



Centre ACER

From the tree to your senses!

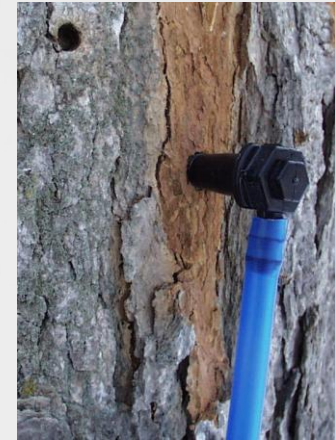
By

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*Ontario Maple Syrup Producers Association
Quality Inn & Conference Center
Midland (Ontario)
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Collecting maple sap



Processing of maple sap into syrup

High heat treatment into the evaporator

Evaporate water from the sap

Changes in maple sap physicochemical properties



Colour and flavour development



Maple syrup composition

Carbohydrates

- Sucrose
- Glucose
- Fructose

Vitamins

- Niacin
- Riboflavin
- Thiamin

Organic acids

- Malic
- Succinic
- Pyruvic



Minerals

- Potassium
- Calcium
- Magnesium
- Manganese
- Zinc
- Sodium

Other components

- Polyphenols
- Phytohormones
- Amino acids

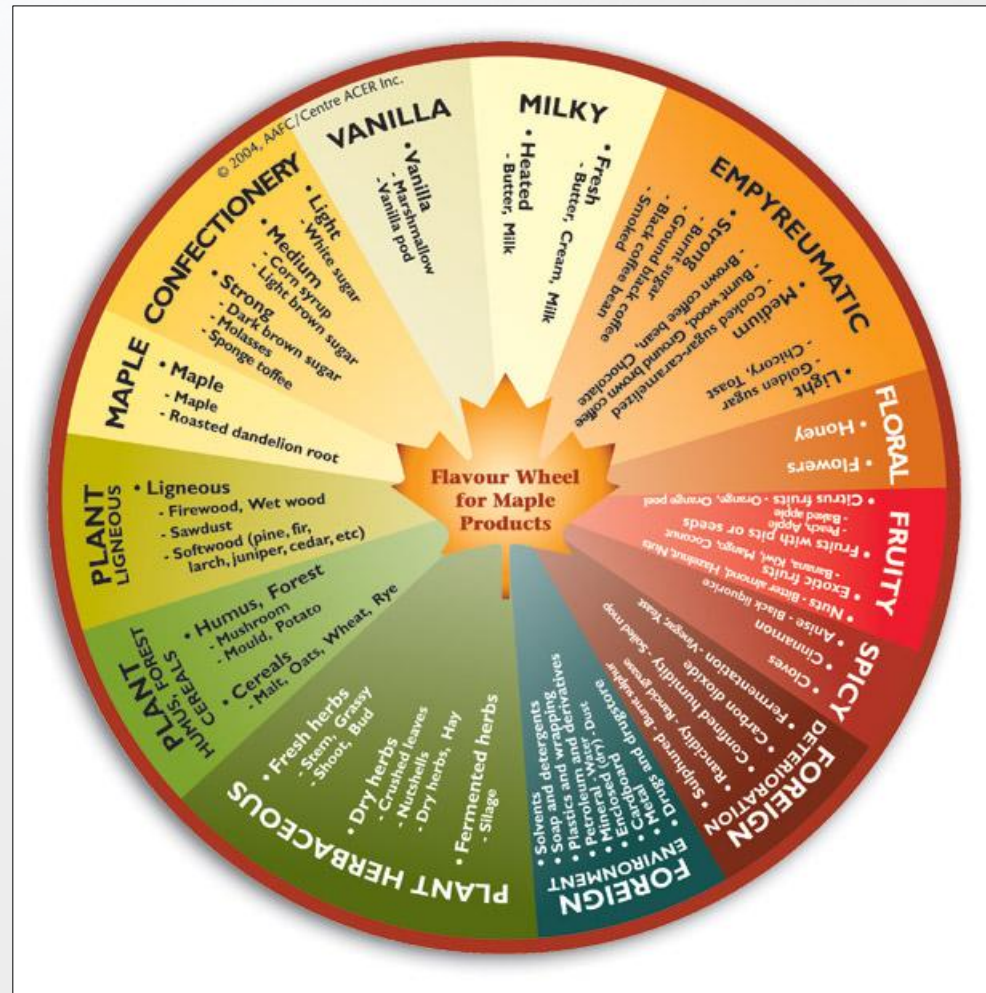
And so on...

