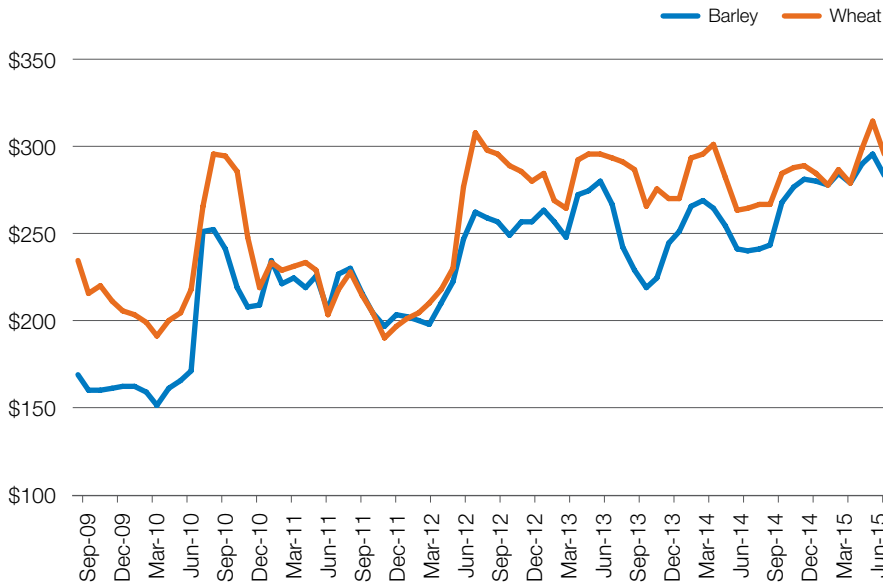
## Future challenges

- › Milk price was mentioned as an ongoing challenge by 57% of respondents, while 40% anticipate it will be their greatest challenge in future. This proportion is a significant 9% higher than in 2014 (31%).
- › The cost of farming inputs, including feed, fertiliser, electricity and fuel, was mentioned as the main future challenge by 18% of respondents, down from 23% in 2014.
- › There was little change in the proportion of farmers nationally that nominated the cost of grain feed as the main future challenge (4% of respondents, down from 5% in 2014). However, the proportion of farmers in NSW who nominated feed cost as likely to be their main challenge in future was 9 points lower than in 2014 (3% versus 12%), while in Queensland it was 5% higher than in 2014 (7% versus 2%).
- › The proportion of farmers mentioning climate as the main future challenge is 3% lower than in 2014 (9% versus 12%) and the proportion mentioning labour is 2% lower (7% versus 9%).



