



## Honey Judging

*Prepared and presented by*

**Dr Soumi Paul Mukhopadhyay**

Sensory and Consumer Research Scientist, NSW Department of Primary Industries  
Conjoint Senior Lecturer, School of Environmental and Life Sciences, University of Newcastle  
Adjunct Research Fellow, School of Agricultural and Wine Sciences, Charles Sturt University

# Consumer oriented research and product development is important in today's market.....



# Today's consumer is.....

**Provenance**

**Follow food  
trends**

**More  
educated**

**Clear about  
food sensory  
attributes**

**Aware about  
safe food**

**Technologically  
savvy**

**Health and  
brand  
conscious**

**Environmental  
conscious**

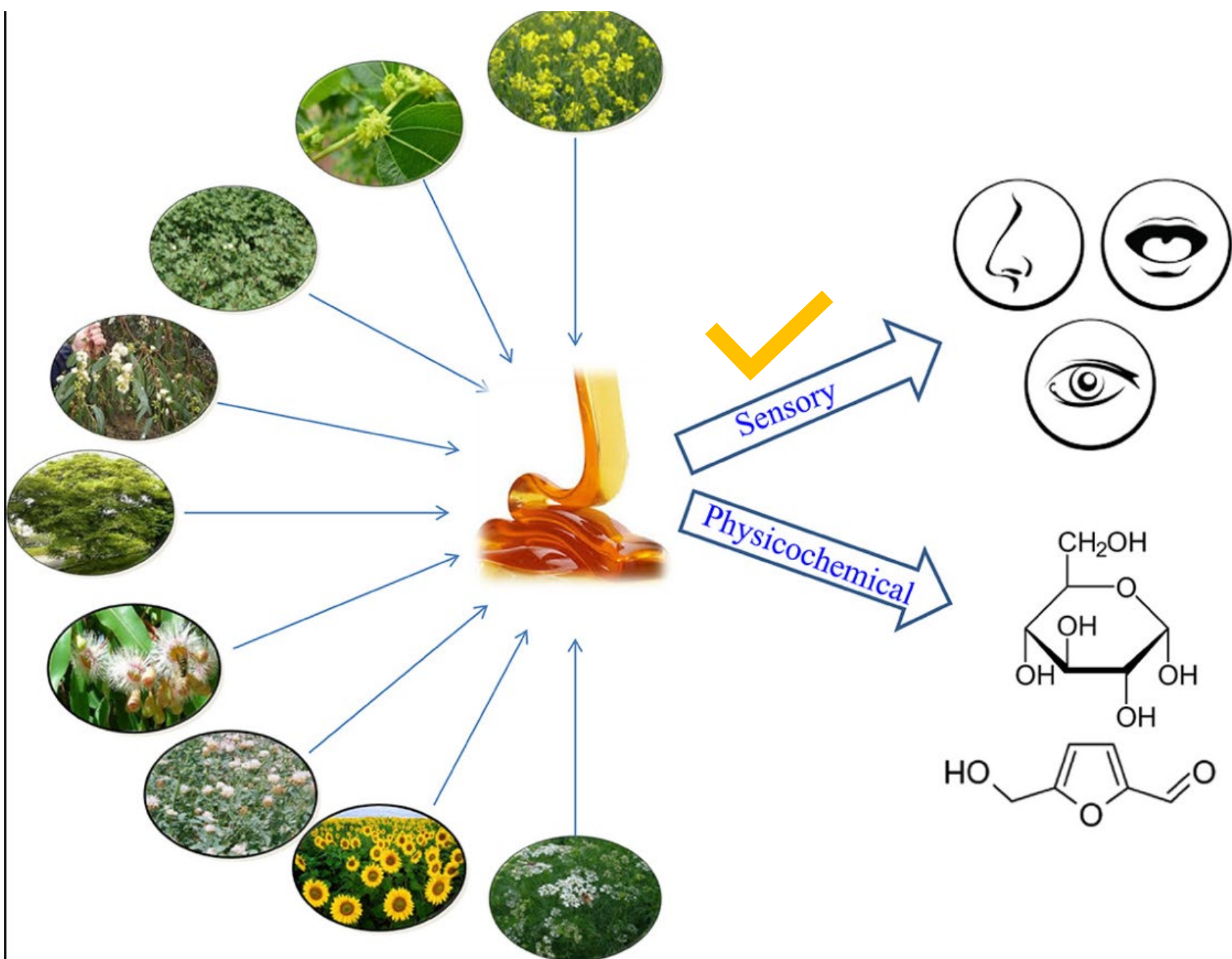
We all know  
the feeling  
and happiness





