

Lick supplementation in the lean months: What is required?

By Koos du Pisanie

Grazing remains the cheapest source of roughage and must be utilised optimally during the lean months.

Grazing quality drastically decreases during the winter months, reaching a low in August and September before the arrival of the summer rain. This is usually the most crucial time of the year for livestock producers, when supplementation of high-quality energy and protein becomes essential to pull animals through the lean months.

Alheit du Toit, animal scientist at Feedtek, says research shows that most areas in Southern Africa are phosphate deficient, while phosphate is vital for sustained fertility and production.

"But it would be a costly mistake to focus only on phosphate at the expense of balanced mineral and trace mineral supplementation. This especially concerns high-producing small stock, such as ewes in late gestation and lactating ewes that have multiple lambs, where even cultivated grazing cannot fully meet their nutritional requirements," says Alheit.

Put grazing to better use

Melville Price, technical manager at Cargill, emphasises the fact that grazing is the cheapest source of roughage and that it must be utilised optimally. A phosphate lick containing minerals and trace minerals is typically supplemented in summer, while protein and/or nitrogen

in the form of urea is supplied via a winter or protein lick in autumn and winter.

Lean months such as August and September are marked by winter grazing that is either limited or completely absent and this is when a production lick containing energy, high-quality protein, minerals and trace minerals is provided. "The requirements of reproducing animals, such as those that suckle calves or young and growing female animals, increase dramatically during this period," he explains.

Dr Francois van de Vyver, ruminant business manager at Kemin Industries, warns that lick supplements are only there to supplement grazing and that the correct supplements must be utilised. "Supplementing the wrong nutrients, for example energy (maize) on dry veld, will lead to replacement animals rather ingesting the supplement and reducing their intake of unpalatable veld, instead of promoting the digestibility and intake of the veld. In terms of cost, this is simply ineffective."

The purpose of supplementation

The purpose of lick supplements, says Alheit, is to assist the animal in supporting optimal rumen microbe function. "Once rumen metabolism is optimal, extra energy and natural protein, in addition to what the rumen microbes require, can be provided to

the animal for digestion and absorption in the lower digestive tract. This will increase the animal's production levels.

"Macrominerals, trace elements and fat-soluble vitamins such as vitamins A and E, which the microbes cannot synthesise, are important because animals require them for the utilisation of nutrients, and they are essential for all normal bodily processes. Livestock cannot produce or reproduce without them."

As the cheapest source of roughage, grazing needs to be utilised optimally and supplements should only play a supportive role. The nutritional value of grazing changes with each new season and supplements should therefore be adjusted throughout.

Determining deficiencies

According to Melville, it is not always that simple to determine which minerals and trace elements animals require. Supplementing minerals and trace elements in summer is standard practice, while protein or nitrogen is given along with minerals and trace elements in autumn and winter. In late winter and early spring, when winter grazing is limited or even lacking, energy, high-quality protein, minerals and trace minerals are given.

This standard is normally applied, but it is necessary in some cases for a

breeder to go the extra mile. A laboratory can also determine grazing deficiencies by analysing the grazing at different growth stages. This way, the minerals and trace elements present in the animal's liver can be determined in a laboratory, thereby giving an accurate indication of the deficiencies of the veld or cultivated grazing.

Lick supplements, recommends Alheit, should be adjusted according to the seasons and veld condition. "In the dry season, protein supplementation in the form of non-protein nitrogen (NPN) is essential for improving the utilisation of difficult-to-digest plant material.

"In contrast, lush green summer grazing, and especially fertilised cultivated green pastures, generally contain enough rumen-soluble protein for the microbes. NPN supplementation on fertilised green pastures is therefore undesirable due to the consequent overloading of the rumen nitrogen pool."

Which additives to give?

Francois gives three general guidelines for determining which additives are needed. He says supplementation should be done according to the requirement of the animal, the availability of the veld, and the inherent digestibility and nutritional value of the veld.