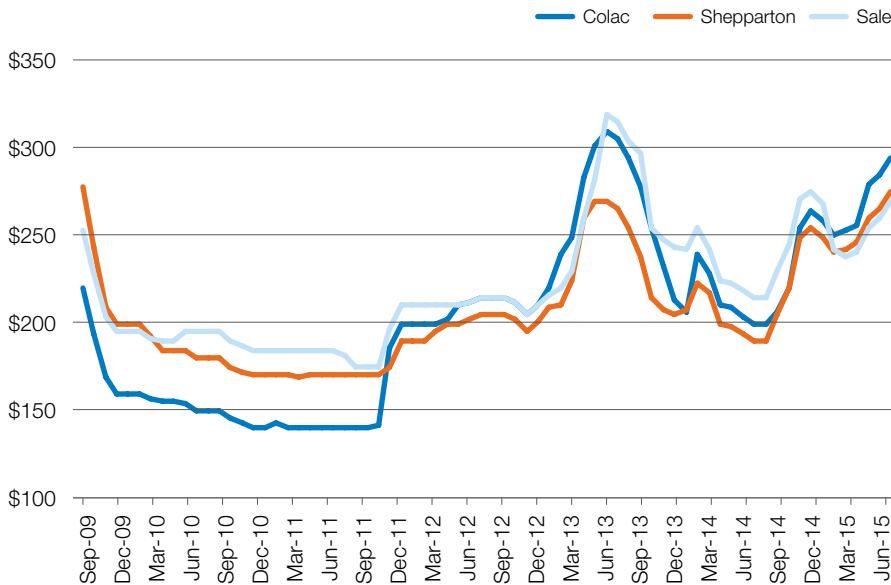
# Dairy feeding update 2015

**Figure 8** Victorian grain price trends (\$/tonne Melbourne delivered)



Source: Jumbuk Consulting, Dairy Australia

**Figure 9** Victorian pasture hay price trends (\$/tonne)



Source: Jumbuk Consulting, Dairy Australia

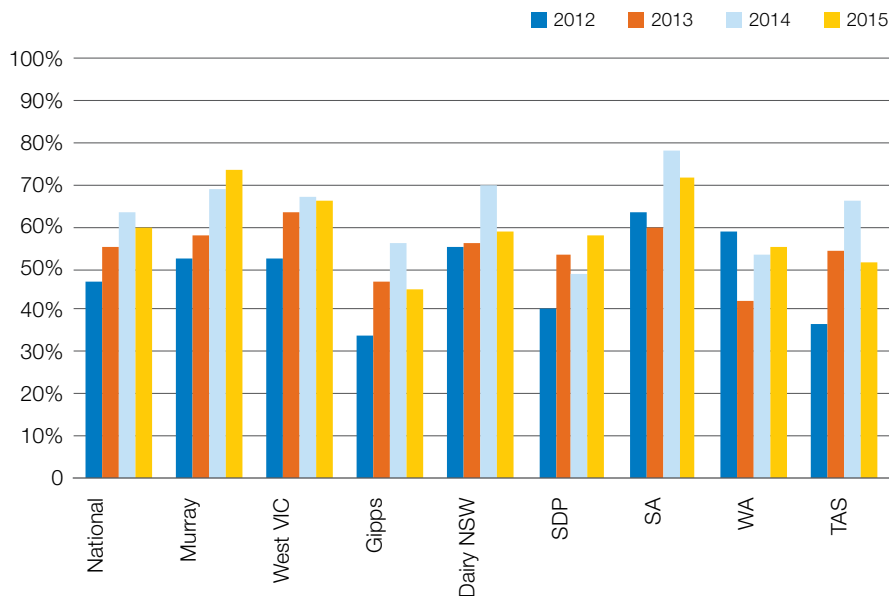
## Dairy feed markets

### Grain

› A combination of relatively low production, and domestic and export demand, has kept Australia's inventory of feed grain relatively low in recent years. This in combination with concerns about the potential for El Niño to negatively impact the 2015/16 harvest helped to support grain prices through much of 2015 as sellers sought to avoid being caught out if a poor crop eventuated. Weather in several other major global grain exporting countries added upward pressure.

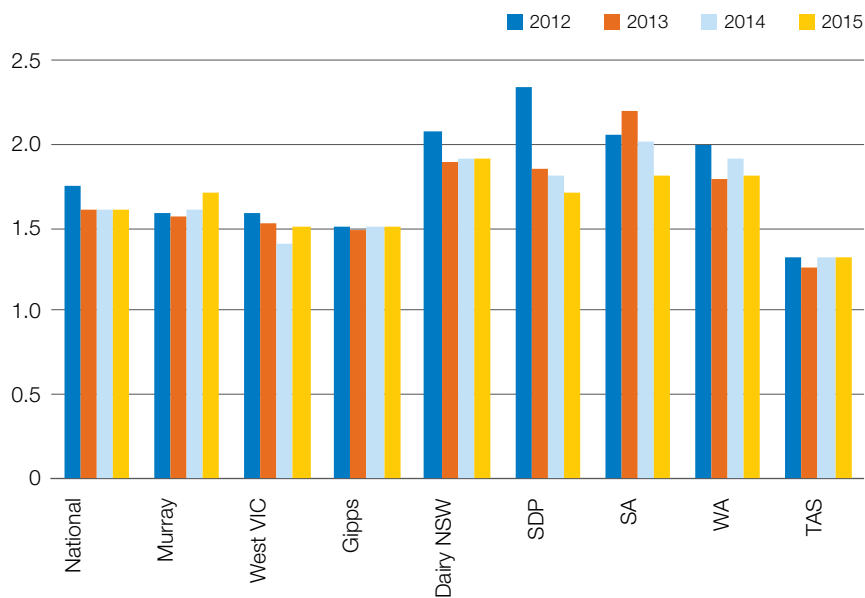
# Dairy feeding update 2015

**Figure 10** % farms purchasing hay or silage (all respondents)



Source: 2015 National Dairy Farmer Survey

**Figure 11** Average tonnes grain / concentrate fed per cow per year nationally and by region (base: farmers who fed grain / concentrate)



Source: 2015 National Dairy Farmer Survey

For a comprehensive overview of the current market and indicative pricing for hay and feed grains, including canola meal, for key dairy regions across Australia, see Dairy Australia's Hay & Grain Market Report, which is published most weeks. Visit [dairyaustralia.com.au](http://dairyaustralia.com.au)