Sensory assessment and  
judging are equally  
important for wine, honey  
and olive oil



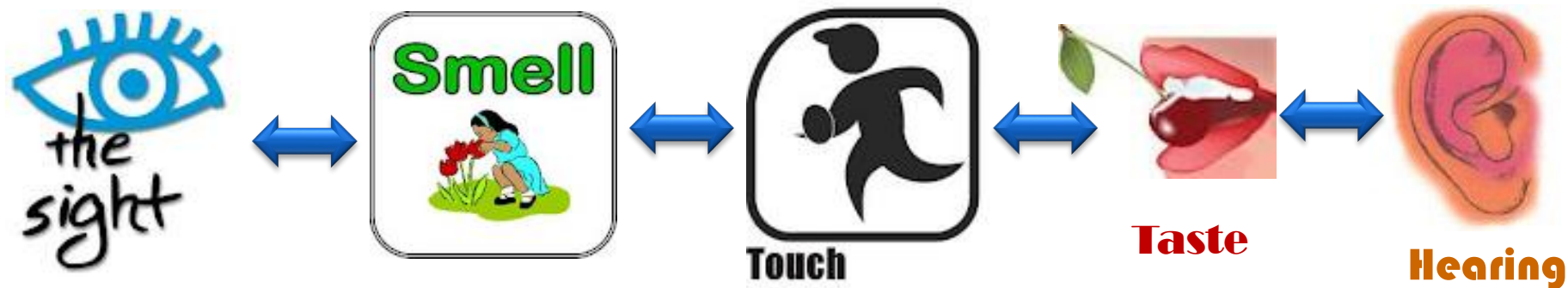


# Defining Sensory Evaluation

*Sensory evaluation is a scientific discipline used to **evoke, measure, analyse and interpret** reactions to those characteristics of foods and materials as they are perceived by the senses of **sight, smell, taste, touch and hearing***  
(IFT, 1975)

- ❑ This definition represented an inclusive effort within the framework of food evaluation; with the word “food” considered global
- ❑ Materials can be products for the home, e.g. furniture colour, clothes, personal care products such as lipstick, toothpaste, perfume etc.

# Understanding behind human sensory function



- ❖ Appearance
- ❖ Shape
- ❖ Colour
- ❖ Consistency

- ❖ Odour
- ❖ Volatile molecules

- ❖ Tactile sensation

- ❖ Sweet
- ❖ Sour
- ❖ Bitter
- ❖ Salty
- ❖ Savoury

- ❖ Crunching
- ❖ Crackling
- ❖ Popping
- ❖ Bubbling

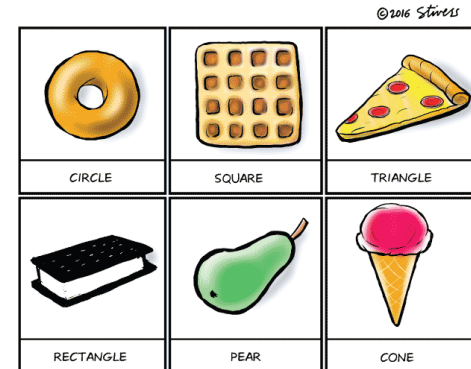


## Appearance of foods:

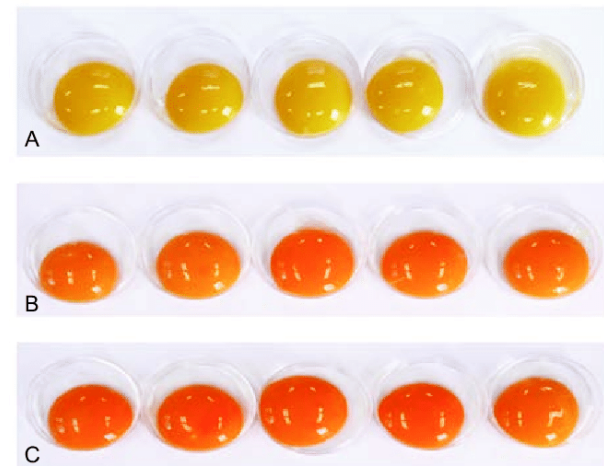
## Size



## Shape



## Colour



<https://www.thasneen.com/cooking/difference-between-chili-powder-kashmiri-chili-powder-cayenne-and-paprika/>

