

ISSUE 60, AUTUMN 2023

**SPECIFIC
FOR YOUR
SUCCESS**

IN THE MIX

**Futureproofing
with silage is
no bull**



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FOR YOUR
SUCCESS**

IN THE MIX ISSUE 60
AUTUMN 2023

100 YEARS
OF YEAST PRODUCTION

#PASSION FOR FERMENTATION

Cheers to (over) 100 years! Did you know that Lallemand has been in the business of producing yeast for over 100 years? Learn more about how our business has evolved over the years:

<https://lallemandanimalnutrition.com/en/australia/about-us/our-history/>

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Welcome

Welcome to 2023! Its fast disappearing so now is the time to plan and make it happen. 2022 saw such a variety in our climate from one end of Australia to the other. Rest assured I don't think this is going to change. Change is the only constant, right? This edition of ITM is full again of some great stories, all with a bacteria / microbiome feel to it. From manure treatments in barns, silage bacteria remaining stable in suspension, to rumen specific live yeast managing the rumen microbiome, to even devices that help us manage cows better with water intake. There is so much to "digest" these days we hope you enjoy reading.

Remember, 2023 is going fast, plan now and act now, secure the future with decisions you make today.

All the best and thanks for your support of Lallemand.

Alex Turney - Country Manager

DID YOU KNOW?

***S. boulardii* is the most documented probiotic yeast in human medicine**

The benefits of the probiotic yeast *Saccharomyces cerevisiae boulardii* CNCM I-1079 (LEVUCCELL SB) in monogastric animals are well known. Even before being used in feed, this live yeast proved itself in human medicine. Discovered 100 years ago, this unique yeast is still actively documented today as new areas of applications are still emerging.

The story started in 1920 in Vietnam. A traditional Asian medicine (an infusion of lychee hulls) was effective against infant diarrhea, which caught the interest of French physician Henri Boulard.

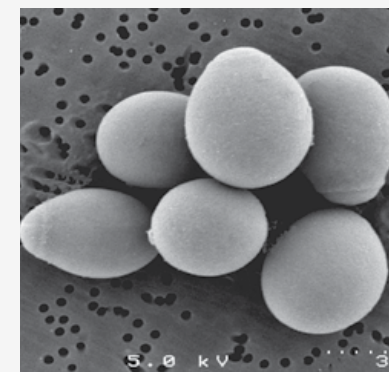
Committed to identifying the active ingredient of this ancestral medicine, he discovered and isolated a particular type of yeast and named it "boulardii."

It was only in 1962 that the first form of boulardii active yeast was recognized and marketed as a probiotic in human medicine.

Since then, a huge amount of fundamental research has been generated on its mode of action and application in human medicine. Today, gut health remains the primary area of where the effects of boulardii are documented. However, research has also shown benefits to immunity, skin health and there are promising results on metabolism.

To learn more about *S. boulardii* in human medicine, visit the website:

www.sboulardiibylallemand.com



Saccharomyces cerevisiae boulardii
CNCM I-1079

Heads up, our cooler bags have changed!

We have upgraded our cooler bags to a more environmentally friendly option. It may look and feel like paper, but this cooler bag is made from Tyvek. They are lightweight, water resistant, thermo-insulated and better for the environment.

In the short-term, these bags have changed to black but they will be returning to red.

Lallemand is committed to reducing single use packaging, so please give this cooler away to your staff, family and friends for repurposing, if not needed, contact us so they can be reused.

We want to ensure your Lallemand inoculant arrives as it should but doesn't cost the earth.

REDUCE. REPURPOSE. REUSE.



Talking quality

Lallemand Animal Nutrition has been part of a global quality system for specialty feed ingredients called FAMI-QS since 2020. More recently, we have completed a new module on feed fraud and feed terror.

This module provides feed ingredient suppliers with tools to detect or mitigate 'feed fraud' or 'feed terror' in their systems or processes.

'Feed fraud' refers to the intentional substitution, addition, tampering or misrepresentation of feed, feed ingredients or feed packaging; or false or misleading statements made about a product for economic gain.

'Feed terror' is an act or threat of deliberate contamination of feed with physical, biological, chemical or nuclear materials for the purpose of causing injury or death and/or disrupting social, economic or political stability.

Lallemand Animal Nutrition has also provided cyber security training for all staff over the past two years. Recent data breaches of Optus and Medibank shows that every businesses, small or large, is vulnerable.

