PRODUCT INFORMATION SHEET

SealesWinslow

FODDER BEET BLOCK

What is Fodder Beet Block?

Fodder Beet Block is a portable, easy-to-use molasses block that has been formulated to provide dietary support for stock grazing fodder beet. It is manufactured in New Zealand to strict quality standards.

Fodder Beet Block supplies dietary phosphorus, as well as magnesium, calcium, sodium and a range of trace elements that are important for maintaining animal production.

Fodder Beet Block is designed to be placed at the crop face under the fence in front of the cows. A minimum of two 25 kg blocks per 50 head of cattle will be sufficient to supply the recommended dose (100-200 g/cow).

Fodder Beet Block	Typical analysis*
Phosphorus	5.0%
Magnesium	5.3%
Calcium	6.1%
Sodium	6.3%
Cobalt	19 mg/kg
Copper	400 mg/kg
Iodine	40 mg/kg
Selenium	7 mg/kg
Zinc	1200 mg/kg

* As fed

Benefits of Fodder Beet Block

- Provides mineral phosphorus to help prevent the development of phosphorus deficiencies in cattle
- Also supplies magnesium to support the cow's health through the winter months
- Supplies five separate trace elements – cobalt, copper, iodine, selenium and zinc – that may be in low supply when stock are grazing bulb-based winter forage crops
- Convenient – blocks are easily placed under the fence in front of the cows and are simple to move as the fence is shifted
- Palatable – the molasses-based formula ensures that stock lick the block often enough to ingest the recommended daily dose
- No wastage – unlike dusting, there is no wastage from the molasses block; the product goes into the cows, not into the ground

Using Fodder Beet Block

- Allow one block per 25 head of stock
- Place blocks at the crop face
- Provide enough blocks to prevent overcrowding and ensure shy feeders get their share
- Always provide unlimited drinking water and adequate quantities of roughage
- Do not feed to sheep

Number of cows	Number of blocks
100	4
150	6
200	8
250	10
300	12

Number of cows	Number of blocks
350	14
400	16
450	18
500	20
550	22

Average intakes

The amount of Fodder Beet Block ingested by any one animal will vary, but studies have shown that intakes are normally between 100 and 200 g/head/day. The table below shows the daily intake of each individual nutrient at three rates of consumption.

	Daily intake of Fodder Beet Block/head		
	100 g	150 g	200 g
Phosphorus	5.0 g	7.5 g	10.0 g
Magnesium	5.3 g	8.0 g	10.6 g
Calcium	6.1 g	9.2 g	12.2 g
Sodium	6.3 g	9.5 g	12.6 g
Cobalt	1.9 mg	2.9 mg	3.8 mg
Copper	40 mg	60 mg	80 mg
Iodine	4 mg	6 mg	8 mg
Selenium	0.7 mg	1 mg	1.4 mg
Zinc	120 mg	180 mg	240 mg

Feeding fodder beet

Fodder beet is increasingly popular as a winter feed for dairy cows and beef stock. However, it does have some nutritional constraints, including a low phosphorus content, low fibre level (<20%) and less than optimal protein content (13%). It does have a high sugar content, which makes it very palatable.

Feeding silage and straw alongside fodder beet helps to ensure the animal's energy needs are met and helps to offset fibre and protein shortfalls. However, a phosphorus deficiency may remain.

Cows grazing fodder beet also ingest more soil than cows grazing pasture or other non-bulb crops. New Zealand soils contain reasonable levels of iron, so when cows are grazing fodder beet, their iron intake increases. Iron is an antagonist for many trace elements – in other words, it interferes with the normal metabolism of those trace elements.

Copper absorption in particular is decreased in the presence of high dietary iron, most likely as a result of insoluble compounds forming in the rumen.

Role of phosphorus

Phosphorus is a major component of the skeleton. It also plays a key role in a number of metabolic processes, including those that take place in the rumen. It's needed for bone strength, energy metabolism and milk production. It's also involved in buffering the rumen, which helps to minimise the risk of acidosis.

Phosphorus deficiency

Cows that are fed a low-phosphorus diet for an extended period of time may develop sub-clinical phosphorus deficiencies. Symptoms of low-grade phosphorus deficiency include reduced appetite and rapid weight loss; in some cases, blood may be seen in the urine.

The effects of a low-phosphate diet are not immediately obvious, as in the short-term cows will mobilise their existing phosphorus reserves to maintain blood phosphorus levels.

Dietary phosphorus

Lactating cows require a dietary phosphorus intake of between 0.3% and 0.4% (i.e. 3.0-4.0 g P/kg DM). Dry cows require a slightly lower level (0.27-0.35%).

Phosphorus supplementation has been associated with an increase in fertility. However, the mechanism underpinning this is uncertain. It may be a result of weight gain, reduced weight loss, or a direct effect of the phosphorus itself.

Heifers that have a phosphorus deficiency may experience delayed oestrus. In addition, cows with a prolonged sub-optimal phosphorus intake may show a reduction in milk yield.

The on-farm experience

Animals are typically wintered on fodder beet for 60 to 100 days. Grazing on a predominantly low-phosphorus diet for this length of time could result in phosphorus deficiency manifesting at calving or early lactation, which would have implications for the health of young stock and for the milk production potential of dairy cows.

While some cows that experience phosphorus deficiency will recover, others will go down. The classic presentation of a cow that has gone down as a result of phosphorus deficiency is a 'creeper cow' – the cow is down but alert. Such cows will try to crawl around, especially on their forelimbs, but will be unable to rise. The fact that these cows are alert and energetic distinguishes them from the sluggish downer cow seen in milk fever.

Phosphate dusting

One way to reduce the chance of phosphate deficiencies developing in stock grazed on fodder beet is to dust the crop with dicalcium phosphate. The recommended protocol is to dust the crop to be grazed with 50 g dicalcium phosphate per cow per day.

There are several factors related to phosphate dusting that make it a less-than-perfect approach. The process itself is necessarily dusty and time-consuming. Furthermore, there is considerable wastage – the recommended rate assumes that 50% of the dicalcium phosphate applied will be wasted.