Welcome to the first addition of Nutri-News, in this edition we would like to share some of the exciting new developments we have access to through our exclusive global partnerships, along with a few homegrown success stories.

But firstly, I’d like to thank you for choosing to do business with Nutritech. We recognise we operate in an increasingly competitive market and that you have many choices, we appreciate that you have chosen to do business with us.

As we start back from our break, we are more focused than ever before to help you achieve your goals and the best possible returns for your business. Whether this be through our world class technical and local area manager support, product development and internationally or locally customised programmes to suit your specific requirements.

From all of us at Nutritech we look forward to working with you again in 2020 and wish you a prosperous and healthy New Year!

Our thoughts and best wishes go out to our friends across the Tasman, dealing with the horrific fires.

CEO Tony Manning

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INNOVATIONS IN THE FIELD; NATURAL SOURCE OF SUPEROXIDE DISMUTASE: MELOFEED®

Melofeed® is a specialist feed ingredient for all animal species containing dried melon juice from melons naturally rich in Superoxide Dismutase (SOD).

SOD is an important enzyme involved in the defence of nearly all living cells exposed to oxidative stress.

A special variety of melon rich in SOD, Cucumis melo L., is grown and taken to the SOD B production plant where the fresh melons undergo a specific process to concentrate the SOD-rich pulp and protect its antioxidant power through a specific coating. Nutritech is the exclusive distributor for Melofeed® in New Zealand where it is being formulated into ruminants, poultry, swine, aqua and pet food.

Did you know that between 30 and 60 kg of fresh melon are needed to obtain 1kg of Melofeed®?

National Technical Manager Alun Faulkner explains the potential value of primary antioxidants to our industry is huge, “trials show we can expect to see a response through; reduced somatic cell count in dairy cattle; a reduction of immature piglets per litter and reduction of intra-litter birth weight heterogeneity in swine; an improvement of hatchability at the beginning of the laying phase in broiler & layer breeders and; an increase of blood cell resistance to hemolysis (KLR test) and an improved resistance to intense physical exercise in horses”.

He goes on to say, “as you can see the applications for this product are extensive and we are already seeing great results in dairy cattle being fed Melofeed® during the transition and mating period.”

Did you know that Melofeed® is one of the fastest growing anti-aging supplements in Human Nutrition? Head over to our Facebook page now to enter our competition to win your own Human Grade sample. NutritechNZ

Find out more about Melofeed® in our Melofeed® Brochure and Melofeed® Info Sheet.

As the exclusive distributors for Melofeed® in New Zealand we are excited by the potential this product shows to improve efficiencies across all species whether they are ruminants, equine, poultry, swine, aqua or companion animals. Call us now to see how you can add Melofeed® to your diet 0800 736 339.
**SUPREME CHAMPION: STEPHEN PORKING**

Mid Canterbury Area Manager Catherine Sharpin and her twin sister Emma made up two thirds of a trio of serious hog breeders who took Supreme Champion at Canterbury Show this year. The All Girls Team weren't mucking around by exercising their prized pig with regular walks and swims ahead of his biggest competition yet. The Berkshire pig named Stephen Porking wore a custom-made red lead as he took regular walks around his Canterbury home, usually favouring the 2-kilometre track down to the nearby creek for a dip. Catherine says that it was the secret brew of Nutritech minerals that helped make Stephen Porking stand-out for the judge and win the Supreme Champion award.

[Click here to see the Levucell® SB product profile for sows and piglets.](#)

### CONFIRMING A GUT’S FEELING: LIVE YEAST IMPROVES DIGESTION AND ENERGY METABOLISM IN SWINE

The benefits of *Saccharomyces cerevisiae* var. *boulardii* CNCM 11079 on sows and piglet performance around farrowing is well established. In addition, field experience accumulated over the years also hinted at a positive effect on energy utilisation. Today, the scientific proof finally corroborates what farmers had been telling us for years!

![Live Yeast's Effect on Fibre Digestibility](image)

The positive impact of the live yeast *S. c. boulardii* on feed efficiency and energy utilisation is linked to two main drivers:

- Enhanced fibre digestibility
- Lower inflammatory metabolism

**Live Yeast’s Effect on Fibre Digestibility**

By consuming residual oxygen in the sow caecum and colon, *S. c. boulardii* creates optimal anaerobic conditions for the growth and activity of cellulolytic bacteria. As a result, hindgut fermentation is improved, and more energy is released from the same diet in a shorter time. The positive effect of *S. c. boulardii* on part of the fibrolytic bacteria in the sow's gut has recently been confirmed through metagenomics studies (Fig. 1).

