

Animal Nutrition



Axtra[®] XB

**Reliability and
performance for
mixed grain diets**

The first enzyme combination for pigs and all poultry including game birds

Multi-species and flexibility

- Flexible dosing – variable inclusion rate according to feed ingredients to maximise value
- Registered in the EU for use in piglets, grower-finisher pigs, broilers, turkeys, layers, ducks and minor poultry species e.g. pheasants, partridge

Consistency and reliability

- Xylanase and β -glucanase enzyme combination for activity against dietary fibre in mixed grain diets, resulting in improved digestibility and increased profitability
- Proven in trials to consistently improve FCR and daily weight gain across all species

Convenience in application

- Easily used in combination with DuPont's phytase offering good opportunities for additional feed cost savings

Superior heat stability

- Thermo protection technology (TPT) granule for superior thermostability in feed pelleted up to 90°C (194°F)
- Range of liquid and dry product forms for ease of handling in the feed mill

Why is dietary fibre costly to animal performance?

The nutritional value of grains and other raw materials is negatively affected by their dietary fibre content. Key components of soluble and insoluble dietary fibre include arabinoxylans and β -glucans, found in plant cell walls (see table on the right).

The negative effects of soluble and insoluble dietary fibre include:

- Acting as a physical barrier to the animal's own enzymes, encapsulating useful nutrients
- Increasing digesta viscosity leading to:
 - Decreased feed intake by slowing the passage rate of digesta in the gut
 - Reduced nutrient utilisation as the animal's own enzymes cannot easily reach their substrate
- Causing valuable energy and protein/amino acids to be wasted as the animal needlessly produces more of its own enzymes that are inappropriate to deal with dietary fibre
- Wet litter or soft/watery faeces due to detrimental changes to the gut microflora

Poorly digested feed reduces animal performance, increases the costs of production and lowers profitability.

How can Aextra[®] XB help?

Aextra[®] XB is a preparation of endo-1,4- β -xylanase and endo-1,3(4)- β -glucanase produced by *Trichoderma reesei*.

Xylanase and β -glucanase in Aextra[®] XB target the anti-nutrients arabinoxylan and β -glucan found in the fibre in grains and other raw materials.

By targeting these fibre components Aextra[®] XB improves digestion by helping release nutrients; reducing digesta viscosity; reducing the production of excessive secretions into the gut (reduced endogenous losses) and improves litter quality and faecal consistency.

Grain	Arabinoxylan content %	Arabinoxylan solubility %	β -glucan content %
Wheat	6.0	25	0.7
Barley	7.4	12	3.8
Rye	8.5	33	1.8
Triticale	5.7	24	1.5
Oats	8.6	5	2.5
Corn	3.9	8	0.1

Axtra® XB makes it easy

With the assurance of DuPont's science-based approach to animal nutrition, Axtra® XB is a versatile product that is easy to use.

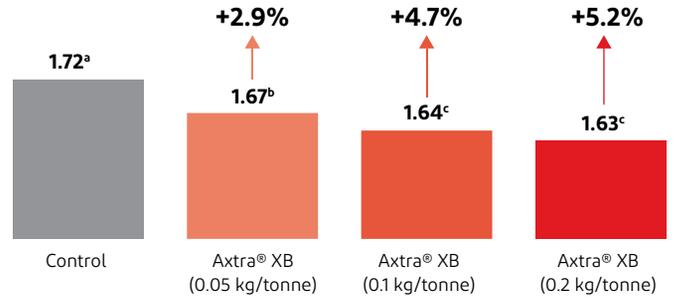
Axtra® XB has:

- multi-species registration
- flexibility in dose rate
- liquid and dry product forms
- excellent efficacy across a range of raw materials
- market-leading heat stability

Broilers

FCRc, 1-42 days

% improvement vs control



Meta analysis of 5 broiler trials. Mixed grain diets.
FCRc - Bodyweight corrected FCR (feed conversion ratio).

^{abc}P<0.05

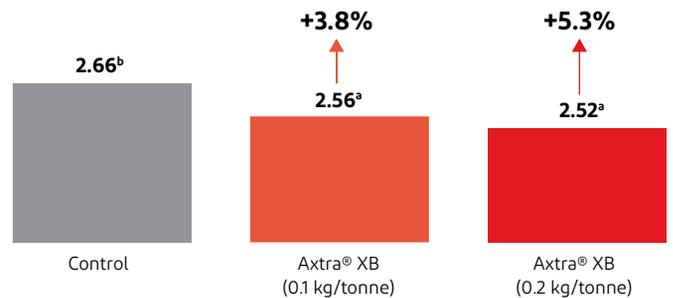
Consistent performance benefits

Axtra® XB gives consistent economic improvements in performance across a wide range of animal species and diet types, adding value to feed and animal production.

Turkeys

FCR, 1-16 weeks

% improvement vs control



ADAS, Gleadthorpe, UK. Mixed grain diets.

^{ab}P<0.05

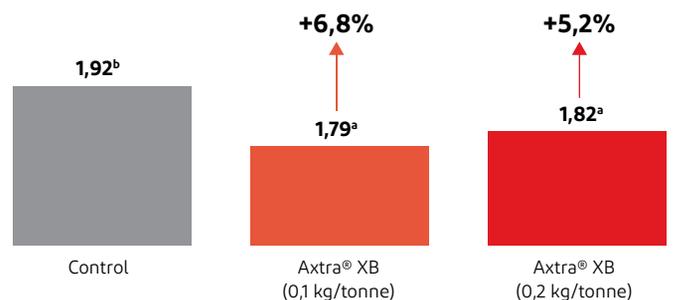
Product form benefits

- Available as a liquid and a dry granular product
- TPT granule ensures thermostability to 90°C (194°F) during pelleting
- Free flowing and dust-free for safe, accurate handling in the feed mill
- Liquid product enables easy post pelleting application

Piglets

FCR, 9-32 kg

% improvement vs control



IRTA, Spain. Mixed grain diets.

^{ab}P<0.05

How best to use Aextra® XB

Aextra® XB is designed and extensively tested for use in pig and poultry feeds based on mixed grains, e.g. wheat, barley, rye, triticale, oats, corn and vegetable protein meal.

Species	Flexible application*
Broilers	0.05 - 0.2 kg/t
Turkeys	0.1 - 0.2 kg/t
Layers	0.1 - 0.2 kg/t
Minor poultry species	0.05 or 0.1 - 0.2 kg/t
Piglets	0.05 - 0.2 kg/t
Grower-finisher pigs	0.05 - 0.2 kg/t

Higher feed cost savings are achievable by using Aextra® XB in combination with DuPont's phytase to maximise nutrient release.

Aextra® XB feed formulation matrix values for maximum feed cost savings are available on request.

Product form

Aextra® XB 201 TPT

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

Recommended usage rate

0.1 kg/tonne (0.01%) of finished feed

Aextra® XB 201 L

Packed in containers of 200 kg and 1000 kg.

Recommended usage rate

0.1 kg/tonne (0.01%) of finished feed



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