

# MakZyme-C



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Synergistically acting **Thermostable** Carbohydrases complex with Phytase and Protease.

Makzyme-C is a perfect blend of substrate specific Enzymes to enhance the availability of nutrients. Feed with high corn-soya proportion is rich in NSPs, which increases the gut viscosity thereby, reduces the nutrient availability. Makzyme-C reduces the gut viscosity, improves nutrient digestibility and releases the hidden nutrients in feed ingredients.

## Composition:

Xylanase, Alpha-amylase,  $\beta$ -glucanase, Cellulase, Pectinase, Mannanase, Lipase, Protease and Phytase.

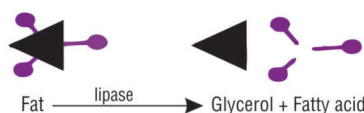
## Benefits:

- Addition of Makzyme-C may release 25- 50 k.cal/kg of energy and 0.5-1% of protein in finished feed based on substrate.
- Allows incorporating alternative feed ingredients and reducing feed cost. Degrading NSPs and improves FCR and production by reducing gut viscosity, and permits optimal gut motility and peristalsis. This in turn contributes to greater nutrient absorption, better intestinal villus function and health.
- Reduces wet litter problem by neutralizing anti nutritional factors like arabinoxylans, beta-glucans ,gossypol, phytate, saponins, tannins and trypsin inhibitors.
- Improves nutrient digestion and help to reduce litter problems and reduces ammonia excretion and thereby reduces disease incidences.
- Makzyme-C reduces the water holding capacity of the gut contents thus increasing the dry matter content.

## The main groups of digestive enzymes

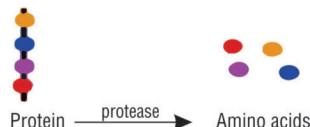
### Lipase

enzymes digest fatty substrates



### Protease

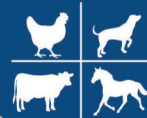
enzymes digest protein substrates



### Carbohydrase

enzymes digest carbohydrate substrates





### Mode of Action:

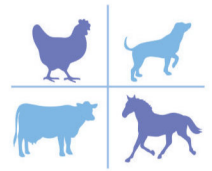
**Makzyme-C is unique due to its optimum concentration of Carbohydrases complex for synergistic action:**

- **Xylanase** in Makzyme-C: breaks down non-starch polysaccharides (NSPs), specifically soluble and insoluble arabinoxylans, which, in turn, reduces digesta viscosity, releases trapped nutrients and improves feed passage rates. The released arabino-oligosaccharides may also have a prebiotic effect in the gut.
- **Protease** improves the digestibility of protein and reduces anti-nutritional factors, e.g., residual trypsin inhibitors in Soyabean meal.
- **Phytase:** is capable of breaking down phytate and releases phytic acid efficiently release phosphorus and other nutrients from phytate.
- **Lipase** breakdowns the Lipids from Oils in poultry feed, which is more deficit in chick stage.
- **Cellulase** breakdowns Cellulose in to fibrous raw material.
- $\beta$ -mannans in poultry diets has been associated with many negative features ranging from high intestinal viscosity and low nutrient digestibility to adverse effects on innate immune response and microbial proliferation in the gut.  
 **$\beta$ -mannanase:** breakdowns mannans esp. in Soyabean meal and eliminate the adverse effects.
- A perfect blend of amylase, xylanase, and protease enzymes in Makzyme-C working together synergistically each other and act on poorly digestible portions of feed ingredients and increases the availability of nutrient for better growth and egg production.



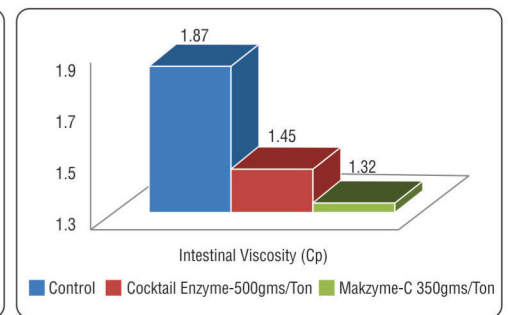
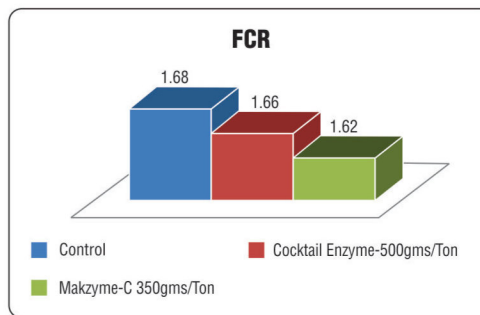
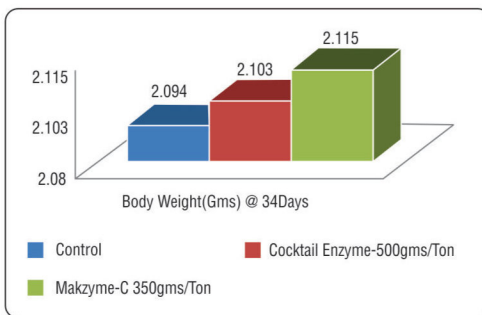


# MakZyme-C



## Effect on Makzyme-C on Broiler Performance and Intestinal viscosity:

Groups	Body Weight (Gms) @ 34Days	FCR	Intestinal Viscosity (Cp)
Control	2.094	1.68	1.87
Only Cocktail Enzyme-500gms/Ton	2.103	1.66	1.45
Makzyme -C 350gms/Ton	2.115	1.62	1.32



### Matrix Value :

Energy, K.Cal	25 – 50K.cal/kg
Protein, %	0.5 – 1 %

### Usage:

Makzyme-C is available in **perfect granulated form.**

Broilers, Breeders and Layers : 350gms/Ton of feed for regular use. As advised by Veterinarian.

### Presentation:

25kg bag.

### Selflife:

24 Months from Date of Manufacture



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