

Feeding practices on Australian dairy farms, 2008-2009

About this briefing note

This briefing note has been prepared by Dairy Australia. It draws on analysis from the *Dairy 2008 and 2009: Situation & Outlook* reports and, in particular, the 2008 and 2009 National Dairy Farmer Surveys.



This survey is conducted annually in February/March from a random sample of 1,000 dairy farmers in all national dairying regions.

Response rates were high in 2008 and 2009, with 69% and 72% respectively of the eligible farmers contacted agreeing 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.

Contents

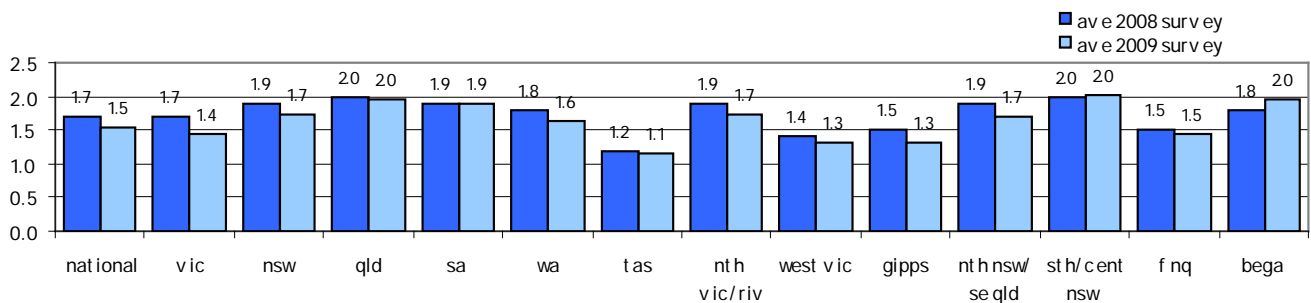
• Grain and concentrate feeding	2
Grain/concentrate feeding rates	2
Incidence of cows being fed entirely on supplementary feed	3
• Feed buying methods	4
Feed analysis prior to buying grain/concentrates	5
Feed analysis prior to buying hay/silage.....	5
On-farm feed grain storage capacity.....	5
• Feeding systems	6
FCE targets	7



