

DAIRY *by*
NATURE

READY... STEADY

GOUDA

Authentic dairy flavours for
on-trend bakery applications.



SYNERGY[®]
INSPIRING TASTE™

synergytaste.com 

Authentic cheese flavours to melt the hearts of bakers (and their bankers).



SECTION 1

Unlocking the Market Opportunity

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Natural cheese solutions layered with benefits.



Grass-fed



Natural



Kosher



Halal



Contains real cheese



Dairy Co-op Heritage

Flavoured bakery on the rise in challenging times.

Bakery consumers craving comfort, authenticity and real ingredients.

80% of consumers in a recent survey said that they either “actively seek out flavours to try on a regular basis” or “like trying new flavours from time to time”

(Technomic 2019)

Texture, flavour intensity and premium ingredients are key product attributes on which baked goods can be judged.



Better for me bakery

Consumers are more interested in the link between their diet and their immune system and bakery manufacturers can respond with more nutrient-packed, better-for-you offerings.



Clean labels with real ingredients

A countertrend to globalisation of food is emerging in many markets. Consumers are seeing local flavours and ingredients as an authentic experience which can be as fun and “cool” as exotic.



Tastes great, does good

Consumers are moving away from passive consumption and into interactive participation. Nielsen data shows that 58% of European consumers are willing to change their consumption habits to support sustainability.



Price aware

Heightened price sensitivity is pushing consumers to seek greater value products, but not at the sacrifice of health and overall taste. As a major global recession intensifies, consumers will seek simpler and lower-priced options across food, beverages, health, home and personal care.

Cheese innovation comes bubbling up in the bakery market.

Bakery is the leading category for product launches over the last 3 years

As consumers increasingly turn to food for comfort, nostalgia, excitement and entertainment, cheese snacks and breads continue to offer appeal. Almost 500 European bakery product launches in 2019 featured cheese as an ingredient, making it the most popular flavour variant for savoury bakery products outside of seeded and garlic.

Consumers are turning to products with real, recognisable ingredients.

(FMCG Gurus, 2020 – The Future of Naturalness)

For over 50% of consumers, taste, intensity and authenticity is very important.

(Mintel, 2019)

Maximising taste, indulgence and enjoyment will be essential in driving usage.

(Innova market insights, 2020)

FIND OUT ABOUT OUR OTHER FLAVOUR SOLUTIONS 

Gouda cheese flavour on the very cusp of global greatness.

Gouda's appeal established in food service markets

In 2019, Technomic, Inc conducted a lifecycle analysis of cheese flavours in food service in USA. This is often seen as a useful indicator of future growth in FMCG markets. The study split cheese flavours across four key life stages - introduction, growth, mainstream and mature. Gouda has broken through to mainstream without reaching maturity indicating an established popularity amongst consumers whilst retaining opportunities for future growth in the market. In Europe manufacturers and retailers look to US FMCG menu trends as a strong indicator of future trends.

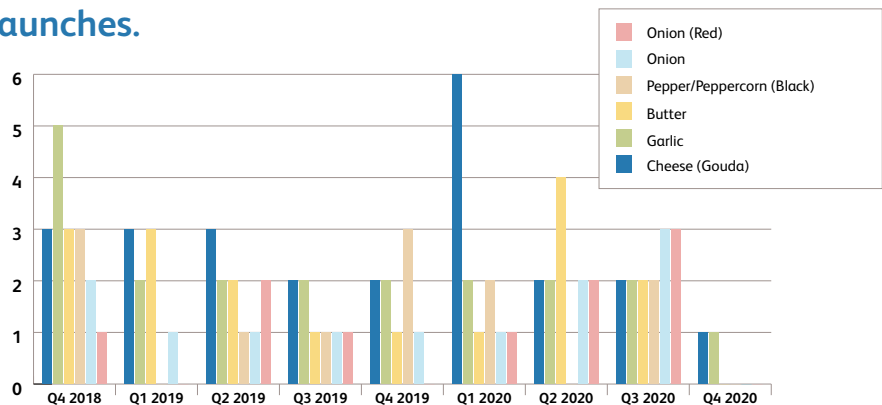
Gouda is the number 1 cheese variant across Europe.