Characteristic flavour of maple syrup

- Maple syrup represents a unique product by its colour and flavour
- Current vocabulary varies with taste and experience of tasters and is mainly focused on taste defects of maple syrup (grading system)
- There was a need to establish a scientific basis to accurately and credibly characterize maple syrup flavour

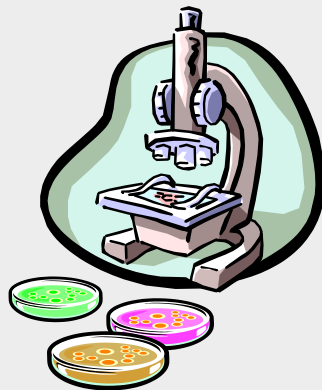
Flavour wheel for maple products

Flavour wheel for maple products



Flavour wheel for maple products

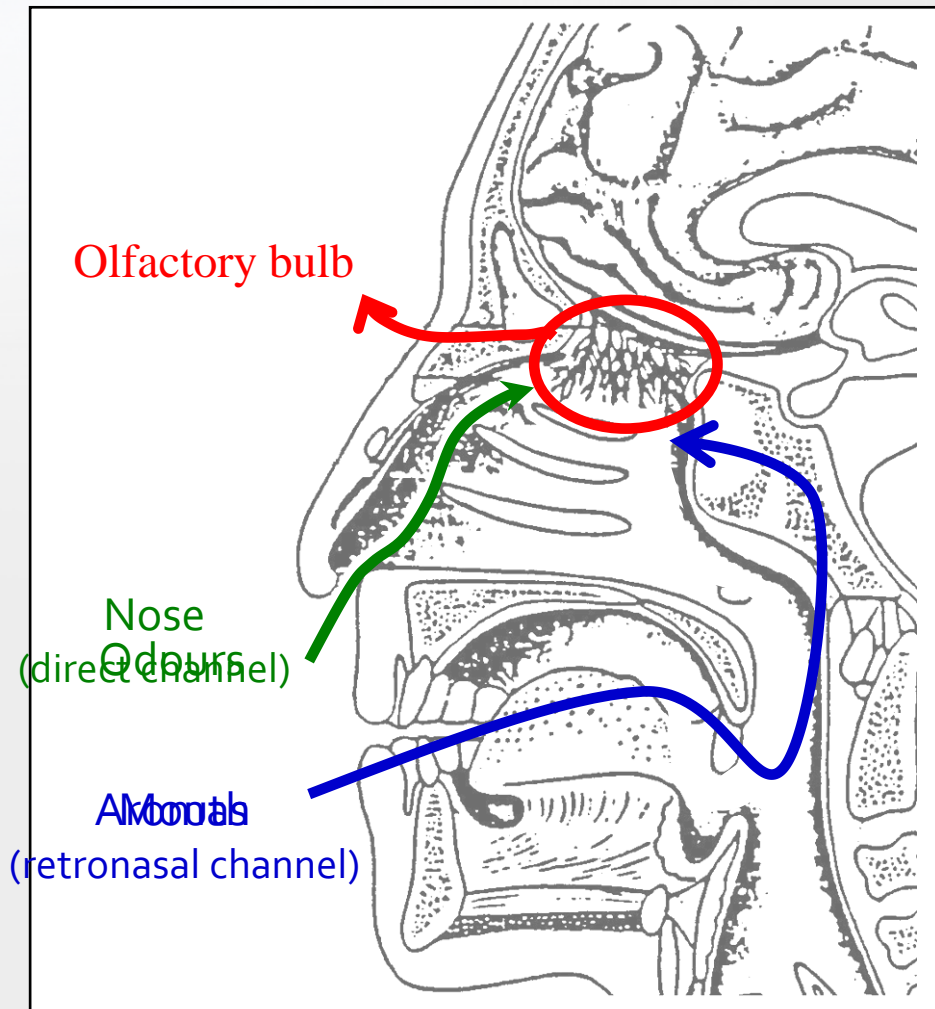
- **Research:** Explaining the maple flavour differences in terms of chemical composition and of processing parameters
- **Course:** Le sirop d'érable au goût du jour !
- **Workshops :** Initiation, in small groups, on how to taste maple syrup



What is sensory evaluation?

