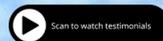


Veterinary Exclusive



Nature working with Nature

Want to be part of the future of
animal health?



Probiotic and Postbiotics*

A unique range of liquid pro and postbiotic solutions across species*, exclusively available through the veterinary channel.

* Precision Microbes for horses and ponies is classed as a complementary feed.

MICROBES MOVEMENT

HOW IT ALL BEGAN

How are we all here? It's a big question to answer but there are some clues in how plants, animals and humans have survived and developed through the millennia. They have done this by utilising their natural defences and adapting to challenges like disease.

Precision Microbes, a Dublin based company, have years of experience working with microbes and decades of research developing their unique products in the marketplace, with customers in fine turf and horticulture around the world.

Precision Microbes is bringing their unique science around microbes with an exciting range of animal products developed in their state-of-the-art production facility in Dublin. They have identified key microbes (good bacteria) that can work together to have many positive health benefits. We want to bring that knowledge and

training now into the Irish veterinary market. Interchem is delighted to bring these solutions that will help achieve better health and performance across species. These unique solutions also provide natural solutions to some of the great challenges like the reduction of antibiotics.

These solutions are liquid live probiotics and all important postbiotics. This is also just the beginning of an exciting range of biological solutions that will be brought



to the Irish market.

WHAT'S THE DIFFERENCE?

PREBIOTICS, PROBIOTICS, AND POSTBIOTICS

Precision Microbes contain both live beneficial bacteria in high numbers along with their postbiotic (metabolites) in a unique liquid solution.

PREBIOTICS

These are feed for the bacteria like fibre. These prebiotics are fuel for the beneficial bacteria in the gut



PROBIOTICS

These probiotics such as live beneficial bacteria found in precision microbes products, act like factories to ferment fibre and prebiotics to make metabolites



POSTBIOTICS

These are the metabolites produced by the bacteria outside the body. These are the goods that support and benefit digestive function and immunity.



IMMUNE AND GUT SUPPORT

Postbiotics are the beneficial metabolites delivered to the animals gut. These can be digestive enzymes, short chain fatty acids, bacterocins and other metabolites. These interact at cell level to improve digestive function, immunomodulation and help with competitive inhibition.



MICROBES SIMPLIFIED

THE GUT MICROBIOME

The gut microbiome is vast array of micro-organisms based in the gut. It contains bacteria, fungi, yeast, protozoa and other microbes. It is an exciting area of science in humans and animal health. This complex microbiota is like an other organ working in harmony with the digestive tract to do a number of key functions:

- Improve digestive health
- Regulate immunity and immune modulation and
- Competitive inhibition and acting to inhibit or exclude pathogens.

The bacteria and beneficial microbes play a key role in cell function and the production of enzymes that aid digestion. They do this by producing a vast array of metabolites (postbiotics).

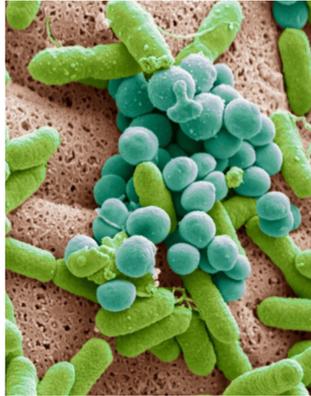
These postbiotics are SCFAs, enterocins, bacterocins, enzymes and other metabolites. It is these compounds that regulate cell function and the production of the protective mucous layer by goblet cells¹.

70% of immunity is gut based²

with billions of lymphocytes making up the G.A.L.T or gut associated

lymphoid tissue. These cells are in the lumen, dense areas like peyers patches and in mesenteric lymph nodes.

With a healthy microbiome you can have good immune modulation and regulation of immunity. With an unstable microbiome you can get inflammation and immune dysregulation. These impacts on immunity can be acute but in many of our animals can also be chronic. With our gut microbiome linked to our lungs, skin, brain and other organ function. We need to do everything



we can to achieve homeostasis here.

Finally we must remember the microbiome is effected by many factors like, nutrition, stress, the environment or other toxins. We are always trying to promote both diversity and stability in the microbiome. It is a complex interaction between pathogens and essential commensals in the gut.

Competitive inhibition is the ability of bacteria to compete with and inhibit with each other. Having a healthy stable population and by the use of probiotics like enterococcus NCIMB10415³ as well as our other probiotic strains we can help achieve this.

Acute disruptions can lead to dysbiosis and digestive upsets in the gut microbiome. By using our unique probiotics and postbiotics we can see quick return to normal digestive health and function. The key thing that makes Precision Microbes different is there is live probiotics and postbiotics used in the liquid medium. This is why the speed of recovery in particular dysbiosis and digestive upsets has been seen.