Finally, we would like to apologise to everyone who has been affected by quality issues with SilageKeeper UV covers. This unfortunate situation has been very time-consuming for all parties. We are pleased to announce that working with our supplier, we have since implemented traceability measures for every component in each cover, the completed covers and shipments.



Futureproofing with silage is no bull



▲ Pictured inspecting the ration is Nathan Lister and John Cleary.

Southern Downs producers, John and Nikki Cleary, have established a bull testing depot 20 minutes west of Warwick on Avilion. The Cleary's prepare 550 bulls annually on behalf of Valera Vale Droughtmasters, this involves the socialisation and backgrounding of all bulls in preparation for the on-property sale at Charleville, Western Queensland.

Arriving at approximately 12 months of age from Charleville, young bulls are fed a ration of minimum 60% silage, mineral supplements, protein meals and other commodities, depending on availability and quality. The bulls are housed at Avilion for 6-8 months before they are shipped back to Valera Vale for the bull sale.

"We prepare and manage all of the bulls for Valera Vale Droughtmaster on what is considered a safe and specific ration. It is important that all bulls are prepared at Avilion as they are being tested under the exact same environmental conditions allowing for accurate comparisons," said John.

2022 saw the Cleary's make barley and forage sorghum silage and when we visited them earlier this year they were in the process of making corn silage.

"Once we had established the depot, we acknowledged that silage was going to play a critical role in the ration and have been utilising a variety of crops since 2017."

"We were in the situation of being new to preparing bulls but we had feed to store so we took the opportunity as a drought mitigation strategy."

"We know if you have the feed, you can plan for it. For us it is about reducing risk," John said.

Avilion utilises the full range of Lallemand silage technology, including Silostop Max oxygen barrier film, black and white PE film,

SilageKeeper UV covers, and silage treated with MAGNIVA Platinum inoculant.

Silostop limits the growth of spoilage-causing yeasts and moulds. Independent testing has confirmed these multi-layer polyethylene films are up to 100 times more effective than conventional polyethylene film in preventing the entry of oxygen into silage

SilageKeeper UV covers protect silage against the impact of sunlight and damage caused by animals and environment. These woven covers are ideal for covering Silostop oxygen barrier or conventional PE films. With proper care, these reusable woven UV covers will last for a minimum of three years.

MAGNIVA Platinum is a new-generation inoculant that combines a patented bacterium strain, *Lactobacillus hilgardii* CNCM I-4785, with the industry standard, *Lactobacillus buchneri* NCIMB 40788. This unique combination provides fast-acting 'front end' fermentation with proven 'back end' aerobic stability, allowing silage to be opened earlier and last longer after opening.

"For some of our crops we utilise three layers on our silage bun stacks as we did not know how long they were going to be down for," John said.

"Currently we are using around 2,000 tonne per year and ultimately, we want to get to a place in which we have 18-24 months of silage on hand.

John has been working with Nathan Lister, technical services manager, Lallemand Animal Nutrition, on getting the process right.

"John has been good to work with and is keen to understand all the steps. It is rewarding to work with clients are keen to work on the process from the start to finish and to see the results at the trough and in the animal," Nathan said.



"Feed quality is the most important aspect at Avilion."

"It is positive to see that John and his team have a strong focus on quality in to ensure they received a quality outcome for these high value animals," says Nathan.

John and Nikki have recently started adding Levucell SC to maximize animal health and productivity. Levucell SC (*S. cerevisiae* CNCM I-1077) is a specific live yeast used to optimise rumen function. Studies have shown that adding Levucell SC to your ration can significantly improve average daily gain (ADG) and feed efficiency (+3% to +6%).

"The bulls are excelling in the weight gains but what will be really telling is when we go to measure semen quality and overall bull performance including feed efficiency.

"A quality probiotic like Levucell SC will allow producers to drive animal performance naturally from enhancing rumen function, increasing fibre digestibility and ultimately improve beef production," Nathan added.

"If you want the best product at the end, you have to give them the best chance to get there, which is why are adding Levucell SC to the ration," John said.

The Cleary's have been able to provide a safe ration which has been visible in the health of the animals. Silage has provided an even level of nutrition which has led to an even feeding pattern. The confidence in the ration has also mean that the team can focus on cow comfort and enrichment.

"We really wanted to get the right feeding outcome for these bulls so that we can set them up for a long career, adding value for our clients business."

