taste
Discovering Cheese
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Welcome to taste discovering cheese the newsletter from Dairygold Food Ingredients, this month we've been discovering the importance of salt in cheese...

DFI respond to FSA salt reduction targets

The FSA have suggested salt reduction targets across a range of foodstuffs and have suggested by 2012 the salt content of Cheddar is 1.8 targets, however, the salt content of cheese determines the safety, body and development of a cheese.

Why salt in cheese?

1 - Salt inhibits or retards the growth and activity of micro-organisms, including pathogenic and food-poisoning microorganisms.
2 - It inhibits the activity of various enzymes in cheese; the activity of some enzymes can cause undesirable characteristics in cheese.
3 - It affects the syneresis of cheese curd, resulting in whey expulsion and thus in a reduction in the moisture of cheese, which also influences the activity of micro-organisms and enzymes.
4 - It causes changes in cheese proteins that influence the quality of the cheese from texture, protein solubility, and probably protein conformation.
5 - It affects cheese flavour directly and indirectly via its influence on micro-organisms and enzymes in cheese.

Taken directly from Fundamentals of Cheese Science (2000)

In particular in Cheddar, salt is not only critical in ensuring the safety of the cheese microbiologically it is also critical in ensuring the moisture content is within the parameters Cheddar cheese (maximum 40%) and has the characteristic body and flavour development (maturity) which makes Cheddar, Britain's favourite cheese.

In response to customer concerns around cheddar salt content which have been evident for some years, Dairygold Food Ingredients has been moving the salt content of its cheddar downwards over the past number of years. This leaves us well positioned to respond to the stringent recommendation of the FSA for 2010-2012 and we are currently completing a large body of work aimed at enabling us to produce cheddar during the 2010 season, consistent with FSA salt recommendations. This involves extensive trialling and analysis in order to comprehensively understand the impact of salt levels on the microbiological safety and functionality including texture and flavour of our product, and where necessary to compensate for the negative impact of reduced salt levels.

Further developments

Soft Cheese

Dairygold Food Ingredients UK have also been looking at salt reduction and at our Dan Dairies site in Leeds, the development team have used their experience in soft cheese manufacture and knowledge across their range of product including the pumpable soft cheeses. The later which has been shown as a replacement to hard cheese such as Cheddar, can be used in whole or in part to achieve a reduction in the salt levels. DFI UK's, pumpable soft cheese has a medium Cheddar flavour profile and only 0.7% added salt.

Other Cheeses

Dairygold Foods Ingredients UK have also been looking at other hard cheeses which typically have a lower salt content, perhaps through brine salting, a higher moisture content or younger age profile.

Cheese	Target	Range
Goats cheese curd	0%	n/a
Jarlsberg	1.25%	0.75 – 1.75%
Emmental	0,5	0,3 – 0,7
PSC (DFI UK / Dan Dairies)	0%	n/a
Reduced Salt Mozzarella	<1%	TBC following trials
Wensleydale (Wensleydale)	1.3	1.1 – 1.7

The list of cheeses includes great British favourites such as Wensleydale a close, smooth-textured cheese with a refreshing, slightly lemon, acidic flavour. It was originally made from sheep and goats milk as far back as the twelfth century in monasteries in North Yorkshire. However, since the dissolution of the monasteries in the seventeenth century, cows milk has been used.

Continental cheeses such as Emmental a brine salted cheese, with a typical content around 1%. Emmental has mild, sweet, nutty flavour and has fantastic melt properties. Dairygold Food ingredient UK format a vegetarian pasteurised Emmental into a range of formats sliced, shaved, grated and diced.

A reduced salt Mozzarella, a mild cheese with the characteristic great melting properties for application on pizzas and hot eat sandwiches. DFI UK have trialed in a range of formats suitable for industrial application such as sliced, shaved, grated and diced.

Dairygold Food Ingredients UK, Lancaster Fields, Crewe Gates Farm, Crewe, CW1 6FU

Telephone: 0870 7669563 Fax: 0870 7669564
Email: taste@dairygoldingredients.co.uk
www.dairygoldfoodingredients.co.uk