## Hay and silage

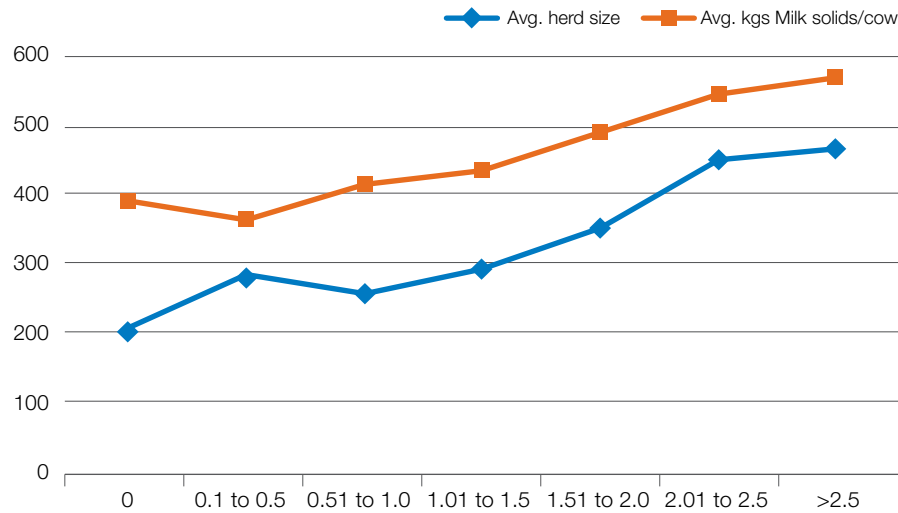
- › Nationally, there has been a slight easing in the proportion of dairy farmers purchasing hay or silage over the past year. See figure 10. However, there is significant variation by region, from a high of 73% in the Murray region to a low 45% in Gippsland where the proportion buying hay or silage has fallen significantly over the past year (from 56% to 45%). In the Murray region, the proportion of dairy farmers purchasing hay or silage has steadily increased over the past four years.
- › While 53% of respondents with small herds purchased hay or silage over the past year, this proportion is significantly lower than larger herds.
- › Interest in hay was relatively low during the first half of 2015, despite below average stocks. Consequently, hay prices were relatively static. This was partly due to a large number of buyers having secured hay at harvest, resulting in less activity in the spot market.

## Grain / concentrate usage

- › 96% of Australian dairy farmers fed grains / grain-based concentrates nationally.
- › The average tonnes of grain / concentrate fed per cow per year nationally in 2014/15 was 1.6 tonnes, the same as in the two previous years, see figure 11.
- › Usage of grain / concentrates varied considerably between regions, as in previous years, see figure 11. In SA, the average tonnage of grain / concentrate fed per cow per year has trended downward in the past three years, whereas in the Murray region, there has been a significant increase in the proportion of farmers feeding grain / concentrate at rates of more than 2 tonnes per cow per year.

## Dairy feeding update 2015

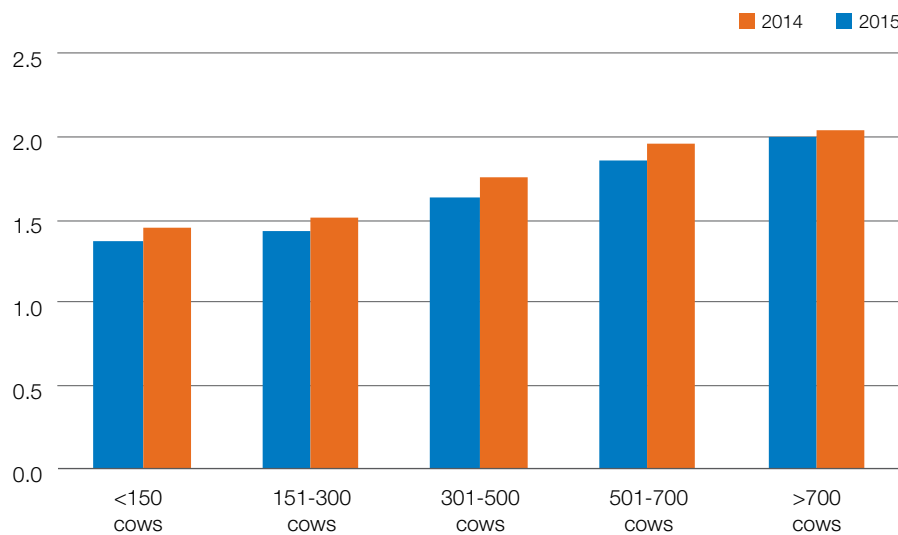
**Figure 12** Average tonnes grain / concentrate fed per cow per year nationally by herd size and by milksolids production per cow



Source: 2014 National Dairy Farmer Survey

- › Farmers with higher usage of grain / concentrate generally have higher per cow milk production and larger herds, see *figure 12*.
- › On average, larger herds are fed higher rates of grain / concentrate than smaller herds, see *figure 13*.

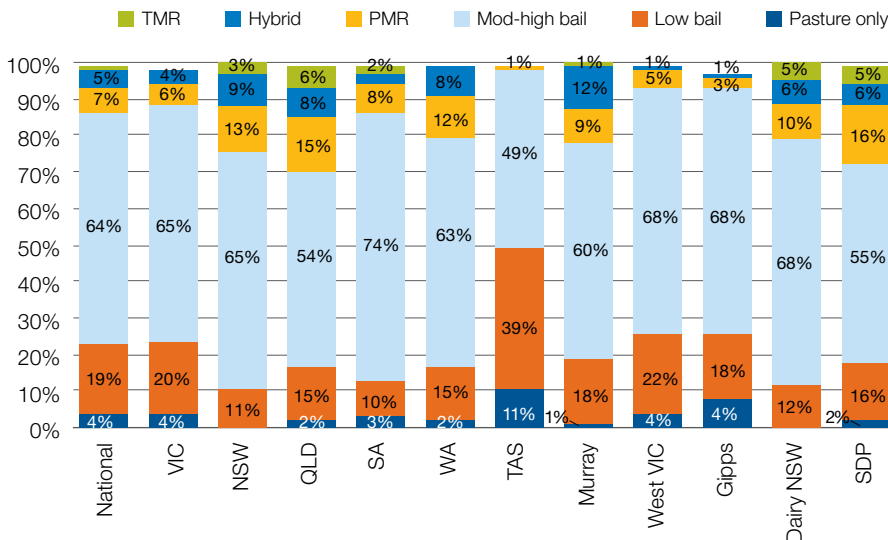
**Figure 13** Average tonnes grain / concentrate fed per cow per year nationally by herd size (base: farmers who fed grain / grain-based concentrate)