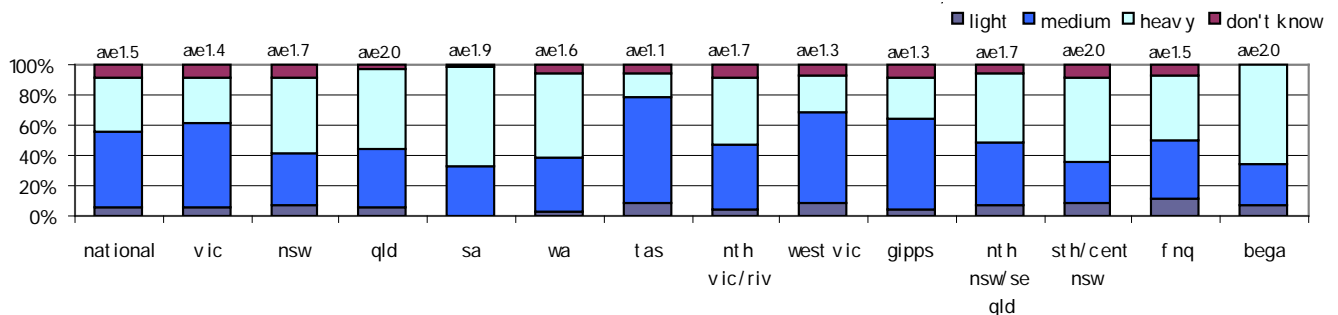
Grain and concentrate feeding

GRAIN/CONCENTRATE FEEDING RATES

- In 2009, 97% of dairy farmers fed grain/concentrates nationally, a 4% increase on 2008. Farmers with herds of fewer than 150 cows are less likely to feed grain/concentrates than medium and large herds.
- The average grain/concentrate feeding rate is 1.53 tonnes per cow per year nationally, down from 1.67 tonnes per cow per year in 2008, and against the trend since 2004 of increasing feeding rates.
- 6% of dairy farmers now feed less than 0.5 tonnes per cow per year ('light' feeders); 51% feed between 0.5 and 1.5 tonnes per cow per year ('medium' feeders); and 36% feed more than 1.5 tonnes per cow per year ('heavy' feeders). 13% of dairy farmers now feed more than 2.0 tonnes per cow per year.
- The average amount fed is highest in southern/central NSW (2.01 tonnes), SA (1.89 tonnes), northern NSW/south east Queensland (1.69 tonnes) and northern Victoria/Riverina (1.74 tonnes.)
- Larger herds are fed higher rates of grain/concentrates than smaller herds, but herds of all sizes were fed lower rates of grains/concentrates over the past 12 months.
- This decrease was influenced by:
 - improved rainfall in southern Queensland, which reduced the previously high reliance on bought-in feed;
 - NSW farmers using more supplements to take advantage of higher milk prices; and
 - lower usage in Victoria due to pressures on production margins.



Average tonnes fed per cow per year – 2008/09 (base: fed grain or concentrates).



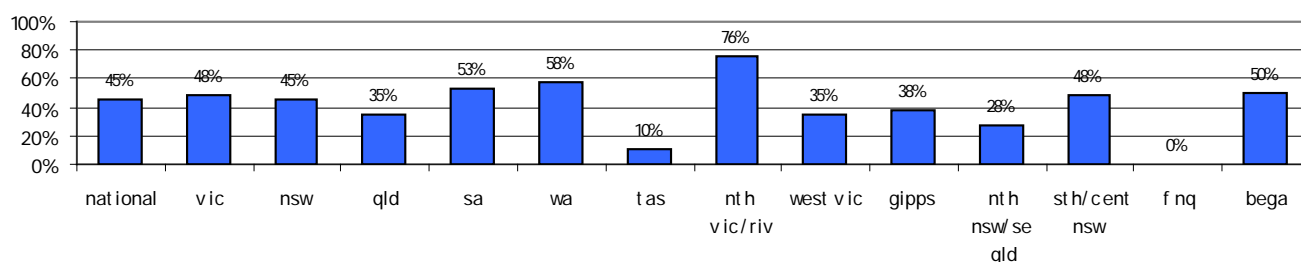
Feeding rate per cow per year – 2009 (base: fed grain or concentrates).



Grain and concentrate feeding

INCIDENCE OF COWS BEING FED ENTIRELY ON SUPPLEMENTARY FEED

- All regions except far-north Queensland experienced periods when pasture was not available for their cows.
- Despite a decrease in the average amount of grain/concentrates being fed, 45% of respondent herds had periods over the past 12 months where they did not graze pasture.
- This was most common in northern Victoria/Riverina (76% of respondents), which has been affected by continuing dry weather and the low availability of irrigation water.
- The average period of time cows were not fed pasture was 4.8 months, with the range between 2.3 months in Tasmania and 6.3 months in northern Victoria/Riverina.
- Generally grain/concentrates were fed at lower rates than in the previous 12 months, indicating that more conserved fodder has been made available to herds.



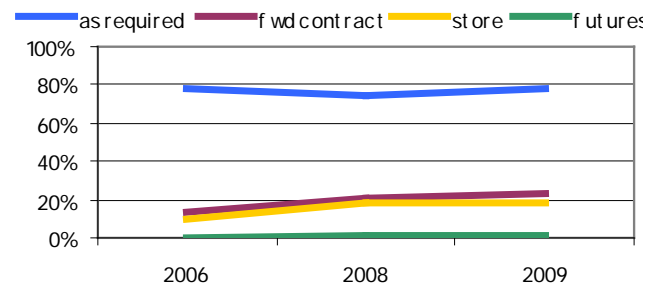
Herds fed entirely on supplementary feed for a period over the past year.

