

The Cooney Furlong Grain Co. Technical Newsletter

Beef Feeding Focus

Getting the efficient feeding regime to suit your farm and your animal's needs is a battle every farmer faces.

With winter just around the corner it's important to remember a few key points:

- **Housing** – make sure that all cattle have adequate, dry space to lie down with ample ventilation and airflow. It is important to match cattle of equal size and weigh in pens together to avoid bullying. Avoid overcrowding in pens also as both these factors will dramatically decrease live weight gain (LWG). Shaving down the cattle's back reduces body temperature therefore increasing feed intake.
- **Water** – access to adequate clean water is vital. A beef bull at 300kg will drink between 25-30 litres of water day. A 600kg beef bull will drink 30-60 litres per day and up to an addition 70litres a day depending on concentrates.
- **Dosing** – a regular dosing programme is of key importance. Cattle should be dosed for worms 2 to 3 weeks prior to housing, this will minimise the risks of lungworms causing pneumonia. Cattle should also be dosed 3 to 4 weeks after housing for fluke, worms and lice.



- **Energy** - energy intake is the determining factor in live weight gain in cattle. Energy is crucial and it's important to choose a ration as high in energy as possible (i.e. as close to 1UFL as possible). High DMD silage, maize silage and beet can also be included. Depending on age a typical fattening diet will be very high in energy with an average protein of 13% across the diet, as maize and beet are low in protein it is necessary to bring up the protein to balance the diet. 20kg of beet is the equivalent to 4.5kg of concentrate. Maize and beet are low in phosphorus and protein, therefore it is important to supplement these in the diet.

- **Protein** - there is a lot of confusion over what is the correct amount of crude protein to be fed to cattle. It is recommended to feed crude protein between 12%-14% depending on sex, breed and maturity rate for finishing cattle and 14%-16% for growing cattle. This seems quite low but it is more important to get usable protein into the diet. Energy, Fibre and Protein are the 3 main constituents of the diet.
- **Fibre** - lack of adequate fibre in the diet is often the reason we encounter problems such as acidosis, lameness and in extreme cases even joint ill. At least 10-15% of the diet needs to be fibre. Ideally, silage to be at least 72 DMD for a finishing system. Chopped straw is considered a necessity in an ad lib diet. Optimal straw chop length is 30mm –50mm. Chopping straw will reduce feed sorting and wastage. Chopped straw aids to lower PH levels in the rumen and therefore stimulating digestion and optimising feed intake. A minimum of 1-2kg of straw is essential in any ad lib diet.



- **Feeding Rate** - Diet changes should be gradually introduced over a 3 week time frame to allow rumen microbes to adapt. Start at 3kg per head per day of concentrate or cereals and step it up by 1kg every 3 days, as long as cattle aren't showing any sign of digestive disturbance, until you reach the desired maximum feeding level. A buffer or yeast is a good insurance in a diet but is no substitution for good management. Keeping a watchful eye for any digestive disturbances is essential. In general the level of concentrates fed will depend on how fast you intend on finishing your cattle so typically fattening cattle will eat between 5 to 10kg concentrates per day or ad lib meal with straw for a fast finish. Growing cattle are generally fed 2kg per day or even less with silage at 70+ DMD. Concentrate can be reduced and maybe even cut down to zero with high quality silage a month or so before being turned out as weanlings as weanlings will have compensatory growth when they hit the grass in spring.

● **Grass silage quality** - Silage testing is vital in order to calculate the required concentrate supplementation. The level of concentrates that will need to be supplemented will vary depending on the DMD of the silage. With every decrease of 5 DMD an extra 1kg of concentrate supplementation is required. If for example you have a Charolais bullock with a target live weight gain of 1kg per day feeding 72DMD silage you will require 5-5.5kg of concentrates per day supplementation. Whereas if you had a poorer quality silage of 64DMD the concentrate supplementation would be as high as 8.5kg. Silage testing allows you to provide the most economical and nutritional diet available.



● **Target Live weight gain** – it is important to know what you are working toward when choosing any diet. In a typical silage and meal diet, the table below shows targeted live gain.