"We are trying to maximise animal health and productivity and I want to make sure that every dollar that we spend is well spent. The health of the animals is mirrored in the excellent morphology results we have been receiving since the beginning.

Come September the Cleary's will put 120 of Valera Vale's best bulls on the truck for auction, while the balance of the 550hd are offered privately in the paddock and sold across northern Australia. Then it's a matter of waiting for the next truckload of bulls to arrive and do it all over again.





Want to take control of your silage quality?

www.MAGNIVA.com





Microbial solution aids in cow comfort and health in **compost barn bedding**



Quilor Farms has been working with Lallemand on their silage program and have been seeing great results with the application of ManurePro on their barn bedding.

The incorporation of a unique enzyme-microbial complex into dairy cow bedding material is helping with cow comfort, health and been able to minimise the incidence of environmental mastitis in a large-scale dairy barn in northern Victoria.

Aptly-named ManurePro, the complex creates a beneficial microbial population that facilitates the efficient composting of manure, urine and bedding material, reducing undesirable organisms and pathogens plus eliminating odours (ammonia) in the process.

Pat and Michelle Quinn, together with their children, Gregory, Kaleb and Erika, milk about 700 Holstein, Jersey and crossbred cows in the Mincha West district about 20 km west of Leitchville.

In the early 2000s, the family introduced a partial mixed ration feeding system as a more efficient means of utilising their precious irrigation water.

Six years ago, they moved to a total mixed ration system with the construction of a 180 metre long concrete feed pad and then a massive 160 x 48 metre open-sided barn.

The intensive feeding system has significantly increased milk production and feed conversion efficiency, with average annual production being about 9,500 litres and 750 kg milk solids per cow.

Powering this is a significant cropping program that includes 900 ha of wheat and barley, 600 ha of vetch and 80 ha of maize, most of it irrigated and harvested for pit silage, hay, grain and straw.

"Our feeding program is now completely reliant on home grown forages and having high quality silage and that's how we came to be working with Lallemand Animal Nutrition," Kaleb Quinn says.

"About three years ago, we were having issues with the quality of our silage so we contacted one of their technical services manager's, David Lewis, for advice.

"David has been a major help in improving our silage harvest timing and processing along with improved storage and sealing systems. Focusing on producing quality silage and training our staff about face management and reducing waste during all steps from the field to feeding out."

The Quinns have since adopted Magniva Platinum silage inoculant, heavy duty Silostop Max oxygen barrier film, SilageKeeper UV covers and SealKeeper gravel bags into their silage program. This has provided a more secure sealing and storage of the silage and the ability to store silage longer for future droughts. It has also reduced the need for as many car tyres and reduced plastic waste on farm.

The Quinns are now in the process of moving from their old earth bunkers that are worn out to larger bun stacks on a new site as their operation grows.

The cows spend the entire lactation in the comfort of the barn, are fully fed with fresh mixed feed during the day, and rest on compost bedding and straw that gradually breaks down into compost.

A tractor and scarifier is used daily to turn the bedding over and maintain the bedding for the cows, another layer of straw is added as required and scarified in.

The heat generated by the composting process keeps the surface dry and controls harmful pathogens while the composting process is happening.

To be effective, the bedding system requires a population of beneficial microbes; a continual supply of nutrients, including manure, urine and straw; and a regular source of oxygen, carbon and nitrogen.

Conversely, wet or foul-smelling bedding is a tell-tale indicator of inadequate composting.

"A bad smell tells you something's wrong but the real issue is the potential impact on cow health," Kaleb Quinn says.

"A single case of mastitis can cost you hundreds of dollars.

"We were having problems with our cell count in 2021 and the bedding wasn't performing too well coming into winter, that's when David suggested we try ManurePro.

"That was a dry year and it knocked the smell out within a week and got the compost heating again in winter while the weather was wet and cold.

"It did an even better job last year when we had a really long wet winter and we had a lot of problems with wet bedding."

ManurePro contains a specific-selected mix of enzymes, live lactic acid bacteria and Bacillus spp. strains.

The cellulolytic enzymes release fermentable sugars from lignocellulosic materials, such as straw, woodchips and manure.

Bacteria transform these sugars into lactic acid, creating an unfavourable environment for undesirable microorganisms that are potentially harmful to livestock or are associated with the production of ammonia, sulphur dihydrogen and other odours.

Improving the composting process also helps to improve nitrogen retention in the resultant compost that can add increased value to crop growing operation.

"ManurePro breaks down the straw and waste and turns it into a nice, rich, dark and sweet-smelling compost," Kaleb says.