Source: National Dairy Farmer Survey 2009

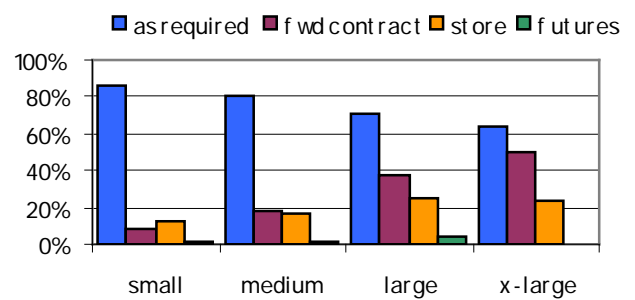


Feed buying methods

- Most dairy farmers (78%) buy grain/concentrates as required on the 'spot' market.
- In recent years there has been an increase in the proportion of farmers forward contracting for later delivery (from 13% in 2006 to 21% in 2008 to 23% nationally in 2009).
- Increases in the use of forward contracts for grain/concentrates since 2008 have been most significant in South Australia (from 27% in 2008 to 45% in 2009), southern/central NSW (from 21% in 2008 to 32% in 2009) and Gippsland (from 12% in 2008 to 18% in 2009).
- The proportion of farmers buying and storing grain/concentrates on-farm has not changed since 2008, remaining at 18%.
- Dairy farmers with larger herds are greater users of forward contracts for later delivery and buying and storing grain on-farm.
- South Australian respondents are the least likely to buy as required (50%), and the most likely to forward contract (45% compared to a range of 11% to 32% in other regions/states) and buy and store on-farm (26% compared to a range of 12% to 23% in other regions/states).
- 34% of respondents feeding heavy rates of grain/concentrates say they forward contract, a significantly higher proportion than those feeding medium (18%) or light rates (11%).

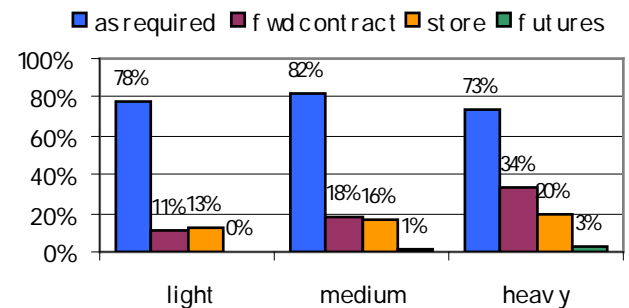


Buying method (grain/concentrates).

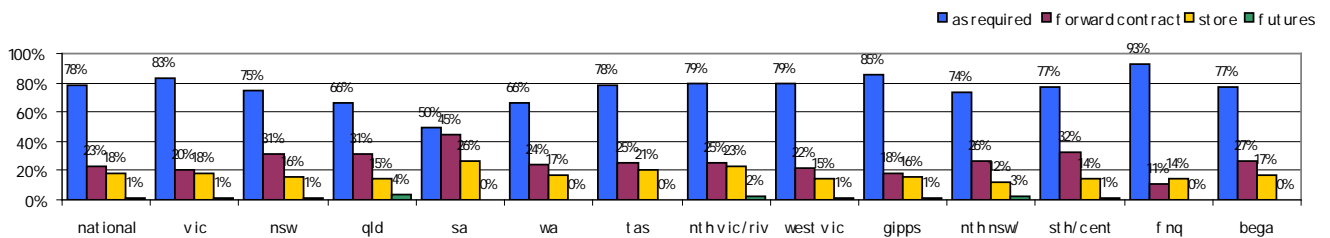


Buying method x herd size (grain/concentrates) (2009).

Note: small <150 cows; medium 150-300 cows; large 301-500 cows; x-large 500+ cows.



Buying method x grain/concentrates feeding rate (2009).



Buying method (grain/concentrates) (2009).

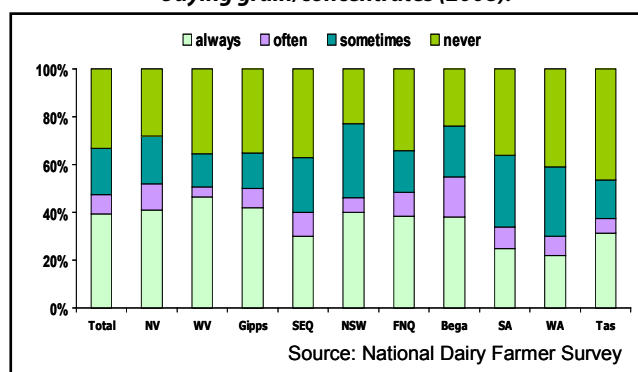


Feed buying methods

FEED ANALYSIS PRIOR TO BUYING GRAIN/CONCENTRATES

- Farmers are more likely to obtain a feed analysis report when buying grain/concentrates than when buying hay or silage.
- 47% always or often obtain a feed analysis report prior to making their grain/concentrates purchase.
- However 33% of respondents who buy grain or supplements never do so with a feed analysis report and 19% only do so sometimes.