Source: 2015 National Dairy Farmer Survey

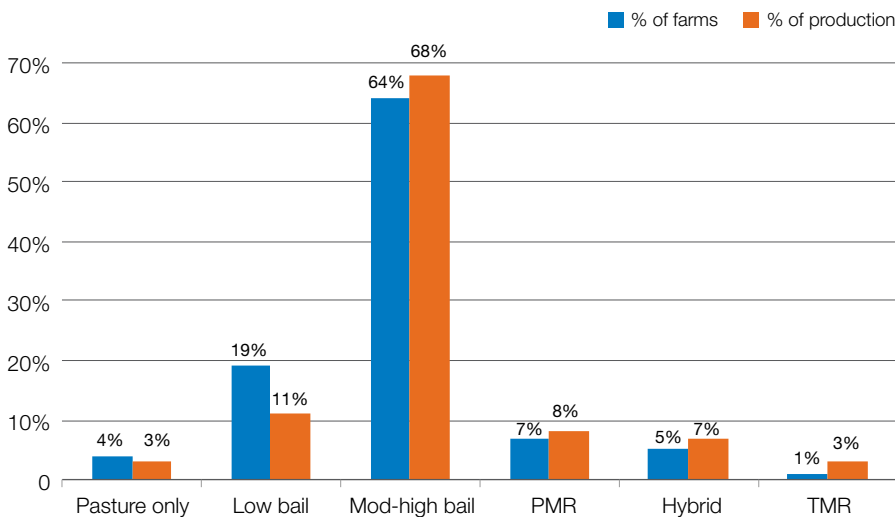
# Dairy feeding update 2015

**Figure 14** Proportion of farms in each region using each feeding system



Source: 2015 National Dairy Farmer Survey

**Figure 15** Feeding system by % of farms and % of milk production (2015)



Source: 2015 National Dairy Farmer Survey

## Feeding systems in use

### Five main feeding systems

The feeding systems which Australian dairy farmers choose to use on their farms can be broadly classified into five main systems based on the level of supplementary feeding, the feeding method and infrastructure / equipment necessary, and the number of months of the year in which pasture is grazed:

#### 1. Low bail system

(Grazed pasture + other forages + up to 1.0 tonne grain/concentrates fed in bail).

#### 2. Moderate-high bail system

(Grazed pasture + other forages + more than 1.0 tonne grain/concentrates fed in bail).

#### 3. Partial mixed ration (PMR) system

(Pasture grazed for most or all of year + partial mixed ration on feed pad ± grain/concentrates fed in bail).

#### 4. Hybrid system

(Pasture grazed for less than nine months per year + partial mixed ration on feed pad ± grain/concentrates fed in bail).

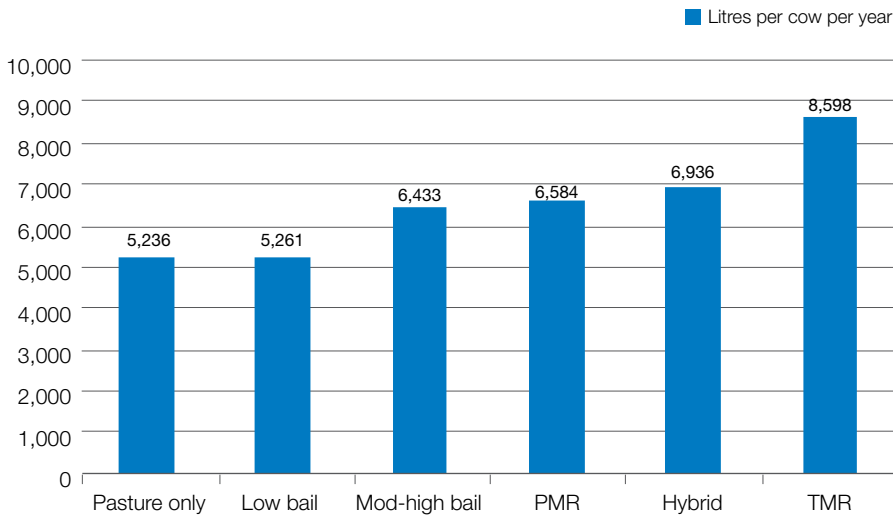
#### 5. Total Mixed Ration (TMR) system

(Zero grazing. Cows housed and fed total mixed ration)

- › There has been little change in the proportion of farmers nationally using the five main feeding systems.
- › The proportion of farmers using the five feeding systems varied considerably between regions, as in previous years. See figure 14.
- › Sixty four per cent (64%) of farmers nationally used a moderate-high bail system. This system (System 2) produced 68% of national milk production, with an average per cow milk production of 6,433 litres per year (See figure 15). While farmers using feeding systems 3, 4 and 5 represented only 13% of all farmers nationally, they produced 18% of total annual milk production.

