ROSSARI®
making you more competitive

Mannobac

Improving performance through energy conservation

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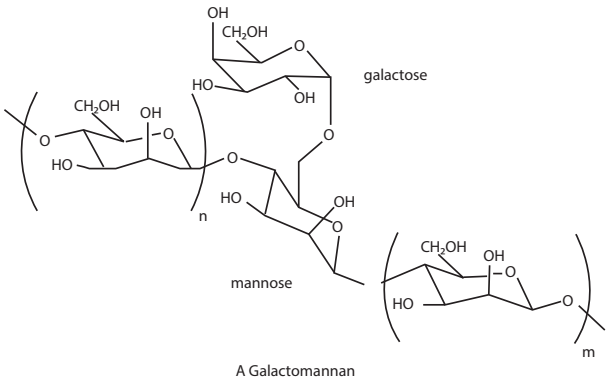
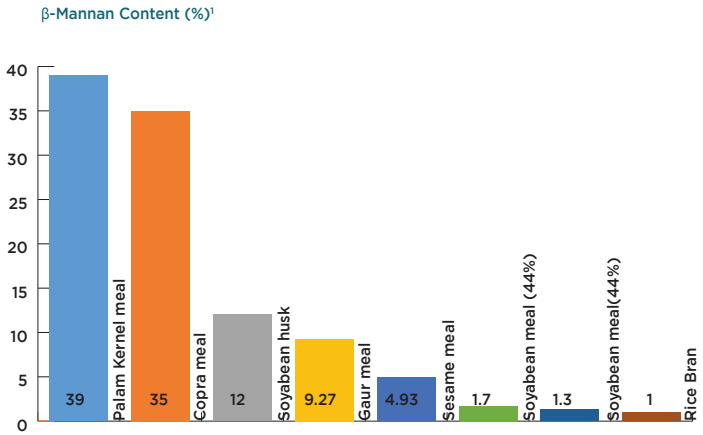
β-Mannan have overwhelming presence in majority of feedstuffs

β-mannans are a class of non-starch polysaccharide (NSP) fiber shown to have adverse effects on the digestion and absorption of other nutrients, most likely due to its ability to impair the epithelial barrier function. Protein feedstuffs are particularly rich in β-mannans, a type of hemicellulose rich in D-mannose units linked in β -(1-4) glycosidic bonds. In general, the major β -mannans in feedstuffs are glucomannan and galactomannan. Structurally, galactomannans consist of a mannose main chain (β-1,4-mannopyranose) with galactose side chains.

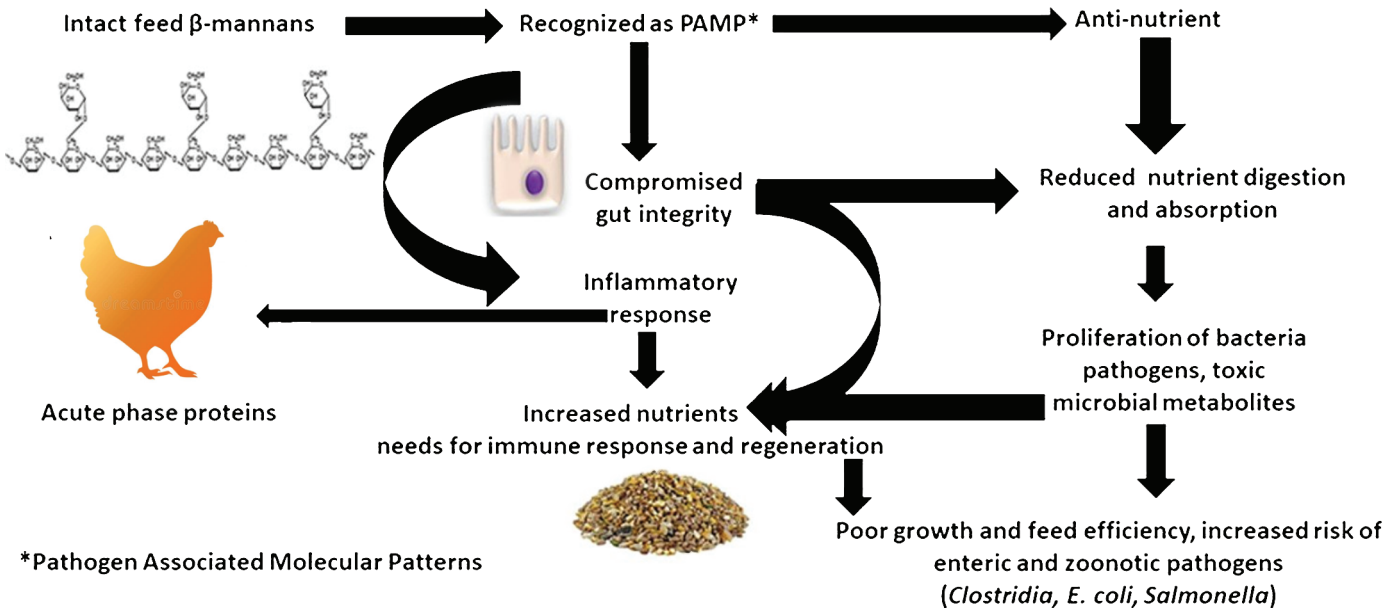




β-Mannan are Immunogenic

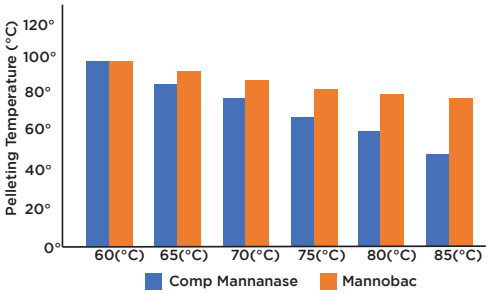
NSPs, including galactomannan, are produced by leguminous plants and extracellularly by pathogenic microorganisms to enhance their virulence. The literature to date has indicated strong immunostimulatory effects of mannan polysaccharides. Galactomannans also induce the production of innate inflammatory cytokines, including IL-12, IL-6, and IFN-γ, and cause DC maturation.