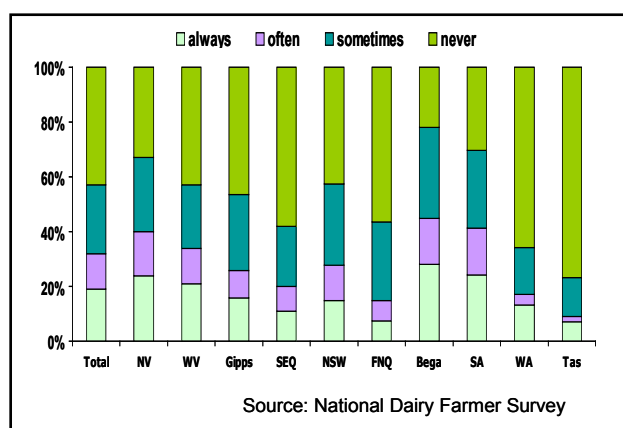
Frequency of obtaining a feed analysis report prior to buying grain/concentrates (2008).



FEED ANALYSIS PRIOR TO BUYING HAY/SILAGE

- Of the dairy farmers who buy hay or silage, 19% always obtain a feed analysis report and 13% often obtain a report prior to purchase. 43% never buy hay or silage with a feed analysis report.

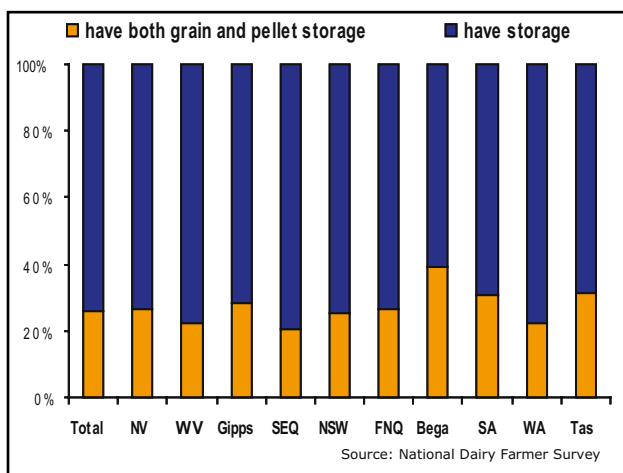
Frequency of obtaining a feed analysis report prior to buying hay/silage (2008).



ON-FARM FEED GRAIN STORAGE CAPACITY

- 97% of farmers who feed grain or concentrates have some on-farm storage capacity.
- 17% have less than 15 tonnes silo storage capacity, 62% have between 15 and 100 tonnes, while 21% can store more than 100 tonnes.
- Typically storage available on farm has limited capacity and can hold just three months or less supply (87%)
- 29% have capacity for less than one month.

Grain and supplement storage capability (2008).



Feeding systems

- Australian dairy farmers choose to use one of five feeding systems on their farm:

