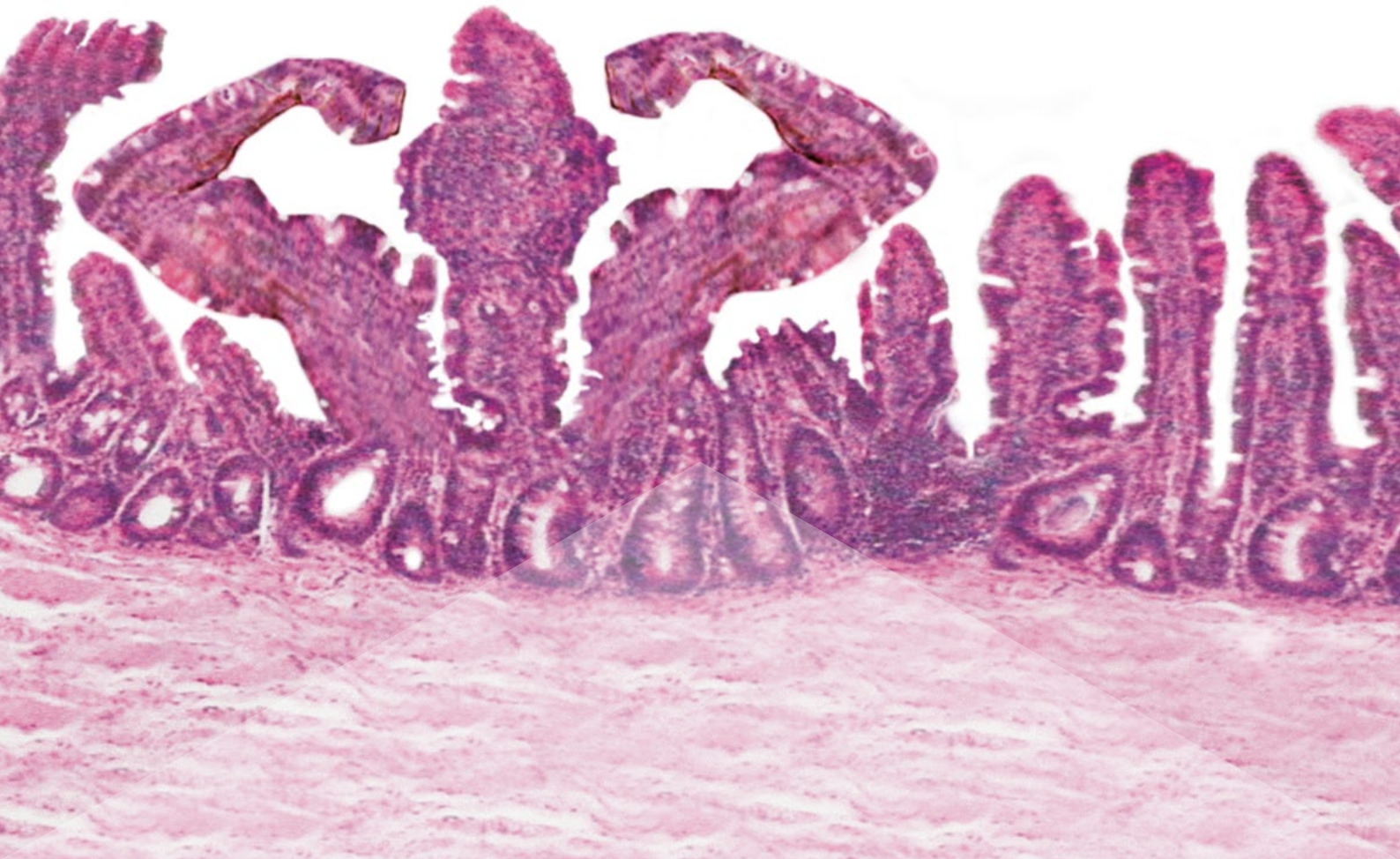


MUCOPRO 80P: PURE GUTS POWER

POWDER | GRANULATE



MUCOPRO THE NATURAL PALATABILITY ENHANCER

MucoPro 80P is a second generation hydrolyzed porcine peptone product. It is produced from intestinal mucosal tissue that is collected from dedicated West European pig slaughterhouses. This mucosal tissue is enzymatically hydrolyzed in order to extract heparin, that is used in human medicine. In Sonac's plant in Burgum (NL) the hydrolyzed mucosa undergoes further processing steps like separation, desalination, concentration and spray drying. For improvement of product handling the powder can be granulated (new). Our patented production process delivers a tasty and unique protein product lower in ash and high in free amino acids as well as in di- tri- and tetra peptides. The final result is a palatability enhancer that is easily digestible, easy to handle and hypo-allergenic.

Natural Ingredients. Smart Solutions.

sonac

DARLING
INGREDIENTS



MUCOPRO 80P ALSO AVAILABLE AS GRANULATE

ADMISSION IN EU FEEDS AND MEAT QUALITY CONCEPTS

EU Feed law allows the use of hydrolyzed non-ruminant proteins for all species. MucoPro can be used in feed mills that have no separate production lines for ruminant and non-ruminant feeds. Also for storage, transport and usage on the farm no extra measures or registrations are required. MucoPro, being a hydrolyzed protein, is an allowed animal protein for the Assured British Pig quality program.