**Metabolism Modulation and Management of Inflammation**

Inflammation has a huge metabolic cost for the animals. The resources used in the inflammatory response are not used for growth, leading to lower feed efficiency and higher feed conversion ratio. Several studies in humans and piglets (Collier et al., 2010) have demonstrated that *S. c. boulardii* has the ability to modulate the inflammatory response.

**Proof of Better Energy Utilisation**

A research project was conducted by INRA Pegase, in France, using metabolic chambers on fattening pigs used here as a model for sows. It proved a more efficient use of the metabolizable energy with the live yeast (Fig. 2). This could be even more important when transferred to sows, for which the amount of fibre in the diet is much higher.

**Practical Implications**

The effect of the probiotic on fermentation and energy metabolism is of great interest for all stages of the cycle but has an additional value in gestating sows. It can be applied through a partial energy substitution, partially compensating the inclusion cost of the additive, and still getting all the benefits of its application at farrowing time.

“Back in 2005, when we started the application of *S. cerevisiae boulardii* in sows, certain farmers called us after 5-6 months to mention that they had to reduce the feed allowance in gestation in order to prevent the sows from getting too fat. This is what motivated us to look more closely into this effect.”

Yannig Le Treut,
General Manager at Lallemand Animal Nutrition and an experienced swine vet, explains how the digestibility research started.
**FEELING THE HEAT? GET SUMMER SAVVY**

Dairy cows are more sensitive to heat stress than many other mammals because of the high metabolic heat production due to fermentation in the rumen. Signs of heat stress include an increase in an animal’s respiration rate and saliva production. In more severe cases, elevated saliva will produce bubbling saliva on the edges of their mouth, and increased respiration can lead to open-mouth laboured breathing. While there aren’t necessarily any common diseases associated with hot weather, heat stress can weaken the immune system and make cattle more susceptible to illnesses and reproduction issues.

Heat stress is a combination of temperature, humidity, solar radiation and air flow. While New Zealand may not have the extreme temperatures seen in other parts of the world, the high relative humidity means that heat stress occurs at much lower temperatures. If we take an average humidity of 80%, cows will begin to experience heat stress at 22°C, mild-moderate heat stress will occur at 24°C and moderate to severe heat stress will occur at 29°C. In monetary terms we can expect to lose 16 cents per cow per hour or $1.98 over the course of the day to moderate to severe heat stress.

Providing cattle with adequate sources of drinking water during the heat of the summer is crucial to their welfare. Animals should also have access to shade during conditions of extreme heat. Ideally, that shady area is something that has good wind flow, putting cattle in a barn with shade won’t suffice if there is no breeze. Having a strategy to fight flies will also help reduce the effects of heat stress, excess flies cause cattle to congregate in small, tightly packed groups compounding the issue.

Heat stress also increases the risk of rumen acidosis in cows, as cows under heat stress typically avoid fibrous feeds to reduce internal heat generation in the rumen. This puts them at risk of rumen acidosis, even if only a small amount of carbohydrates is being fed (e.g. turnips, grain, tapioca, fodder beet, maize silage).

A study conducted at the University of Florida showed a significant reduction in the number of cows at risk of rumen acidosis when feeding Levucell® SC under heat stress conditions (Journal of Animal Science (Vol 88) and Journal of Dairy Science (Vol 93)). Animals also show improved feed conversion efficiency with Levucell® SC under heat stress conditions. Results showed that when animals experiencing heat stress were fed 2g of Levucell® SC, the return on investment (ROI) was calculated to be 7:1, whereas under non heat stress conditions the ROI was 6.5:1.

As temperature and humidity rises so does the risk of mycotoxins. Mycotoxins are chemical toxins produced by fungi and can be found in all types of feeds all year round, however the risk to cattle sheep and goats increases in the summer months. Ergot alkaloids are toxins produced by the Claviceps fungus, which grows in the seeds of various grasses and small grains such as fescue, wheat, oat and rye. These toxins have been associated with abortions in dairy cattle as well as other health problems. Fusion® DYAD is a new generation ACVM registered mycotoxin binder that contains both clay and yeast cell wall to give the best possible protection from a range of mycotoxins.

Clay helps reduce the risk of Aflatoxins, Fumononisins, LLatitrem-B & Ergot alkaloid mycotoxins while yeast cell wall work well on Zearalenone and aids in the reduction of Salmonella and E-coli bacteria while also acting as an immune modulator. Whilst there are a multitude of mycotoxin binders in the market, it is important to look for one that is registered through MPI.