"This is easily the best compost we've made and it's great for the paddocks."

Composted bedding is removed at the end of summer for spreading on crop growing paddocks and the whole process starts again.

"It sounds expensive because a one kilogram pack costs about \$150, but that's enough to treat 1000 square metres, or half of our shed.

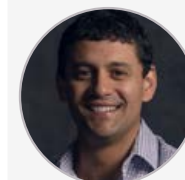
ManurePro is applied at 1g/m² to the bedding each fortnight.

"If we use two bags a fortnight for six months of the year, it's still cheaper than the cost and effort of treating cows for mastitis or discarding milk."

"I've experimented with pushing the ManurePro application interval out to three or four weeks but we've noticed the cell count starts to climb and the ammonia smell comes back," Kaleb says.

If you would like find out more about Manure Pro, speak to your local technical services manager.

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Assuring even application of forage inoculants with **Lallemand Stable Suspension Technology**



Lallemand Animal Nutrition is introducing Lallemand Stable Suspension Technology for its MAGNIVA range of forage inoculants. This technology ensures that once mixed, the inoculant remains in an even suspension throughout the harvesting process, delivering consistent and even application of the inoculant across the crop, resulting in better quality silage.

Why Lallemand stable suspension technology?

Utilising a proven and independently researched silage inoculant can help maintain silage quality through ensiling and feedout, helping producers rely less on costly purchased feeds. However, to work as efficiently as possible all silage inoculants need to be applied onto the forage in an even and consistent manner.

Many inoculants once mixed are prone to settling out in solution, meaning the inoculant can be inconsistently applied across the forage resulting in lower quality silage. Lallemand Stable Suspension Technology has been specifically designed for the MAGNIVA range of forage inoculants, ensuring that once mixed the inoculant remains in an even suspension throughout the harvesting process. Thus, Lallemand Stable Suspension allows consistent and even application of the inoculant, resulting in better quality silage.

Benefits are not just confined to application though, Lallemand Stable Suspension also reduces the likelihood of dispensers clogging, it also means less water is required to apply the inoculant, both of which will save producers time and money.

Lallemand Stable Suspension technology in a nutshell:

- Improved suspension characteristics when mixed with water
- More even and consistent application
- Does not require further mixing
- Reduced water requirement
- Maintains product in suspension longer, preventing it from settling out in the applicator
- Reduces the risks of clogging
- Delivers consistent application across all forage ensiled.

For further information regarding Lallemand Stable Suspension Technology please talk to your local technical services manager



Add Levucell SC to your loose licks this winter

The rumen specific live yeast *Saccharomyces cerevisiae* CNCM I-1077 (Levucell SC) can significantly improve the performance and profitability of beef cattle grazing poor quality pastures.

Examined in a trial, cattle fed *S. cerevisiae* I-1077 recorded 27.6% higher live-weight gain and 30.3% improvement in feed conversion efficiency, returning an extra \$11.43 per animal after the additional cost of the investment.

This study examined the efficacy of LEVUCCELL SC when added to a lick supplement.

A total of 48 Charbray steers with an average live-weight of 329 kg (range +/- 20kg) were randomly allocated to six pens, each of two blocks of four animals.

During the 14-day adaptation period, steers received 300 grams/head/day of the dry lick and restricted access to poor quality Rhodes grass hay (6% crude protein).

During the 42-day trial period, steers received access to 200 grams/head/day of the dry lick and ad-lib intake of poor quality Rhodes grass hay.

During the trial period, half of the animals received access to a commercial lick, while the other half received access to a commercial lick containing LEVUCCELL SC.

In Australia, Northern beef producers provide loose licks to provide a source of protein, vitamins, minerals, and salt to stimulate dry matter intake and rumen function over the dry season.

Lallemand Animal Nutrition Australia technical services manager, Jordan Minniecon, says the results demonstrate the economic value of adding LEVUCCELL SC to supplementary rations, even in extensive grazing systems.

"One of the most performance-limiting factors in extensive grazing systems is rumen fill and rate of passage," Jordan says.

"The researchers expected cattle fed LEVUCCELL SC would have higher dry matter intake due to its beneficial impact on improving fibre digestibility. However, there was no measurable difference in fibre digestibility. Therefore, this improvement can be attributed to the improved microbial profile of the rumen."

"We were able to extract more kilometres out of the same amount of fuel in the tank, due to an improvement in rumen efficiency," Jordan added.