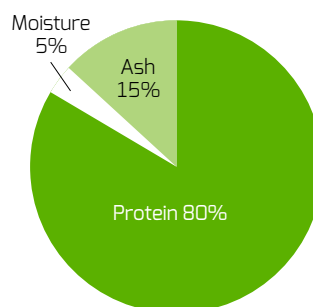
VIRAL SAFETY

Due to the special processing MucoPro is bio secure: hydrolysis, extensive heat treatment, condensation and spray drying deliver a sound and safe product. An extensive risk assessment by the University of Minnesota (2015) concluded that the above mentioned series of processes resulted in a level of reduction that is significantly higher than the level that may be found initially in the raw materials (intestines); i.e. the product is safe.

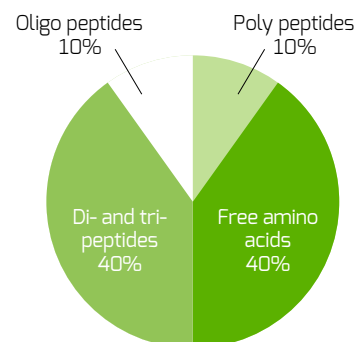
HOW TO USE MUCOPRO 80P

Looking at its characteristics MucoPro's main attractiveness can be found in the nutrition of young animals (piglets, chickens and calves) aiming for improvement of feed intake and offering a wide array of easily available amino acids. So we can think of weaner diets for piglets, pre-starters for young chickens, and starter milks for calves. Recommended inclusion level: 2-3%.

Typical product specification



Protein fractions of MucoPro



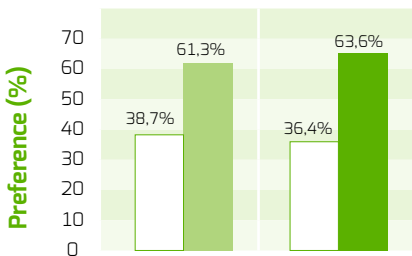


THE ADVANTAGES OF MUCOPRO 80P:

- Very palatable source of animal protein
- Stimulates feed intake by the young animal
- Source of highly digestible amino acids and small peptides
- High biological value, not a mixture of just a few amino acids
- Good amino acid profile (not lacking a particular amino acid)
- 100 % water soluble → ideal for milk and yoghurt applications
- Allowed in mixed factories (ruminant and non-ruminant in one location)
- Admitted for the Assured British Pigs program, Trust Feed and QS feed safety programs
- Easy to handle

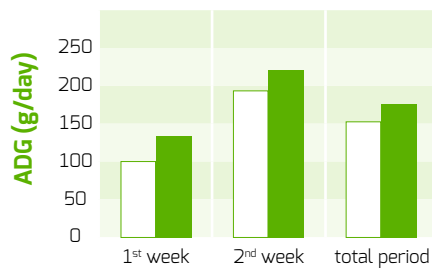
DATA DERIVED FROM SEVERAL EUROPEAN TRIALS CONFIRM THE BENEFITS OF MUCOPRO:

Trial SFR:
Research institute, The Netherlands



4,9% skimmed milk powder
 2,5% Mucopro
 2,5% Proglobulin

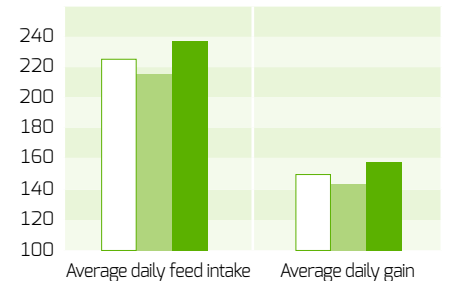
Trial UPM Madrid:
University trial, Spain



Fish meal
 Mucopro

Mucopro added at 3%; piglets weaned at 25 days;
Control diet at 8% fish meal

Trial CCL:
Research institute, The Netherlands



LT Fish meal
 Mucosa X
 Mucopro

Mucopro included at 3% against fish meal;
Piglets were weaned at 26 days

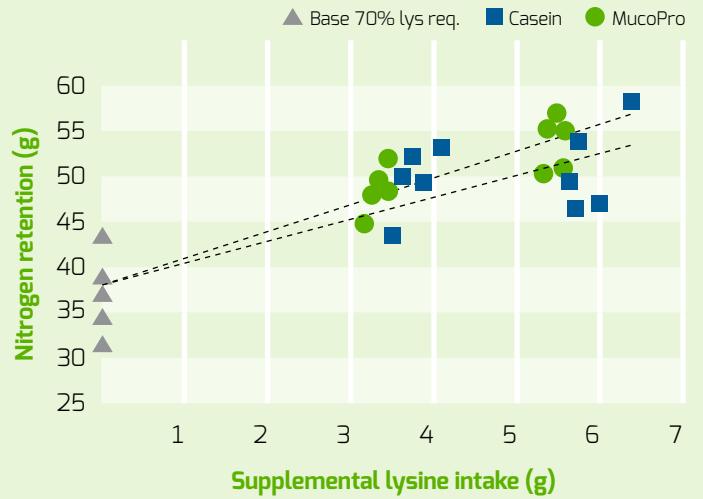
IDELE CALF TEST

Replacing 4% of the milk proteins with MucoPro 80 leads at least to equal grow results with significant lower feed costs, especially in the important starter and grower phases.

	STARTER		GROWER	
	Control	MCP 80	Control	MCP 80
ADG	772	811	1253	1264
FCR	1,38	1,31	1,57	1,55
Cost (%)	100%	96,3%	148,7%	142,4%

N-RETENTION TEST BY SCHOTHORST FEED RESEARCH

Nitrogen retention as a response of supplemental lysine intake above 70% of the requirement by either casein or MucoPro. Relative bioavailability of lysine with nitrogen retention as response parameter in MucoPro was calculated as 116% of casein.



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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DARLING
INGREDIENTS