



# DAIRY NEWSLETTER

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## LEADING STORIES

**Fodder beet:** Fodder beet is a crop that produces high DM per ha such as that in a recent Mid Canterbury competition with a crop reaching 25 tone DM to the hectare. Recently the clinic has seen cases of downer cows on Fodder beet. Fodder beet has low levels of Calcium, and on top of that, it also contains elements that suppress the Calcium in the animal. To prevent downer cows on fodder beet, it is important that correct feeding management is in place. Due to the low calcium levels, and compounds tying up calcium uptake, it may be tempting to add calcium in the diet, however this is not recommended pre calving as this encourages the cows to rely on this rather than mobilising body reserves. Crude Protein in To page 3



An example of a healthy fodder beet, ready to feed.

## SPECIAL POINTS OF INTEREST:

- Other than cows, the following also produce milk for human consumption—Buffalo, camels, donkeys, goats, horses, reindeer, sheep, water buffalo, yaks, zebras and Moose.

**Question:** A bottle of Old Coach Road, Merlot for the first to email me the name given to a Russian mare that is milked for human consumption.

## INSIDE THIS ISSUE:

FODDER BEET	1
CALF REARING	1
WEBPAGE	2
ORGANIC MINERALS	2
MINERALS	2
NITRATES	3
CALCIUM	3
BLOAT	3
FEEDING FOR PREGNANCY	3

## DAIRY TALK

**Calf Rearing:** The biggest period of calving is on our doorstep, so it is important to have rearing facilities up to scratch. A big part of this rearing facility is having a good feeding plan in place.

We do hear some very interesting recommendations about feeding calves. Colostrum is the first nutritional step in rearing calves, and therefore we recommend that all calves be

fed 2L of colostrum within the first 8 hours, better still the first 6 hours. A trial by Besser & Gay, 1994 suggests that Immunoglobulin (IgG) levels above 10mg/ml greatly reduces calf diseases. Stott et al shows that feeding colostrum in the first 8 hours lifts the IgG level above 10. Feeding calves in the first 8 hours involves calf collection twice a day and giving them their first

colostrum as soon as they get to the calf shed.

Colostrum is important to a young calf as it has everything that a young calf needs. Most important of these is energy.

### Colostrum

Solids% = 2 x milk

Fat% = 2 x milk

Lactose = same as milk

Protein = 4 x milk

IgG = 60 x milk

Vitamins = 8 x milk

### VETLIFE SCIENTIFIC NEWS

#### **A GOOD READ:**

*Trace minerals, Time for change?*

www.feedindustry  
network.com

**Organic Minerals:** An organic mineral is when an ion (i.e., Copper, Zinc) is bound (chelated) to either an Amino Acid, Protein or a sugar to avoid antagonists in the Rumen. This binding allows the ions to bypass the small intestine. In many cases, mineral deficiencies are not due to low levels of mineral in the feed, but high levels of antagonists. In New Zealand, Molybdenum, Iron, and Sulphur are important as these interfere greatly with Copper. Molybdenum is particularly important during the wetter months. Organic minerals stop this antagonism by binding the copper, making it unavailable to these antagonists, and therefore readily absorbed. In

**Webpage:** Vetlife Scientific is currently in the process of developing a webpage so that you as our clients can keep in touch with us to find out what is happening. We hope to launch the site in the next month. This site can be accessed by visiting the Vetlife website [www.vetlife.co.nz](http://www.vetlife.co.nz) home page and clicking on the Vetlife Scientific tab.

#### CALF REARING CONT.

Colostrum is a very high energy source at 25+ MJ/ME DM, compared to whole milk at 23 MJ/ME DM. We recommend calves should be fed 2L twice a day, and have good quality, fresh calf meal available ad lib at day three. Quality calf meal is important to all calf rearing. It is important with calf meal to get a high energy meal, not in fats or oil, but fermentable

such as grains, and with a protein range preferably between 18-20%. A further recommendation is to offer sodium bentonite ad lib from day one. This will help rumen digestion and can be used to encourage calves onto your good quality meal as calves love it. Fresh clean water that you would drink yourself



should be made available ad lib, as this in itself has shown to increase calf growth rate by 60% according to Bas Schouten—Calf rearing expert. Weaning calves is recommended when either-  
-Calf weight reaches at least 100kg, and,  
-Calves are older than 12 weeks of age, and  
-Calves consume at least 1kg concentrate per day, with evidence of an active rumen environment.  
Once weaned, a continued allowance of 1-2kg meal per day should be offered for the next month.  
Investing in your calves will invest in your profit!

#### NUTRITION NEWS



**Minerals;** Over the last few months Vetlife Scientific have been investigating different mineral companies to offer cost effective, quality minerals to our clients. Vetlife scientific have established a relationship with two companies who can provide additional product options for mineral requirements.

**Agvance:** Agvance provide cost efficient options in sulphates and organics. Agvance will supply our standard mineral blends for Vetlife's three main geographic areas, with the option to customise further to suit any individual farmer.

**QualiTech:** QT are a high quality mineral range which contain Zinc and Copper Polypeptides. Polypeptides are an organic mineral form, proven to have greater uptake than the inorganic form. QT will supply our premium (organic) mineral blends, and can customise to suit.

## CLINIC TALK

Fodder beet cont:

Fodder beet is about 13% of DM, which is low in comparison to pasture (winter, 25% of DM). The ME value in Fodder beet is generally good at about 12.5 – 13.5, making fodder beet a great option as a winter feed also due to the high DM production, however drawbacks are evident if not managed well enough. Don't get relaxed with feeding late in the dry season.