LEVUCCELL SC contains the strain-specific live yeast, *Saccharomyces cerevisiae* I-1077, which was selected from thousands of different strains of *S. cerevisiae* for its proven ability to improve rumen function in dairy and beef cattle.

How live yeast works:

- *Saccharomyces cerevisiae* I-1077 has a scientifically-documented mode of action. It helps to create a stable rumen environment, optimise rumen pH, and improve fibre digestion in four important ways:
- It directly competes for substrates with lactate-producing bacteria (e.g. *Streptococcus bovis*), thereby reducing the acid load in the rumen.
- It provides a direct source of nutrients for lactate-consuming rumen microbes (e.g. *Megasphaera elsdenii* and *Selenomonas ruminantium* spp.), further reducing the acid load in the rumen.
- It consumes residual oxygen present in the rumen, thereby allowing the proliferation of beneficial anaerobic bacteria, protozoa, and fungi.
- It promotes the growth of fibre-digesting microflora, such as cellulolytic bacteria and fungi, thereby improving fibre digestion and providing a source of protein for milk production.



New technology accurately records cows' water intake

smaXtec has launched what it claims is the world's first system that accurately records the drinking frequency and daily water intake of individual cows.

The new TruDrinking function adds another layer of accuracy to the company's state-of-the-art health and fertility monitoring system.

smaXtec is distributed in Australia by Lallemand Animal Nutrition, a leading supplier of microbial and associated technology used in the livestock and forage production sectors.

Lallemand Animal Nutrition Managing Director – Australia, Alex Turney, says water intake is not only essential for milk production but is an early indicator for health.

"Water is often the forgotten nutrient in dairy herds," he says.

"A cow needs to consume three or four litres of water to produce one litre of milk

"Any reduction intake can significantly decrease feed intake and milk production.

Drinking behaviour is an important indicator of health.

"If a cow is drinking less water, it can be assumed she is ill," Alex says.

"Monitoring the water intake of individual cows makes it possible to detect and treat disease even faster.

"In many cases, managers can detect emerging diseases up to four days before visible symptoms appear.

"This information can be extremely useful at calving when the cow is facing a range of physical and metabolic challenges.

"Any disruption to water intake can also be an indicator of a problem with water quality or accessibility."

The smaXtec herd monitoring system utilises state-of-the-art rumen boluses to monitor minute changes in body temperature around the clock.

Collected data is transferred to the cloud via readers positioned around the property and easily accessed using a smartphone, tablet or computer.

Complex algorithms are then used to predict cow activity, water intake, drinking frequency and rumination status.

The dashboard provides a clear and precise overview of the real-time health, reproductive and feeding status of the herd and individual cows.

Automatic alerts and recommended actions can be sent via any nominated messenger service.

TruDrinking is available as a new function on all existing smaXtec systems.

smaXtec has been commercially available in Australia for five years.

Initially used by research facilities, the technology has gradually made its way into more than 60 commercial herds in Australia and New Zealand.

"As a guide, a complete system might cost about \$50,000 in hardware and \$15,000 a year in subscription fees for a 500-cow dairy but it can quickly pay for itself," Alex says.

"Labour is one of the greatest limitations on every dairy farm.

"smaXtec provides 24/7 monitoring, allowing you to detect the slightest changes in behaviour more accurately and regardless of the weather.

"It allows managers to intervene before sub-clinical cases of milk fever, ketosis or mastitis become expensive clinical cases.

"A single case of mastitis can easily cost \$500 to \$800 in veterinary bills.

"The other big thing is that it keeps cows in the milking herd – once a cow is sick, it never recovers its peak production potential."

"Improved heat detection is the low hanging fruit – every cow in calf one cycle earlier represents a saving of \$150.

"The addition of TruDrinking to the smaXtec system provides even deeper insights into animal health, fertility and productivity."

Trevor Schoorl Memorial Scholarship winner Liam Stienen checks in

Trevor Schoorl Memorial Scholarship winner Liam Stienen spent a few weeks at North Florida Holsteins at the end of 2022 doing a work place placement program. North Florida Holsteins milks 10,000 registered cows at Bell, Florida, USA, and is the same business that the late Trevor Schoorl worked at.