[https://www.researchgate.net/figure/Examples-of-egg-yolk-colour-in-the-three-groups-control-A-paprika-extract-B-and fig2\\_274777715](https://www.researchgate.net/figure/Examples-of-egg-yolk-colour-in-the-three-groups-control-A-paprika-extract-B-and fig2_274777715)

## Colour distribution:



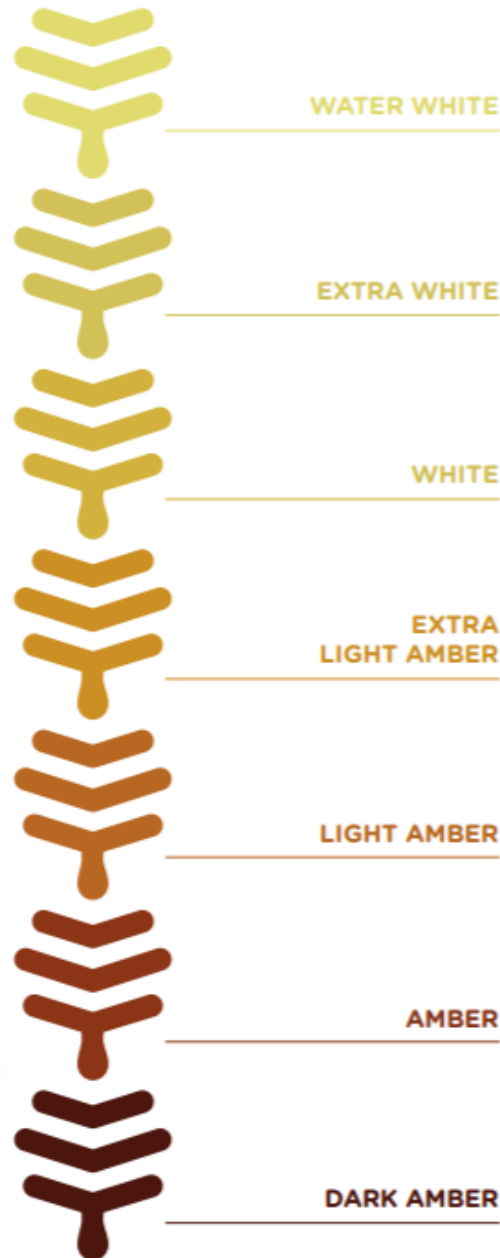
# HONEY COLOUR CHART

We all see colour differently, to prevent disputes, an international colour range was developed. The Pfund Colour Grading system ensures a consistent and reliable measure.

The colour and taste of honey is due to its floral source, and can also be influenced by the soil in which the plants have grown.