Continental

Bulls	Steers	Females
1.7- 1.9	1.25 - 1.45	1.05-1.25

Dairy Breeds

FR Bulls	Fr Steers	AA/HE
1.35-1.55	1.15-1.33	1.05-1.25

Author: Philip Kennedy

Cracking the BYDV Conundrum in 2020

Harvest 2020 is nearly completed now with only some late sown bean crops left to be harvested. The good weather over the past 10-14 days has turned the focus to drilling of winter cereals. The disastrous Autumn of 2019 is still fresh in the memory and many growers are anxious to drill winter cereals before the weather breaks and the Autumn drilling window passes us by. This is a particular issue in south Wexford on heavier soils where in a lot of cases delayed drilling is simply not an option. Many farms rely on a mixture of crops to spread the workload at harvest time especially those trying to manage scale and a solid base of winter crops especially on more difficult soils is essential to achieve this. Having experienced one of the most difficult harvests weather wise in 2020 we all know the predicament of trying to harvest a lot of spring cereals in a very short window and the multitude of problems that presents when the weather goes against us.



2020 was the first season without the Seed dressing Redigo deter which provided 6-8 weeks of early season protection against BYDV (Barley Yellow Dwarf Virus). Last year was highly unusual as there was no early season drilling and the level of overall winter plantings was exceptionally low due to the very wet Autumn conditions. As a result the Aphid pressure was very low as any cereal drilled was drilled later on in the season. The Aphid resistance problem with pyrethroids hasn't gone away and we as growers need to be mindful of the risks and strategically plan on how best to mitigate them. So, what can we do?? We need to protect our crops from

serious infection which can result in yield losses of up to 2 ton/ acre in severe cases. Cultural and not chemical control will need to be the focus in future although there are some new angles from a chemical control perspective for 2020 but we can greatly reduce our exposure to risk by following good cultural measures.

- Delaying drilling later into October / November. (Seed rates need to increase as the season goes on)
- Destroying the green bridge by spraying off stubbles / stale seedbeds well in advance of ploughing / cultivation to prevent aphids from moving from volunteers to emerging crop.
- Aim to give the crop the best possible start, a healthy crop will be less prone to aphids. Correct Ph is vital as well as adequate P and K levels. An application of phosphite to promote root growth or trace elements to remedy any known deficiencies can be made while applying a pyrethroid insecticide at 2 leaf stage. Remember a pyrethroid such as Lambda (Lambda cyhalothrin) has an anti-feeding effect which offers some level of persistence.
- A follow up application may be required depending on weather conditions. A new product called Teppeki has received

registration for Autumn 2020. Tippekki (flonicamid) has no known resistance and has both systemic and translaminar activity. It works by both ingestion and contact activity and is not harmful to natural aphid predators which is a big benefit. However, it does not have an anti-feeding effect nor a high level of persistency so should be used in conjunction with a pyrethroid as well. It may also prove prohibitively expensive but prices haven't been finalised as yet.

- Coastal areas are most at risk due to milder temperatures during the autumn / winter. It is worth bearing in mind that a mild January can lead to a crop becoming infected with BYDV. If a follow up application was not deemed necessary in the autumn it may be necessary in January if weather conditions are mild and aphid numbers justify treatment.

Author: George Blackburn

Dosing

Housing provides an important opportunity for parasite control in cattle. The main targets for parasite control at this time of year are gutworms, lungworm and liver fluke. Cattle only pick up these parasites when grazing. Therefore, once housed, cattle will no longer pick up new fluke or worm parasites. This means that effective parasite treatments at or after housing should keep the animals virtually free of worms and liver fluke until they return to pasture the next year. For gutworms, particularly in young cattle, it is important to select a wormer that has activity against the inhibited larval stages as well as the adult worms. Some benzimidazoles and products containing macrocyclic lactones (e.g. ivermectin, doramectin, moxidectin etc.) are active against the inhibited stage. If this is not done, these larvae can resume development towards the end of the winter and cause a potentially fatal disease. It is important that young cattle in particular are clear of lungworm and have healthy lungs over winter. Lungworm can increase cattle's susceptibility to pneumonia after housing. Doses that treat gutworms will also be active against lungworm. Liver fluke is present on the majority of Irish farms and all farms at risk should dose for fluke at housing. Acceptable levels of liver fluke control may be achieved with a fluke treatment at housing on farms where the burden of liver fluke is low. However, if fluke burdens on grass are high, a further fluke treatment should be given 6-8 weeks after housing or dung samples taken and checked for fluke eggs to see if this is necessary. Winter is also the most common time to see infestations with external parasites such as lice and mange mites and these should be considered when selecting treatments.



