



# Alpyxan

Thermostable Xylanase Enzyme  
Unlocking Nutrition, Enhancing Performance!



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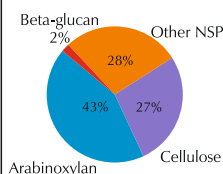
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## Nutrient Lockup in Poultry Feed

- The digestibility of poultry feed is significantly impacted by its fibre content which limits nutrient absorption.
- Non-starch polysaccharides (NSPs), particularly arabinoxylans, act as anti-nutritional factors, reducing feed efficiency.
- Arabinoxylans from a physical barrier around nutrients, making them inaccessible to the bird's digestive enzymes.
- Consequences of NSPs in feed :
  - Increased gut viscosity, slowing digestion and nutrient absorption.
  - Reduced energy and protein availability, affecting growth performance.
  - Soft or watery droppings, leading to poor litter conditions and gut health issues.

Alpyxan effectively breaks down arabinoxylans, unlocking trapped nutrient and enhancing feed efficiency for better poultry performance and cost savings,

### NSP Breakdown in a Typical Corn-SBM Broiler Diet



## Product Overview

Alpyxan is a highly **Thermostable Xylanase Enzyme** (endo-1,4- $\beta$ -xylanase) designed for optimal performance across a broad pH range. It specifically targets the arabinoxylan fraction in dietary fibre, breaking down anti-nutritional barriers to enhance nutrient absorption, improve feed efficiency, and boost overall poultry performance. With its advanced formulation, Alpyxan unlocks trapped energy, ensuring better digestibility and maximizing growth potential.

## Mechanism of Action

Alpyxan is a highly efficient endo-1,4- $\beta$ -xylanase that hydrolyses arabinoxylans, the primary non-starch polysaccharides (NSPs) in plant-based feed ingredients. It acts by cleaving the  $\beta$ -1,4 glycosidic bonds within arabinoxylan polymers, breaking them down into shorter xylo-oligosaccharides. This enzymatic degradation reduces intestinal viscosity, disrupts plant cell wall structures, and releases entrapped nutrients, allowing for improved digestion and absorption. By enhancing fibre breakdown, Alpyxan optimizes feed utilization, leading to better growth performance, higher feed conversion efficiency, and improved gut health in poultry.

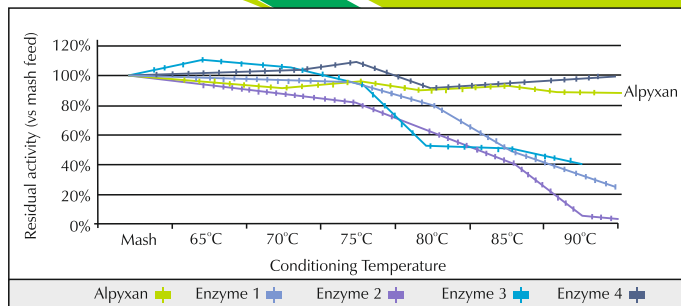
## Benefits

### 1. Superior Thermostability & pH Profile for Optimal Performance

Alpyxan is a highly thermostable xylanase enzyme, scientifically formulated to enhance feed efficiency and nutrient utilization. It stands out for its exceptional heat stability, withstanding temperatures up to 90°C, ensuring superior enzyme activity retention throughout the pelleting process for consistent and effective performance.

2. Alpyxan remains active throughout the digestive tract, resisting degradation by pepsin and other gastric enzymes.

3. **The Impact on Digesta Viscosity :** High digesta viscosity slows nutrient absorption in the foregut and promotes harmful bacteria in the hindgut, reducing feed intake and impairing poultry nutrition. Alpyxan enhances nutrient absorption by lowering digesta viscosity and optimizing passage rate, leading to improved feed efficiency and gut health.



**4. Prebiotic Effect:** Alpyxan breaks down grain cell walls to unlock essential nutrients for digestion, simultaneously generating prebiotic Xylo-oligomers in the lower gastrointestinal tract. This process boosts volatile fatty acid (VFA) production, promotes a beneficial microbial balance, and supplies vital energy to enterocytes for improved gut health.

Alpyxan reduces the impact of NSPs by lowering gut viscosity and improving nutrient utilization. It enhances feed efficiency, boosts weight gain, and promotes flock uniformity. By maintaining drier litter conditions, it minimizes the risk of loose droppings and disease, ultimately strengthening immunity and improving poultry productivity.

Nutrient	Contribution/Kg Feed	Matrix Values
Energy (ME, Kcal/Kg feed)	up to 100	up to 1,000,000
Crude Protein (%)	0.37	3750
Lysine (%)	0.0150	150
Methionine (%)	0.0080	80
Cysteine (%)	0.0120	120
Arginine (%)	0.0240	240
Isoleucine (%)	0.0140	140
Threonine (%)	0.0170	170
Tryptophan (%)	0.0050	50

## Recommended Inclusion Levels

- The suggested dosage of Alpyxan is 100 g per tonne of feed or as advised by a nutritionist.
- Modify the diet to optimize energy utilization.
- Alpyxan enhances energy availability by providing up to 100 Kcal ME/kg in corn-based poultry diets. For alternative feed sources like wheat and bajra, it can deliver up to 120 Kcal ME/kg.

## Top-up strategy

Incorporating Alpyxan as a top-up in existing diets helps improve feed conversion ratio (FCR) by 5-6 points, depending on the formulation.

## Presentation

Available in 25 kg HDPE drum

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