

A GLOSSARY OF SENSORY TERMS TO DESCRIBE STEAMING GOODS



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The idea behind the project

Lesaffre has developed a glossary dedicated to the Chinese steam buns, which includes unfilled mantou, filled baozi and folded huajuan.

The long history of steam buns and the ubiquity of the Chinese diaspora make the Chinese steam buns a true global product, that ranges from staple food to pastry treat, in an industry that is ever changing. As the right words is important to describe accurately the products, Lesaffre propose a reference vocabulary for the convenience of all, including specialists and aficionados; this booklet is by essence designed to bridge the experts and the consumers.

About the authors



Lesaffre sets the global standard for yeast and other fermentation products. The company designs, manufactures and markets solutions that promote baking, nutrition, health and the protection of living organisms. In close collaboration with its clients, Lesaffre confidently innovates, in order to better nourrish and protect the planet.

This booklet was undertaken with the help and support of Du Weihui and Ying Dongzhang.



A LITTLE WORDS

Background

Steamed buns belong to the traditional Chinese fermented wheat flour-based product. Its origin is unclear and is assumed to have been produced for at least 2000 years, using Chinese grown low to medium protein flours. It can be filled (baozi), unfilled (mantou), or folded (huajuans). It is usually steamed but some variations can replace the steaming by baking or frying. Chinese consider mantou and baozi as a subcategory to the wheat-based products, whereas non-Chinese consumers (esp. West-erners) usually associate steam buns with bread, as it is a steamed version of a fermented bread dough. Nevertheless, steam bread is a staple in culinary tradition in China. Because of the steaming, it usually doesn't lose any weight during the hot process, and doesn't gain any color as caramelization and Maillard reaction temperatures are never reached.

The steam buns nowadays

Steam buns is a very common food in most of Mainland China, Taiwan and Hong Kong. It is one of many choices for breakfast. Chinese wheat products are widely consumed in South East Asia and is increasingly popular in Europe.

As a staple, innovation is characterized with technical improvements in industrial production (laomian, frozen dough, shelf-life) yet simple new shapes with new type of stuffing have been on the rise over time. Some brands have emerged over time including Goubuli in Tianjin (which means "even the dogs don't eat it"), Qingfeng Baozi in Beijing or Guangzhou Restaurant.

It is worthwhile to mention that although most steam bread in the world is of Chinese origin, there is a small production of traditional steam bread in Central Europe (Germany, Austria, Czech Republic, Slovakia, Poland), where it is known as Germknödel in German and knedlík in Czech.

Consumption and sensory preferences

Mantou and baozi can be consumed all day long as snacks as well as a dish in Guangdong teahouses, yet the primary. The sensory expectations vary from one region to another and evolve over time. Northern consumers are expecting as dense, hard, possibly dry (Shandong), that can weigh up to 200g. Its chewiness reflects the strong winter wheat flour available in the Central Plain. It is consumed as a starchy staple during the meal with meat and vegetable. Southern mantou usually include some level of sugar and are expected to be lighter and softer than in the North; they are found everywhere in Zhejiang, Jiangxi, Hunan, and Taiwan. In Guangdong and in Hong Kong, the mantou are even sweeter and less cohesive, using much lower protein flour; this is the kind of baozi found in Singapore, Malaysia, Indonesia and Philippines; Regarding baozi, the so-call skin (the steam bread part) is less important as the stuffing is the primary reason for consumption, with a ration skin-stuffing anywhere between 1 and 2; consumers can find savory baozi and sweet baozi (red bean, Chinese custard). Brown sugar mantou have been increasingly popular as traditional sweet goods for the children.



About Sensory Analysis

Sensory analysis is an essential tool for industrials, in store bakeries and craft bakeries.

Marketing

Development and validation of product concepts, analysis of competition.

Research & Development

Formulation and process optimisation.





The aromas released in the mouth when eating a Mantou develop and travel to the nose via the back of the throat, a route described by specialists as the retronasal route. Such aromas are not to be confused with those perceived when smelling the product (scent and smell). The simultaneous perception of tastes, smells and mouth-feel sensations experienced during tasting is collectively known as "flavours".

Two sensory approaches



General good tasting practices

Tasters are required to:

- · Report any physiological impediments (cold, on-going dental care, etc.)
- Avoid smoking, wearing perfume, eating any strong-tasting products (confectionery, coffee, spicy food, etc.) for at least one hour prior to tasting.
- Avoid talking to other tasters when assessing the products and remaining silent during the tasting.
- Assess equivalent amounts for each product.
- Rinse out the mouth with water before tasting each product.
- Take the amount of time deemed necessary for each test.

