



Application note

PromOat in meat and poultry injections

The growing, consumer-driven demand for clean-label products has led to an increasing number of meat and poultry producers removing phosphates from their products. This can often result in some loss of functionality and increased costs: less water and more meat equal more expensive products. PromOat beta-glucan has been shown to be very effective in creating a highly functional, natural brine solution, which can be used to stabilise oil-based flavours and fats in traditional salt and sugar brines.



Level of Inclusion

A brine solution containing just 0.25% - 0.55% PromOat (depending on the type of meat/poultry/fish to be injected) is created and then injected into the meat. The brine usually makes up around 15% of the overall product. Since PromOat adds some mild viscosity to the brine, a suitable injection system is necessary.

Including PromOat for health claims:

PromOat can be added to the recipe to make a coronary heart disease risk factor reduction health claim. In EU, one gram of beta-glucan per portion is required to include a health claim, whereas the FDA and Health Canada require 0.75 grams of beta-glucan per portion. PromOat contains up to 34% beta-glucan. Therefore, the level of inclusions are 2.34 grams of PromOat in the US and Canada and 3.13 grams in Europe (per portion). The portion size will depend on the type of product and it is chosen by the producer.

PromOat in natural brines:

The processing industry adds phosphates to meat, poultry, and fish to help retain water in the product and to protect flavour. PromOat can be used at very low inclusion rates to add back some of the functionality that is lost when phosphates are removed from products. It does this by stabilising oil-based flavours, or fats such as butter, in traditional salt and sugar brines. PromOat creates a very stable brine, resulting in better moisture retention in the meat before and after cooking in comparison to brines without PromOat.

Recommendations and other observations:

Unlike other fibres that are sometimes used in this sort of application, PromOat does not require continuous agitation. It is fully water-soluble and once dissolved in solution, remains in solution, which means that brines with PromOat will not result in “tiger striping” (white stripes seen in some meats when insoluble fibres or cellulose are injected).

Mixing recommendations:

The beta-glucan component (34% dwb) of PromOat is a typical hydrocolloid; hence, PromOat should be added to systems using methods suitable for hydrocolloids such as guar gum, swelling starches, xanthan gum and the like.

A high-shear mixer, blender or homogeniser should be used to ensure good dispersion and to break up any clumps formed during dissolution into the brine.

In brines in which more than one dry powder additive is to be included, it is recommended to vigorously dry-slurry, dry-mix, or dry co-mill PromOat with the other dry ingredients. This makes the dissolution of PromOat faster and more efficient.

- PromOat is stable at pH 3.5-8.
- PromOat is stable at high temperatures.