Turn your ideas into reality with applied buffer glucose technology

by the technical team, PH Liquid Belgium NV and Belgosuc NV.

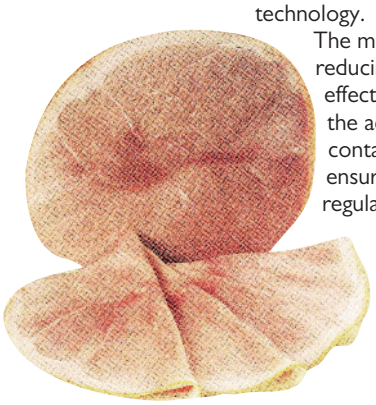
Buffer systems and buffer films can support meat producers in their prevention against food infections caused by harmful germs and bacteriological contamination from salmonella, listeria and E. coli 0157:H7.

By applying buffer systems in the preparation of heated meat products like ham, bacon, freshly salted and/or smoked bacon meant for slicing and pre-packaging, further gas development is avoided and the colour, taste and smell of the product remains optimal for the duration of a longer shelf life.

Buffer glucose technology

PH Liquid is a world leader in the supply of buffer systems and buffer films according to patented applications for fresh and all heated meat, liver and fish preparations, matured and cured meat (salami) and fish products. Their Bufferglucose Syrup product is a concentrated and biologically balanced extract of a range of pure organic food acids, vitamins and aromas on a carbohydrate base. Using Bufferglucose Syrup results in a production system with 50% less sodium chloride and 30-50% less nitrite in order to achieve a healthier finished product.

As well as the physiological effect against regular brine bacteria development, it also has other regulatory effects that are very important for meat product preparation technology.



The mildly reducing effects of the acids it contains ensure regular nitrate reactions. These organic acids are chosen quantitatively and qualitatively in such a manner that the meat's pH value always remains within its natural limits. Thanks to its correct and controlled composition, Bufferglucose Syrup combines high safety with a guaranteed effect.

In view of the strong effects, the prescribed quantities as well as the working method need to be observed closely so as to use the advantages to the full.

The simultaneous use of Bufferglucose Syrup and buffer phosphates results in the creation of a buffer stabilising the essential pH on its value, even in case of unfavourable circumstances.

In cooperation with the sweet and sour medium of Bufferglucose Syrup, the mildly alkaline buffer phosphates constitute a buffer of the desired pH which stabilises the pH on the effective value through its buffering effect even in case of unfavourable conditions.

It is used in the production of pickled and smoked products and offers extraordinary benefits versus other products used for this purpose, in particular with regard to heated ham. Not only the preparation process, but also the quality and digestibility of the meat products that are prepared with Bufferglucose Syrup improve significantly.

As it is only composed of natural substances such as vitamins and organic acids, Bufferglucose Syrup is legally allowed and there are no physiological objections against its use.

The addition of Bufferglucose Syrup accelerates the colouration process of pickled goods as initiated by nitrate or nitrite. In this process, excess nitrite in the sausage and meat mass is reduced significantly or even removed in its entirety.

The level of residual nitrite in finished sausages can decrease by 30-50%. It was furthermore found that the permissible quantity of physically harmful nitrite can almost be reduced by half.

Meat products treated with Bufferglucose Syrup not only look tastier; they have a better aroma and a refined taste. This is especially remarkable with products that have been in storage for quite some time.

In the case of heated sausages, use of the product results in a tender and yet crisp

casing, while uncooked sausages obtain a spicier aromatic taste (salami ranges).

Thanks to its antioxidant characteristics, the product slows down the process of going rancid, so that longer freshness is ensured with a guaranteed buffer system.

Benefits of application

Food acids are generally known to inhibit and prevent the growth or spread of listeria, clostridium, salmonella and E. coli when combined with antioxidants. The benefits include the following:

- Stable buffer pH value for all fresh and heated meat products with a final buffer pH value of 6.2.
- Improved colour preservation.
- Improved taste.
- Improved odour.
- No discolouration of the surface after the products are cut in case of further storage under the counter.
- Improved cutting properties of heated products in case of slicing system.
- In full control of the yeast and mould development.
- No gas development in case of pre-packaging of heated products such as hams, mortadella and frankfurter sausages during the normal storage period.
- Prolonged shelf life of products.
- Control of Lactobacillus lactis, Clostridium botulinum, Listeria monocytogenes, Salmonella enteritidis, Staphylococcus aureus and Escherichia coli micro-organisms.

References are available on request from info@ph-liquid.com