WHY WE ARE DIFFERENT

- Precision Microbes have unique liquid blends of live probiotic bacteria in their log phase in a ph controlled dormant state with all their metabolites (postbiotics). This means a rapid speed of action.⁴
- There are a large numbers of CFUs per ml of live beneficial bacteria that are ready to act immediately (1.5×10^8 CFU/ml).
- Rapid speed of onset in gut stabilisation in supportive care of dysbiosis or with animals with diarrhoea. This is achieved by producing and culturing the bacteria in their log phase with all their metabolites or postbiotics⁴.
- There are probiotics or beneficial bacteria like *Enterococcus Faecum* NCIMB 10415³ in the pet and calf products which is licensed as effective gut stabiliser under veterinary supervision.
- The products are only available through the veterinary channel.
- They are developed and manufactured in the Precision Microbes Irish facility.
- Precision Microbes is fully licensed with the DAFM and also the range is fully organic certified.
- The equine Precision Microbes product is certified not to contain banned substances by the Laboratoire des Courses Hippiques.
- Feedback from vets is extremely positive with great results across species in the use of the products for gut stabilisation but also with long term use.

Probiotic and Postbiotic for calves

to support live weight gain

Advanced Gut Stabiliser for lambs



On farm challenges

With calf diarrhoea accounting for over 60% of disease in the pre-weaned calf we have a product that will help recovery and gut stabilisation following scour

With the need to reduce antibiotics and the challenge of AMR we are delighted to be bringing these unique solutions to the veterinary market.

Our calf probiotics containing E faecium NCIMB 10415³ is licensed for gut stabilisation under veterinary supervision. Our calf probiotics are only available through the veterinary channel.

Uses and benefits

When administered early as part of a supportive care in calf diarrhoea it is extremely effective at gut stabilisation.

Precision Microbes can also be used to help support gut health and better immunity in calves under stress or for groups of calves recovering from disease.

Long term use of probiotics in young calves will also support better gut health, digestive function and competitive inhibition. So from birth until weaning the probiotics can be added to milk to help support better calf performance.

Dosage

	Treating	Dose rate	Duration
Calves	Gut stabilisation (acute cases)	60 ml orally twice daily	3 days or until symptoms resolve
	Recovering from scour or other diseases Stress periods During periods of transition	60 ml daily can be fed through milk	5-7 days
	Older calves or supportive treatment to summer scour syndrome	100 ml daily	3-5 days
	Long term usage	30 ml daily from birth Through milk	Right up to weaning

Precision Microbes Pet Products

Probiotic & Postbiotic Complementary Dietetic Feed
for Cats and Dogs



Pet challenges

Dysbiosis and diarrhoea can be a common clinical condition presented to vets in both cats and dogs.

With these cases, return to normal function and gut stabilisation is really important.

With the need to reduce antibiotics and the challenge of AMR we are delighted to be bringing these unique solutions to the veterinary market. Our probiotics and postbiotics can also be used to support better gut health during and after periods of antibiotic therapy.

With good digestive health and immunity being linked to a healthy microbiome. We are really excited to hear back from vets around how the long term use in their patients with digestive issues is improving.

Uses and benefits

When administered early as part of a supportive care in diarrhoea it is extremely effective at gut stabilisation. Our pet probiotics containing *E faecium* NCIMB 10415[®] is licensed for gut stabilisation under veterinary supervision. All our pet probiotics are only available through the veterinary channel.

It can also be used to help support gut health and better immunity in pets during periods of stress or post recovery from other digestive upsets.

Long term use of probiotics in pets will also support better gut health, digestive function, immunity and competitive inhibition. Precision Microbes is already seeing the significant benefits of long-term use in pets that are prone to digestive upsets.

Dosage

	Treating	Dose rate	Duration
Pets	Rapid gut stabilisation	1ml/kg/BW twice daily	3 days*
	Recovering from digestive disturbances	1ml/kg/BW in feed or water	Daily for up to 28 days
	Long term use	1ml/kg/BW in feed daily	
	Pets on antibiotics	1ml/kg/BW daily	Ensure at least 2 hours between antibiotic administration and probiotics
*The first dose can be given orally then followed up in feed.			



Tel: 01 451 8959 www.interchem.ie info@interchem.ie

Interchem (Ireland) Ltd., Unit 29, Cookstown Industrial Estate, Dublin 24, Ireland

Complementary feed for horses and ponies



Equine Challenges

Interchem is delighted to introduce our horse complementary feed into the Irish market.

With the digestive health of horses being so important we are really excited to bring this unique liquid complementary feed into the Irish market.

Our complementary feed contains live beneficial bacteria in a liquid medium.