**Crop Nitrate:** The clinic has recently seen toxic cases of Nitrates in crops. Factors increasing nitrate levels in plants include

- Drought
- Cloudy or cold weather
- Herbicide application
- Wilting

The amount of nitrate in plant tissues will also depend on

- Plant species
- Stage of maturity
- Part of the plant

Nitrate concentrations are usually higher in young plants and in stalks. These levels generally decrease as plants mature.

Animals that are hungry, poor conditioned or stressed will have increased susceptibility to nitrate/nitrite poisoning.



For more information on how to test nitrate levels, please contact your nearest Vetlife clinic.

### **A GOOD READ**

#### **A NOVAL NUTRITIONAL STRATEGY TO PREVENT MILK FEVER AND STIMULATE MILK PRODUCTION IN DAIRY COWS**

*By: GF WILSON*

### UPCOMING PERIOD

**Calcium** is required by both the dam and her unborn calf. It is important that calcium is mobilised from the cows own body stores. Supplementation with Magnesium about three weeks prior to calving assists the cow to mobilise her own calcium. Magnesium is used to make an acidic environment in the rumen, causing the animals blood-

stream to also become acidic. It is this acidity in the animals bloodstream that aids the mobilising process. The increase in calcium uptake should help in reducing the incidence of milk fever in the herd, so long as the calcium requirements of the lactating cow is met. This should be done in conjunction with a good quality diet.

**Bloat:** There are often questions about behavioral bloat on kale. We are getting cases throughout the practice due to cows gorging on a new break. Options for preventing behavioral bloat may include:

- Increase number of breaks per 24hr period
- Avoid excessively hungry cows
- Dilute the high protein with low quality or fibre

### FEEDING FOR PREGNANCY

During the winter period, requirements of the pregnant cow increases, and this needs to be taken into account when allocating feed.

This intake increase is essential to a good calf on the ground. The additional requirements over and above normal cow maintenance (57MJME for a 500kg cow) 6 weeks pre calving is about 15-17

MJME/day. This requirement increases weekly leading up to calving. As the calf grows inside the dam, the availability of space in the rumen decreases. Therefore it is important that feed quality increases to ensure requirements are met.

*The following requirements are for a 30kg calf at birth. Pasture and Supplements for Grazing Animals*

<u>wks pre calving</u>	<u>MJME/d</u>
6	15
4	19
2	25
0	34

Mineral requirements for pregnant cows increase due to the needs of the calf at a time when regular supplementation is often difficult. This is why

we try to get mineral storage levels to a sufficient rate where possible prior to drying off. It is very difficult to make accurate decisions on dosing levels without testing livers and/or bloods. Many of these minerals may be deficient without seeing clinical signs, but they could be losing production.

In New Zealand, there are five trace elements that are often deficient or sub-adequate in the pasture diet of dairy cows; copper, cobalt, selenium, iodine and zinc. In general, these minerals act as co-factors for enzymes that drive metabolic processes in the body. Thus deficiencies can reflect in reduced production, impaired reproduction, reduced immune responsiveness, and ill-thrift.

## **COPPER**

Copper is necessary for enzyme systems that involve the immune system, nervous system, reproduction, growth, and the structural strength of tissues like bone and skin. Copper deficiency may be due to lack of copper in the soil, or a secondary deficiency where the copper is bound to antagonists like molybdenum, iron and sulphur, and made unavailable for use by the animals. Developing calves have a high demand for copper from the dam. Lightening of coat colour, poor growth, and reproductive problems are most associated with marked copper deficiency. Copper can be stored in the liver.

## **COBALT**

Cobalt is essential for rumen bacteria to produce Vitamin B12 which is then absorbed by the animals for their use. Vit B12 is necessary for methionine metabolism. Severe cobalt deficiency displays as loss of appetite, impaired growth rate, harsh coats, and anaemia; traditionally known as "bush sickness". Cobalt helps rumen bacteria with fermentation and fibre digestion. Vit B12 can also be stored in the liver.

## **SELENIUM**

Selenium is essential for important enzymes that act as antioxidants and prevent tissue damage from free radicals. Selenium also influences thyroid function and the immune system. Severe deficiency causes "white muscle disease" (damage to skeletal and cardiac muscle), infertility, ill-thrift, and reduced production. Selenium is not stored in the body.

## **IODINE**

Iodine is essential for the production and regulation of thyroid hormones. These hormones control the rate of metabolism of all cells. Iodine deficient animals have lowered metabolic rate and heat production. This affects cell growth and differentiation, energy metabolism and protein synthesis, especially in the developing foetus.

Goitre, or enlargement of the thyroid gland, is the most marked sign of iodine deficiency. Iodine uptake and use by the thyroid can be affected by substances in goitrogenic plants like Brassica crops.

## **ZINC**

Zinc is a co-factor for many enzymes involving the immune system and maintaining the structural integrity of keratinised tissues like skin and hooves. Although zinc is never completely deficient in NZ soils, intake is often sub-optimal in livestock. Supplemental zinc can improve immune status and so help lower SCC,s, and improve the hardness of keratinised tissues like hooves.

These five trace elements are the most important for maintaining the health, production, and reproduction of livestock in New Zealand. There is little evidence to support supplementation of animals with manganese, chromium or boron under NZ conditions.