1. Pasture + other forages + low grain/conc. feeding in bail

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

2. Pasture + other forages + moderate-high grain/conc. feeding in bail

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

3. Pasture + partial mixed ration ± grain/ conc. feeding in bail

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

4. Hybrid system

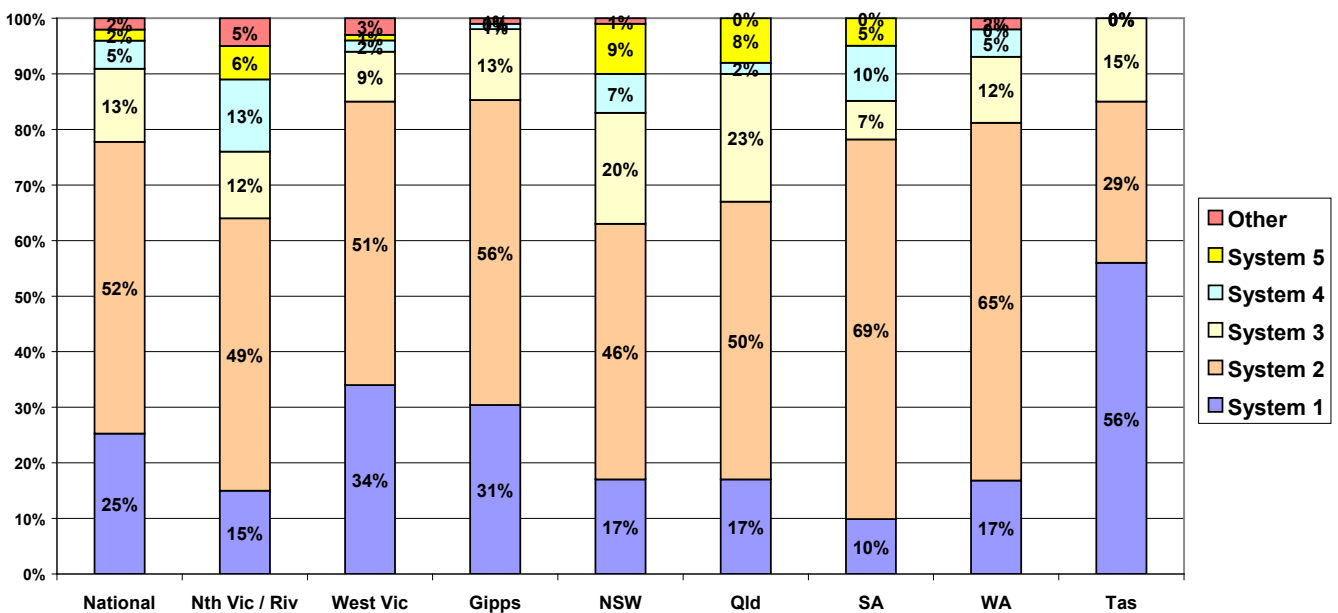
(Pasture grazed for less than nine months per year + partial mixed ration on feed pad ± grain/concentrates fed in bail).

5. TMR system

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

- The proportion of farmers using the five feeding systems varies considerably between regions.

- Grazed pasture is used by 98% of dairy farmers nationally in their feeding system (systems 1 to 4). Yet only 3% of farmers nationally feed pasture only.
- 15% of farmers in Tasmania feed grazed pasture only, which is considerably higher than in all other regions (ranging from 2% to 7%).
- 25% of farmers nationally feed a low rate of grain/concentrate in the dairy bail (up to 1.0 tonne per cow per year).
- About half of farmers (52%) nationally feed their cows a moderate to high rate of grain/ concentrate in the dairy bail (> 1.0 tonne per cow per year).
- The regions with the largest proportion of farmers supplementing grazed pastures with a partial mixed ration via a semi-permanent or permanent feed pad (systems 3 and 4) are northern Victoria/Riverina (25%), northern NSW/south-east Queensland (26%) and far-north Queensland (30%).



Feeding system used on-farm.



Feeding systems

- Hybrid systems are most commonly used by farmers in northern Victoria/Riverina (13%), South Australia (10%), southern/central NSW (9%). Those farmers using system 4 have most likely been forced to in response to climate variability and unreliable pasture production in recent years.
- Only 2% of dairy farmers nationally use a zero-grazing, total mixed ration system (system 5). Farmers using this system are most common in NSW (9%) and Queensland (8%).
- Average herd sizes on farms using feeding systems 1 and 2 are substantially lower than on farms using systems 3, 4 and 5.
- Feeding system 2 is the predominant system across all herd sizes. Dairy farmers with larger herds are more likely to use feeding system 3, 4 or 5, with 32% of farmers with more than 500 cows using these systems compared to 17% of farmers with fewer than 300 cows.
- Most seasonal calving herds (87%) use feeding systems 1 and 2. A split or year-round calving system is more likely to be used on farms using feeding system 3, 4 or 5.
- A key difference as farmers move across the spectrum from feeding system 1 to 5 is increasing capital investment in feeding infrastructure and equipment.
- Farmers who choose to invest in systems 3, 4 or 5 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.
- Higher levels of feed conversion efficiency are expected in systems 3, 4 or 5 (and are indeed required, given the higher capital and finance costs required).