It is a solution of lactic acid bacteria produced by the fermentation of organic herbs.

It also certified organic and also has certification from the Laboratoire des Courses Hippiques which confirms it has no substances that can be viewed as performance enhancing.

Uses and benefits

This complementary feed is only available through the veterinary channel.

It is designed to help aid better digestive health on long term usage.

It is a complementary feed that can also be used to aid in-conjunction with supportive therapy for foals and adult horses recovering from dietary upsets.

Follow our Precision Microbes Equine Ambassador on Instagram:



[@damiengriffin_lissyegan](https://www.instagram.com/damiengriffin_lissyegan)

Dosage

	Treating	Dose rate	Administration
Horses	Horse	100ml - 150ml per day	In water or feed
	Pony	75ml per day	In water or feed
	Foal	50ml daily	Oral administration until they begin consuming solid feed, then administer in water or feed.

Probiotic and Postbiotic & Advanced Gut Stabiliser for Piglets



Pig Unit Challenges

One of the many challenges for young piglets is enteritis before and after weaning. These challenges can be multifactorial in pig units. Precision Microbes is designed specifically to help recovery and gut stabilisation following enteritis or diarrhoea in young pigs.

With the growing challenge of AMR and the need to reduce antibiotic usage this is a unique solution to the pig veterinary market.

The piglet probiotics contain *E Faecium* NCIMB10415 which is licensed for gut stabilisation under veterinary supervision.

The probiotic and postbiotic liquid solutions are only available in the veterinary market.

Uses and benefits

When administered early as part of supportive care in piglet diarrhoea it is extremely effective at gut stabilisation.

This liquid solution contains beneficial bacteria in a live dormant state in a pH controlled environment with all their metabolites or postbiotics.

Precision Microbes can also be used for underperforming piglets or piglets during periods of stress or recovering from other diseases.

Long term usage of probiotics can be considered in piglets to help improve digestive health and support immunity.

Dosage

		Treatment	Dose rate	Duration
Piglets	Piglets with acute enteritis	Gut stabilisation along with other supportive therapies (reduce inflammation, aid digestion)	1ml per kg twice daily for 3 days Can be given in one dose at 2mls per kg daily either	3 days or until symptoms resolve
	Piglets recovering from diarrhea or other disease issues	To help promote and restore normal gut function	1ml per kg in feed or orally daily for 5-7 days	5-7 days or until normal gut function returns
	During periods of stress	To improve digestive health and support normal function	1ml per kg in feed	For up to 28 days

NEW DEVELOPMENTS

New Bag and Box



The team at Interchem are delighted to announce a new bag and box of Precision Microbes, which has several benefits for the end user and the environment, including:

- Extended shelf life;
- Easy to dispense the product;
- Easy disposal. No more big plastic cans;
- 85% reduced plastic;
- The box is 100% recyclable.

Available in 10 and 20 litres.



New Advanced Gut Stabiliser for Calves



REFERENCES

1. Potential Pharmaceutical and Food Applications of Postbiotics: A Review (2020) Rad, Aziz H. et al. Current Pharmaceutical Biotechnology, V21, No. 15 pp 1576-1587
2. Gut Microbiota and Immune System Interactions (2020) Yoo. J. et al. MDPI, Switzerland.
3. Scientific Opinion on Cylactin® (Enterococcus faecium) for calves, lambs and kids for rearing and for fattening¹, 2 EFSA Panel on Additives and Products or Substances used in Animal Feed (FEEDAP)^{3,4} Czarniecki-Maulden GL, Cavadini C, Lawler D, Benyacoub J. Incidence of naturally occurring diarrhea in kittens fed Enterococcus faecium SF68. Compend Contin Educ Vet 2007;29(2A):37.
4. Bybee SN, Scorza AV, Lappin MR. Effect of the probiotic Enterococcus faecium SF68 on presence of diarrhoea in cats and dogs housed in an animal shelter. J Vet Intern Med. 2011 Jul-Aug;25(4):856-60. doi: 10.1111/j.1939-1676.2011.0738.x.
5. Fenimore A, Martin L, Lappin MR. Evaluation of Metronidazole With and Without Enterococcus Faecium SF68 in Shelter Dogs With Diarrhea. Top Companion Anim Med. 2017 Sep;32(3):100-103. doi: 10.1053/j.tcam.2017.11.001.
6. Gore AM, Reynolds A. Effects of Enterococcus faecium SF68 on stress diarrhea. 2012; ACVIM Forum Proceedings, 453.
7. Postbiotics: An evolving term within the functional foods field (2018) Aguilar-Toala J. E. et al Trends in Food Science & Technology V. 75, pp 105-114.

Any other data related to the content in this brochure is available upon request.