

'Checks' and balances

Are you long overdue a mineral review?

We round up some of the latest research, ideas and approaches on feeding dairy minerals and find out how, through the latest thinking, you can boost cow health, fertility and productivity – and save money. See if you think your herd could benefit from a change.

Total replacement of inorganic minerals with an organic form is one of the areas being investigated by Alltech within its on-going global research programme. Early data in relation to both zinc and selenium are looking very positive, according to the company's ruminant technical manager David Wilde. In work conducted at Harper Adams University College a milk yield response of 2.4 litres per cow per day was recorded when organic zinc replaced an inorganic form at recommended levels, while a recent study in Belgium highlighted reduced disease incidence in cows and calves when selenium was replaced with an organic form.

"These latest trials are evidence that an industry-wide review of mineral supplementation is long overdue, and the role of organic minerals in placing more emphasis on prevention rather than cure," says Mr Wilde. "There has been a tendency in the industry to see organic minerals, or chelates, as 'firefighters', to be used in addition to inorganic minerals when deficiencies become evident."

Organically bound minerals

"While accepting that partial inclusion of organic minerals may continue to be relevant in some circumstances, the significant advantages offered by what is a natural method of supplementation are such that total replacement must be the ultimate goal," he adds.

There is now hard evidence to support the long-established understanding that organically bound minerals are able to better protect the mineral in the aggressive environment of the rumen and small intestine, improving their

availability to the animal – unlike their inorganic counterparts.

These new findings are consistent with extensive data showing greater utilisation of organic minerals and higher levels at target tissues. This is leading nutritionists to consider the prospect of lower inclusion levels being an option where organic minerals are used, as well as total replacement of inorganic minerals. "Greater availability means less excretion. This is beneficial to the animal

Keep a close eye on phosphorus balance

With global phosphorus prices rising NWF's commercial manager Rupert Stafford recommends that producers should take a close look at dietary levels.

"Most silage analyses are showing lower mineral contents and, on average, herd performance is down, leading producers to consider extra supplementation," he explains. "But in many cases this will be adding cost for no benefit. The trick is to feed what is needed in the most suitable form."

New research into phosphorus absorption and utilisation suggests that requirements for dairy cows have been overestimated in the past. "The latest advice on inclusion rates is that phosphorus should be included in diets at 0.4% of total dry matter compared to the previous recommended level of 0.5%. This means that producers can cut back total phosphorus inclusion rates in the diet by 20% with no adverse affect on performance."

While some supplementation will be required, particularly where forage

and the environmental," says Mr Wilde. Alltech's organic mineral range is primarily marketed under the Bioplex name, with zinc, copper, and manganese among those most relevant to dairy producers. Selenium is available as Sel-Plex.

These products are available in premixes and compound feeds and now the company is also launching a 'solution-led' range of mineral products – enabling more flexible use of this technology on farm.

"We have three new 'Farm Pak' products that have been formulated to provide solutions to the common problems faced by producers today," explains Mr Wilde. "This approach stems from our progress with the total replacement strategy, and draws on many years of research on the other inclusions including Yea-Sacc, Mycosorb and Bio-Mos.

"Whether we are dealing with the burden of mastitis, lameness and infertility or have issues with rumen function or more generalised immune function, we believe this solution-led approach offers a significant step forward for producers."

Rachael Porter

Balancing minerals is a year-round challenge

Producers should continue to keep a close eye on mineral levels throughout lactation, according to Frank Wright Trouw Nutrition International's technical director John Allen.

While close attention is paid to mineral levels in the diets of fresh calved and housed cows and heifers, Dr Allen is concerned that producers are losing out by not paying sufficient attention to mineral supplementation of animals in mid and late lactation and those at grass.

"Many mineral deficiencies arise in late lactation as compound feed levels

decline and also at grass where there's little supplementary feeding," he says. "Supplementing these cows is crucial to maintain their health and performance, as well as to maximise the benefits of the respectable milk prices that producers are, at last, being paid."

Dr Allen is particularly concerned about supplementation at grass. Results of analyses of grazed grass show that mineral levels are declining, meaning that more supplementation is required. "In 2007 the levels of key elements such as phosphorus, zinc, selenium and copper were up to 32% lower than the

previous year and in many cases forage alone was not supplying adequate levels to meet the cows' daily requirements, leading to deficiencies.

"Understandably producers are keeping a close eye on costs, but it is important that they take account of mineral levels at all times of the year and at all stages of lactation and ensure that the correct mineral balance is fed across the whole lactation.

"A small saving in minerals could lead to a reduction in yields or an increase in health related problems such as lameness or infertility."