

Prota**STAR**[®]
by Avebe



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ingredients

A large, fluffy brown and white cat stands on its hind legs on the left, holding a tennis racket. A small, scruffy brown and white dog stands on its hind legs on the right, looking up at the racket. The racket is positioned as if it has just hit a potato, which is suspended in the air and exploding into a cloud of golden-brown particles. The background is a dark, cloudy sky over a field.

IQI premium
potato protein



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ProtaSTAR®: a premium potato protein solution for pet food

Although mainly known as a nutritious food for human consumption, potatoes have great potential as a beneficial plant-based protein source for pets as well. With our new ProtaSTAR® product, developed and produced by our partner Avebe, the popular vegetable is further processed into a versatile and sustainable protein solution. This serves as a cornerstone for balanced hybrid or vegetarian pet food to keep cats and dogs healthy.

To get the most out of the potato as a natural source of protein, IQI's partner Avebe developed a patented process with an additional step for purification and refining. Because the anti-nutritional factors are removed in this step, ProtaSTAR® has an even higher protein efficiency ratio (PER) than regular potato protein. Research shows that ProtaSTAR® matches reference protein sources, such as beef, pork, chicken, pollock, and salmon, in terms of digestibility and protein quality, while outperforming other concentrated plant protein sources, such as soybean meal, pea, and corn (see figure 2 and 3).

Model-proven digestibility

But science has revealed more. In vitro digestibility tests of ProtaSTAR® using a computerized TNO model ('FIDO'), which mimics the canine digestion tract, show a calculated ileal nitrogen digestibility of over 88%. This value exceeds the in vivo ileal protein and nitrogen digestibility of several protein sources, such as soy protein isolate, soy concentrate, and beef, as determined by FIDO. Part of the product's complete amino acid profile are high contents of sulfur-containing amino acids and aromatic amino acids, which are known to enrich the coat color of pets. ProtaSTAR®'s extremely low ash content of 0.8% on dm makes it suitable for inclusion in a diet to avoid calcium oxalate and struvite formation.

Complete amino acid profile

ProtaSTAR®'s complete amino acid profile and its quality as a protein source can be explained best by using the Digestible Indispensable Amino Acid Score (DIAAS), as defined by FAO for human nutrition. The DIAAS of a ProtaSTAR® protein was obtained by relating its digestible indispensable amino acids (IAA) to the IAA requirements in pet food. A DIAAS of 100 implies that the protein (mixture) meets the pet food protein requirements. As figures 2 and 3 show, a smaller portion of ProtaSTAR® is needed to meet protein and AA requirements per dm/100 gram dm pet food in both cats and dogs, for growth as well as maintenance. This means that even at the minimum protein content, ProtaSTAR® provides an abundance of essential amino acids – enabling manufacturers to create a cost-effective diet using ProtaSTAR®.



Good palatability & safe dosing

A key feature that distinguishes ProtaSTAR® is its significantly lower content of total glycoalkaloids (TGAs) as compared to regular potato protein – the typical difference being as much as a factor of 10. Next to affecting the nutritional value of the potato, TGAs are typically bitter due to their roughly 40% content of solanine.

The reduced presence of TGAs in ProtaSTAR® therefore avoids the bitter taste that typically comes with standard potato protein products. The resulting neutral taste and good palatability of ProtaSTAR® (see text frame 'Proven palatability'), is especially welcome in cat food.

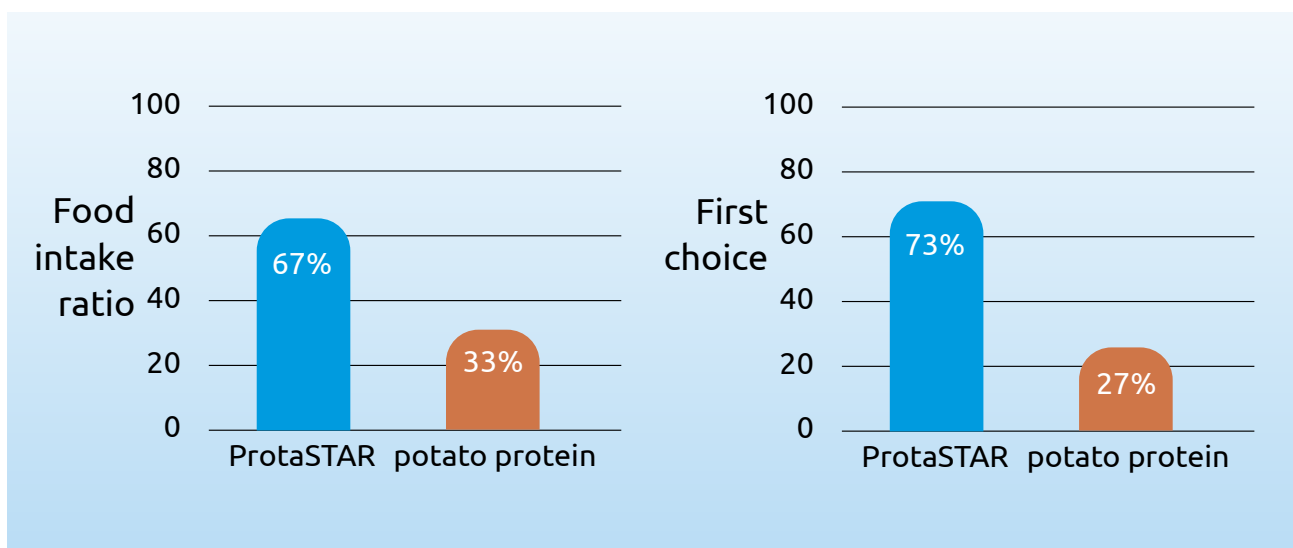
For applications aimed at dogs, which are known to become ill from elevated TGA intake, ProtaSTAR®'s low TGA content makes it safe to use in higher doses..