Closametin Pour on offers an all-round parasite control at house as it hits both internal and external parasites but cattle should be house for at least 6 weeks to get a complete kill.

Tramazole is a white albenzenole that offers fluke and worm treatment as with the closamectin it should be used a couple of weeks after housing as it kills only adult fluke and fluke eggs.

Spotinor is an insecticide used for the treatment and control of flies and lice on cattle and ticks, ked's, lice and established blowfly on sheep. Spotinor's active ingredient is deltamethrin which is a highly effective and fast acting insecticide that has no withdrawal time on dairy cattle. Beef Feeding Focus

Author: James O'Neill

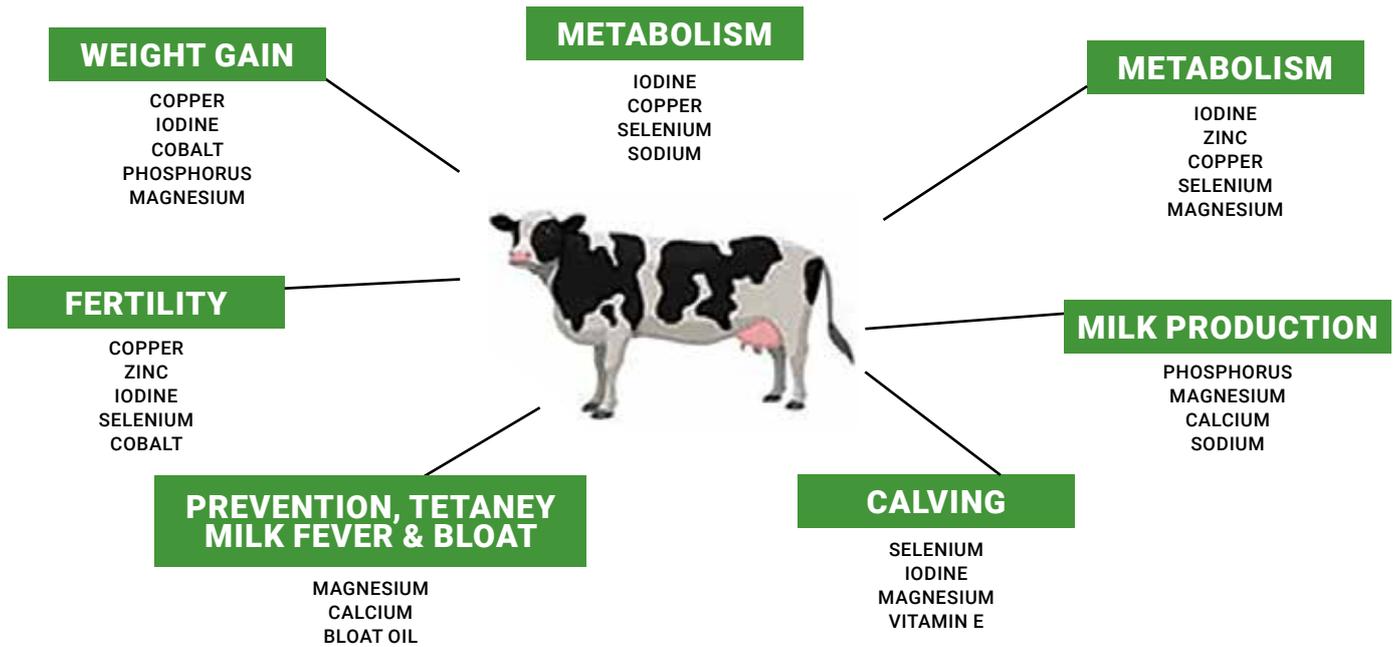
The Role of Minerals in Ruminant Nutrition