(Mintel GNPD 2020)

Gouda outperforms all other cheese flavours for growth in product launches.

Almost 500 European bakery product launches in 2019 featured cheese as an ingredient, making it the most popular flavour variant for savoury bakery products outside of seeded and garlic.

Currently trending is Gouda cheese, the fastest growing cheese flavoured product (2018-2020).



Which comes first, flavour or finance?

Finding the right cheese for your bakery product is not as straightforward as it appears. The sensory returns from relatively high cheese inclusion rates, can be comparatively low. We listened to bakers across Europe who identified process challenges, pricing and nutritional requirements to be the primary limitation of adding the desired amount of cheese. Typically manufacturers approach product formulation from a flavour or finance first approach.

Natural Cheese.

Features of using natural cheese include:

- + Recognised ingredient
- + Authentic flavour
- + Favourable shelf life under refrigeration
- High cost (in use)
- Nutritional impact – sat, fat/calories
- Requirement to format (i.e. grate, crumb or shred)

The best from both sides.

Recognising the taste and cost challenge faced by our customers, we set about designing cheese flavours that can meet the sensory, stability and cost standards that our customers set.

Dehydrated Cheese.

Features of using dehydrated cheese include:

- + More Cost effective (than natural cheese)
- + Process stability
- + Ease of use
- Labelling implications
- Flavour consistency
- Flavour less authentic due to aroma loss

Gouda flavour development study.



Developing authentic Gouda flavours for cheese bakery.

The challenge

Our objective was to develop authentic, concentrated Gouda cheese flavours from a natural cheese base that were bake stable, in order for manufacturers to use less cheese, reduce cost and retain flavour quality.

The process

Although cheese varieties may contain some similar components, the concentration and overall balance of these taste and aroma compounds influence the defining sensory characteristics of the cheese.



Step 1
Gold Standard
Gouda



Step 2
Sensomic Analysis



Step 3
Flavour Creation



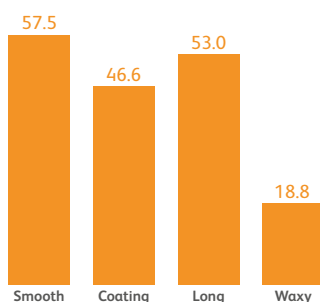
Step 4
Concept Validation



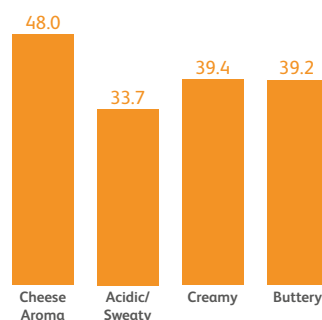
Step 1A: Gold Standard Sensory Evaluation

A trained sensory panel identified the critical sensory attributes of real Gouda cheese. In Gouda the majority of the key cheese aroma compounds were found to be acidic, creamy and buttery, indicating Gouda has a mild and mellow, yet complex, aroma.

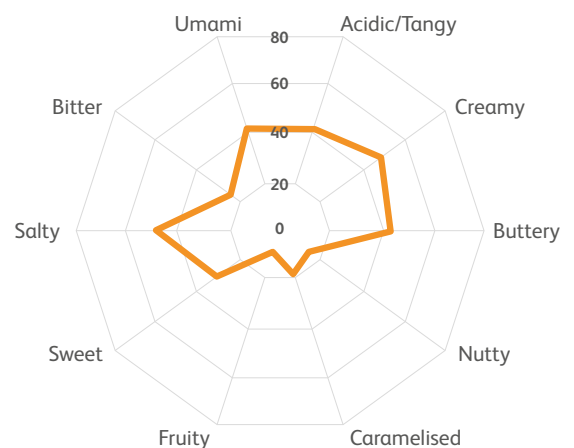
Mouthfeel & Aftertaste*



Aroma Descriptors*



Gouda Flavour*



* Attribute intensity measured in a 0-100 point scale

Our Study



Step 1B: Taste the market

So with the fundamental sensory characteristics of Gouda cheese identified, we reviewed baked goods in the market to understand their flavour characteristics.

