

TALKING *enzymes*



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porzyme

Fishers Feeds is adding Porzyme to its grower and finisher rations



Simon Carlton

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Aiming to offer all customers the very latest technology to help them to keep production costs down, the company has made the decision after studying all the technical trials data that indicates Porzyme's value in improving the nutritive content of feedstuffs.

Widely used in the poultry sector, enzyme inclusion in pig feeds is becoming increasingly accepted and is seen as a growing market, especially with the production pressures currently facing producers.

All animals use enzymes in the digestion of food. Commonly, these are produced by the animal itself, or by the microbes naturally present in the digestive tract.

The digestive process itself is nowhere near 100 per cent efficient, for example, pigs cannot digest 15-25 per cent of the food they eat...leading to costly wastage of a production input that accounts for more than 70 per cent of the total rearing costs.

Therefore, the supplementation of pig feeds with enzymes to

increase the efficiency of digestion can be seen as an extension of the pig's own digestive process.
So, how do feed enzymes work?

Enzymes act as catalysts, aiding chemical changes in other substances, and increasing the speed of these reactions by more than a million fold. They are very specific, only breaking down, or working on, a single substance.

In the case of Porzyme, the enzymes help to break down the fibre content of the feed ingredients, releasing nutrients and making them more available for digestion. This process also helps to prevent nutritional disorders, such as colitis.

"Trials have shown that Porzyme can offer our customers improved daily gain, feed efficiency and feed intake of standard diets," says sales and marketing manager, Simon Carlton.

"Other trials have shown inclusion can increase abattoir revenue from improved animal uniformity, produce cleaner pigs, reduce the number of digestive disorders and offer lower manure disposal costs and less environmental stress from reduced faecal volume and nitrogen excretion.

"We are certain our farmer customers will find its inclusion adds value to the ration, and will welcome our willingness to continually strive to improve the feed we produce."

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PORZYME IN FISHERS PIG FEEDS

More than 2500 pigs have been through a series of feeding trials with Fishers Feeds this year, as the company has looked at various feed enhancers said to improve the digestibility of grower and finisher rations.

"One performance enhancer that has consistently shown these benefits is the feed enzyme Porzyme," says Fishers Feeds technical director Simon Record. "We have been



carrying out the trials since the start of this year, and have been impressed with the results this product has shown."

In both trials, the pig producer saved at least 50p/pig over the weight range.

In the first trial the killing out percentage was improved, the weight gain was 1.5 kg per pig higher, and feed efficiency improved by five per cent, when compared with the control group.

In the second trial, the growth rate was much improved, by seven per cent, resulting in almost 3 kg better weight gain per pig, and again gave a five per cent better feed efficiency.

In addition, Fishers has used Porzyme strategically for a number of years in the feeds of various customers who had experienced non-specific diarrhoea (colitis) in their pigs. In



most cases, Porzyme has reduced the problem, resulting in cleaner pigs with a reduced incidence of digestive disorders. "Farmers looking at improvements in their new rations can expect benefits of around a five per cent improvement in growth rate, three per cent improvement in FCR, less digestive disorders, and more even pigs," says Mr Record.

Porzyme, with its active ingredient the enzyme xylanase, works by aiding the pig's own digestive enzymes to break down feed ingredients, in particular the fibre components (non-starch polysaccharides, NSP).

TRIAL 1	CONTROL	PORZYME
Weight in	56.0 kg	53.1 kg
Weight out	91.2 kg	89.8 kg
Weight gain	35.2 kg	36.7 kg
Growth rate	902 g/day	942 g/day
FCR	2.52	2.40
Killing out	72.7%	73.5%
P2	10.3 mm	10.3 mm

TRIAL 2	CONTROL	PORZYME
Weight in	48.5 kg	50.1 kg
Weight out	81.6 kg	86.1 kg
Weight gain	33.1 kg	36.0 kg
Growth rate	922 g/day	987 g/day
FCR	2.53	2.40

Pigs do not naturally secrete this enzyme, so inclusion in the feed allows the pig to digest the NSP, which are present at high levels in wheat, usually the highest inclusion ingredient in pig feeds. This, in effect, increases the energy content of the feed, and also improves the amino acid availability because cell walls are broken down more fully, allowing better access to intra-cellular protein by the pig's digestive juices.

CLEAN PIGS: High wheat pelleted diets with Porzyme
DIRTY PIGS: High wheat pelleted diets with no enzyme
(A trial at the Meat and Livestock Commission's Stotford Pig Development Unit, UK)



Porzyme - CLEAN PIGS

PORZYME IN FISHERS PIG FEEDS

OTHER BENEFITS WILL INCLUDE:

- >> More uniform pigs
- >> Less non-specific digestive disorders
- >> Improved feed digestibility and therefore less nitrogen pollution of the environment
- >> Reduced viscosity of gut digesta which allows digestive juices more access to the feed particles and easier absorption of nutrients
- >> Better balance of microbial populations in the small and large intestines.

HOW DOES IT WORK?

Porzyme breaks down the fibre in the cell walls of key raw materials, releasing nutrients and making them more available and more digestible.

Fibre can act like a sponge, soaking up water, tying up soluble nutrients and filling up the gut. Porzyme reduces the



sponge effect and, in turn, increases feed intake

Some fibres create stickiness or viscosity when dissolved which interferes with the efficient digestion of nutrients. Porzyme

reduces this stickiness by breaking down the fibre.

farmerfocus

Terry Milner started in pigs when he was just 17 with a single sow. The one soon became 50, then a hundred and, over the past 40 years, has steadily increased to the 450 breeding sow unit he runs today.