**NB:** *White colour doesn't mean that honey is white, it means that honey is colourless.*





# Odour and Olfactory receptors:

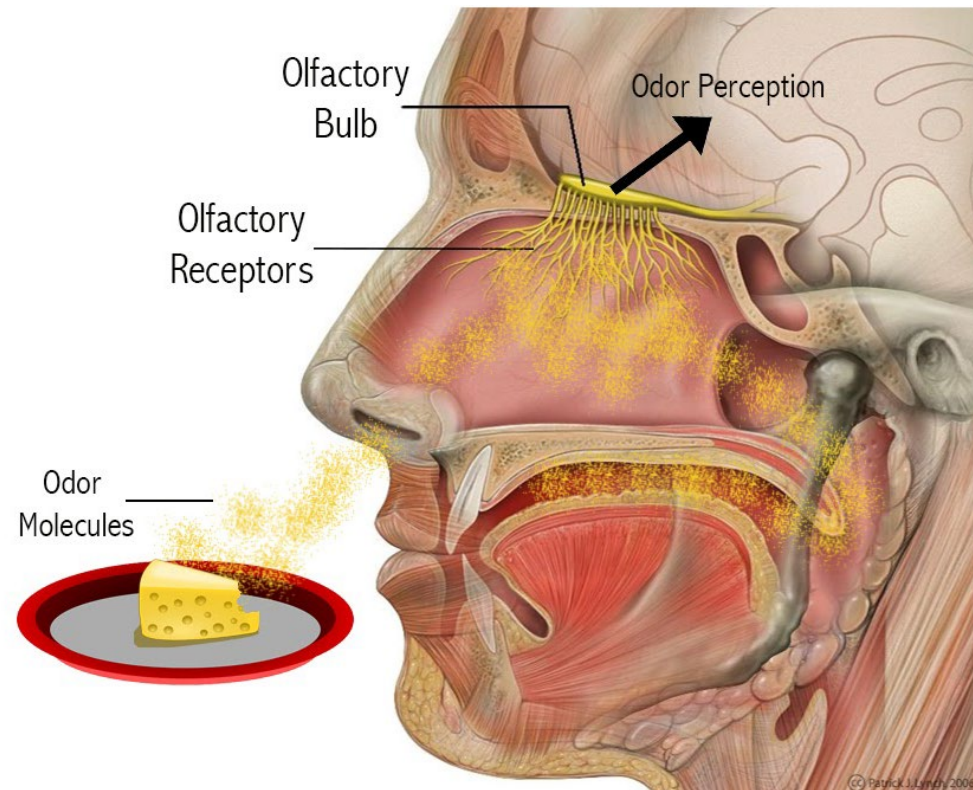
## Olfactory receptors:

These are present in epithelium of nose, provide a sense of smell, have cilia containing the receptors in its membrane; can detect specific chemicals

## Odour molecules:

- ❑ Need to be volatile, can easily forms vapour, move through air even in lower concentrations
- ❑ Slightly soluble in water and slightly soluble in lipids
- ❑ Contain specific functional groups or unsaturated C-C bonds

## Olfaction: Sense of smell



# Flavour includes

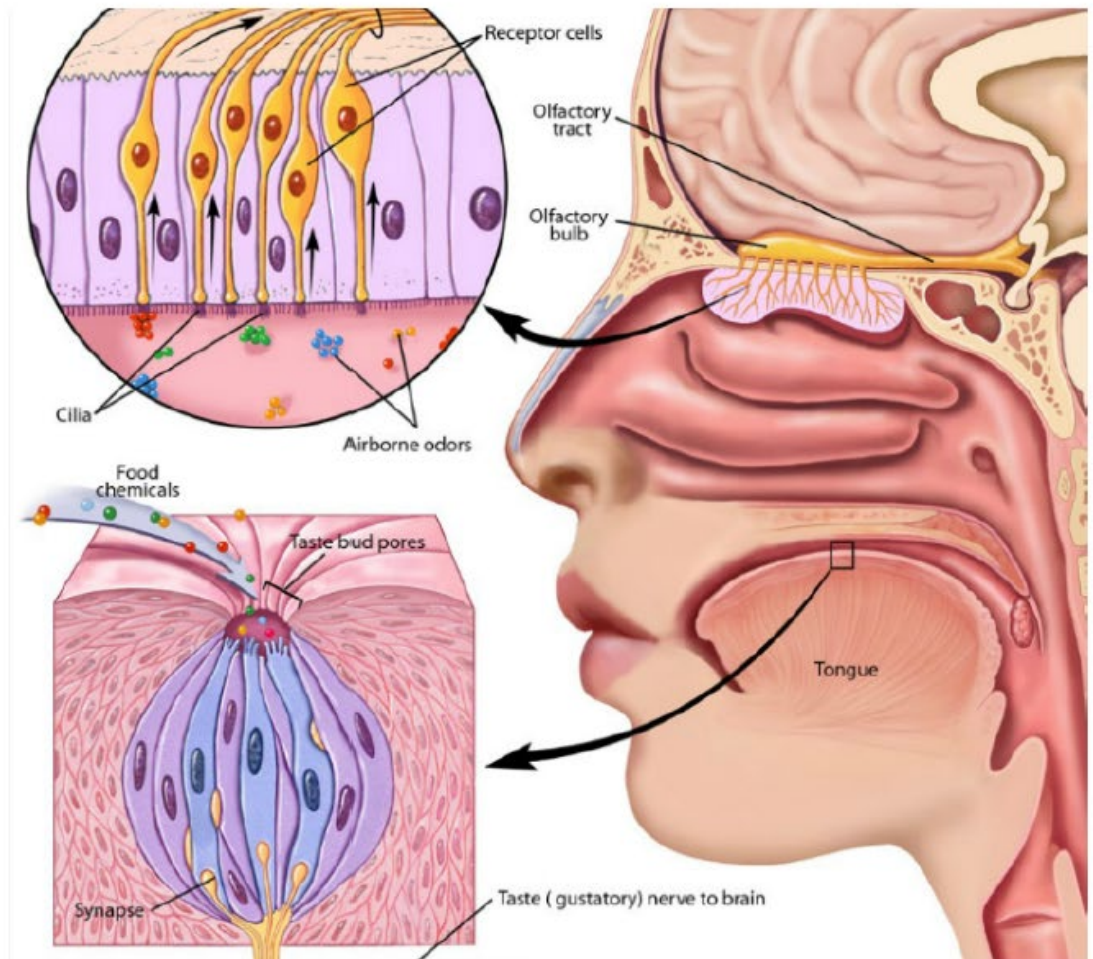
- taste
- odour (smell)
- tactile sensations (sensations that can be felt)