Based on insights from this analysis, we created a sensory “wheel” as a visualisation tool for the key sensory drivers in this market space. Of interest to our experts were the following;

- the commonality of some important sensory attributes across the market space
- broad spectrum of cheese taste intensity, reflecting a diversity of consistent flavour delivery
- representing the complex nature of the flavour was a challenge

Gouda commercial biscuits sensory wheel of main descriptors



•• *At this part of the study, we felt confident that we had our underlying principles of what characterises the flavour profile of Gouda cheese.* ••



Step 2: Sensomic Analysis

Using the sensomic approach, key compounds of Gouda cheese were identified and quantified and this data was used for flavour creation. Some of the key compounds identified and their odour profile are shown in the table.

Steps involved in sensomics:

- Extract flavour compounds from sample matrix
- GCMS Olfactometry
- Quantification of flavour compounds by GC-FID
- Calculation of Odour Activity Values (OAV's)

14 key cheese aromas were identified in Gold Standard Gouda. The importance and contribution of each compound to the overall flavour profile was determined using odour activity values. This data was used to aid flavour creation.

Key cheese aromas identified

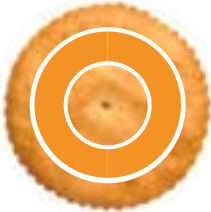
Compound Identified	Odour Quality	Odour activity value
acetic acid	sour vinegar fermented	3111
butyric acid	cheesy acidic sweaty	129
iso valeric acid	fruity fermented	15
caproic acid	strong acidic musty	1.2
delta decalactone	creamy dairy waxy	2

Our Study



Step 3: Flavour creation in Gouda Biscuits.

Leveraging the insights created from the sensomic analysis, the flavour creation team developed a number of mild and mature Gouda profiles. These products were tested in baked application and then using recombination analysis the profiles were adjusted to ensure their authentic profile was retained after baking.



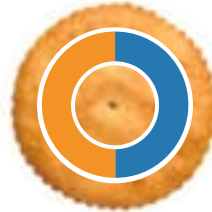
FULL CHEESE (CONTROL 1)

Gouda Cheese 26%



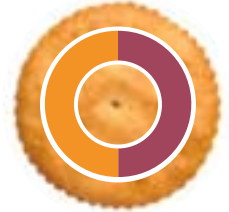
REDUCED CHEESE (CONTROL 2)

Gouda Cheese 13%



YOUNG GOUDA (SOLUTION 1)

Gouda Flavour 60FM099964
Gouda Cheese 13%



MATURE GOUDA (SOLUTION 2)

Gouda Flavour 60FM099966
Gouda Cheese 13%



Our Study



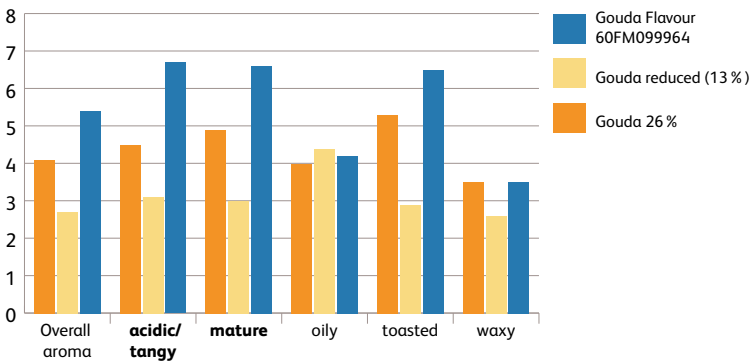
Step 4: Validation.

We validated our solutions using sensory analysis, the data of which is shown in the graphs below. The sensory data shows how our solutions build back the lost aroma and flavour notes in a reduced cheese biscuit.