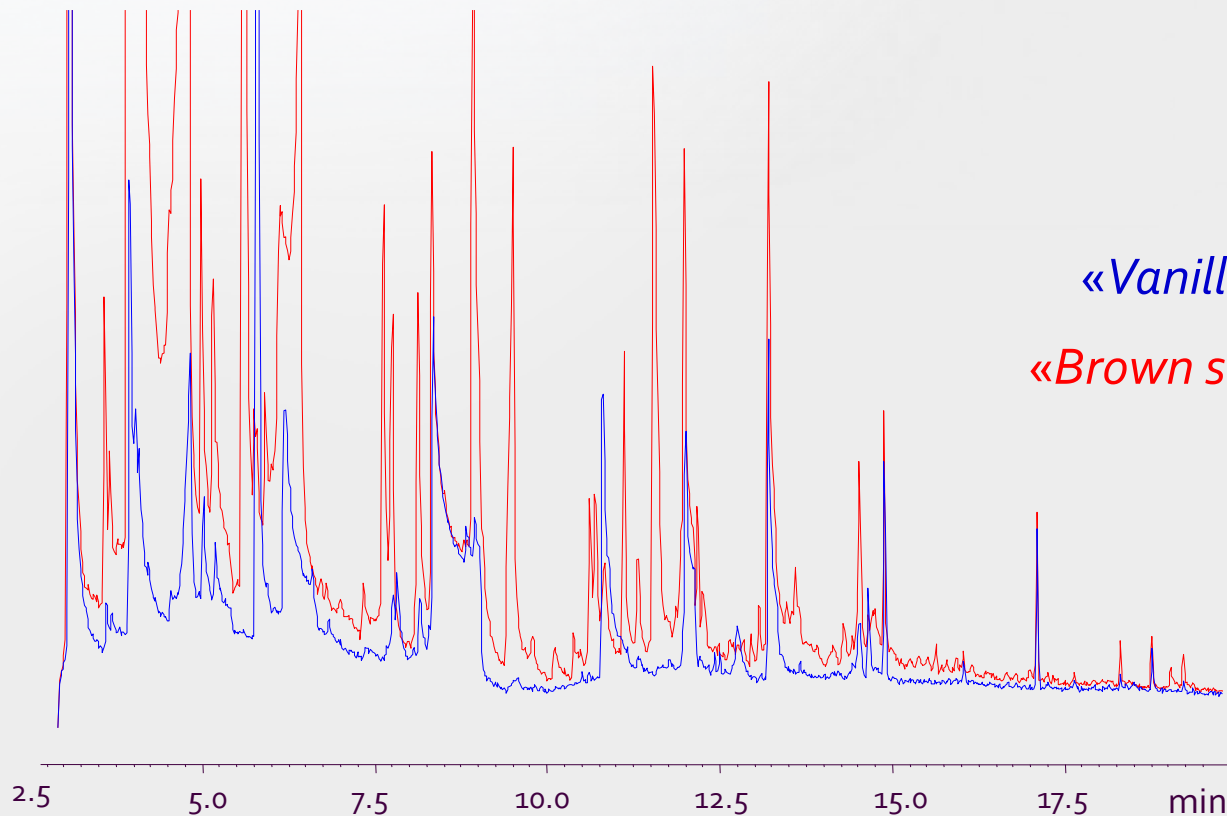
- It is a scientific discipline used to evoke, measure, analyze and interpret reactions to characteristics of foods and materials as they are perceived by the senses of sight, smell, taste, touch and hearing
- It uses a descriptive glossary and/or specific language, documented and standardized, to describe food flavours
- It is a useful tool to study various issues in R & D, production, marketing and more...

The perception of odorant molecules



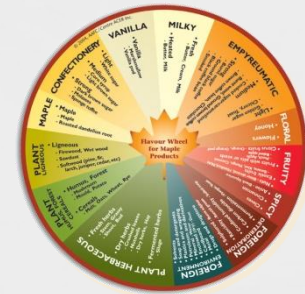
The identification of odorant molecules

HS-SPME-GC/MS



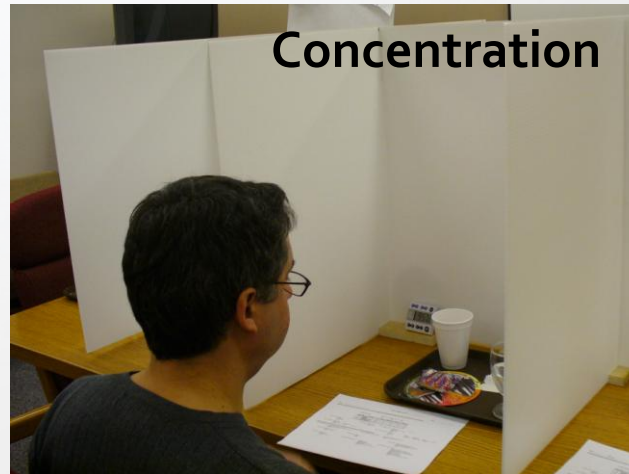
«Vanilla»