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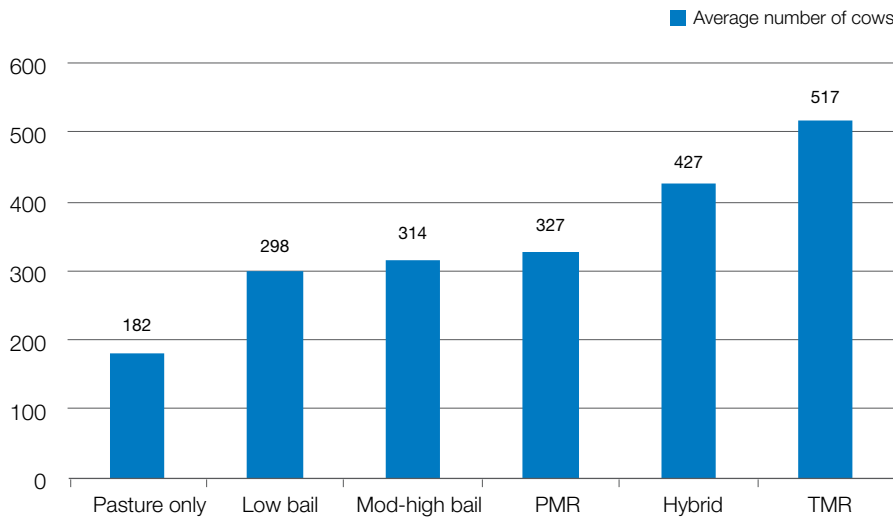
**Figure 16** Feeding system by average annual milk production per cow



Source: 2015 National Dairy Farmer Survey

- › Grazed pasture was used by 96% of dairy farmers nationally in their feeding system (systems 1 to 4).
- › Eleven per cent (11%) of farmers in Tasmania and 8% of farmers in Gippsland fed grazed pasture only, which was considerably higher than in all other regions (ranging from 0 to 4%).
- › The regions with the largest proportion of farmers using a PMR or Hybrid feeding system (systems 3 and 4) were Queensland (23%), NSW (22%), Murray (21%) and WA (20%).
- › There was little difference in average annual milk production per cow and herd size between farmers using moderate-high bail and PMR feeding systems (See figures 16 and 17). Farmers using hybrid and TMR feeding systems produced considerably more milk per cow per year and ran larger herds than those using the other feeding systems.

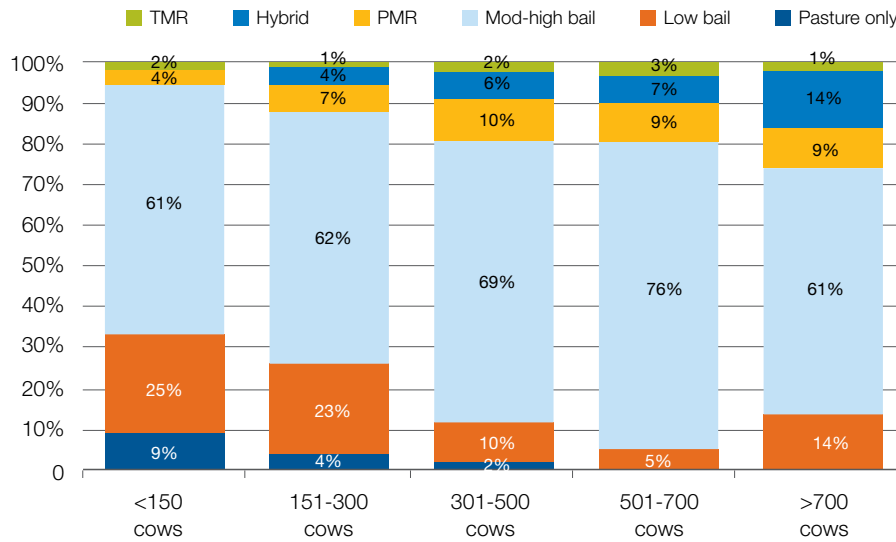
**Figure 17** Feeding system by average herd size



