



Sensory Evaluation

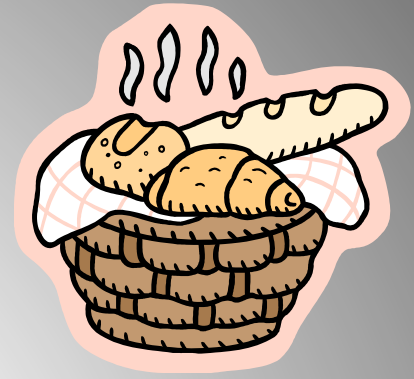


Why is it that when...

- You walk past the caf when you are hungry and your mouth waters from the smells...
 - You see the steam coming out of a cup of hot chocolate and you begin to think of warming your self up with one...

● You are watching TV with your friends, and you see a commercial for Wendy's. The next thing you want to do is hop in the car and grab a Bacon double cheeseburger. ..

What is SENSORY EVALUATION?



- The human analysis of the taste, feel, smell, sounds and appearance of food.
- We use our senses to evaluate everything around us every minute of the day.
 - Why do you think that humans are built to respond to smells and tastes?
- Although there are tools that can be used to measure mass and texture of food, no tools exist that can measure whether people will like or dislike a food. That's where people come in!

What Does This Mean to Us?



- As consumers and future members of the food science work force 😊, it is important to understand how food is marketed.
- Almost all foods are evaluated for human preferences. People get hired to taste foods so companies can get a real world feel for what people like and dislike.
- The reason that some foods “make it” and others don’t is based on preferences. Let’s see some examples!

Sensory Evaluation is used by companies....

- To improve the sensory quality of a product
- To ensure consistency between batches
- To understand how sensory characteristics influence consumer preferences
- To understand how their product performs against competitors' products
- To determine whether or not consumers can detect differences between products (e.g. changes in the product due to recipe modifications)
- To influence product listings with retailers
- To assist in the determination of the shelf-life of products (in conjunction with microbiological testing)



Influences on our tastes

- Certain factors add up to define foods as...
 - Typical “American” foods:
 - Pizza, sandwiches, burgers, salads, pasta, steak, chicken...
 - Typical foods that are ENJOYED in other parts of the world:
 - Snails, snake, horse, dog, raw fish eyes, bugs, seaweed...

*****Opinions about food are
SUBJECTIVE- meaning they are
affected by our personal views and
backgrounds*****

Biological Influences on Preferences

- People inherit slightly different body chemistries, and this affects people's perceptions of taste.
 - PTC Taste test strips - one person dislikes, the other can't taste a thing (~75% of the population dislikes the taste of PTC)
 - Colorblindness vs. Tastebblindness

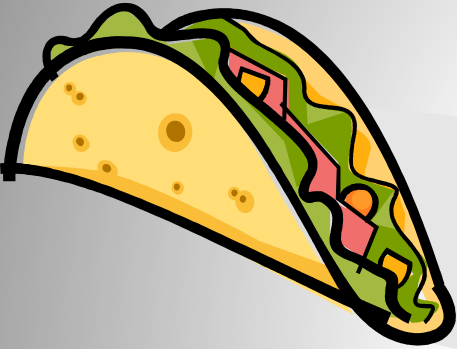


Your body's genetic makeup determines how well you can taste things!

Biological Influences Con't

- Factors that play a role in ability to detect flavors-
 - Number of taste buds, gender, health, age
- Three categories of tasters based on tastebuds-
 - Non-tasters - 40 tastebuds per square centimeter
 - Tasters - 200-500 tastebuds per square centimeter
 - Supertasters - Have as many as 1,100 tastebuds per square centimeter!!!

Psychological Influences on Preferences



- Food often becomes linked to unpleasant memories as children, and we grow up to detest that food
 - What foods can you not eat because of a bad childhood experience?
- Scientists believe that we “learn” to dislike foods that may have brought us harm or discomfort in the past.



Psychological Influences Con't

- Taste Bias- The resulting bias that we develop when we have either good or bad experiences with food.
- Other biases- We are often biased toward or against one brand. Advertising, peers, and setting influence this type of bias



Cultural Influences on Preferences

- Parts of culture that can influence food preferences - Region, religion, lifestyle, and holidays
- Examples of how culture can influence what people like???
 - Grits
 - Oysters
 - Horse
 - Bugs



EnVironmental Influences

- People are most likely to eat what is readily available and affordable based on their environment



Sensory Characteristics of Food Products

- Three main characteristics of food products:

- **APPEARANCE**
 - **FLAVOR**
 - **TEXTURE**

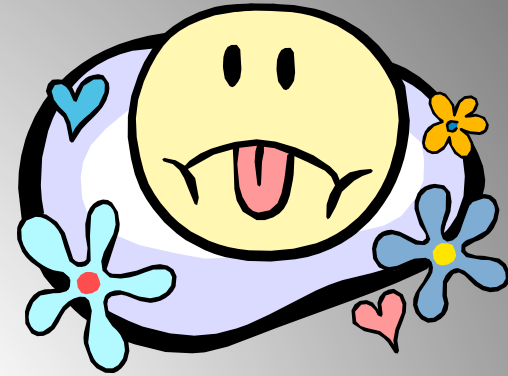


Appearance of Food

Color- can be measure scientifically using a colorimeter which measure the intensity and hue of the food. Bias is often avoided by using red colored lights in taste test panels. (Your eyes have trouble distinguishing between colors in red light).

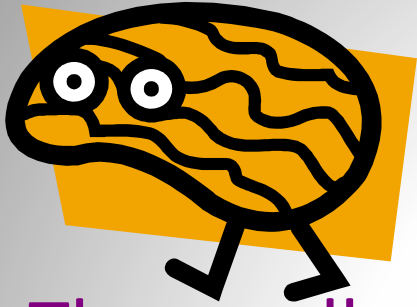


Flavor



- Flavor- The combined effect of taste and aroma.
 - Taste starts in the mouth with how your tastebuds perceive information.
 - Each region of the tongue responds to different tastes: sweet, sour, salty, bitter, and UMAMI??
 - How does this work???
 - Each food carries molecules that create the flavor. When the flavor molecule reached the tastebuds, if fits into the “correct” hole, you sense that taste.

How does smell impact flavor?



- The smell, or AROMA, of food impacts the flavor almost as much as the taste.
- Liking or disliking odors is related to our past experiences and genetic makeup.
- The brain registers the flavor of food as a combination of its aromas and the sweet, sour, bitter, and salty tastes that it carries.

Texture



- Texture: How the food feels to the tongue, fingers, teeth, and palate.
- Some examples of texture:
 - Chewiness, firmness, graininess, brittleness, consistency.
- Food texture can be measured objectively by measuring its resistance to force.

Blind Taste Test

- <https://www.youtube.com/watch?v=T2axfJKda84>
- (~10 minute video – Hell's Kitchen)