The products should be:

- Presented anonymously (coded samples)
- Presented under the same conditions (temperatures, amounts, degree of steaming).
- · Compared at the same stage of conservation if shelf-life is involved
- Temperature of Steaming goods during tasting: for the purpose of comparison, it is essential for the steaming goods to be tasted at the same temperature, and always be kept warm, in order to replicate typical consumption patterns. (The recommendation is kept at around 60 °C.
- Products should be compared with same weight/shaping.
- If frozen, the products should have the same storage time and same defrost protocol.
- In case of baozi (buns with filling), it is recommended to assess the dough alone first, and dough with filling in a second step.
- · Baozi should be compared with same skin/stuffing ratio..

This reference document on steaming goods mainly focus on the dough part without fillings (excluding several common fillings in the Chinese market), given the infinite variety of fillings that are possible.

A majority of words and protocols given in this booklet can easily be used for all steamed yeasted-dough products.



APPEARANCE

The first factor to be assessed when eating a Mantou/Steaming good is appearance.

The assessment occurs in 3 stages: the overall appearance of the product, then the skin and concluding with an examination of the interior of the dough.

Shared Experiences



Lu Yaming

R&D Director of Yuyuan Group, General Manager of Lvbolang Restaurant Speaking of traditional Chinese steaming products, many people will conjure up some famous time-honored brands. With their unique product quality and profound cultural background, time-honored brands carry the beautiful memories of generations. After a long period of accumulation, they have developed particular consumer bases by virtue of their unique cultural characteristics. As Shanghai has been a city ready to embrace diversity and witness the flourishing of Internet celebrity "hot cakes", Nice Green Bo, as a traditional time-honored brand, hopes to attract more and more young consumers while inheriting the tradition.

Therefore, we care about every detail, and ensure the quality, of all processes from creative snack production to meal design and development so that catering also becomes an artistic sensual enjoyment. So for me, the appearance of the steaming products is my primary concern. I'll see to that the color is bright, fine and smooth enough and the designed shape will not be deformed after the products are well-done. After all, appearance is the first impression left on people. In particular, with the evolvement of Chinese food, the food culture needs more exquisite craftsmanship to improve the appearance and beauty of snacks, so that they can be more good-looking and delicious.

To meet the diverse needs of different diners, Nice Green Bo Restaurant, based on its over 30 years of experience in the production of Chinese pastry, has summarized five key elements of production techniques: "mastery, innovative dough, multi-flavor filling, nutritious and healthy content, and vivid shape". It is welcomed by consumers to adhere to the dish design concept of "innovation without forgetting the origin, inheritance without being conservative", or to integrate new cooking methods into traditional raw materials, or to make new ingredients with traditional cooking methods. Anyway, taste is always our top priority. After all, it is food that we're working on.

ppearance / Skin	
Expert vocabulary	vocabulary
• Skin Colour Yellow/Pale yellow White/milky white Grey	• Milky white, dim, white, yellow
Skin glossiness Evaluate how shinny the Mantou is Dim Shiny	•Shiny, bright, dim
Development Evaluate how the steaming good develops Under-developed Over-developed	• Full, upright, yellow, stiff, underdone
Height Evaluate the hight of the product Flat Beautiful height	• Plump, upright, small, flat
Symmetrical Assess the holistic symmetry of the product Asymmetrical Symmetrical	• Regular, symmetrical, round, knife-cut shape
Surface smoothness Assess the surface flatness of the product	• Rough surface, bubbly, wrinkled, shrunk, spotted

Appearance / Skin













•Unsmooth, bubbly, rugged

Yellow spots

• Unsmooth, bubbly, rugged

Cracks, Splited, unsmooth

Appearance / Crumb	
Expert vocabulary	Consumer vocabulary
• Crumb colour	• Milky white, dim, white, yellow
Skin thickness Evaluate the thickness of the skin Thin Thick	• Dry, hard, rough, soft, transparent
Average size of crumb holes Small Big	• Rough, compact, hard with even, fine and large pores
Crumb holes eveness Evaluate the crumb cells in the slice: Are they all the same size or different size? Uneven Even	• Pores with different sizes
Internal texture smoothness Examine the crumb cells in the slice: Asses the internal texture smoothness Rough Fine/Smooth	• White, delicate, rough, with uniform pores
• Presence of inclusions No inclusions Many inclusions	• With inclusions and grains