Source: 2015 National Dairy Farmer Survey

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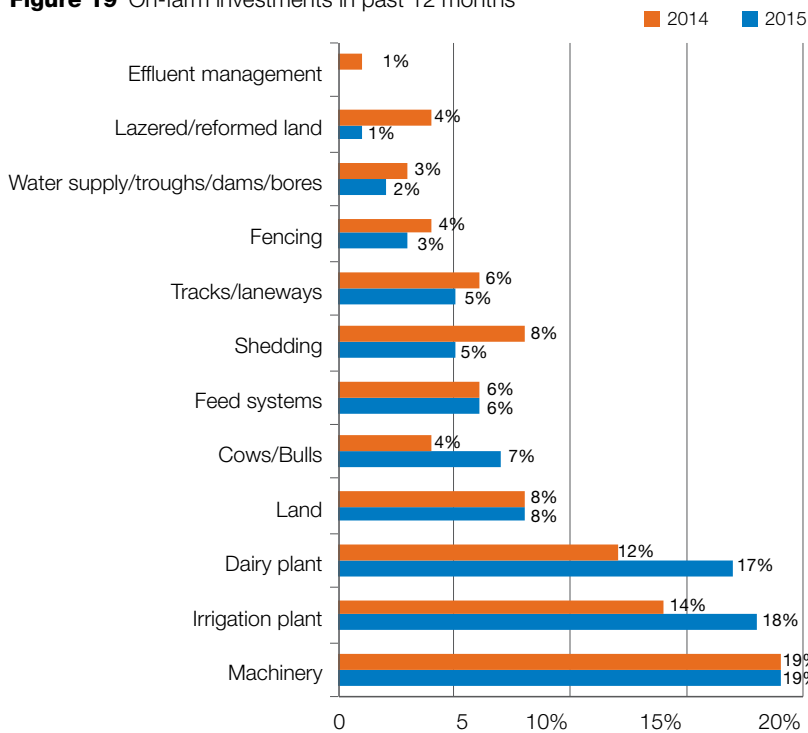
**Figure 18** Herd size by feeding system



Source: 2015 National Dairy Farmer Survey

- › The moderate-high bail feeding system (system 2) was the predominant system across all herd sizes. Dairy farmers with larger herds were more likely to use a PMR, Hybrid or TMR feeding system (See figure 18).
- › Most seasonal calving herds used low or moderate-high bail feeding systems (systems 1 or 2). A split or year-round calving system was more likely to be used on farms using a PMR, Hybrid or TMR feeding system.
- › Farmers who choose to invest in the infrastructure and equipment necessary to use a PMR, Hybrid or TMR feeding system may do so for many reasons, including a desire to:
  - › achieve higher cow feed intakes and better control over diets;
  - › utilise cost-effective co-products;
  - › reduce levels of feed wastage;
  - › provide passive or active cooling to cows in hot weather to sustain daily feed intake and milk production; and
  - › control wet weather damage to pastures.

**Figure 19** On-farm investments in past 12 months



Source: 2015 National Dairy Farmer Survey

## Investment in feeding infrastructure and equipment

- › Capital investment in feeding infrastructure and equipment was unchanged from 2013/14 at 6% of respondents, see figure 19.
- › Investment in feeding infrastructure and equipment in 2014/15 was highest in WA (10%), followed by NSW (9%) and western Victoria (9%).
- › The percentage of respondents who anticipate investing in feeding infrastructure and equipment in the next 12 months is very similar to last year.

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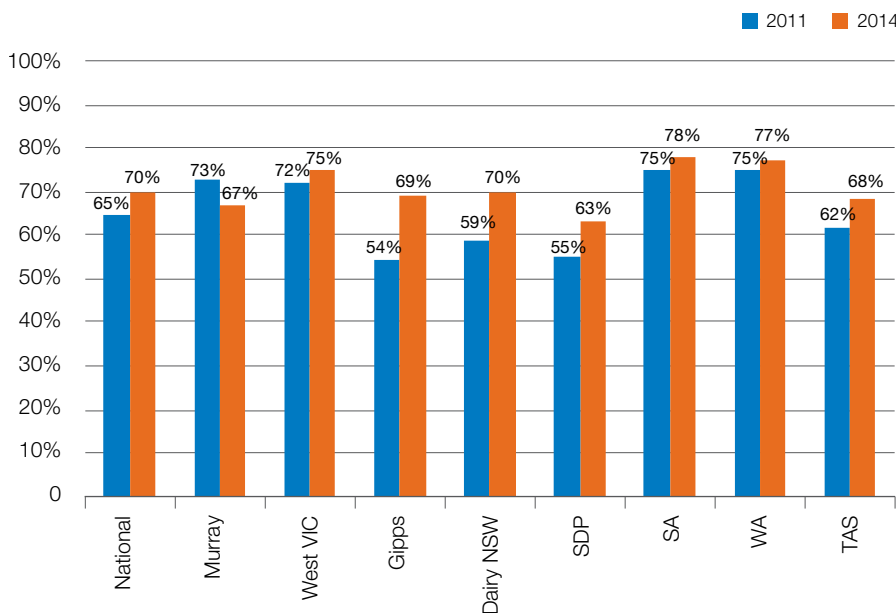


## Transition feeding practices

How to manage cows in the pre-calving transition period (the last 3-4 weeks just before calving) has been one of the most significant advances in dairy nutrition and production world-wide over the past twenty five years, providing a major opportunity for dairy farmers to improve their cows' health, milk production and reproductive performance.

