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Improving variable costs can have a substantial impact on profitability, with 70% of the variable costs of finishing beef cattle coming from feed and forage. Every 1% improvement in feed efficiency has the same economic impact as a 3% improvement in liveweight gain. Feed efficiency (the amount of growth per kg of feed) is affected by genetics, environment, health status and nutrition.

Optimising Diets for Feed Efficiency

The focus should be on the rumen, the engine room of cattle, which contains trillions of microbes and is responsible for digesting feed and turning this into nutrients the animal can use for growth. The more efficient the rumen is, the more nutrients the cattle can take from the diet.

If the rumen environment if optimised, the microbes will extract the majority of nutrients from the diet and convert initially into lactic acid – which can cause digestive upset and acidosis if left to accumulate in the rumen – and then into propionate, a highly efficient form of energy. Once the microbes have done their job, they wash into the intestines where they are digested, providing the majority of the animal's protein requirements.

Convert Feed Efficiently

1. Tailor diets to the type of cattle
Cattle require nutrients for maintenance followed by growth so it is essential to ensure that energy for maintenance is not wasted leaving more to support weight gain. Feeding too much protein will cost more money without delivering a return on investment and underfeeding will lead to a compromised live weight gain and lower returns.

Different breeds and classes of animals have differing nutritional requirements – bulls, steers and heifers or early maturing, late maturing and dairy bred animals. The diet should be targeted to ensure optimum feed efficiency and limit waste nutrients.

2. Manage diet transition carefully
The transition onto a finishing diet is the most important pinch point and it should be done gradually over 14-21 days to allow the rumen to adapt. Diet changes that occur too quickly can cause long term damage to the rumen wall and result in poor rumen function and acidosis. In turn, this will reduce the amount of feed digested which can lead to stalls in growth, poorer feed efficiency or even death.

3. Ensure each animal can eat comfortably
Bullying at the feed area, and resulting stress, negatively affects feed efficiency, so it is essential that every animal can eat comfortably. This can be achieved by providing:

- Smooth trough surface with adequate Head Feed Space with good underfoot conditions
- 55-65cm/head for TMR/Restricted Feeding (400kg-650kg)
- 20-28cm/head for ad lib (hopper)
- Constantly available feed – If the feed quantity available is 10% less than cattle would voluntarily eat, growth rates reduce by 20%!

iFeed
INTELLIGENT FEEDING by Dugdale Nutrition

4. Clean, fresh and easily accesible water

Cattle require between 5-7 litres of water per kg dry matter consumed - as much as 80 litres per day! Keep in mind that cattle will drink as a group, so supply must cope with peak demand. If water intakes are reduced, intakes will subsequently be reduced leading to reductions in liveweight gains and thus feed efficiency.

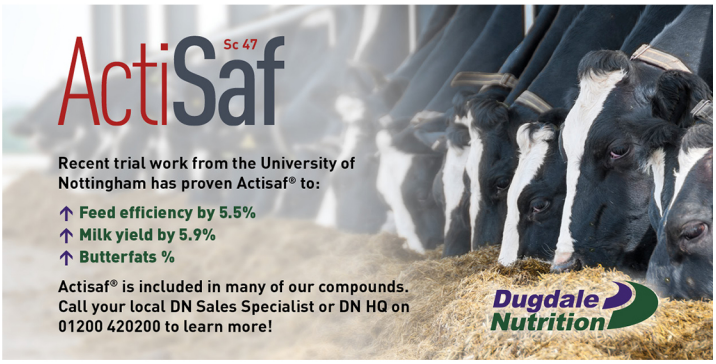
5. Monitor the cattle

Simple signs that the rumen is underperforming include:

- Dung that is loose, bubbly, soft, grey, foamy, or of variable consistency
- Mucin/fibrin casts or indigested fibre/grains found in dung
- Reduced feed intakes or weight loss
- Poor rumination rates/cud chewing
- Lethargy
- Rapid breathing
- Tail swishing in the absence of flies

6. Optimise feed efficiency with Actisaf

Feeding Actisaf live yeast to beef cattle has been repeatedly proven to aid in diet transitions, support the bugs that stabilise rumen pH, reduce build-up of lactic acid and digest fibre. In turn, this prevents digestive upset, acidosis and loss of performance, as well as increasing VFA (energy) release from feed, the key driver of live weight gain. Good rumen function supported by Actisaf promotes efficient digestion, unlocking more from feed and supporting high levels of performance.



Research carried out in France in 2013 shows that supplementation with Actisaf increases the population of rumen microbes identified in efficient animals, such as *Megasphaera elsdenii*, which converts lactic acid into propionate to drive weight gain, and *Fibrobacter succinogens*, a key microbe involved in fibre digestion.

Actisaf has been found in several trials to improve feed efficiency in ruminants by stimulating the growth and activity of rumen microbes, with no increase in feed intakes.

In beef cattle, EU registration trials show that Actisaf increases growth rates by up to 9% and improves carcass classification – resulting in an average net return of £38 per animal.

Other Top Tips for Efficient Feeding...

- Regularly monitoring and drafting cattle as they become fit has a significant bearing on feed efficiency. Fat animals are highly inefficient – 4x more energy to lay down fat (Owens et al., 1995)
- Faster finishing will mean cattle move through fat classes more quickly
- Animals finished at 1.2kg/ day DLWG can take six weeks to go from 4L to 4H, whereas animals finishing at +1.5kg/day can take three weeks
- Let the cattle tell you when they are ready!

Summary

1. Match the diet to the animals you are feeding
2. Manage diet changes carefully
3. Ensure each animal can eat comfortably
4. Clean water is essential
5. Monitor what cattle are telling us
6. Feeding Actisaf increases the efficiency of the rumen by altering its biochemistry and providing the right environment for the rumen microbes to thrive

Dugdale Nutrition

170 years of innovation

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