Appearance Illustration



Cacao note aspect Potato aspect Cacao Round volume Red bean flavour Cacao note Potato aspect Red bean flavour Cacao note Potato aspect Red bean flavour Round volume

Potato Baozi

RECIPE		%	Gr
		78	
	Medium Protein Flour	100	1000
	Yeast: Danbaoli HS	0.8	8
Main	Improver: Master	0.2	2
Dough	Water	45	450
	Sugar	8	80
	Baking Powder	0.8	8
	Shortening	2	20
Decora-	Cocoa powder		30
tions& Fillings	Bean-paste filling		880

Process	
Mixing	Spiral (5 min in 1 st speed and 1 min in 2 nd speed)
Final Dough Temp	26 °C
Resting	5 min
Sheeting	
Dividing	40 g/per
Filling	20 g/per
Shaping	
Decoration	Decoration on the top by using Cocoa powder
Proofing	20 min
Steaming	12 min

SMELL

The sense of smell is a very important characteristic of the product. It can be a powerful trigger for the consumers to purchase.

Shared Experiences



Jerry Midel

President of JMCool Solutions, Inc. Steam buns are quite popular here in the Philippines, because it is tasty and nutritious. They are consumed as breakfast together with congee or noodles, or during mid-day snack together with tea or cola. It is commonly sold in the street and in convenience store. When comparing to the Chinese baozi, siaopaos dough here are high sugar and usually include some fat, close in tradition to neighbouring Guangdong.

In the Philippines, the most popular filling would be the asado, which is pork stuffing with sauce, as well as be bola-bola, which is ground pork. Other popular items include spicy asado and vegetarian pao. Pao are also available with sweet fillings, although they do not represent as many as savoury fillings, they include red bean pao, ube pao (purple yam), and mung bean pao are also available in the market. Though pao is considered a staple, the market is innovative, and we have seen new product development including pizza pao, or asado with bola-bola two filling in one pao.

Siaopao market enjoys a good growth, and some successful clients of ours have grown into an industrial producer in the Philippines. For instance, one client, originally had 40-50 employees, wrapping 10,000 to 20,000 pao a day. Now, with our machines and following business development, they are now producing 100,000 to 120,000 pao a day.

As for other fermented dough product, a good siaopao is produced with the right control of temperature, the finished product is expected to be of white color, and consumers enjoys the skin (i.e. the dough part) to be sweet. They like the meat filling to be chunky.

Smell

Method to create references for each attribute with a recipe made in an opaque bottle. For an optimal result, follow the order in which the ingredients are to be added when making the bottled recipe.





Smell frequently exuded by the fillings

st Ingredients that can be added directly to the dough

Consumer vocabulary

Meaty smell, oil smell

Mushroom smell, freshing, umami

• Green onion smell, ginger smell

Sourdough,fermented dough, laomian/jiaozi

• Flour note

• Wholewheat smell, bran smell, grain smell, sweet note

Green vegetables smell

Red bean, Gouji, Red Date, Cheese, Tomato, Salted Egg Yolk, Sesame... Smell





Golden Skin Pumpkin smell Golden Skin Dairy note Nice layers Pumpkin smell Golden Skin Dairy note Nice layers Golden Skin

Pumpkin Mantou

RECIPE		%	Gr
	Medium Protein Flour	100	1000
Main Dough	Yeast: Danbaoli HS	0.8	8
	Improver: DBL Blended mantou improver	0.3	3
	Water	20	200
	Butter	25	250
	Pumpkin	45	450
	Sugar	13	130
	Baking Powder	0.6	6
	* The water usage is depended on the kind of t	he pumpki	

	Pumpkin prepartion (Selection, Peeling)	
	Steaming	
Prepartion	Mashing	
	Sieving*	
	Standby	
	Mixing	Spiral (5 min in 1 st speed and 2 min in 2 nd speed)
Production	Resting	10 min
	Sheeting Butter	
	** Folding and laminating	3 single folds for 2 times
	Dividing	30g
	Proofing	20 min
	Steaming	10-12 min
	*To avoide the gluten break by the pumpkin fibe ** Lamination:0.2-0.3mm butter	ers



Smell

TEXTURE

Perceived initially by the sense of touch, then in the mouth. The texture of a steaming product is an essential factor.

The texture can evolve rapidly with the temperature going down.