Cattle experiencing heat stress have also been shown to have increased levels of reactive oxygen metabolites. Superoxide Dismutase, the active ingredients found in Melofeed® is an important enzyme involved in the defence of nearly all living cells while also acting as an immune modulator. Whilst there are a multitude of mycotoxin binders in the market, it is important to look for one that is registered through MPI.

Find out more about our Heat Stress Pack here.

**HOW THE GROWING SEASON IMPACTS THE QUALITY OF SILAGE**

As we start to feed out silage produced in 2018-2019, it is useful to reflect on the impact of the growing season upon the nutritional value of silage. Environmental challenges, such as temperature, moisture, soil fertility, weed infestations and insect or fungal attacks during the growing season can have a major impact on silage quality and livestock performance.

Temperature has arguably the greatest influence on silage yield and quality. High temperatures during the growing season reduce digestible forage by increasing lignin and fibre levels and reducing the leaf-to-stem ratio and soluble sugar levels. Consider the quality differences between the first and subsequent cuts of lucerne, for example. Conversely, cooler weather can slow plant growth, leading to a higher leaf-to-stem ratio, higher crude protein levels and more digestible forage. Prolonged wet weather, regardless of temperature, depletes the soil of oxygen...
and reduces yield. Naturally occurring populations of lactic acid bacteria and undesirable clostridial and enterobacteria on the plant have been found to be higher during warm, humid conditions or following rain. Dry conditions before silking on corn will improve neutral detergent fibre digestibility (NDFd) but can negatively affect the uniformity of pollination. By comparison, wet conditions before silking favour plant yield but reduce fibre digestibility, while wet conditions after silking will negatively affect grain yield.

Effects during harvest; Weather also has an obvious impact on harvesting and silage quality. Wet weather may delay mowing, swathing and/or chopping operations, as well as increase the population of undesirable bacteria, yeast and mould that can contaminate the crop. Rainfall can leach soluble nutrients, including sugars, organic acids, nitrogen and soluble minerals, from the swath. Field losses have been estimated to range from 5 to 20 percent of total dry matter, reducing digestibility and impacting forage fermentation. Prolonged wet weather may also delay mowing and impacting forage fermentation. Prolonged wet weather may also delay mowing and impacting forage fermentation.

Dry, low humidity conditions during harvest provide a different set of challenges. Plants in the swath can dry too quickly, leaving them prone to leaf shatter and making them more difficult to pack. Higher ash values and dust contamination can also be expected. At the other end of the spectrum, crops ensiled at low ambient temperatures may not ferment evenly, producing an inconsistent and spoilage-prone silage. Individually or combined, these effects underscore the importance of examining silage samples before feeding out. Take care to minimise microbial activity during handling and shipping. Ideally, the first sample should be analysed using a ‘wet chemistry’, even though this is more time consuming than an ensiled forage type, a good representative sample should always be taken and analysed. With all the variability of forages, a full fermentation profile is especially recommended this year along with careful analytical insight and interpretation. Working alongside your Nutritech Area Manager can be helpful with assessing, reviewing and making a feeding plan for the 2019 ensiled forages.

Moving forward

Make sure that you follow the recommended silage management tips – sealing pits / stacks, visual inspections, repair holes in covers, careful feedout management (rates and face management) and ensuring the safety of personnel during silage removal and feedout. Come up with a plan, especially with challenged silages. Consider using feed additives in the diet that help optimise rumen performance and helps maintain gut health. Review the plan for the next silage harvest and consider including tools for management of silage such as Sil-All® inoculants that reduce aerobic spoilage and SiloStop® oxygen barrier films to seal silage. Seek professional technical support and advice from Nutritech advisers experienced in forage production and feeding systems.

Critical to our strategic objectives; to be leaders in the field of forage and animal nutrition we are proud to introduce: Daniel Cooper National HSR Account Manager.

Daniel’s spent over 13 years working for PGGW in Morrinsville where he was responsible for managing various crops over many farms, starting in the store before progressing to the Technical Field Officer (TFO) role. Daniel has a passion for sports and has coached swimming to a high level, he, his wife Tash and young family are based in between Rotorua and Tauranga where they live on a lifestyle block.
Dairy Facial Eczema ‘Hitting Farmers Hard in the Pocket’

Article supplied courtesy of The Country.

Dairy facial eczema (FE) can cost individual farmers more than $100,000 a year in lost milk production, a recent study has found. The Ministry for Primary Industries’ (MPI) Sustainable Farming Fund is supporting the Facial Eczema Action Group – made up of veterinarians, dairy farmers and rural professionals – to explore ways of raising awareness of FE so that more farmers take preventative action. Many cows don’t show clinical signs of FE. As a result, farmers often don’t know why milk loss is happening and end up drying off their cows early.

