

PROTOSUBTILIN

ENZYME PRODUCT

Identification

The product is applied as feed additive in diets of monogastric animals to improve availability of protein components primarily of plant origin

Main characteristics

The product contains naturally balanced complex of neutral and alkaline proteases and accompanying enzymes: α -amylase, β -glucanase, xylanase, lipase. It is produced in powder form.

Enzyme	Activity, U/gr	
	Group 1	Group 2
Neutral protease	not less than 120	not less than 250

Effective range: pH 4,0-8,5; temperature 30-80°C

Biological properties:

Breaking down high molecular weight proteins, Protosubtilin increases content of available peptides and amino acids in feed. At the same time Protosubtilin does not suppress or substitute animal's proteolytic enzymes, but acts as supplement to digestive proteases of the organism.

Protosubtilin also breaks carbohydrate-protein linkages allowing to make carbohydrates of grain components more accessible.

Protosubtilin reduces negative impact of soybean and other legume inhibitors on pepsin and trypsin in digestive tract of animals and poultry.

Advantages of Protosubtilin:

- ◆ allows to replace expensive feed components (soybean meal, fish meal) for cheaper ones (pea, sunflower meal, cake)
- ◆ allows to use combined feed with reduced by 4% level of crude protein and essential amino acids, while maintaining diet density and productivity of animals and poultry
- ◆ allows to use combined feed with increased level of legumes (up to 30-35%) in diets
- ◆ reduces negative effect of nutrients and legume protease inhibitors (soy, pea, rape, etc., and their processing products)
- ◆ completes enzymatic content of gastrointestinal tract
- ◆ compensates deficiency of digestive enzymes at early animal development stages and under stress
- ◆ products of agricultural animals and poultry, fed with Protosubtilin, can be used in food production without restrictions
- ◆ keeps its properties in pelleted feed and premixes after high-temperature treatments

Package: 20 kg bags

Warranted term of storage: 6 months at temperature from -25°C to +25°C.

Effects of Protosubtilin in poultry farming:

- ◆ increase of daily weight gain up to 4%
- ◆ reduction of feed cost per unit by 4-5%



Effects of Protosubtilin in pig farming:

- ◆ increase of daily weight gain by 8-10%
- ◆ improvement of meat quality, reduction of fat content in meat



Combined application of Protosubtilin and enzymes with non-starch polysaccharides allows to destroy protein-carbohydrate complexes and release additional amount of digestible protein, thereby improving product quality. Application of Protosubtilin in complex with Amylosubtilin allows to reduce chyme viscosity in gastrointestinal tract and increase protein and carbohydrate availability.

Consumption rate of Protosubtilin, gr/ton of feed

Animal	Protosubtilin (A-120)	Protosubtilin (A-250)
Poultry	600	300
Pigs	600	300
Fish	800	400

Conversion coefficients of protein digestibility and amino acids availability (in %) in combined feed components for poultry and pigs, when applying Protosubtilin

Component	Protein	Amino acid
Wheat	4	3
Barley	4	3
Oat	4	3
Corn	4	3
Rye	4	3
Triticale	4	3
Lupine	4	3
Feed beans	4	3
Pea	4	3
Full-fat soy	4	3
Rape cake	4	3
Rape meal	4	3
Sunflower cake	4	3
Sunflower meal	4	3
Soybean meal	4	3