- › Effective pre-calving transition nutrition helps:
  - › set the cow up for a productive lactation;
  - › prevent milk fever (both the clinical cases and the many more sub-clinical cases);
  - › reduce other health problems soon after calving such as ketosis, abomasal displacement, mastitis, retained placenta, uterine infection, calving requiring assistance and ruminal acidosis;
  - › lower death and culling rates around calving;
  - › improve in-calf rates;
  - › reduce time and stress spent treating sick and downer cows; and improve animal welfare.
- › There are a number of common approaches to pre-calving transition feeding. Each approach varies in the extent to which it helps the cow deal with the challenges of calving, lactation and re-breeding.
- › Seventy per cent (70%) of farmers nationally implemented a transition feeding program pre-calving in 2014, see figure 20. This is 5% higher than that reported in the 2011 National Dairy Farmer Survey (65%).
- › The regions with the largest proportion of farmers using a transition feeding program pre-calving in 2014 were SA (78%), WA (77%), and western Victoria (75%), see figure 20.

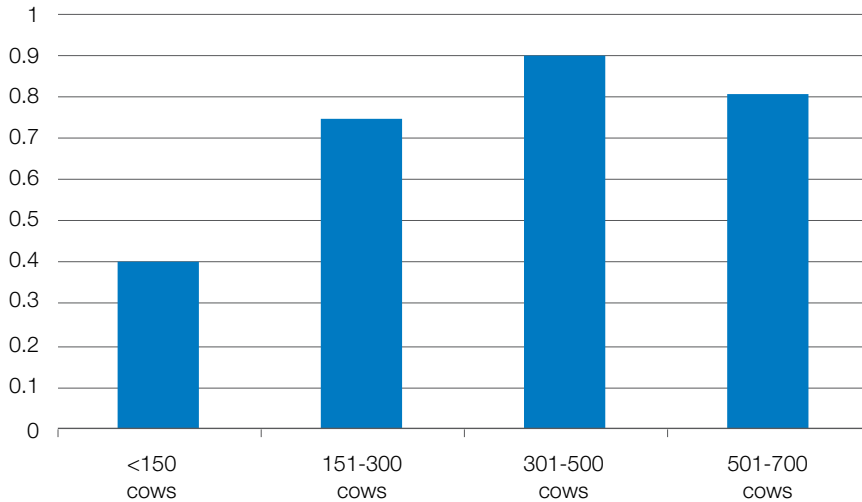
**Figure 20** Proportion of farms using a transition feeding program pre-calving



Source: 2011 National Dairy Farmer Survey and 2014 Animal Husbandry Survey

## Dairy feeding update 2015

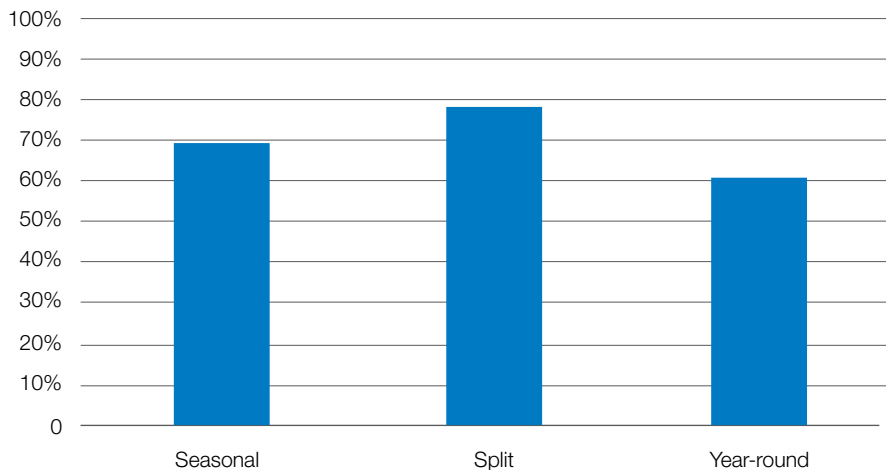
**Figure 21** Herd size by use of a transition feeding program pre-calving



Source: 2014 Animal Husbandry Survey

- › The most common transition feeding approach used in all regions was pasture, hay and commercial transition supplement (lead feed). Use of commercial transition supplements in 2014/15 was highest in the Murray region (58%), followed by DairyNSW (50%). It was lowest in western Victoria (33%).
- › A substantial increase in the proportion of farmers using a transition feeding program pre-calving has been seen in Gippsland in recent years (from 54% in 2011 to 69% in 2014).
- › Transition feeding is significantly more widespread in herds with more than 300 cows than in smaller herds, see *figure 21*.
- › Transition feeding is more widespread in split calving herds than seasonal and year-round calving herds, see *figure 22*.

