

# Nutribio Management Information - Sheet 1

## Purchasing a Quality Mineral

In purchasing a mineral for supplementing stock do you consider the quality of the mineral and what that mineral is supposed to do, or is it simply price determines what you purchase. Quality can be defined as a 'degree of excellence' and when applied to a mineral product that mineral is one that provides nutrients which are readily available and in the proper amounts to balance the formulated diet.

Factors affecting mineral quality include;

- Formulation of the product.
- Type and source of minerals.
- Manufacturing process.
- Uniformity
- Research and quality assurance behind the mineral product.

### Formulation:

Minerals should be formulated to provide the required nutrients for the stock they are intended for. For the dairy cow, the type of forage, inclusion rates of the forage in the diet have to be taken into account when formulating the product. For example corn silage and beet are low in calcium and sodium whereas grass silage is the opposite. Is the mineral providing adequate buffering as measured by the DCAD of the total diet; this can affect intakes by 10% to 15%, very important.

At **Nutribio** our minerals are formulated based on the macro and micro (trace elements) analysis of the forages and grain and how they are combined in the finished total diet for the production level required on farm. Research also is taken into account, as requirements for most minerals and vitamins are not constant and are influenced by a number of dietary and physiological factors that affect absorption and tissue demand. An example; the cows need for calcium is relatively low in the early dry period increasing fourfold at calving.

### Type and Source of minerals:

Types and sources of minerals need to be chosen carefully. There are numerous sources for each mineral and their selection is based on several criteria. One of the most important is bioavailability, which refers to that portion of the mineral that is available for use by the animal. A mineral with a high level of nutrient does not mean necessarily that the nutrient is highly available to the animal.

An example here is the antagonistic effect of molybdenum and iron on the availability of copper. One way of improving the bioavailability of copper is to use a complex form of copper also known as '**chelates**'. Another example is iodine, blood profiles are constantly giving low readings without classical signs of iodine deficiency. Dietary factors other than the supply of absorbable iodine can have a profound effect on iodine metabolism. Selenium deficiency is critical here as it impairs the formation of T3 from T4 giving rise to secondary or induced iodine deficiency. Research has shown the inclusion of a protected source of selenium can improve the formation of T3, one product with research is 'Selplex' from Alltech.

### Research and Quality Assurance:

Formulated mineral products, to ensure the proper levels of mineral and vitamins are provided to the animals the product is formulated for, regular testing is required.

Depending on the mineral product other ingredients would be added to ensure intake and nutrient levels are achieved. Where required, high quality ingredients, such as soyabean meal should be used as they provide additional nutrients to the animal.

Palatability is also an important component of quality and necessary to ensure that animals consume the formulated product.

**Nutribio** takes quality assurance seriously, regular testing at our laboratory is carried out on formulated products. Nutribio is an approved producer for the requirement of 'UFAS' (Universal Feed Assurance Standard).

Therefore when purchasing , check the label for inclusion and the feeding rates. Iodine and copper are now restricted to 110mg for iodine and 600mg for copper supplemented per day for lactating dairy cows.

Some feeding rates are too low at 150 grams to 200grams where corn silages are fed.

Nutribio feeding rates are based on actual analysis of forages and total diet mixes.

Remember, in producing a quality mineral it contains three products;

- The one that is formulated.
- The one that is manufactured.
- The one the animal consumes.

**Nutribio Nutrition Solutions** provides the following mineral formulations to complement forage programs. These formulations are designed to provide the required trace elements and vitamins as well as balancing the macromineral needs of the dairy cow, replacement heifers and dry stock.

### Dairy Solutions Formulations:

#### Lactating Cow:

1. Code - Nutribio - TMR/Home mix ( for grass silage formulations)
2. Code - Super Choice - Maize/Beet (for corn silages and beet formulations)
3. Code - Nutribio – Buffer ( for buffer fed forages at grass- Hi-Mag fertility)

#### Dry Cow:

1. Code - Superchoice Gold
2. Code - Nutribio- Precalver Super
3. Code - Transition Cow - (formulated to supplement the cow over the three weeks pre calving and minimize metabolic disorders post calving )

### Beef Solutions Formulations:

1. Code - Nutribio Intensive Beef (for finishing beef on high starch diets)
2. Code - Nutribio Intensive Beef + Yeasacc

These can also be use with young stock for example replacement heifers, the vitamins A,D,E along with B vitamins and trace elements are included at a high specification.