It is generally accepted that minerals are a very important portion of the ruminant's diet, but what is it that makes them so vital and essential for animals' diets? Minerals are the ash or inorganic portion of the diet and can be broken down into two groups; macro-minerals { Calcium(Ca), Phosphorus(P), Magnesium(Mg), Sodium(Na), Sulphur(S), Potassium(K) } and minor-minerals or trace elements { Copper(Cu), Selenium(Se), Iodine(I), Manganese(Mn), Zinc(Zn), Cobalt(Co) }. They are essential for smooth running of the physiological and biological functions of the animal, such as muscle contraction, blood cell development, milk secretion, disease resistance, and weight gain to name a few.

Mineral Nutrition

Mineral nutrition is a small part of the complete nutrition of the animal. It is usually addressed when the energy, protein and other requirements are met. But it is vital that it is addressed due to higher production demands of animals, the availability and variety of global feedstuffs, the variation in soil fertility where the feedstuffs are grown, changes in husbandry practices (from

straw bedding to cubicles, for example) and complex interactions of minerals with themselves and the environment. An example of the complex interaction of minerals can be seen where high K in silage will affect the uptake of Mg from the diet which in turn has a negative effect on Ca release from the bone which can lead to milk fever. Most feedstuffs are deficient in some minerals



to a greater or lesser extent, e.g., Ca is low in cereals while grass silage is deficient in Iodine. Therefore a cow being fed a cereal based concentrate and grass silage would need to be supplemented with a mineral compound that contains sufficient I and Ca to meet her requirements.

The requirement of each mineral will be determined by the stage of lactation of the cow and the growth rate of dry stock. For example, a cow giving 20 lt of milk will require 6.5 – 7.2g Ca/kg DM/day (17kg DM intake/day) but at calving she required just 3.6 – 4.2g Ca/kg DM/day (14kg DM intake/day). The same scenario can be applied to all of the macro-minerals and trace elements.

Another consideration in mineral nutrition is the interrelationship and interaction between the minerals. As mentioned above, there is a complex relationship between K, Mg and Ca around calving time. This also applies to other minerals such as Cu whose uptake from the diet is influenced by the amount of Molybdenum (Mo) and /or Iron (Fe) present. Mineral uptake is also influenced by the intake and digestibility of the diet as well as the amount of energy available to carry out the process of mineral absorption.

Method of feeding minerals.

Minerals are not very palatable and are fed in very small quantities as in grams or milligrams per head per day. Therefore they have to be fed in suitable carriers such as salts and molasses. The most common way of feeding is by adding a mineral premix to a concentrate/coarse ration at the desired rate of feeding. Top dressing of forage and straight feeds is a popular method of mineral supplementation, though feed selection and uneven intakes can be a problem. Bucket minerals, salt licks, syrup licks come under the heading of free choice minerals. Intakes can be irregular and the more dominant animals tend to take more than desired while the less dominant ones are left short and can suffer the consequences. Minerals in the water is a convenient way of administering minerals but again intakes can vary and are dependent on environmental conditions (rainfall, wet grass,

low DM silage, etc.). Boluses give a sustained, slow release of specific minerals, usually trace minerals, in the rumen.

Whatever the method of feeding minerals, it is extremely important to adhere to the feeding rates and instructions on the mineral label. Overfeeding or underfeeding can lead to both metabolic and financial difficulties.

The most common mineral supplements fed to bovines are:

Pre-Calver: Fed to both dairy cows and suckler cows during the dry period. These mineral compounds are low in Ca and high in Mg (20-25%) to help prevent milk fever. They also supply extra minerals for the calving event.

Post-Calver: Fed after calving. Normally included in the concentrate but can be added to TMR /home mixes. Used to balance the mineral status of some forages.

General Purpose/Calf-to-Beef: Fed to all dry stock from calves to finishing cattle.



Author: Jack Scallan