



Chicken plasma powder as a more functional protein source than egg white

Functional protein for pet food applications is available from a number of different sources. Of those, egg white powder and various chicken-based powders are particularly rich in protein and other essential nutrients. While both offer functional and health benefits for cats and dogs, there are specific benefits to choosing chicken-based ingredients over egg white. One such example is spray-dried chicken plasma powder, an important functional and palatable source of protein, with better functional properties than egg white (albumen) powder.

Of the different parts of an egg, the egg white or albumen contains most of the protein. Spray-dried egg white (albumen) powder has a very high protein content of over 80 percent and is a source of essential amino acids and other nutrients. It therefore offers interesting possibilities to help meet the nutritional requirements of pets, yet the same qualities can also be found in chicken. Spray-dried chicken plasma powder, for example, is a specific chicken-based ingredient that has 65-70% protein content and excellent functional properties. In fact, it has better emulsifying properties and is much more palatable to cats and dogs than egg white.

CHICKEN PLASMA POWDER

Chicken plasma powder is made from chicken blood sourced at slaughterhouses, where it is collected, anticoagulant is added and then it is cooled. The blood is then transported to the processing plant where it is filtered and then separated into its component parts (fractionation), including plasma and

hemoglobin. The separated plasma is concentrated via membrane filtration and then spray dried to form plasma powder. The use of low-temperature spray drying ensures that the nutritional quality of the protein and amino structures is preserved.

Spray-dried chicken plasma powder has excellent functional properties, including solubility, gel formation, and emulsifying properties, as well as very good water-binding capacity. When chicken plasma powder is heated, it forms an irreversible and stable gel through protein denaturation, providing texture and consistency, improving water-retaining capacity, and retaining flavors and nutrients. The strength and elasticity of this gel reduces crumbs in chunk production, thereby reducing production losses. Chicken plasma powder has applications in all kinds of wet and dry pet food, as well as in semi-moist snacks and treats.

ESSENTIAL AMINO ACIDS

Spray-dried chicken plasma powder and spray-dried egg white powder both contain high-quality protein and have a well-balanced profile of all essential amino acids. Yet there are specific benefits to choosing chicken plasma powder over egg white powder for pet food applications. Chicken plasma powder has better emulsifying properties and is much more palatable to cats and dogs than egg white (see figure 1). Chicken plasma powder also contains a particular type of immunoglobulin Y (IgY), which is effective in improving gut health and supporting the immune system in fighting pathogens, and has the added benefit that it does not trigger the allergic response in humans.

NEED HELP TO DECIDE?

If you would like to know more about the possibilities of spray-dried egg white powder and spray-dried chicken plasma powder for pet food applications, please contact us: iqi-petfood.com

	Plasma protein	Collagen protein	Wheat gluten	Carrageenan	Egg Albumin
Origin	Animal	Animal	Vegetable	Vegetable	Animal
GMO free	Yes	Yes	By choice	Yes	Yes
Solubility	+++	+ / ++	+	+(+)	+++
Gel formation	+++	-	++	++	+++
Water-binding capacity	++	-	++	+++	++
Emulsifying properties	+++	-	++	-	++
Palatability	+++	+	-	0	+
Protein content	65-70%	> 90%	> 70%	n.a.	> 80%

Figure 1: Characteristics of functional ingredients in wet pet food processing conditions



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