HAMLET PROTEIN®
a nuscience brand

HP 300: For outstanding performance of nursery pigs



The fastest vegetable protein source, delivering consistent nutritional quality through effective reduction of antinutritional factors, resulting in better FCR, higher growth and reduced nitrogen excretion.

In an industry in which feed accounts for about 70% of the total production costs, providing the best protein for a healthy start is crucial. HP 300 results in better feed intake, improved feed conversion, and higher body weight at the end of the nursery phase.

HP 300's low level of anti-nutritional factors (ANF's) and fast digestion speed result in better protein efficiency, supporting a healthy start in life while optimizing feed costs.

HP300 Performance Improvements

ADG + 12 G/PIG/DAY
ADFI + 9 G/PIG/DAY
FCR - 3%
NITROGEN RETENTION + 5%



The unique production process of HP 300 results in *a premium product* with the most effective control of ANFs

HP 300 starts from carefully sourced soybean meal (SBM). In the patented process, the SBM goes through an enzymatic treatment under controlled conditions to reduce all ANFs, including trypsin inhibitors, the α-galacto-oligosaccharides (stachyose and raffinose), and the antigen β-conglycinin.

Since Hamlet Protein first introduced the enzyme-activated technology to reduce the ANF content of SBM, the process has been continuously optimized and further developed, resulting in today's HP 300 – a specialty soy protein with the lowest levels of ANFs on the market (Table 1).

Table 1 Anti-nutritional factors in soybean meal (SBM) and HP 300

ANF	SBM	HP 300
Trypsin inhibitor activity (mg/g)*	3.22	1.30
α-galacto-oligosaccharides*	6.1	1.0
β-conglycinin (ppm)*	50,812	2.0

* HP Database 2026

The fastest vegetable protein

Hamlet Protein's unique production process uses enzymatic treatment to effectively reduce antinutritional factors (ANFs), while also modifying the protein structure. The change in molecular structure of HP 300 can be visualized by the proportion of small peptides.

HP 300 has up to five times greater proportion of small peptides (≤500 Da) compared to conventional SBM (table 2)

Table 2 Fraction of small peptides (mg/g as-is) for SBM, HP 300, SPC and FSBM

Peptide fraction	SBM	HP 300	SPC[1]	FSBM[2]	References
Small peptides (≤500Da)	36.6	183.5	35.5	84.0	Ma et al., 2019

1 Soy protein concentrate, 2 fermented soybean meal

Due to the increased proportion of small peptides, protein from HP 300 is more accessible to proteolytic enzymes. As a result, HP 300 hydrolyzes faster than protein from SBM and a lot faster than protein from soy protein concentrates (SPC's; see Figure 1).

HP 300 can be digested just as fast as spray-dried plasma, which is one of the fastest protein sources for piglets.

The faster a protein source is digested and its amino acids are absorbed, the better those amino acids can be used for protein synthesis, with less nitrogen lost through excretion.

Young animals have a high requirement for fast protein, as they are growing muscles and organs at a very rapid pace; thus, HP 300 can play a very important role in diets for weaned piglets.

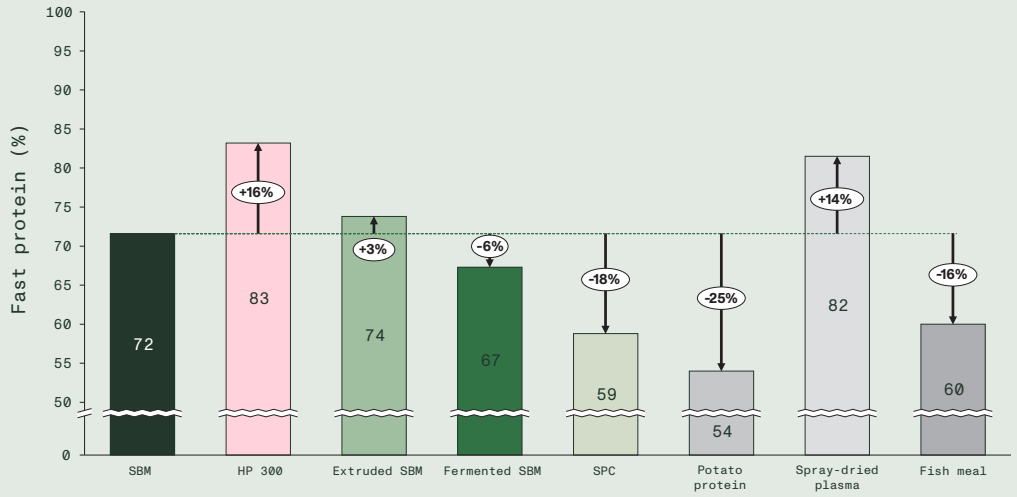

Figure 1: Protein Kinetics results.

