STEM in Food Science in Technology and Living

Sensory Evaluation

In research and development of food, sensory evaluation is carried out to understand the food and food market.

Sensory evaluation of food samples involves five senses:
- Sight
- Smell
- Touch
- Taste
- Hearing

There are various methods of sensory evaluation. The following shows the principles and templates of two of the methods:
- Quantitative Descriptive Analysis (QDA)
- Paired Comparison Test

Quantitative Descriptive Analysis (QDA)

Panel of QDA is formed by a small number, usually 8 – 15 of experienced panelist. Product evaluations are performed by each panelist individually, usually in isolated booths. Standard sensory practices such as sample coding, booth lighting, expectorating and rinsing between samples are used for the evaluation phase.
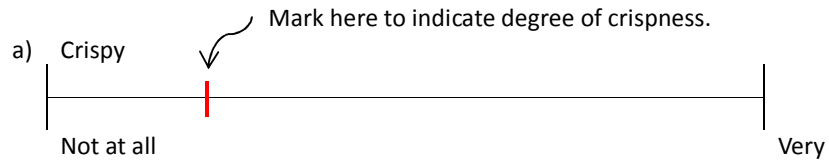
A line anchored with words generated by the panel is used. The resulting data can be analysed statistically. QDA may be used to completely describe the sensory sensations associated with a product from initial visual assessment to aftertaste, or panelists may be instructed to focus on a narrow range of attributes such as texture descriptors.

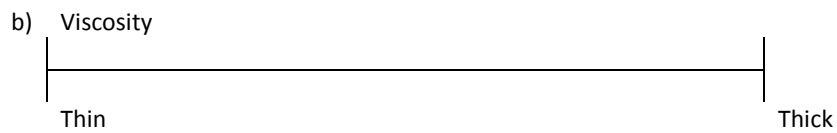# Sensory Evaluation Ballot for Quantitative Descriptive Analysis

Sample number: _____

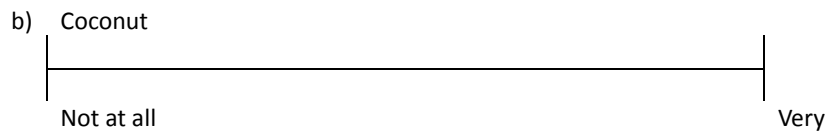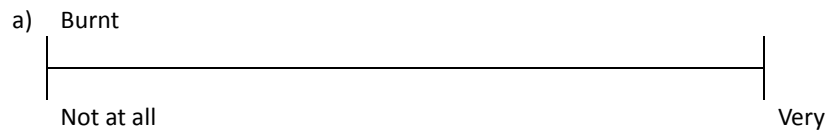Evaluate each sensory attribute and put a mark on each line:

<u>Example</u>

Mark here to indicate degree of crispness.

a) Crispy

Not at all   Very

1. Appearance

a) Yellow hue

Weak   Strong

b) Viscosity

Thin   Thick

2. Aroma

a) Burnt

Not at all   Very

b) Coconut

Not at all   Very

3. Taste

a) Spicy

Not at all   Very

b) Herby
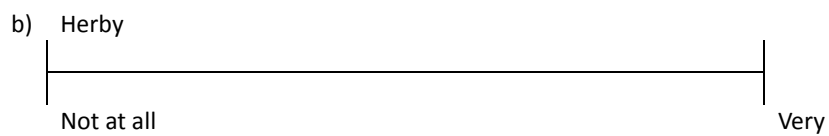
Not at all   Very

Paired Comparison Test

Paired comparison test is a type of discrimination test. The researcher wants to determine whether the two samples differ in a specified dimension, such as sweetness, yellowness, crispness. The two samples are presented to the panelist simultaneously and the panelist is asked to identify the sample that is higher in the specified sensory attribute.

Paired Comparison Score Sheet

Please rinse your mouth with water before starting. There are two samples for you to evaluate. Taste each of the coded samples in the sequence presented, from left to right. Take the entire sample in your mouth. NO RETASTING. Are the samples the same or different? Circle the corresponding word. Rinse with water between samples and expectorate all samples and water. Then proceed to the next set and repeat the tasting sequence.

Sample no.	Sample no.	Same	Different
_____	_____		

Reference:
Lawless, H. T., & Heymann, H. (2010). *Sensory evaluation of food: Principles and practices*. New York: Springer.

SENSORY DESCRIPTORS (Tasting words)

We use our senses to evaluate what we eat, so s**ensory descriptors** are words for describing the appearance, taste and texture of food.

The following word bank gives examples of words used for food tastings. The list is not exhaustive, add your own words to the list. Some words fit under more than one heading.

SENSORY DESCRIPTORS			
Appearance (Looks) – colour, aesthetics	**Texture** (Mouthfeel) – how food and drink feels in your mouth		**Taste, flavour and smell**
Appetising	Airy	Lumpy	Acid
Attractive	Brittle	Mushy	Bitter
Boring	Chewy	Powdery	Bland
Bright	Cold	Rubbery	Burnt
Clear	Crispy	Slimy	Creamy
Cold	Crumbly	Smooth	Dry
Colourful	Crunchy	Soft	Fatty
Crumbly	Dry	Soggy	Fishy
Dry	Fine	Springy	Fruity
Dull	Firm	Sticky	Herby
Fattening	Fizzy	Stiff	Old
Fresh	Flaky	Stringy	Peppery
Fruity	Foamy	Tender	Salty
Glowing	Greasy	Thick	Sharp
Greasy	Gritty	Thin	Sickly
Healthy	Hard	Tough	Smoky
Hot	Hot	Watery	Soggy
Moist	Juicy	Warm	Sour
Mouth-watering			Spicy
Smooth			Stale
Soggy			Sweet
Tasty			Watery
			Wet
			Tasteless
			Tasty
			Undercooked