

KERAPRO



KERAPRO, A HYDROLYSED FEATHER PROTEIN IN PETFOOD

Kerapro is an important chicken/turkey protein source for petfood and has important characteristics of high protein, low ash and high levels of some key amino acids (especially S-containing AA) that are important for providing certain nutritional requirements. Further it is important to mention, that the level of hydrolysis described in terms of pepsin digestible protein, is considered as 'optimal' for nutritional inclusion.

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DARLING
INGREDIENTS

KERAPRO: UNIQUE COMBINATION OF SELECTION, PROCESSING AND ANALYTICAL INFORMATION

Feathers are a very stable raw material compared to other animal raw materials like fish by-products (the most sensitive) and all kinds of other slaughter by-products. The freshness of the raw feathers is represented in the low value for biogenic amines.

Feature:	Specification:
Time kill to cook	Average 18 hours
Origin of feather	Chicken / Turkey
Colour of the feathers	White
Stabilisation	With anti-oxidant (dosage on the final product)
Particle size of the meal	> 2 mm (max 2%)
Colour of the Kerapro	Sandy yellow
Pepsin digestibility (NEN-ISO 6655:1997)	70%

Biogenic amines

BA ppm	Product		
	Kerapro	Fish meal (Danish)	Fish meal (South America)
Cadaverine	< 170	1300	400
Histamine	< 10	370	900

Hydrolyzed keratin proteins are processed in such a way, that both a digestible and tasteful poultry protein is created. However, the production process of keratin proteins can influence composition and digestibility. In figure 1 three production processes are compared. All three processes comprise the use of high temperatures, but the difference is the combination of pressure, temperature and the duration thereof.

The crude protein digestibility can be higher (HTLT^a), or much higher (HTST^b) as measured both in vivo (mink) or in vitro (pepsin assay and Boisen¹: a pepsin and pancreatin assay). However, the protein can be still damaged by these processes, as the lysine data show. Both total lysine content and in vivo (mink²) lysine digestibility are negatively influenced by the HTLT process. The HTST process shows a positive influence on lysine digestibility, but to a much lesser extent than expected based on the protein data.

Sonac is a leading manufacturer of reliable ingredients of animal origin. With an active R&D program, reliable processes and sustainable end products Sonac continuously adjusts to market needs. A good geographical spread of locations and a broad portfolio of fats, proteins, minerals and specialties make Sonac a trusted partner for many international producers in food, pet food, feed and fertilizers, worldwide. Sonac is part of Darling Ingredients.

For more information about this specialty product please contact us:

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THE ADVANTAGES OF KERAPRO:

- natural protein
- provides high level of the essential amino acid cystine
- contains a low ash level
- low biogenic amine level (histamine < 10)
- pepsine digestibility of at least 70%

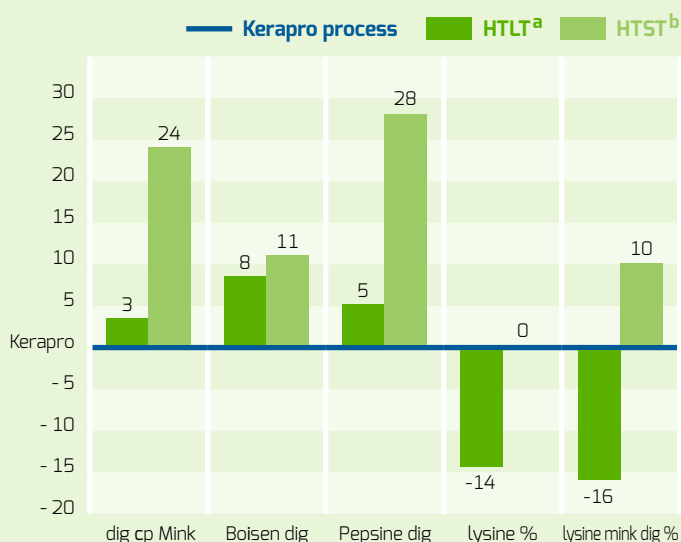


Fig. 1: Digestibility (protein and amino acids) and lysine levels compared to Kerapro process

^a HTLT = High Temperature Long Time, a more intensive production process

^b HTST = High Temperature Short Time, a milder, but more expensive production process

^c dig = digestibility

¹ Boisen test: Laerke, H.N., Boisen, S.&C. Hejlesen (2003). An in vitro method for estimating protein digestibility in mink feed. Annual report 2002, 65-75. Danish Fur Breeders Research Centre, Holstebro, Denmark.

² Mink trials performed at the Kopenhagen Fur Centre, Kopenhagen, Denmark.



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