Shared Experiences



Manager of Anjing Technology Department In China, steaming products have been ubiquitous food in our daily life. As urbanization advances, the production and management of steaming products is making headway in China. With the development of society and the improvement of people's living standards, people's demand for products is no longer limited to satiety. Speaking of "delicious", people no longer care about the taste only, but put forward higher demand for the appearance, mouth-feel and flavor of the products, that is to say, people's sensory demand has become more intense and obvious.

Therefore, when we engage in the R&D of steaming products, we not only pursue innovative and enduring product taste, but also do our best to make the appearance of our products more eye-catching and attractive, so as to adapt to different consumption scenarios. Moreover, some traditional steaming products are difficult to make at home due to their cumbersome process and abundant ingredients.

Therefore, in the early stage of designing steaming products, we will also take "convenient and fast terminal processing" as one of our product development concepts to make delicious food more simple! In addition to the flavor and appearance of the products, we are also pursuing the ultimate taste of the dough. Delicate taste, soft, non-sticky is our constant pursuit in respect of the dough.

Throughout the current steaming products market, it is not difficult to find that more and more steaming products have been brought to the public with the combination of Chinese and Western elements while inheriting the inherent taste of the traditional Chinese food. Our introduction of the "meat floss roll" is undoubtedly combining tradition with modernity to meet the needs of new taste buds. As the present primary consumer base, the recognition of post-90s undoubtedly lays a very important foundation for the success of the products.

Texture / General to the touch

Expert vocabulary	Consumer vocabulary
• Resistance to lateral pressure/deformation Assess the outcome of the product when the sides are squeezed between thumb and the findger. Rigid, not easily deformable Easily deformable, flexible	• Soft, stiff, deformable, resilient
Resistance to vertical pressure/press Assess the force used to press the product firmly with 3 fingers. Hard Soft	• Soft, hard, needing efforts, and not easy to deform
Springiness Press the product frimly with 1 finger and assess the product's ability to spring back to its original shape. Rigid: slowly springs back Very elastic: immediately springs back Very elastic: immediately springs back	• Elastic, quick rebound
Resistance to tearing Assess the force you use to tear the product in two pieces. Difficult to break in two: Easy to break off	• Hard, firm

Texture / Crumb to the touch

• Crumb moisture Assess crumb moisture by gently pressing the crumb.	33
Dry/Rough Moist	6



unable to be torn-

Texture / Mouth-feel of the crumb



Sticky texture

Assess the stickiness of a piece of crumb between the teeth. Chew the piece of crumb 10 times, by gently biting up and down (several times) to assess the stickiness (whether or not a film is created between the jaws).

Not sticky

Resistance to bite(1st bite)

Assess the resistance of a piece of produc (crumb + crust) when biting into it (the first bite), then when chewing.

Hard, chewy

Supple soft, require little effort

Verv stickv



Assess the resistance of a piece of crumb when it is being chewed.

••••••	• • • • • • • • • • • • •	 		•
Firm, elastic			Soft, easy to che	?W







Consumer vocabulary

Sticky

Soft, hard, chewy

Resilient, soft, short time to swallow

Moist,sandy

Chewable, swallowable, elastic

Texture Illustration

Nuts Baozi



Nutty Crunchy Fresh Nutty Fresh Fresh Crunchy Crunchy Crunchy Fresh Fresh Crunchy Nutty Mutty

RECIPE		%	Gr
	Medium Protein Flour	100	1000
	Yeast: Danbaoli HS	0.8	8
	Improver: Master	0.2	2
Main	Water	45	450
Dough	Sweetened condensed mil	4	40
	Sugar	8	80
	Baking Powder	0.8	8
	Cocoa powder	3	30
	Shortening	3	30
	Chopped nuts		300
Decora-	Chopped peanuts		100
tions& Fillings	Shelled melon seed		50
	Sesame		30
	Lard oil		130
	Sugar		200

Process Lard oil Melting Cooling until 150 °C Fillings Fried of mixed nuts preparation Mixed sugar with sesame paste Cooked flour preparation Steam the flour and mix with the previous fillings to custmmize the shape of fillings Mixing Spiral (5 min in 1st speed and 2 min in 2nd speed) Sheeting Rolling Dividing 20 g/per Production Skin preparation Prepare the skin shape in order to fill the fillings Fillings 15 g Shaping Decoration* Decoration Proofing 15 min Steaming 8-10 min *Remark: 1.To make clear of the decorations. 2.Don't proof too much.

