



Depsons Healthcare Co. India

Enzymes

Animal Feed Enzymes

ANIMAL FEED ENZYMES

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Acid Protease

Category: [Animal Feed Enzymes](#), [Enzymes](#)

Acid Protease is widely used in the animal feed industry as a protease enzyme that helps in the availability of low-grade proteins that release readily digestible peptides and easily absorbable amino acids.

Benefits:

Protease is widely used in the animal feed industry as a protease enzyme to help protein digestion. They split the chains of proteins producing small peptides and eventually free the amino acids, which can be absorbed by the animal or birds. The use of Acid Protease increases the digestive capacity of animals and birds. In addition, it also ensures the availability of adequate nutrient supplies for better growth and performance.

Dosage:

10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Acid Protease has an optimum activity at pH 5.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40°C but is very effective at 30 – 60°C.

Packing and Storage: Acid Protease is available in 25kg HDPE pack. The product should be stored under cool and dry conditions in an airtight container.

TESTS	SPECIFICATIONS
Activity	Measured in HUT/g
Protease	40000 u/g
pH optimum	5.0
Temperature optimum	40° C



Alpha-Amylase

Category: [Animal Feed Enzymes](#)

α -Amylase is a bacterial preparation derived from Bacillus sp. The enzyme catalyzes the hydrolysis of starch. The enzyme hydrolyzes the α -1, 4-glucosidic linkages of gelatinized starch randomly to produce soluble dextrans, reducing the high viscosity of the starch slurry and decolorizing the blue color of the starch-iodine complex.

Benefits: The use of α -Amylase increases digestive capacity and has optimum activity in an acidic environment, thus being effective in conditions encountered in the digestive tract of animals or birds.

Dosage: 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: α -Amylase has optimum activity at pH 6.0 but is very effective over a pH range of 5.0 to 10.0 It has an optimum activity at a temperature of 70°C but is very effective between 35 – 85°C.

Packing and Storage: α -Amylase is available in 25 kg HDPE packs. The product should be stored under cool and dry conditions in an airtight container.



TESTS	SPECIFICATIONS
Activity	Measured in BAA units
Amylase	5,00,000 u/g
pH optimum	6.0
Temperature optimum	70° C

Alpha-galactosidase

Category: **Animal Feed Enzymes**

Alpha-galactosidase enzyme is produced from *Aspergillus* sp through controlled fermentation, isolation and ultra-filtration.

Benefits: Alpha-galactosidase digests non-digestible sugars such as raffinose and stachyose mainly present in soybean meal. Alpha-galactosidase increases the digestive capacity of host body and also ensures availability of adequate nutrient supplies for better growth and performance.

Dosage: Alpha-galactosidase is in the range of 10- 100 g/ ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Alpha-galactosidase has an optimum activity at pH 5.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40°C.

Packing and Storage: Alpha-galactosidase is available in 25kgs HDPE packs. The product should be stored under cool and dry conditions in air tight containers.



TESTS	SPECIFICATIONS
Activity	Measured in Alpha-galactosidase units
Alpha – galactosidase	1000 u/g
pH optimum	5.0
Temperature optimum	40° C

Beta-glucanase

Category: [Animal Feed Enzymes](#)

Beta-glucanase is a thermostable enzyme, which has both beta 1 – 3 and beta 1 – 4 endo-glucanase activities.

Benefits: Beta-glucanase digests high molecular weight beta glucans in grain and cereal based feeds and can be used in the treatment of endosperm cell walls that contain about 70% beta glucans. Addition of Beta-glucanase to grain based feed offers solutions to many problems associated with beta glucans.

Dosage: Beta-glucanase is in the range of 10- 100 g/ ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Beta-glucanase has an optimum activity at pH 5.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40oC but is very effective between 35-60oC.

Packing and Storage: Beta-glucanase is available in 25kgs HDPE packs. The product should be stored under cool and dry conditions in air tight containers.



TESTS	SPECIFICATIONS
Activity	Measured in BG units
Betaglucanase	500 u/g
pH optimum	5.5
Temperature optimum	40 ^o C

Cellulase

Category: [Animal Feed Enzymes](#)

Cellulase enzyme is produced from *Trichoderma sp* by fermentation. It is a powdered cellulolytic enzyme, which finds application in the animal feed industry for fiber digestion.

Benefits: Cellulase is enzyme is widely used in the animal feed industry to degrade cellulose. Cellulose is probably the most abundant biological compound on earth and is the major component of cereal cell walls.