## Taste receptors

- Located in papillae on the tongue surface and in the oral cavity (mouth).
- Taste buds contain taste cells that are replaced every 10 days.
- The food must be in an aqueous solution for it to be tasted.
- Saliva in the mouth provides this solution.



# Interaction of taste and smell to get flavour



## Types Of Honey



# Diverse sensory attributes of honey:

**TABLE 1** Attributes considered for honey sensory description

Attributes	Description
Visual attributes	
Color intensity	Degree of amber color (varying from water white to dark ambar)
Crystallization	Phenomenon that causes the loss of fluidity. The size of the crystals must be uniform (for crystallized honey).
Viscosity	Force required to remove honey from a spoon (for liquid honey)
Olfactory and aroma attributes	
Overall intensity	Strength of the stimuli perceived by the nose or by olfactory receptors via retronasal way.
Floral	Associated with different flowers
Fruity	Associated with different fruits: acid, ripe and tropical
Vegetal	Associated with gardens, green notes, dry leaves, and wood
Warm	Associated with foods characterized by their sweet smell and taste.
Chemical	Not associated with food, it is characterized by its aggressiveness (smoked, phenolic, sulfuric, vinegary).
Animal	Associated with animals and/ or degradation (mold, urine, stable...)

# Diverse sensory attributes of honey:

## Taste and Mouthfeel

Sweetness	Sensation produced by products that contain sugars such as sucrose and fructose.
Sourness	Sensation produced by products that contain acids, such as citrus.
Saltiness	Sensation produced by products that contain salts, such as sodium chloride
Bitterness	Sensations produced by products such as caffeine.
Persistence	Feeling similar to what is perceived while the product was in the mouth and while continuing over a period of time measurable.
Astringency	Organoleptic property of pure substances or mixture which produce an astringent sensation.
Freshening sensation	Sensation of freshness in the oral cavity (similar to that produced by mint)

## Texture attributes

Adhesiveness	Ability of honey to stick to the teeth and oral cavity.
Granularity	Geometric attribute of texture relative to the perception of the size and shape of the particles in crystalline honey.

Diverse range of flavour wheels/charts are available, question is which one to choose?



## HONEY FLAVOUR & AROMA CHART

Like wine, coffee or brandy tasting, the words you use to evoke the flavour, help describe the elements, notes and subtle flavours of your honey.

Depending on its nectar source, honey can be floral, fruity, smoky, woody, spicy, nutty or earthy. It can smell fresh as grass or pungent like aged cheese.



