



Feed Intake

Technical Note N03

Importance of dry matter intake

Cows have a minimum requirement for protein and energy to maintain normal body functions—known as their ‘maintenance’ requirement—which is approximately 2% of their body weight.

Maximising dry matter intake provides more nutrients to rumen microbes, which in turn provides more nutrients to the cow for milk production and composition, growth, reproduction and body condition.

Every day, an efficient milking cow needs a dry matter intake equivalent to at least 3% of their body weight.

Estimating dry matter intake

1. Measure how much of each feed a cow is eating

Weigh daily allocations of grain, protein meals, conserved forages and hay.

Intake of pasture and forage crops are more difficult to estimate; however, visual estimation, cutting quadrats and/or using rising plate meters are ways of determining pasture/forage intake levels.

2. Determine the dry matter content of each feed

Feedstuffs differ in their moisture content. Always compare them for nutritional value and intake on the basis of their dry matter content.

There are two common ways to determine the dry matter content of feeds:

1. Weigh and dry samples of each feed in an oven or microwave.
2. Obtain an approximate dry matter value from feed tables (Refer to Feed Plu\$ CD or Protein Plu\$ checkbook).

Microwave method

- i. Place a sample (approximately 100 g) of the feed in a microwave-proof container and record the weight (wet weight).
- ii. Place a glass of water in the corner of the microwave. Place sample in the microwave, set to medium/low heat and dry for 3 minutes.
- iii. Mix sample and reheat for 30 seconds. Weigh.
- iv. Repeat at 30-second heating/weighing intervals until sample weight no longer changes.

Fan-forced oven method

- i. Weigh the feed sample (wet weight).
- ii. Spread out in a baking tray and dry at 80–100 °C for 4–8 hours in a fan-forced oven.
- iii. Weigh feed again when dry (dry weight).
- iv. Calculate $DM\% = (\text{feed dry weight} \div \text{feed wet weight}) \times 100\%$.

3. Calculate DM intake from fresh feed intake

$DM \text{ intake (kg)} = \text{kg of fresh feed (as fed)} \times DM\%$

E.g. 40 kg fresh feed x 50% DM = 20 kg DM.



Indicators of adequate/inadequate daily dry matter intake

Adequate

- Milk yield and composition on target.
- Lush pasture allocation not fully eaten.
- Silage, grain or mixed feed being left in troughs.
- Cows not standing around 'waiting to be fed'.
- Body condition score on target.

Inadequate

- Low milk yield and problems with composition - mainly milk fat % is variable from pick-up to pick-up.
- Cows appearing hungry, bellowing, waiting for feed.
- Cows rushing to fresh forage, to feed troughs, and into the dairy for grain.
- Cows eating all feed allocated in paddocks and troughs.
- Low body condition score.

Useful rules of thumb

- The heavier the animal, the higher its maintenance requirements, and the higher the intake required for production.
- An efficient milking cow needs a daily dry matter intake equivalent to at least 3% of its body weight.
E.g. A 600 kg cow needs at least $600 \text{ kg} \times 3\% = 18 \text{ kg DM/day}$.
- Higher producing cows will eat more than 4% of their body weight as dry matter.
E.g. A high-producing (>30 L/day) 600 kg cow could eat $600 \text{ kg} \times 4\% = 24 \text{ kg DM/day}$.

Further information

Contact the DAFF Customer Service Centre by Phone 13 25 23, or Email callweb@daff.qld.gov.au

More technical notes can be found at: www.dairyinfo.biz

Protein Plu\$ checkbook (Published 2006 by DPI&F Qld)

Feed Plu\$ CD v4.0 (Published 2008 by DPI&F Qld)

Condition magician booklet (Published 2003 by DPI Vic)



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