Dosage: Cellulase 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Cellulase has an optimum activity at pH 5.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40oC but is very effective at 30 – 60oC.

Packing and Storage: Cellulase is available in 25kg HDPE packs. The product should be stored under cool and dry conditions in an airtight container.

Since 1989



TESTS	SPECIFICATIONS
Activity	Measured in CMC units
Cellulase	4500 u/g
pH optimum	5.0
Temperature optimum	40 ^o C

Fungal Amylase

Category: [Animal Feed Enzymes](#)

Fungal Amylase enzyme is produced from *Aspergillus* sp by fermentation, isolation and ultrafiltration and is widely used in the animal feed industry as an alpha amylase enzyme that helps in the digestion of starch. It can readily hydrolyze starch molecules into smaller oligosaccharides and eventually into maltose and glucose.

Benefits: Fungal Amylase increases digestive capacity and has optimum activity in an acidic environment, thus being effective in conditions encountered in the digestive tract.

Dosage: Fungal Amylase 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Fungal Amylase has optimum activity at pH 5.0 but is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40°C but is very effective between 35-60°C.

Packing and Storage: Fungal Amylase is available in 25 kg HDPE packs. The product should be stored under cool and dry conditions in an airtight container.



TESTS	SPECIFICATIONS
Activity	Measured in FAA units
Fungal amylase	5,00,000 u/g
pH optimum	5.0
Temperature optimum	40° C

Glucoamylase

Category: [Animal Feed Enzymes](#)

Glucoamylase derived from *Aspergillus* sp. The enzyme catalyzes the hydrolysis of dextrin to glucose. The enzyme hydrolyzes the 1, 4 and 1-6 linkages of dextrin to produce glucose.

Benefits: The use of Glucoamylase increases digestive capacity and has optimum activity in an acidic environment, thus being effective in conditions encountered in the digestive tract of animals or birds.

Dosage: 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Glucoamylase has optimum activity at pH 4.2-4.6 but is very effective over a pH range of 3.5 to 5.0. It has an optimum activity at a temperature of 58 – 65°C but is very effective between 30 – 70°C.

Packing and Storage: Glucoamylase is available in 25 kg HDPE packs. The product should be stored under cool and dry conditions in an airtight container.

TESTS	SPECIFICATIONS
Activity	Measured in GOPOD units
Glucoamylase	1000 u/g
pH optimum	4.2 – 4.6
Temperature optimum	58 ^o - 65 ^o C



Hemicellulase

Category: [Animal Feed Enzymes](#)

Hemicellulase is an enzyme produced from *Trichoderma* sp by controlled fermentation. It is an enzyme complex used in the hydrolysis of cellulose.

Benefits: Hemicellulase is widely used in the animal feed industry, due to its ability to degrade various plant fibrous materials to facilitate extractions, improve separations, reduce viscosity and modify or completely hydrolyze cellulose.

Dosage: Hemicellulase 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Hemicellulase has an optimum activity at pH 5.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40°C but is very effective between 30°C to 60°C.

Packing and Storage: Hemicellulase is available in 25kg HDPE pack. The product should be stored under cool and dry conditions in an airtight container.

TESTS	SPECIFICATIONS
Activity	Measured in CMC u/g
Hemicellulase	4500 u/g
pH optimum	5.0
Temperature optimum	40° C



Lipase

Category: [Animal Feed Enzymes](#)

Lipase is an enzyme prepared by extracting the juice from pancreatic glands. The pancreatic juice is extracted from the glands and by precipitating the solvents or by lyophilizing the juice itself. The powder obtained is defatted by washing with ether to produce Lipase.

Benefits: Lipase is widely used in the animal feed industry as a fat splitting lipase enzyme. Lipase is responsible for the absorption of ingested fats and for the mobilization of storage fats in animals. Fat can be used as energy source only after initial hydrolysis by lipases.

Dosage: Lipase 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Lipase has an optimum activity at pH 6.5 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40oC but is very effective between 30 - 60oC.

Packing and Storage: Lipase is available in 25kgs HDPE pack. The product should be stored under cool and dry conditions in an airtight container.



TESTS	SPECIFICATIONS
Activity	Measured in FIP u/g
Lipase	12000 u/g
pH optimum	6.5
Temperature optimum	40 ^o C

Mannanase

Category: [Animal Feed Enzymes](#)

Mannanase enzyme produced from *Trichoderma* sp by controlled fermentation, isolation and ultra-filtration.