Honey Label or Number \_\_\_\_\_ Label Flavor \_\_\_\_\_  
Honey Origin: \_\_\_\_\_ Honey Type ☐ Regular ☐ Creamed ☐ Candy

### Texture and Sensation

Impression: ☐ Peanut Butter | ☐ Maple Syrup | ☐ Chalky | ☐ Crumbly | ☐ Velvety | ☐ Tingly | ☐ Oily  
☐ Milky | ☐ Taffy | ☐ Chewy | ☐ Watery | ☐ Pasty | ☐ Gritty

### Chemical

Pungent: ☐ Pungent | ☐ Acidic | ☐ Metallic  
Sulfur: ☐ Artichoke | ☐ Cabbage

### Microbial

Lactic: ☐ Moldy | ☐ Fermented  
Yeasty: ☐ Cheesy | ☐ Baked Bread

### Animal

Barren: ☐ Dog | ☐ Locker Room | ☐ Goat  
☐ Cat Pee | ☐ Sweaty | ☐ Leather

### Earthy

Nature: ☐ Dirt | ☐ Humus | ☐ Musty  
☐ Mushroom | ☐ Wood Pile

### Spicy

Warm: ☐ Sassafras | ☐ Root Beer | ☐ Root Beer | ☐ Saffron | ☐ Nutmeg | ☐ Celery | ☐ Sage  
☐ Clove | ☐ Ground Ginger | ☐ Cinnamon | ☐ Licorice/Anise | ☐ Cilantro | ☐ Black Pepper

### Fruity

Tree: ☐ Apple | ☐ Pear | ☐ Quince | ☐ Cherry | ☐ Apricot | ☐ Peach  
Citrus: ☐ Lemon Zest | ☐ Lemon | ☐ Orange Zest | ☐ Bergamot | ☐ Grapefruit | ☐ Lime | ☐ Citronella  
Dried Fruits: ☐ Jam | ☐ Raisin | ☐ Dried Apricots | ☐ Prune | ☐ Fig | ☐ Dates  
Tropical: ☐ Banana | ☐ Guava | ☐ Mango | ☐ Melon | ☐ Pineapple | ☐ Kiwi

### Herbaceous

Fresh: ☐ Grass | ☐ Clover | ☐ Mint | ☐ Menthol | ☐ Eucalyptus  
Dried: ☐ Hay/Straw | ☐ Tea | ☐ Malt | ☐ Tobacco | ☐ Dried Grass

### Woody:

Resinous: ☐ Cedar | ☐ Oak | ☐ Pine | ☐ Beeswax | ☐ Propolis  
Burnt: ☐ Roasted | ☐ Ash | ☐ Coffee | ☐ Smoky | ☐ Toasty | ☐ Burnt Toast

### Caramel:

Confectionary: ☐ Marshmallow | ☐ Butterscotch | ☐ Cotton Candy | ☐ Crème Brûlée | ☐ Burnt Sugar  
☐ Molasses | ☐ Toffee | ☐ Vanilla | ☐ Maple

### Nutty:

Nutlike: ☐ Pecan | ☐ Chestnut | ☐ Walnut | ☐ Almond | ☐ Hazelnut | ☐ Pistachio | ☐ Pine Nut  
☐ Coffee Grounds

### Floral:

Fragrant: ☐ Jasmine | ☐ Rose | ☐ Peony | ☐ Lavender | ☐ Orange Blossom | ☐ Lilac | ☐ Violet

### Honey Color

☐ Water White | ☐ Extra White | ☐ White | ☐ Extra Light Amber | ☐ Light Amber | ☐ Amber | ☐ Dark Amber

### Notes

Other flavors noted: \_\_\_\_\_



## Honey tasting tips

- Smell the honey before tasting
- A small amount goes a long way
- Coat the spoon or stick – let it spread out
- Turn it upside down on your tongue – Max contact
- Breathe in when sampling to get the full taste
- Let the taste linger – front, middle, and finish
- Try them warm and/or cold

# Understanding honey sensory descriptors- Diversity in the sensory attributes



**Consistent National  
framework of training**

# Australian honey map links consumers to local beekeepers

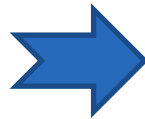
ABC Radio Melbourne / By Simon Leo Brown

Posted Wed 30 Mar 2016 at 2:07pm

## Honey, where is it?



Use the map to find a place where you can buy 100 per cent Australian honey.









Some snaps  
from the 2021  
Honey Show







- ☐ NSW Apiculturists' Association for inviting me to present and judging the beautiful and delicious range of honey
- ☐ Miss Suellen Cooper for your help as a Steward during the 2021 Honey Judging
- ☐ NSW Department of Primary Industries and my colleagues present here for supporting me
- ☐ And lastly, my attentive audience, thank you for listening to me!!