



# Axtra<sup>®</sup> PHY

**THE FAST-ACTING PHYTASE TO  
HELP YOU FINISH FIRST**

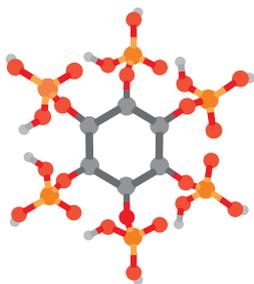
# Axtra<sup>®</sup> PHY

## The fast-acting phytase to help you finish first

- Axtra<sup>®</sup> PHY works quickly in the digestive tract and has the highest activity at low pH. This doubles the rate of phytate destruction to release phosphorus and overcome its anti-nutrient effects
- Our data-driven dosing recommendations ensure you're always delivering the right dose of phytase for your specific needs
- Axtra<sup>®</sup> PHY provides the fastest route to top animal performance, reduces phosphorus waste and improves profitability

### What is phytate and why is it a problem?

Phytate, also known as phytic acid and inositol hexaphosphate (IP6), is the main storage form of phosphorus contained in plants. Phytate is a problem because its phosphorus is indigestible to monogastric animals and it has strong anti-nutrient effects. In the upper digestive tract, at low pH, phytate binds to proteins and amino acids. Further down the digestive tract, at higher pH levels, phytate binds to minerals such as calcium and trace elements. As a result, precious nutrients in the feed are not absorbed by the animal and bodyweight gain and feed efficiency are reduced.



IP6 is an inositol ring with six bound phosphates

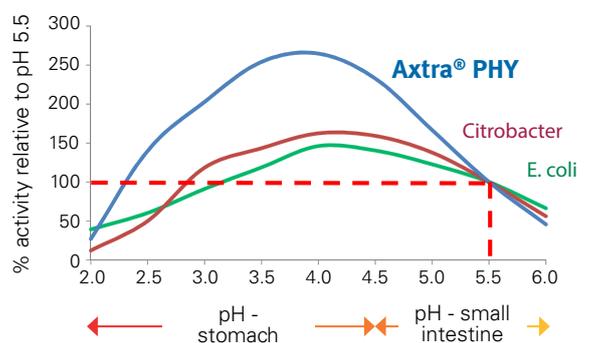
Phytate's interference with digestion stimulates the animal to increase its production of endogenous secretions, an energy and nutrient consuming process, leading to reduced animal performance.

Finally, unabsorbed nutrients, in particular phosphorus and nitrogen, are excreted by the animal, creating a problem for the environment.

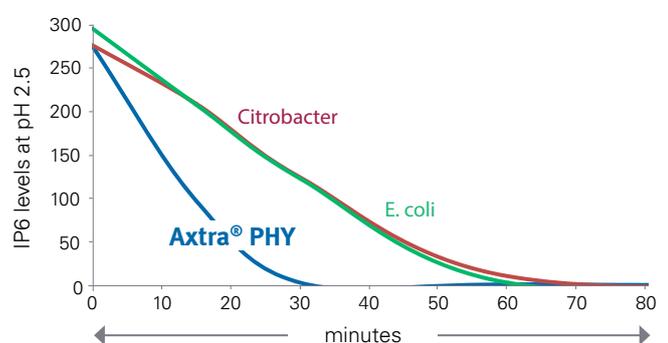
### How does Axtra<sup>®</sup> PHY help you finish first?

#### Highest bio-efficacy

To achieve optimum phosphorus uptake, reduce the anti-nutritional effects of phytate and increase the availability and absorption of costly energy and amino acids, phytate needs to be destroyed as fast as possible. Fast phytate destruction is achieved by using a phytase that is highly active at the low pH in the animal's upper digestive tract.



Axtra<sup>®</sup> PHY has an exceptionally high relative activity at low pH compared to *E. coli* phytases. It also has enhanced resistance to pepsin produced by the animal. This means it works twice as fast in the upper digestive tract to both release phosphorus and overcome phytate's anti-nutrient effects. The net result is ~20% improvement in the release of phosphorus and calcium and up to 30% improvement (species dependent) in energy and amino acids at standard phytase inclusion levels. Furthermore, Axtra<sup>®</sup> PHY breaks down any remaining protein phytate complexes 40 to 80% better than the competition.