The high-welfare unit at Holmdale Farm, Fridaythorpe, East Yorkshire, has been a closed herd for the past 28 years. All progeny are taken to bacon, sold on contract to Malton Bacon Factory at 90kg.

Two breeding lines produce all of the farm's stock. A Landrace line produces the female stock, while a combination of Large Whites and AI is used to breed the boars.

"The only 'new blood' that comes onto the farm is that produced from AI," says Terry. "It's the only way I can improve the herd. However, with all the health and disease scares, I'm delighted that we've been a closed unit for such a long time... it has meant we have kept quite a few diseases at bay."

With feed accounting for up to 70 per cent of his production costs, Terry is always monitoring the performance of his Primary Diet and Fishers rations. From weaning the piglets go onto Primary Select until they weigh about 8kg. They move onto Primary Classic until

10-11 kg, when they switch to ED Weaner. At 30kg they go onto the Premier Grower pellet, and they are all finished on HiLean Grower, fed between 50 and 90kg.

"Porzyme has been in my ED ration for about four years now," he says. "When it was added we were told it would improve digestibility and improve feed conversion rates. Compared to other pig rations we have tried, it has certainly added to performance."

"We have been really pleased with it. The pigs seem to 'bloom'. I welcome the news it will be added to other grower and finisher rations - the sooner the better as far as I am concerned."

All feeding is through ad lib hoppers with all pigs having feed constantly in front of them. "We do consistently test other rations against ours to make sure we are still on the right tracks, and are always pleased with the results."

"I am very interested in what feed enzymes can do to help improve the performance of my pigs. Every little helps, and I have been delighted with the performance of Porzyme."

Terry admits that the past two years have been very tough. "All I can say is that I have never seen a depression like it, not in the whole 40 years I have been in farming. We have seen a total collapse of the market, and there has been nothing we could do about it. "It's been a long and rocky road."

"I have been delighted with the performance of Porzyme"

Control - DIRTY PIGS



FREQUENTLY ASKED QUESTIONS

Q: WHAT ARE ENZYMES?

A: Enzymes are naturally occurring proteins produced by all living organisms. They are used to speed up chemical reactions and, while their inclusion in pig feeds is relatively new, enzymes are widely used, with great success, in poultry feeds.

Q: WHY SHOULD I WANT TO USE THEM?

A: There are many good reasons for using feed enzymes. Research has shown they can increase feed digestibility by between three and five per cent, depending on the weight of the pig and the feed formulation.

Porzyme's ability to unlock feed nutrients will make your rations even more consistent, which will result in more consistent pig performance.

Finally, trials have shown pigs suffer from fewer non-specific digestive upsets, and that manure volume can be reduced by up to 20 per cent. With today's pressures on pig production, when every benefit counts, Fishers Feeds believes Porzyme will prove to be a very useful, cost-efficient, addition to your rations.

Q: HOW WILL THEY IMPROVE MY RATIONS?

A: Enzymes are highly specific. Each acts as a key to a door, unlocking the potential of your pig feed, making the nutrients more available. Typically, a pig is only able to digest between 75 and 85 per cent of the feed it eats, yet over 70 per cent of your production costs are feed. By including Porzyme in the ration, we are including an enzyme that will break down the fibre in the cell walls of key raw materials, releasing nutrients into the gut, making them more available and more digestible.

Q: WILL THIS MAKE MY FEED MORE EXPENSIVE?

A: No, it will not. Fishers Feeds is committed to offering all its customers the most cost-efficient feeds, formulated to the very latest specifications, to help them to produce pork and bacon at highly-competitive rates. We are continuing to work hard to improve our own efficiency so that we can continue to offer customers value for money. Increasing our efficiency means we can carry on improving the specification of our rations.

Q: WHERE DO THESE ENZYMES COME FROM?

A: Today, enzymes are commercially produced from harmless fungi, yeast or bacterial micro-organisms found naturally in the environment. Finnfeeds' enzymes are produced under very carefully controlled, sterile, conditions. They are constantly monitored throughout the production process to ensure the safety and consistency of the end product. The fermentation process used to produce these enzymes is very specific. Each enzyme is extracted using a gentle, but sophisticated, filtration process. Finally, the enzymes are stabilised before storage. All the enzymes used in the Finnfeeds range are classed as food grade standard.

EVERYDAY ISSUES OF ENZYMES

Enzymes are at work every day, in a vast range of industries, performing simple and highly-complex functions.

For many hundreds of years people have been using them in fermentation processes, for example, in cheese-making, bread-making, for brewing beer or for making wine. Other uses today are found, for example, in the textile, pulp and paper, starch and sugar, pharmaceutical and oils and fats industries.

Apart from enzyme products, Finnfeeds also produces and markets the Flavodan™ feed flavour range, Betafin® for the pig, poultry and aquaculture industry, and a range of services to support its products.

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ABOUT FINNFEEDS

Finnfeeds is part of Danisco Cultor, the world's leading supplier of enzymes to the animal feed industry and the world's leading manufacturer of betaine.

Finnfeeds is a global supplier of micro-ingredients to the pig, poultry and aquaculture sectors. It provides customers in over 50 countries with access to high quality feed enzymes, betaine and flavourings, with an unrivalled level of service and technical support.