Fast protein (%) is defined as the protein fraction which has been hydrolyzed within 30 minutes of the pH-stat analysis. Values in bubbles indicate the percentage difference to SBM. The pH-stat procedure is described in Bible et al., 2023.

SBM = soybean meal; SPC = soy protein concentrate

Positive effect on gut health

During digestion, the amino acids (AA) from HP 300 are released and absorbed faster (Nørgaard et al., 2021), further reducing the risk of excess protein reaching the hindgut.

This is essential for improving gut health and reducing the risk of post-weaning diarrhea. The faster a protein source is digested, and its amino acids are absorbed, the better those amino acids can support the young animal's growth and development (Zhang et al., 2001).



The combination of very low levels of ANF's, which reduces feed inflammatory processes in the gut, and a high fraction of fast protein, reducing undigested protein, ensure that pigs can easily digest the protein, meet their nutritional requirements keeping an optimal health status.

Research shows that the use of HP 300 in nursery diets protects gut integrity, reduces oxidative stress, and reduces the risk of post-weaning diarrhea (Figure 2).

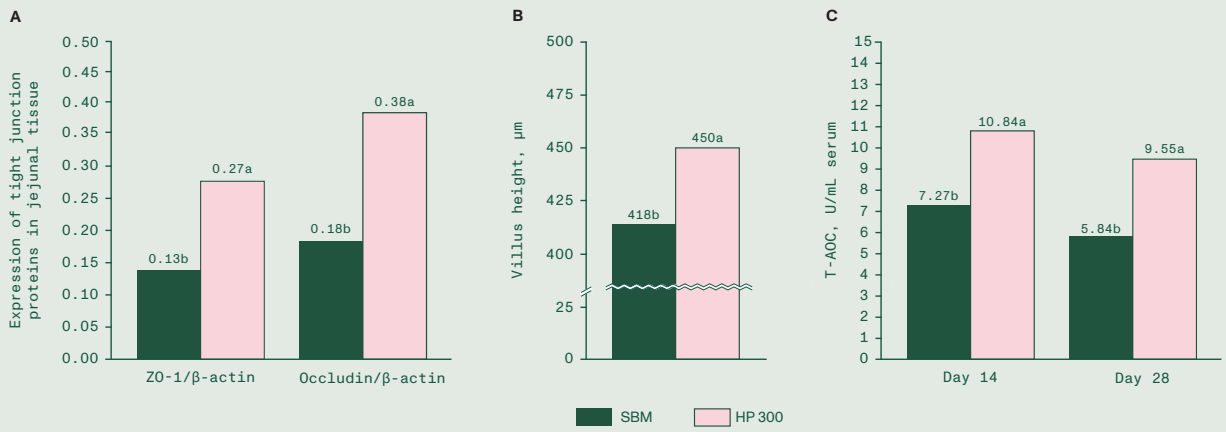

Figure 2 A) Expression of tight junction proteins (zonula-occludens 1 and occludin relative to beta-actin), B) Villus height (µm) and C) Serum total antioxidant capacity (T-AOC, U/mL) of pigs fed a nursery diet with soybean meal (SBM) or HP 300. a,b indicate significant difference ($p<0.05$). Adapted from Ma et al. (2019ab).

Recommended dietary inclusion: 5-15%

Product features

- Clean protein - low in in ANFs
- High fraction of fast protein
- Highly palatable and digestible
- Superior water holding capacity

Benefits

- Higher feed intake and growth
- Improved FCR
- Enhanced gut health
- Lower nitrogen excretion

HP300SGLOBAL - VERSION 2 - OCTOBER 2026

References

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