

# THE SYNERGISTIC EFFECT OF HYDROCOLLOID BLENDS FOR APPEALING WET PET FOOD

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To obtain a final wet pet food product with the requested characteristics it is fundamental to use technological ingredients with water binding, thickening and emulsifying properties. The best way to maximise their efficacy and find the right solution for every application is to use specific and functional blends of different single hydrocolloid ingredients.

Wet pet food formulations usually contain thickening, emulsifying or binding agents to ensure that the product has a proper meat emulsion, a consistent texture and enough thickness. This allows all the different ingredients to not separate from each other and leads to obtaining an appealing jelly and gravy. On the contrary, when ingredients such as these are not added, wet pet food can often be unattractive or unpleasant to eat for many pets.

Usually, the main technological ingredients added to wet pet food are starch sources and hydrocolloids like xanthan gum, guar gum, locust bean gum and carrageenan. However, alternative natural and clean label solutions are available on the market.

## HYDROCOLLOIDS CHARACTERISTICS AND PROPERTIES

Hydrocolloids, more commonly known as gums, are hydrophilic polymers (polysaccharides and proteins) of high molecular weight extracted from plants and algae or produced by microbial synthesis.

When dispersed in water, hydrocolloids particles can bind water molecules, either slowing the flow of the liquid and forming viscous dispersion, or stopping the liquid flow entirely, solidifying it into a gel.

Hydrocolloids are naturally present or added to wet pet food to improve its functional properties, such as thickening, gelling, emulsifying, stabilization, viscosity and coating.

Typical hydrocolloids are carrageenans, locust bean gum, guar gum, konjac gum, xanthan gum, alginates, gelatin, cellulose derivatives, agar and pectin.





## HYDROCOLLOIDS FUNCTIONAL BLENDS; 1+1≥3

Single hydrocolloids are characterized by several technological properties, however, finding the right product for each application can be difficult and expensive.

On the contrary, with the combination of different hydrocolloids together, it is possible to obtain a greater effect than the sum of the single hydrocolloids' individual effects and it is easier to reach a final product with the requested properties.

Moreover, hydrocolloid blends require a lower dosage, and are easier to use during the production process, allowing time and cost savings.

However, since every wet pet food product has its own characteristics and requirements, creating the right hydrocolloids combination is not so easy. It is fundamental to have great experience and knowledge of the characteristics of each hydrocolloid.

One of the building blocks of hydrocolloid blends are carrageenans, naturally occurring sulfated polysaccharides extracted from red seaweed species. By combining different types of carrageenans and minerals and salts it is possible to obtain blends with the specific properties requested for each application. Mostly carrageenans are also combined with other hydrocolloids, such as locust bean gum, konjac gum, guar gum, xanthan gum, and many other alternatives, depending on the characteristics of the final product.

## HYDROCOLLOIDS' CHARACTERISTICS AND PROPERTIES

In wet pet food, the use of hydrocolloids functional blends is very helpful either to:

- Create the desired jelly, either soft, firm, elastic, transparent or yellow; for pouches or cans.
- Obtain a proper meat emulsion in "paté" or chunks products.
- Realize a natural and appealing juice/gravy to stimulate pets' appetite.

## NATURAL CLEAN LABEL ALTERNATIVE TO XANTHAN AND GUAR GUM

Due to the current pet food trends, the market request for natural, sustainable and clean label ingredients is growing, also when it comes to technological solutions.

One of the products that comply with these trends is AquaBind LF, developed by Barentz, a natural and cost-efficient solution consisting of de-oiled and finely ground linseed flour that can successfully replace xanthan, guar and partially locust bean gum in pet food.

Because of its composition, AquaBind LF is characterised by a strong cold and warm swelling effect, in addition to its emulsification properties. Thanks to its very high water (1:12) and oil (1:3) binding capacity it can guarantee the same function of classical hydrocolloid products. Therefore, it helps to create a proper meat emulsion and to improve the viscosity and thickness of wet pet food products (i.e. cans, pouches, paté, semi-moist, paste and liquid treats, pet food toppers).

In this case, it is also possible to combine AquaBind LF with other functional products such as starch or hydrocolloids to obtain a synergistic effect and maximise the efficiency of the single ingredients for any specific application or requirements.

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