Benefits: Mannanase digests mannans in grain and cereal based feeds. Use of Mannanase increases the digestive capacity of animals and birds and also ensures availability of adequate nutrient supplies for better growth and performance.

Dosage: 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Mannanase has an optimum activity at pH 5.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40°C but is very effective at 30 – 60°C.

Packing and Storage: Mannanase is available in 25kg HDPE pack. The product should be stored under cool and dry conditions in an airtight container.



TESTS	SPECIFICATIONS
Activity	Measured in mannanase units
Mannanase	8000 u/g
pH optimum	5.0
Temperature optimum	40° C

Neutral Protease

Category: [Animal Feed Enzymes](#)

Neutral Protease is derived from a strain of Bacillus sp for the hydrolysis of protein.

Benefits: Neutral Protease acts at random the inner-peptides of protein around the neutral zone to produce peptides of smaller molecules rapidly.

Dosage: 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Neutral Protease has an optimum activity at pH 7.0 – 7.5 but it is very effective over a pH range of 4.5 to 7.5. It has an optimum activity at a temperature of 55oC but is very effective at 30 – 60oC.

Packing and Storage: Neutral Protease is available in 25kg HDPE pack. The product should be stored under cool and dry conditions in an airtight container.

TESTS	SPECIFICATIONS
Activity	Measured in Neutral protease u/g
Protease	50000 u/g
pH optimum	7.0 – 7.5
Temperature optimum	55° C



Papain

Category: [Animal Feed Enzymes](#)

Papain is a Protease enzyme derived from plant i.e. from Papaya fruit. The unripe fruit is first tapped, and then the latex is dried and finally purified to get the enzyme. Methods of purification include water extraction with reducing and chelating agents, salt precipitation and solvents for converting it to Protease.

Benefits: Papain is widely used in the animal feed industry as a protease enzyme to help protein digestion. They split the chains of proteins producing small peptides and eventually free the amino acids, which can be absorbed by the animal or birds.

Dosage: 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Papain has an optimum activity at pH 5.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40°C but is very effective at 30 – 60°C.

Packing and Storage: Papain is available in 25kg HDPE pack. The product should be stored under cool and dry conditions in an airtight container.



TESTS	SPECIFICATIONS
Activity	Measured in TU/mg
Papain	200 u/mg
pH optimum	5.0
Temperature optimum	40° C

Pectinase

Category: [Animal Feed Enzymes](#)

Pectinase is produced from *Aspergillus* sp by controlled fermentation, isolation and ultra-filtration to give a produce which can be used for a wide range of applications.

Benefits: Pectinase is widely used in the animal feed industry as a protease enzyme that helps in the availability of low-grade proteins, releasing readily digestible peptides and easily absorbed amino acids. Use of Pectinase increases the digestive capacity of animals and birds and also ensures availability of adequate nutrient.

Dosage: 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Pectinase has an optimum activity at pH 4.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40°C but is very effective at 30 – 60°C.

Packing and Storage: Pectinase is available in 25kg HDPE pack. The product should be stored under cool and dry conditions in an airtight container.



TESTS	SPECIFICATIONS
Activity	Measured in AJDU units
Pectinase	30000 u/g
pH optimum	4.0
Temperature optimum	40° C

Xylanase

Category: [Animal Feed Enzymes](#)

Xylanase enzyme is derived from *Trichoderma* sp. and is used in a variety of industries including animal feeds, food etc.

Benefits: Xylanase digests high molecular weight arabinoxylans in animal feeds and can be used in the treatment of endosperm cell walls of feed grains and vegetable proteins. The addition of Xylanase to feed offers solutions to many problems associated with arabinoxylans.

Dosage: 10 - 100 g / ton of feed. (Variation in dosage depends on whether the enzyme is being used independently or in combination with other enzymes to make feed formulations).

Working Conditions: Xylanase has an optimum activity at pH 5.0 but it is very effective over a pH range of 3.0 to 8.0. It has an optimum activity at a temperature of 40°C but is very effective at 30-60°C.

Packing and Storage: Xylanase is available in 25kg HDPE pack. The product should be stored under cool and dry conditions in an airtight container.



TESTS	SPECIFICATIONS
Activity	Measured in Xylanase units
Xylanase	8000 u/g
pH optimum	5.0
Temperature optimum	40° C