## How does Axtra® PHY help you finish first?

### Evidence based optimized dose

Your profitability is driven by using the most appropriate phytase dose for your situation, supported by well-researched matrix values that vary according to animal species, diet and the age of the animal. Our targeted dose recommendations for Axtra® PHY are supported by evidence based matrix values obtained from animal digestibility responses including 300 data points for poultry and 560 data points for swine.

### Performance, profit and planet

Including the correct dose of Axtra® PHY in the diet will:

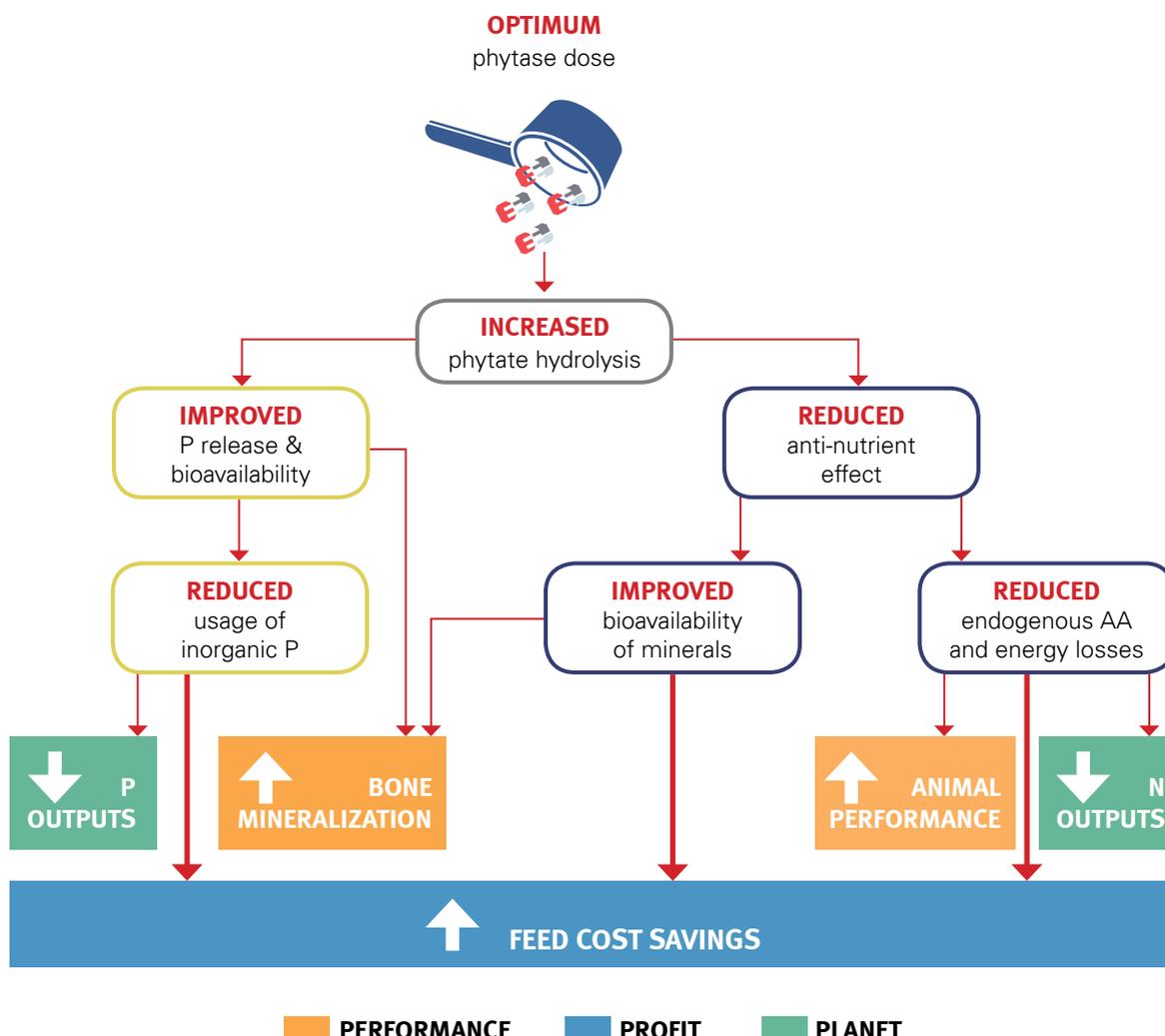
- maximize uptake of phosphorus and reduce the need for costly inorganic phosphorus supplementation
- enhance the release of energy and amino acids by rapidly reducing the anti-nutritional effects of phytate
- reduce expensive secretions such as phosphorus and nitrogen waste