“It’s hitting farmers hard in the pocket – they’re losing 0.14-0.35kg milk solids per cow per day. We worked out that one of the herds in our study had lost $125,000, just in milk production” says Emma Cuttance, a dairy veterinarian and head of Veterinary Enterprises Group (VetEnt) Research, which is leading the project. “Often, people don’t think FE is as big an issue as it is, because about 95 percent of the cattle that get the disease won’t display obvious skin lesions, even though the FE is causing damage to their livers.

Watch Emma Cuttance’s video “Facial eczema in dairy cattle - Let’s start thinking about it”.

“Did you know? High levels of zinc reduce the availability of copper in the diet, often resulting in depletion of copper reserves in the liver over the treatment period. There are also concerns that inorganic copper (copper sulphate) may increase liver damage in cows suffering from FE. Offering an organic copper (chelated or amino acid bound) containing trace mineral mix can reduce the risks associated with feeding copper sulphate and help to maintain adequate liver copper levels during extended periods of dosing with zinc to combat FE.

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“For our project can improve the number of farmers effectively managing this disease by even 20 per cent, it will make a phenomenal improvement to the productivity, animal welfare and sustainability of the dairy industry”.

Zinc is currently the main way of treating FE, but many farmers don’t administer enough to control the toxin that causes FE said Cuttance. “Blood testing is the best way to determine how badly affected the cows are if they have FE. “However, getting farmers to do blood tests can be tricky because of the cost and time involved.”

How much Zinc and in what form?

Typical dose rates are 2 g elemental zinc per 100 kg liveweight. Zinc sulphate is relatively unpalatable, so target intakes may not be achieved, particularly in wet weather, or where cows have access to alternative water supplies. Supplying a flavoured trace mineral fortified zinc product can be a more effective option. Contact your local Nutritech Area Manager to find the best zinc solution for your herd.

Congratulations to the NZARN Committee for Organising and Delivering a Fantastic Conference!

The event was attended by over 80 participants including vets, farmers, consultants, nutrition specialists, rural financial advisors, and sales reps, click here to read the full article courtesy of NZARN.

New Faces In The Nutritech Team

Introducing: James Muwunganirwa the New Southland Area Manager to work alongside Clare Suzuki.

James has a wealth of knowledge and expertise to bring to the team driven by great enthusiasm and a drive to learn more. James has a BSc in Agriculture with honours in Animal Science. With a strong agricultural background beginning in Zimbabwe as an Agricultural Extension Officer, Agricultural Extension Specialist and Livestock Production Specialist for the Ministry of Agriculture before moving out to New Zealand in 2005, later joined by his wife and children. James has since worked on dairy farms in the Canterbury area and with DairyNZ as a Regional Leader and Consulting Officer in the North Island before landing most recently in Invercargill with LIC as a Senior Agi Manager.

Introducing: Hayden Kilpatrick the new Taranaki Area Manager.

Hayden joins us from Ballance Agri Nutrients where he started in a new graduate role in Invercargill, before being promoted to a Nutrient Specialist in The Western Bay Of Plenty region. Hayden is originally a Taranaki lad, growing up and attending school in Central Taranaki (Inglewood) After school Hayden attended Massey University where he completed a Bachelor of Agriscience. Hayden is looking forward to utilising his skill in the nutrition field.

Learn more about methane inhibitors work: https://www.pggrc.co.nz/files/1501479614891.pdf

“Non nutrition”, the future of animal nutrition. For more than 50 years Pancosma has been delivering innovative animal feed additive solutions and concepts. Their scientific approach takes naturally derived non-nutrition nutrients which enhance livestock production through mechanisms which result in the regulation of the immune and endocrine systems, metabolism and the gut microflora without impacting the nutritional content of animal feed. Most recently trials have shown that Xtract®6965 a combination of naturally derived spices can reduce methane production by 38% when added to a dairy diet. Click here for more information on this trial.

Nutritech are proud to be the exclusive distributors of Pancosma products in New Zealand.
FROM HUMBLE BEGINNINGS

Nutritech has stood the test of time from the humble beginnings of a single Danish chemist in 1915, to become known as the Danish Mineral Research Company. The name was later changed to Nutritech International Limited in 1985. Nutritech was the first company in New Zealand to make and sell mineral mixes to New Zealand farmers. The company soon became known for innovation and quality products that improved animal health, prevented deficiencies and improved productivity.

Nutri-News
A quarterly publication from your animal nutrition specialists.

Contact your local Nutritech Area Manager for animal nutrition and forage advice.

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Animal Nutrition and Forage Advice that Works, Our Guarantee.