«Brown sugar»

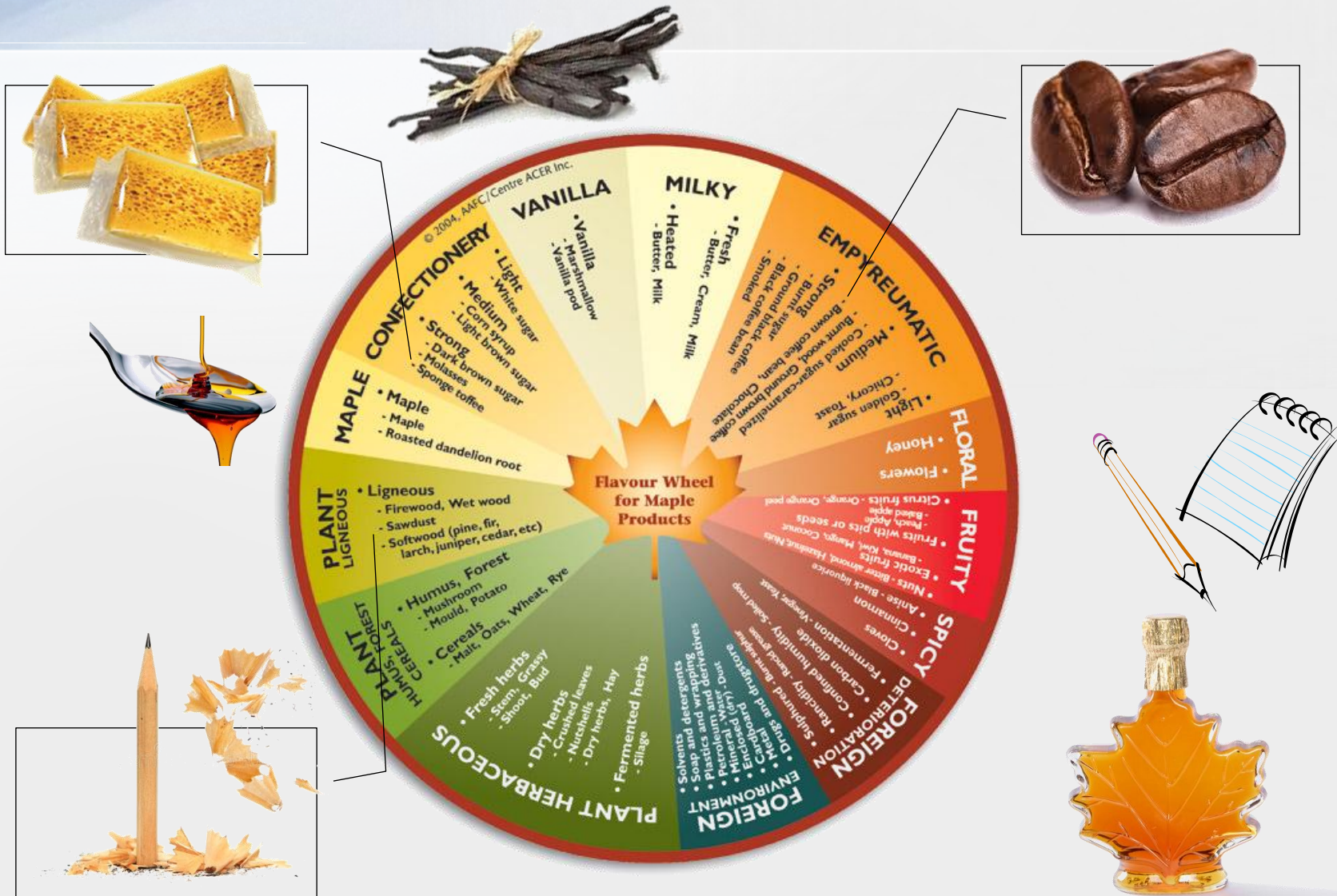




The tasting technique



And now, have fun...!



The Flavour wheel for maple products...

- Allows us to appreciate the richness of maple products
- Allows us to understand the variation sources of maple flavours
- Serves as a tool to assist the maple industry in evaluation of the quality
 - *Could be part of the quality management process*
 - *Could be part of the production records*

Thank you for sharing our passion!



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