### Confidence in use—superior thermostability

Axtra® PHYTPT is protected by a unique coating that offers excellent heat stability up to 95°C/203°F and also allows rapid release of phytase in the upper part of the gut to achieve optimum bio-efficacy.

### Formulation support

Optimize Feed™, is an easy-to-use online tool to calculate the optimum dose of phytase needed to achieve the strongest performance benefits and cost savings. It uses accurate and well-researched Axtra® PHY matrix values combined with extensive global data on raw material substrate levels. Optimize Feed™ will help balance calcium and phosphorus levels, which is important for bone mineralization.



## Value added services

### Analytical services

We offer analytical services in order to support your use of Aextra® PHY:

### Laboratory assay

We work with a network of first class, global laboratory assay service providers to offer fully quantitative traditional laboratory assays for phytase.

### FASTKit™

We support on-site phytase analysis with our FASTKit™ assay. FASTKit™ is an easy-to-use, semi quantitative assay that quickly and specifically detects the level of active Aextra® PHY in the feed.

### On site application support

Applications expertise of our technical and business support teams.

## Product form and application

Aextra® PHY, a phytase feed enzyme, is sourced from a *Buttiauxella* species bacterium and is expressed in a *Trichoderma reesei* fungus.

### Aextra® PHY TPT

Thermostable up to 95°C/203°F during pelleting.

An off-white to light tan, fine granular product.

Packed in 25 kg multi-wall polyethylene lined paper bags or 1000 kg bulk (tote) bags.

**Recommended inclusion rate:** 250-2000 FTU/kg of finished feed, included either directly or via a premix.

### Aextra® PHY Liquid

A brown liquid.

Packed in 200 kg and 1000 kg containers.

**Recommended inclusion rate:** 250-2000 FTU/kg of finished feed. Must apply post pelleting.

### Aextra® PHY G

An off-white to light tan, fine granular product.

Packed in 25 kg multi-wall polyethylene lined paper bags or 1000 kg bulk (tote) bags.

**Recommended inclusion rate:** 250-2000 FTU/kg of finished feed, included either directly or via a premix.

**Contact your Danisco Animal Nutrition representative or distributor for recommendations about your specific application needs.**

Copyright © 2016 DuPont. All rights reserved. The DuPont Oval Logo, Aextra® PHY, FASTKit™ and Optimize Feed™ are trademarks or registered trademarks of E. I. du Pont de Nemours and Company or its affiliates. Nothing contained herein shall be construed as a representation that any recommendations, use or resale of the product or process described herein is permitted and complies with the rules or regulations of any countries, regions, localities, etc., or does not infringe upon patents or other intellectual property rights of third parties. The information provided herein is based on data DuPont believes to be reliable, to the best of its knowledge and is provided at the request of and without charge to our customers. Accordingly, DuPont does not guarantee or warrant such information and assumes no liability for its use. If this product literature is translated, the original English version will control and DuPont hereby disclaims responsibility for any errors caused by translation. This document is subject to change without further notice.

To find your nearest local office or distributor visit [www.animalnutrition.dupont.com](http://www.animalnutrition.dupont.com)

Danisco Animal Nutrition (Head office)  
PO Box 777, Marlborough, Wilts, SN8 1XN, UK  
Tel +44 (0) 1672 517777  
[info.animalnutrition@dupont.com](mailto:info.animalnutrition@dupont.com)  
[www.animalnutrition.dupont.com](http://www.animalnutrition.dupont.com)

