

Summer Supplement Feeding Strategies

The key point to remember during summer is that cows are not heat tolerant. As the ambient temperature and humidity increase, the cow's body temperature also rises. Her natural response is to do less heat generating activity, such as grazing. This also means less feed to process and less internal metabolic heat to cope with as a result. The higher the fibre level of feeds, and the lower the digestibility, the more heat generated during digestion. As most ryegrass does not cope well with high summer temperatures, and even less well with moisture stress, the bulk of the cows diet is likely to be of poor quality.

So we have the situation where the cow wants to eat less, and the pasture is of poor quality. The aim then is to feed the cow feeds that are high in energy (nutrient dense), are easy to harvest (little activity required), and which meets the requirements of the rumen microbes to ensure optimum milk production. So what are the options?

1. Turnips. These are an excellent source of protein (leaves) and carbohydrate (bulbs). Carbohydrates in turnips are a mix of soluble sugars and starches and more complex structural forms. This helps meet the needs of the rumen microbes for a range of fermentation rates. A common problem seen with turnips is that cows are often not feed enough. Aim for a *minimum* of 3kgDM/cow/day for jersey's and 6 kgDM/cow/day for big friesians. Remember that Barkant turnips have a use by date. The bulbs deteriorate from the inside out and there is rapid deterioration in the digestibility and protein quality in the leaf. Turnips are an excellent complementary feed to use with other supplements to maximize summer production.

2. Grass Silage. Will only be good for summer milk if made from good quality, leafy, high digestibility grass that has been harvested and ensiled properly. Poorer quality silage should be kept for dry cows or cool weather. Remember that silages do not contain sugars (used up in ensiling process), and that soluble sugars and starches are required by rumen microbes for optimum protein recovery. Adding molasses will increase the energy intake of the cows.

3. Other silages. Legumes such as Lucerne are better for milk producers if made correctly at the correct time. Maize silage is a good carbohydrate source but can be limiting if used in large quantities in summer. Addition of protein supplements such as PKE, copra or Soya meal will improve milk production when getting feed maize silage.

4. Palm Kernel. This does not have readily available starches or sugars so it is not a complete feed, but it is nutrient dense and does contain a reasonable amount of protein that helps maintain milk production in late lactation. As it is a digestible not fermentable feed it is very rumen friendly. Another big benefit is the oil content, which is a good source of cow energy and helps maintain cow condition. PKE and turnips together provide a better summer ration than either on its own.

5. Molasses. This is energy dense, and helps increase intakes without increasing metabolic heat. Helps improve palatability and digestibility of other feeds, such as poorer quality silage. You must be very careful to restrict access to molasses at this time of year, especially if total feed intakes are restricted. Cows can easily gorge on molasses and the result is severe acidosis, possibly resulting in death.

6. Meals. High protein meals (e.g. soya, canola) are excellent as part of the ration for high performing cows. Grain based concentrates (wheat, barley) are energy dense, and an excellent carbohydrate source, but in moderation. Too much leads to rapid rumen fermentation, which may make "hot" cows worse and cause acidosis.