A GLOSSARY OF SENSORY TERMS TO DESCRIBE STEAMING GOODS

3.Harder is better to ensure the pefection.





The taste of the steaming good is a major factor in the act of purchase, especially a renewed purchase.

It can be the major indicator of quality for a consumer. The aromas contributed by the dough are very important, especially in Northern mantou.

The descriptors below not only describe the intrinsic of the dough but also includes some aroma which can be the migration of certain ingredients in the fillings (Meat fillings, vegetables, etc.).

Shared Experiences

Traditional Chinese flour-based staple food is indispensable in people's daily diet and is most attractive and appealing to the consumers. Most of the consumers' demands lie in the traditional Chinese staple food such as mantou and baozi. However, with the change of times, the taste of traditional steaming products is to some extent unable to meet the needs of many young people.

Li Jun

Vice President of Zhongvin Babi Food Co., Ltd. Therefore, we have attached great importance to the development of new products to accommodate the different dietary habits and varying taste of consumers. From a few types in the beginning to the present nearly 100 types of products, we have constantly pursued product innovation and have updated and released dozens of featured products every year, providing the mass consumers with a diverse range of flour-based food.

In order to meet the different consumer needs, we have designed and developed hundreds of product portfolios to adapt to different consumption scenarios. Behind the development of all these products, we always regard the consumers' preferences as one of the criteria in measuring the success of a product. "Vegetable and mushroom bun" is a product we have developed based on the needs of consumers. The vegetable filling is green in color and crisp in taste, and is deeply loved by the vast consumers.

Morever, sensory evaluation is a crucial step in our production. We have always pursued sensory unification of the products, that is, every product we produce must be as perfect as possible in terms of "color, fragrance, taste, shape and texture". In other words, a perfect or qualified steaming product must be somehow shiny, bright, plump, and free of blisters or stiffness. In terms of internal texture, the pores should be uniform and dense; in terms of hand feel, it should be somehow resilient to press; in terms of taste, it should be soft but to some extent strong, and has strong malty flavor.





Taste / Crumb

Each expert attribute is illustrated by reference.





 $\hfill \Box$ Flavor frequently exuded by the fillings

 $\ensuremath{\mathbb{X}}$ Ingredients that can be added directly to the dough

Consumer vocabulary

 Meaty taste, salty, umami Mushroom, umami Green onion aroma, ginger aorma, spicy Fermented-rice flavor, fragrant flavor, alcoholic flavor, fermented flavor, pungent smell Green vegetables flavor, salty Flour aroma, pleasant

Yeast,Fermented,honey,sweet

 Red bean, Gouji, Red Date, Cheese, Tomato, Salted Egg Yolk, Sesame...



Taste/Crumb



Taste Illustration

Posu Baozi

RECIPE		%	Gr
	Medium Protein Flour	100	500
Sponge	Water	50	250
Dough	Yeast: Danbaoli HS	0.6	
	Medium Protein Flour	100	500
	Yeast: Danbaoli HS	0.6	
	Improver: DBL-Master	0.3	1.5
	Water	45	225
Main Dough	Salt	1	
	Sugar		40
	Baking Powder	0.8	
	Fermented dough	100	500
	Shortening	10	50
	Ham/Pork		500
Filling	Sugar		200
	Honey		50
	Flour		50

Meaty & Pepper Flavor Sweet Savory Meaty & Pepper Flavor Savory Sweet Meaty & Pepper Flavor



Process	
Sponge Dough	2 hours fermentaion
Mixing	Spiral (5 min in 1 st speed and 2 min in 2 nd speed)
Sheeting	Make the dough flat and smooth on the surface
Lamination	Apply the pork lard on the dough surface
Shaping into roll	
Dividing	40 g/per
Skin preparation	Prepare the skin shape in order to fill the fillings
Fillings	20-25 g
Shaping	
Proofing	10-20 min
Steaming	12 min

STEAMING GOODS *in words*

A GLOSSARY OF SENSORY TERMS TO DESCRIBE STEAMING GOODS

Renowned for its sensory expertise, Lesaffre has developed, together with our experts, a glossary of sensory attributes developed to the assessment of steaming goods. This tool is used to combine two approaches: the more subjective approach of consumers and the more objective angle of experts.

Browse this booklet, sample and enjoy!



Already published:

"LE CROISSANT" in words, to describe croissants; PIZZA in words, to describe pizza; "LE PAIN" in words, to describe crusty bread; SANDWICH BREAD in words, to describe sandwich bread



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