Proven palatability

A canine diet containing ProtaSTAR® has good acceptability compared to diets containing other protein sources. In a trial performed in the USA, nearly 82% of the dogs preferred a diet that contained 5% ProtaSTAR® over a diet containing 9.5% soybean meal and 2.5% poultry meal. In another experiment, ProtaSTAR® replaced part of the meat meal in a diet with an

inclusion level of 5% without having a significant effect on palatability and reference of the diet. Compared to standard potato protein, ProtaSTAR® has significantly better palatability (see figure 1).

Figure 1: ProtaSTAR® significant more palatable than standard potato protein.



ProtaSTAR® provides

- Neutral taste with excellent palatability
- High protein content of 80% in the product
- High ileal digestibility of 88%
- Complete amino acid profile
- Low ash content of 0.8% on dm
- 10 times lower total glycoalkaloid content
- Plant-based protein source

Sustainable protein solution

Sustainability is not only central to how we do business at IQI; it's also at the heart of the Avebe strategy – from agriculture to processing and innovative solutions. The company uses Life Cycle Assessments (LCAs) to determine the environmental performance of its products, develops its own potato varieties aimed at higher yields and disease resistance, and only uses non-GMO potatoes, which are all sourced locally from Dutch and German farmer members. Since the potatoes are shipped to and processed in its factories, Avebe controls the whole supply chain from the seed potatoes to the production of materials for customers. All of this results in a trusted plant-based protein source with a much lower CO₂ footprint than various animal protein sources and soy that is grown overseas. ProtaSTAR® is not just a great solution for pet food brands and manufacturers from a nutritional perspective, but also from a sustainability viewpoint.

Get in touch

Are you looking for an innovative and sustainable plant-based protein source to create or improve your own healthy and high-quality pet food product(s) as a pet food brand or

manufacturer? Don't hesitate to contact us. We are happy to explore the possibilities that ProtaSTAR® can offer you.

