

Should we still feed vitamins and minerals to cows/calves this winter?

by Gary Chang, Ph.D., Ruminant Nutritionist, Champion Feed Services Ltd.

It is a well known fact. The cow/calf operation is a very tough business. In particular, the prices of labour, equipment, fuel, fertilizer, forage and grains as well as feed products have gone up substantially. With the rising costs of vitamins and minerals (such as phosphorous), the price of mineral products like Champion Feed's CFS Winter Range Mineral has increased almost 50% in comparison to winter last year (ie. \$20 vs. \$29 for a 25-kg bag). As a beef producer or cow/calf operation, you may ask yourself: *Should we still feed vitamins and minerals to our herds?*



The answer to this question is YES. The main reason is that even though vitamins and minerals make up a small portion of an animal's diet, they play an important role in health, growth and reproduction.

The ten year average analysis of Alberta feeds (1984 – 1994) has clearly shown that local grown forages contain inadequate trace minerals such as zinc, copper and selenium. For example: last year you may have spent 6 cents per head per day with the CFS Winter Range Mineral at a 75 grams feeding rate, whereas this year you may have to pay 8.7 cents per head per day for a similar feeding program. However, it was only about 5% of the total feed costs (\$1.20 per head per day as an example). The cost of vitamins and minerals for this winter would stay at the same level (about 5%) when you take into account the increased costs of the other feeds.

Are there any things we can do to reduce the costs? The answer is also YES. First of all, animals have specific requirements for vitamins and minerals at different biological stages, such as pregnancy, lactation, and breeding. Meeting those particular vitamin and mineral requirements largely depends on the forage type, feeding rate and mineral contents of forage and grain in the diet. Mineral contents usually vary a lot. Therefore, testing the forage for minerals such as calcium and phosphorous, would be the first step to figuring out the right vitamin and mineral products for your feeding programs. Mineral imbalances and/or deficiencies can result in decreased performance, decreased disease resistance

and reproductive failure which can result in significant economic losses. On the other hand, over feeding minerals such as phosphorus may be very costly and unfavourable to the environment. For example, if you are feeding 12 kg dry matter (about 75 lb (65% moisture) as fed) of cereal silage with 0.22% phosphorous content to late pregnant or early lactating cows, you do not need to feed extra phosphorus to meet their phosphorous requirement (22 to 24 grams/h/d). That means you are better off purchasing Champion Feed's CFS Cereal Forage Mineral (priced at \$23/bag) instead of Champion Feed's Winter Range Mineral (priced at \$28.5/bag) to get the cheaper and more balanced feeding programs. All vitamin and mineral products in the market are designed for particular feeding programs with the assumptions of certain forage types and feeding rates. Before you purchase a product, you should read the tag carefully, particularly the feeding rate and forage types to be fed with.

Secondly, after you figure out the right vitamin and mineral package, delivering the right amount to every animal in the herd becomes crucial. Repeated studies have shown that the intakes of vitamins and minerals for cows are extremely varied in a free-choice basis not only among cows but also among different days. Other than dry matter, daily water and salt intakes, cows have no ability to satisfy daily intakes of other nutrients including vitamins and minerals. To ensure adequate intake of vitamins and minerals not only on average but also individual animals, the best method is to add them to the ration or total mixed ration. If you are not able to mix the minerals into the daily ration, top-dressing the minerals on the silage or grain portion of the daily diet may be another way to achieve adequate intakes. If you have to feed the minerals free-choice, you have to pay attention to the average intake. You may move the mineral feeding stations around to or from the area animals frequently travel. If you still have difficulty achieving the right amounts of the intake, reformulation of the mineral such as salt, flavour or molasses level may be needed, which can be done easily



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at all Champion Feed Mills. In addition, other products such as molasses blocks and liquid supplement tubs may be the other options, however at a higher price. In most cases, hand feeding pelleted supplement with the balanced vitamins and minerals as well as ionophores (Monensin/Rumensin®/Bovatec) is an easy and inexpensive way to improve performances and feed efficiencies. Theoretically feeding ionophores would cover the cost of the mineral feeding programs with 5% to 8% improvement in feed efficiency.

In summary, vitamins and minerals are very important for the animal health, growth and reproduction. Local grown forage and grain in general contain inadequate minerals. Additionally, vitamins and minerals comprise only 5% of the total feed cost over all. Therefore, even with the increased prices, producers should still feed an adequate amount of appropriate vitamins and minerals to their animals to maintain the herd's health as well as production and reproduction efficiency. However, mineral contents of forages and feeding rate in particular farms vary a lot. Testing forages, purchasing appropriate products and managing the mineral intakes would be the steps to achieve the efficient feeding program with the minimum vitamin and mineral input. ♦

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