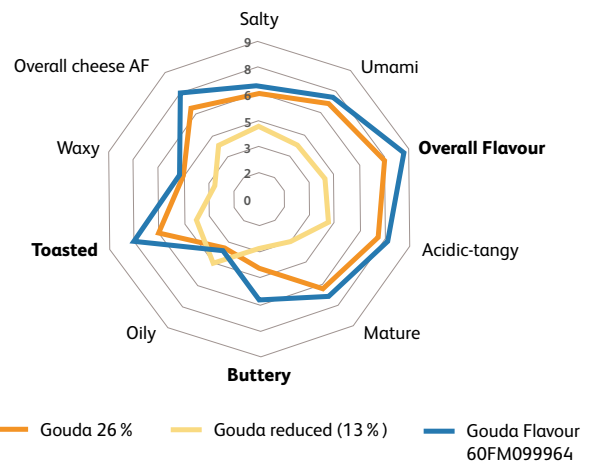
Solution 1:

A buttery, young Gouda profile, an important sensory descriptor identified in real Gouda cheese.

Aroma



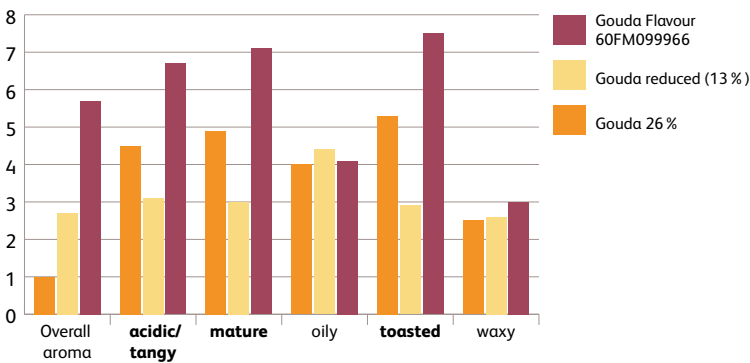
Flavour*



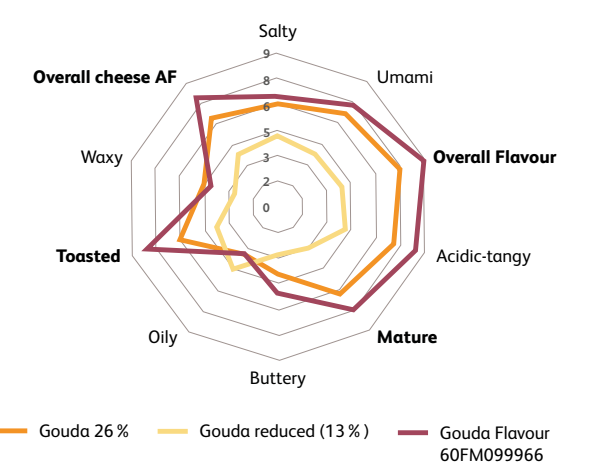
Solution 2:

A mature, toasted Gouda profile, with a long cheese aftertaste similar to notes prevalent at higher inclusion rates of real Gouda cheese.

Aroma



Flavour*



*Attribute intensity measured in a 0-15 point scale

Naturally authentic Gouda flavours for bakery

We understand that whether its diversifying portfolios or managing existing product lines, improving product quality and the sensory experience is essential to appeal to today's price sensitive consumers.

Cheese flavours and concentrates are a cost effective flavour support for natural cheese, they also work well with cheese to boost and extend taste.

Our natural cheese flavours are uniquely layered with fermented dairy ingredients and effectively encapsulated using proprietary dairy technologies for optimal performance.

This approach can help bakery manufacturers to effectively manage the taste performance of cheese in their products with the added benefits of cost control and nutritional re-balancing.

Challenges overcome

- ✓ Affordability
- ✓ Taste
- ✓ Process handling
- ✓ Nutritional profile



SYNERGY
INSPIRING TASTE™

Helping bakers rise to market challenges

With expert taste and dairy know-how, we can help you get ahead and stay ahead of the competition.

Our cheese flavour collection delivers authentic, affordable cheese taste to satisfy consumer cravings.

Together, we can optimise the cheese taste in your baked goods ensuring that you gain an edge in this competitive market segment.

We have the flavour solution for you

[REQUEST A SAMPLE](#)



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