Figure 2: Portion needed to meet protein and AA requirements g/100 g dm dog food

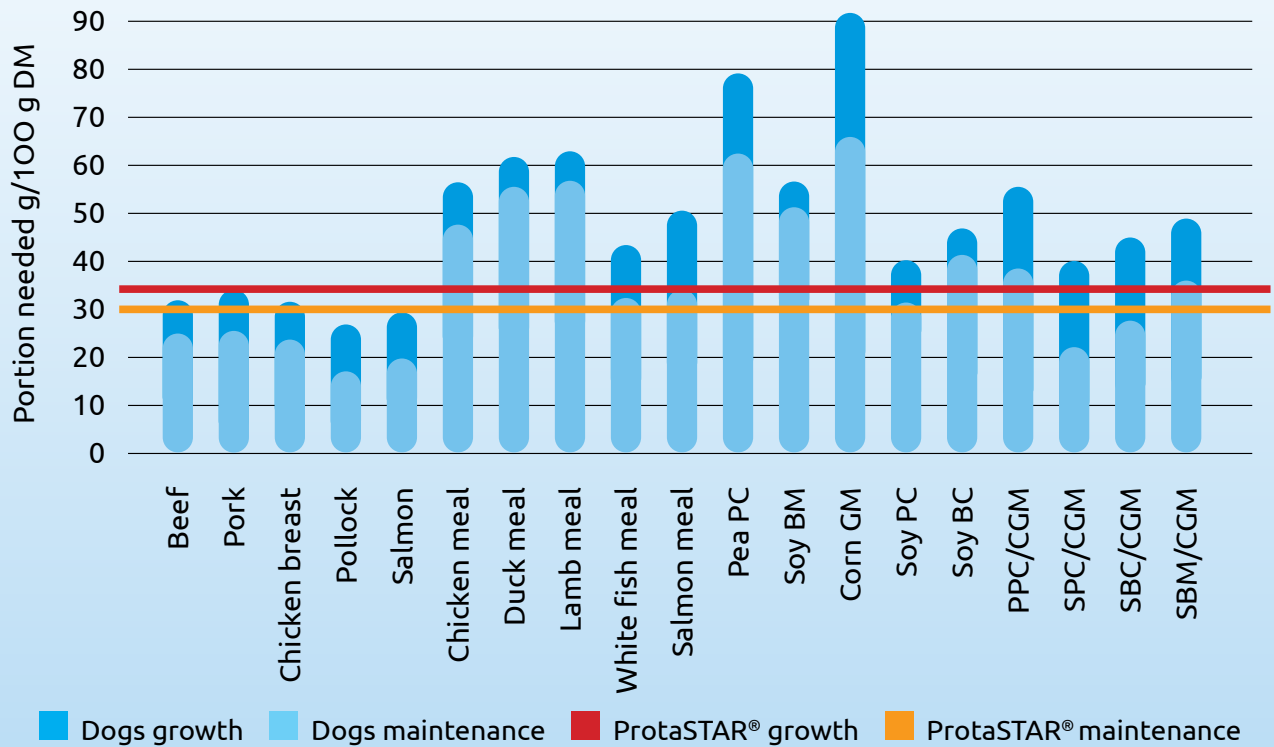
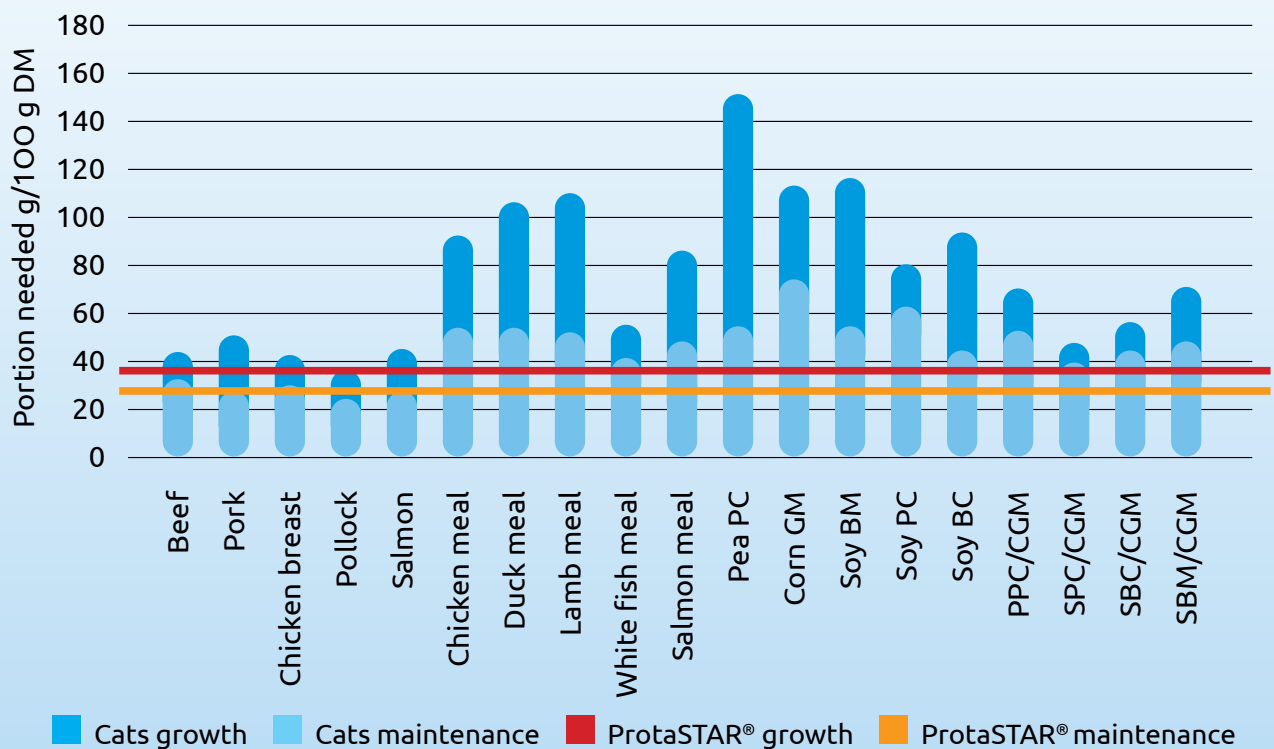


Figure 3: Portion needed to meet protein and AA requirements g/100 g dm cat food





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