**Figure 22** Calving system by use of a transition feeding program pre-calving

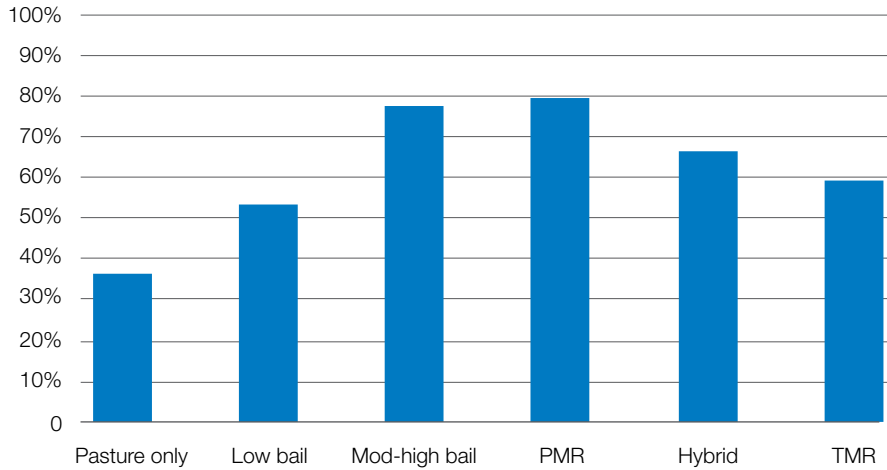


Source: 2014 Animal Husbandry Survey



# Dairy feeding update 2015

**Figure 23** Feeding system by use of a transition feeding program pre-calving



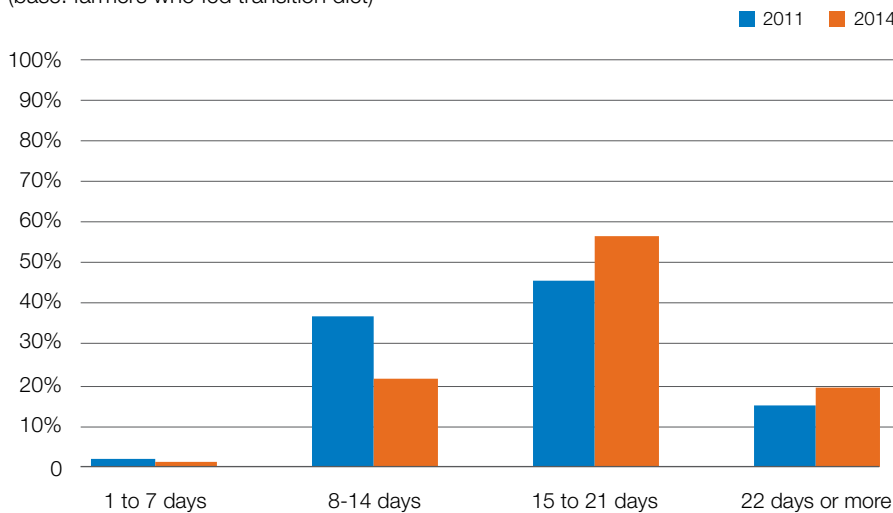
Source: 2014 Animal Husbandry Survey

- > Transition feeding strategies are used less commonly by farmers who feed pasture only or less than one tonne of grain / grain mix / concentrate per cow per year in the bail, see figure 23.
- > Transition feeding is most common on farms in an expansion phase (81%) and/or where the respondent is aged between 18 and 39 years of age (90%).
- > The proportion of farmers transition feeding springing cows for the optimum time pre-calving (3 weeks) was significantly higher in 2014 than in 2011, see figure 24.
- > Eighty one per cent (81%) of farmers nationally include their springing heifers in the transition feeding program.

Visit [dairyaustralia.com.au/TCM](http://dairyaustralia.com.au/TCM) to download a list of advisers trained by Dairy Australia in Transition Cow Management and these key resources and tools:

- > Transition cow management checklist
- > Transition program review worksheet
- > Cow health problems at calving tally sheet
- > Transition diet milk fever risk calculator
- > 'Transition cow management: A review for nutritionists, vets and farm advisers' by I. Lean and P. DeGaris (2010)

**Figure 24** Length of time herd fed transition diet pre-calving (base: farmers who fed transition diet)



Source: 2011 National Dairy Farmer Survey and 2014 Animal Husbandry Survey

## Further information about feeding cows

Visit [dairyaustralia.com.au/Pastures-and-Feeding.aspx](http://dairyaustralia.com.au/Pastures-and-Feeding.aspx) to access the following feeding and nutrition information and tools:

### Pastures, forages and crops

- › Grazing management. Pasture renovation and selection.
- › Forage and crops. Silage and hay.
- › Fertiliser. Weeds and pests.

### Supplements and nutrition

- › Cow nutrition. Planning and purchasing.
- › Nutrition management. Supplementary feeds.
- › Transition cow management. Feed testing.

### Current feeding issues, such as:

- › Assessing a herd's body condition and using results.
- › Computerised bail feeding systems.
- › Feeding maize grain to dairy cows.
- › Milk fat depression.

### Feeding systems

- › Flexible feeding systems. Managing fodder shortages.
- › Storage and mixing. Reducing feed waste.

## Acknowledgement

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