"The digestibility of summer grazing is excellent and highly palatable, but after

flowering its nutritional value begins to decrease, although digestibility is still sufficient. In winter the palatability of grazing is very low, as is intake. The same applies to digestibility. The correct energy-containing supplements must be given from August/September to improve the veld's utilisation.

"Supplements are provided throughout the year – minerals in summer, protein in winter and production licks during late winter or when animal requirements exceed maintenance levels."

Palatability and intake

He adds that the palatability of supplements is key. Animals that are not accustomed to the lick must be adapted to it first. Salt regulates an animal's intake, but a salt-deprived animal will ingest too much lick as it craves the salt in it. Flavour enhancers can be used with success, especially in mineral licks.

However, says Alheit, the palatability of a lick is not the only factor that determines whether enough is ingested or not. Factors such as the quality and quantity of grazing, as well as the condition and requirements of the animals at a specific stage, will determine voluntary lick intake.

Less lick is ingested in areas with sweeter grazing; the opposite applies to areas with more sour grazing. Likewise,

green summer grazing is more palatable than dry winter grazing and lick intake in winter is consequently higher than in summer.

"Lick intake can be manipulated by changing the grain and/or molasses content in proportion to the minerals, salt and other intake limiters. However, be sure to guard against random changes. Follow the recommendations of a registered veterinarian instead."

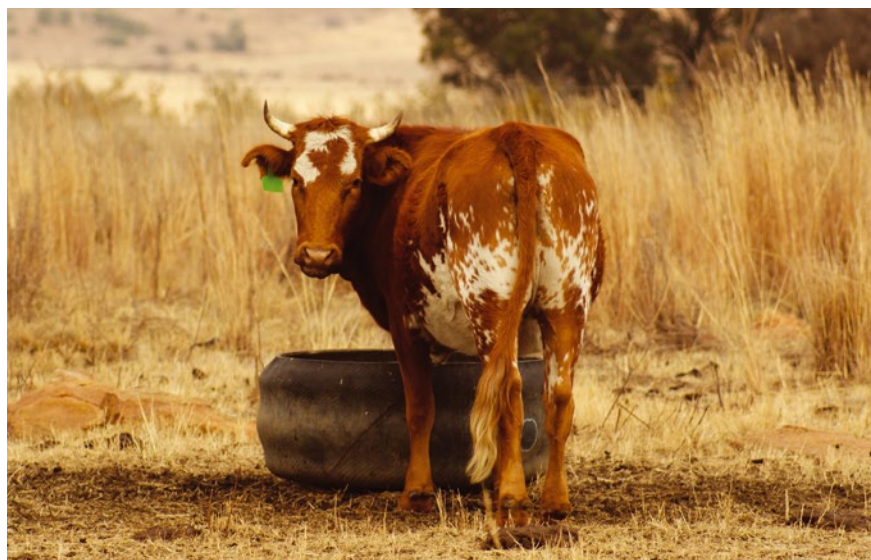
Plan your strategy

He reiterates that every farm is different and that it is always a good idea to spend some money and work out a proper lick strategy that suits your farm. Certain basic principles can be followed to correct general deficiencies and imbalances for different types of grazing and seasons, although a more specialised approach is often needed.

"Make strategic use of grazing analyses as well as the mineral status of the animal acquired through blood and liver samples. For the typical livestock producer, analyses are not necessarily a standard practice, unless problems persist while already following a good supplementary nutritional programme," says Alheit.

Francois agrees and adds that it is simpler and cheaper to follow a lick strategy based on the season and/or production requirements, than to supplement a deficiency of unknown duration or trying to correct it overnight to achieve instant results.

Melville is also a supporter of compiling a lick programme in collaboration with a nutritionist. "The programme must match your farm's unique quality and availability of veld to the nutritional requirements and production stages of your animals. Producers should therefore plan their fodder flow, keeping in mind the necessary supplements to boost the animals' condition." 📞



Determining which minerals and trace elements are required is no easy task. For this reason, protein or nitrogen as well as minerals and trace elements are usually provided in autumn and winter. In late winter and early spring, when winter grazing is either limited or completely absent, energy, high-quality protein, minerals and trace minerals are normally provided.

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