The bird's innate immune system recognizes β-mannans as Pathogen Associated Molecular Patterns (PAMPs) and initiates protective action. This triggers an unnecessary innate immune system stimulation that consumes energy and other valuable nutrients. Further, β-mannans negatively impact bird's performance, by increasing feed viscosity, compromising weight gain, feed conversion, as well as lowering insulin secretion, IGF-I, glucose and nutrient absorption. This Feed Induced Immune Response consumes about 3% of total metabolizable energy.

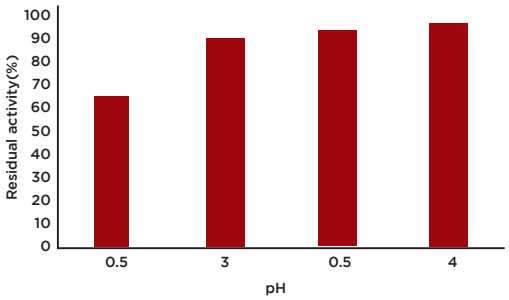


Mannobac Mode of Action

Mannobac works by breaking down β-mannans and other NSPs found in common poultry feeds, thus it releases nutrients, increases metabolizable energy content, reduces digesta viscosity and the wasteful Feed-Induced Immune Response (FIIR). Therefore, the bird has more energy to be utilized for growth and performance.



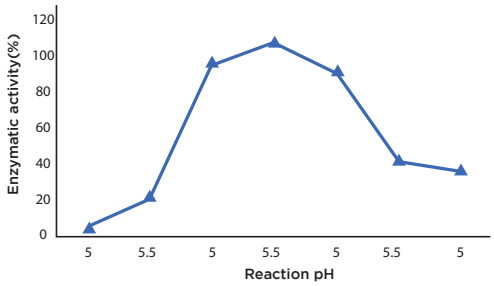
Mannobac is heat stable at pelleting temperature of 85°c. Has >90% activity retenstion



Demonstrated up to 92% residual activity in conditions simulating the stomach/ gizzard

Thermostability | **Unique pH profile** | **Resistance to Git Proteases**

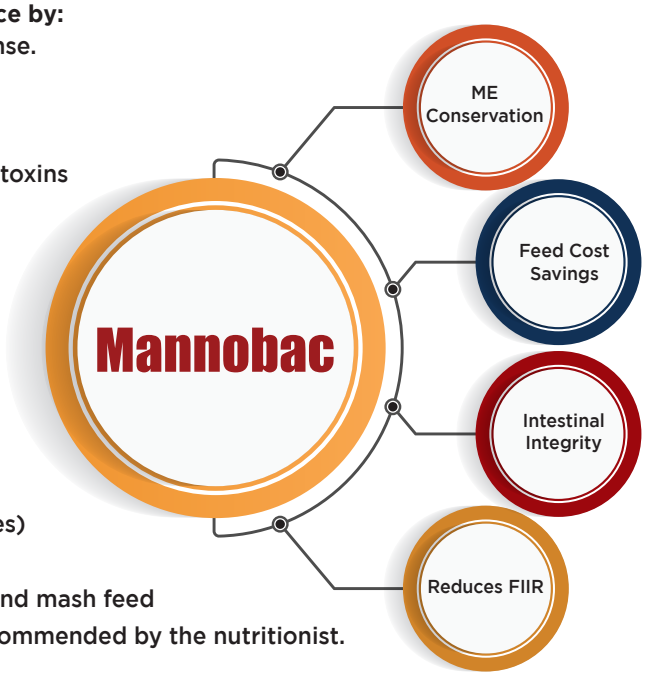
Mannobac is active at broad pH range 5.2 -7.6. optimal pH matches that of Intestine



Mannobac at a Glance

Mannobac directs bird's energy towards growth and performance by:

- Conserving energy by reducing Feed-Induced Immune Response.
- Lowering FCR, increasing body weight.
- Reducing digesta feed viscosity.
- Stimulating lipid utilization and amino acid digestibility.
- The degradation products (MOS) help in adsorption of Mycotoxins from feeds, promoting healthy growth.
- Reduced medicine and additive dependency.
- Reduces severe foot pad lesions
- Promoting dry litter and less feces with low moisture content.



Product Specifications

Product form: Mannobac (microgranulated thermostable particles)

IUB No: 3.2.1.78

Composition: Mannanase 2,00,000 U/g suitable for pellet feed and mash feed

Inclusion rate: Recommended at 250-350g/ton of feed or as recommended by the nutritionist.

Pack Size: 25 Kg HDPE Drum

Manufactured By

ROSSARI BIOTECH LIMITED

(An ISO 9001:2015 & 14001:2015 Certified Company)
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