FCE TARGETS

- Grains2Milk recommends these feed conversion efficiency (FCE) targets for milking cows, expressed in terms of grams of milksolids or kilograms milk per kilogram of feed dry matter:

Annual Milker Feed Conversion Targets (including a 60-day dry period).

Feeding system		grams MS/kg feed DM	
		^ Achievable target	* Take action is less than
1	Pasture + forages + low grain in bail	75	68
2	Pasture + forages + mod-high grain in bail	90	83
3	Pasture + PMR +/- grain in bail	100	92
4	Hybrid system	105	98
5	Total Mixed Ration (zero grazing)	120	109

Feeding system		kg milk/kg feed DM	
		^ Achievable target	* Take action is less than
1	Pasture + forages + low grain in bail	1.0	0.9
2	Pasture + forages + mod-high grain in bail	1.2	1.1
3	Pasture + PMR +/- grain in bail	1.3	1.2
4	Hybrid system	1.4	1.3
5	Total Mixed Ration (zero grazing)	1.6	1.45

- These targets are achievable in well-managed systems, with minimal wastage, good-quality feed, minimal feed gaps and good rumen function throughout the year.
- As an example of current FCEs being achieved in Australian herds, a range from 0.79 to 1.24 kg milk/kg feed DM was calculated in a set of 60 Tasmanian dairy herds, most of which use feeding system 1 or 2 (Grains2Milk TasMilk-60 project).

SURVEY DETAILS

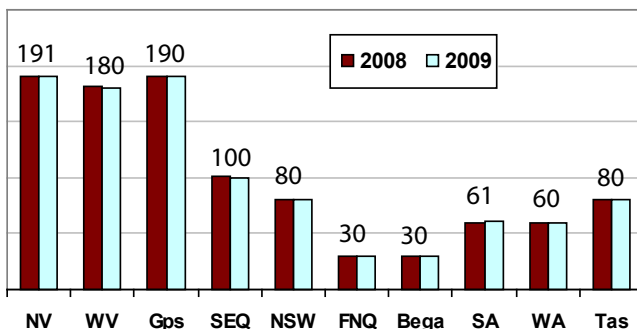
NV	Northern Victoria, including Riverina
WV	Western Victoria, including south-east South Australia
Gps	Gippsland
SEQ	South-east Queensland, including northern New South Wales
NSW	Central and inland New South Wales
FNQ	Far North Queensland
Bega	Bega Valley
SA	Central South Australia
WA	Western Australia
Tas	Tasmania

SURVEY ESTIMATES OF COW NUMBERS

Cow numbers are based on weighted estimates provided from a random sample of 1,000 farmers. 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.

Other industry estimates of cow numbers suggest these numbers could be over-estimating cow population.

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.

For more information, contact: Steve Little, Grains2Milk program leader for Dairy Australia.

Mobile: 0400 004 841; e-mail: slittle@dairyaustralia.com.au

MORE INFORMATION: GRAINS2MILK

The 2008 survey indicated that dairy farmers need to become more savvy feed buyers, and more effectively manage quality, supply and price risk. In response to this need, Dairy Australia's Grains2Milk program developed **Buying feed: an information pack for dairy farmers**.

Another issue highlighted by the 2008 survey was dairy farmers' low use of feed laboratory analysis. To help farmers interpret and apply feed lab reports, Grains2Milk has developed a web-based **Feed report tool**.

Many farmers are investing in infrastructure and equipment that allows them to use the range of available feeds. To help farmers choose the feed-out system that best suits them and to operate it effectively, Grains2Milk has developed a set of **Flexible Feeding Systems** fact sheets. These deal with key issues such as planning for growth, formulating diets, mixing and delivering feed to cows, and handling effluent. The fact sheets also discuss the implications of feed system choice on a farm's cost structure, the tasks and work routines of team members, and cow health.

To download these Grains2Milk information resources, visit www.dairyaustralia.com.au/Farm/Feeding-Cows.