Q. Tell us about your time at North Florida Holsteins?

I was in Bell, Florida at NFH for two months through the renowned Ohio State internship program, thanks to Trev's scholarship. Here I worked on the farm in various departments including calf and heifer management, milking, feeding, herd health, maternity and cow fetching. I learnt so much in every area. I also had the opportunity to complete an artificial insemination course, aid vets in their operations and attend a Florida University (UF) dairy conference. I lived in one of the farm owned houses across the street from the farm with two house mates whom I interned with. Though there was a lot of work, six days a week, I was able to attend a UF Halloween party, their college football game, a thanksgiving dinner with Don (Bennink), his wife Mary-Ann and the other interns and still had time to explore the special town of Bell.

Q. Were you there with other interns?

Yes, I was there with two South African girls, Leané and Lucille, who I often spent time out of work with and my two Chinese house mates, Pu and Wei who both have a young family back at home.

Q. What did you find interesting?

I found the management systems very interesting as this is something I have never before seen. Managing hundreds of people, most that cannot speak the language while maintaining pristine operations on a very

large scale, bottom to top, is no easy task. Constant high quality communication between numerous teams is critical and was one of the areas that I learnt most from.

Q. What were your biggest take homes?

As I have had the privilege to already experience multiple dairy farms world-wide, I was not too sure what the biggest take homes would be. After my time at NFH, I found the procedures that were unique or rarely practiced and lift them that extra 1% was what I really took in. This was so important as now a days this is what separates the über successful from dairies that can not viably operate during the hard times.

Q. How did it differ from Australian dairy farms/ How does Australian farming compare?

The only Australian farm with similar scale is Moxey Farms. As North Florida and Australia have similar climates, it was easy to notice their huge investments and innovations in heat stress prevention compared to Aus. Over one hundred fans are placed throughout just one barn, there are six, with water misters out the front and throughout them as well. An amazing design I had never seen before were the ground-mounted water sprinklers where cows are first wet down top and bottom before they are dried off by fans and then milked. This allows a majority of heat to be dissipated before they are bunched up and standing for a long period, dramatically reducing heat stress and SCC. American labour is significantly cheaper compared to Australia, therefore, they can afford to have many more hands on deck in general and for smaller specialised jobs such as heat-checking, which can drastically boost the bottom line. This would not be economically feasible in Australia.

Q. How are you going to use this opportunity to further your career

This cherished experience was like no other. I met many people that will remain life-long friends and who are well acquainted with the international dairy industry. The internship broadened my horizons on what is out there in the 'real world' and the opportunities I am capable of seizing. A combination of their insights and my new-found view of dairying and agriculture will help me excel in my career through improving inconspicuous insufficiencies and helping others, to bring civilisation to a higher level.



Top: Liam (third from the left) along with the other interns and Don Bennink.
Bottom: The front of the North Florida Holsteins property.



Dr Amber Gillett administering the Levucell SB 10ME Titan, Levucell SC 10ME Titan and YANG combination as a slurry to a koala undergoing rehabilitation.

Feeding Koala's **live yeast**

The bacterial infection chlamydia is one of the leading causes of morbidity and mortality in koalas. Surveys have indicated some populations can be up to 80% infected. Infections can lead to blindness, severe bladder inflammation, infertility, and death. Often the treatment for chlamydia infections in koalas are antibiotics. However, a potential complication of antibiotic use in koalas can be an overgrowth of candida yeast and generalised dysbiosis, which can be fatal.

Koalas consume eucalyptus leaves almost exclusively and therefore have developed a unique digestive physiology with a relatively inactive stomach, but a very long caecum for fermentation of the masticated leaf. Fermentation requires a healthy microbiota and a koala specific mucobacterial layer that is an integral part of the internal caecal mucosal surface. With dysbiosis this mucobacterial layer can be disrupted and may lead to the death of severely affected koalas.

Recently a local wildlife hospital contacted Lallemand to investigate the possible use of live yeast and yeast derivatives products in koalas in an attempt to reduce the potential digestive insults which may be associated with antibiotic use and aid with recovery in cases of mild dysbiosis.

The wildlife hospital is currently using Levucell SB 10ME Titan, Levucell SC 10ME Titan and YANG. While there are no control animals to compare the results to, preliminary observations by Dr Amber Gillett, a veterinarian at the facility, suggest the combination is producing improved faecal quality, faecal output, appetites, and some weight gain. These results have proven promising enough for the veterinary team to consider expanding the use of some or all these products into koala and kangaroo joeys.



Levucell SB 10ME Titan, Levucell SC 10ME Titan and YANG with instructions for preparation of daily koala treatment

IN THE MIX

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