Food Quality & Palatability Factors
- Teacher Notes

Directions:
Fill in the blanks.

Food Quality Segment
1. Food Quality
   • Is the characteristics of food which are ______________ to consumers
   • Can be:
     – ______________
     – user based
     – manufacturer based
     – value based

2. Product Based Food Quality
   • Is focused on features or attributes of the product which enhance quality
     – example:
       • in milk 2% vs. 1% vs. fat free vs. whole milk
       • ______________ manufactured food products vs. ______________ manufactured products

3. Product Based Food Quality
   • Includes the following food aspects:
     – appearance
     – ______________
     – flavor
     – manufacturing ______________ used

4. User Based Food Quality
   • Is established by how the user, or end consumer, determines the quality of the product
     – can be a single person or a restaurant
   • Is defined by researchers as “______________”
     – example:
       • ready-to-eat microwavable dinners as opposed to other forms of ______________ dinners
5. Personal User Based Food Quality
• Is determined by an individual’s decision or choice of food quality
  – example:
    • buying _____________ vegetables instead of fresh vegetables
    • purchasing a low-fat microwave dinner instead of the _____________ to make the dinner

6. Restaurant User Based Food Quality
• Is usually determined by group decisions and is influenced by _____________
  – example:
    • a restaurant chef creating homemade, unique dishes with local ingredients
• Usually has _____________ standards to ensure customer satisfaction
  – example:
    • restaurant owner will not buy any ingredients with defects

7. Characteristics of User Based Food Quality
• Includes the following:
  – storage
    • type of food being stored, method of storage, duration of storage, _____________, temperature
  – end use of food
    • ingredient, eaten fresh and as-is, ready-to-eat meal
  – preference
    • fresh, processed, organic, premade, homemade
  – pest management
    • _____________ pests, correcting current pest problem

8. Manufacturer Based Quality
• Is established by a food’s conformity to specified and designated quality standards
  – the more closely _____________ can conform to those requirements the better quality the product
• Has many government guidelines to ensure a high quality product is _____________
Food Quality & Palatability Factors

- Teacher Notes

9. Government Quality Guidelines
• Ensure testing through each step of the food industry ______________
  – raw material
  – finished product
  – in-process tests
• Provide a basis for keeping proper records and ______________ of quality assurance

10. United States Department of Agriculture (USDA)
• Ensures the protection of the nation’s food supply
• Creates quality and safety ______________
• Formed the ______________ (FSIS) to ensure the meat, poultry and processed egg supply is safe and high quality

11. Quality Assurance
• Is the application of quality checks and procedures to immediately correct any failure which may reduce the ______________ of a product at every step of production
• Requires diverse ______________ and analytical skills

12. Quality Assurance Testing
• Is a set of activities designed to ensure all food making processes are ______________ to ensure the system as a whole is functioning properly
• Is carried out by conducting the following actions:
  – standard operating procedures
  – good manufacturing practice
  – ______________

13. Standard Operating Procedures (SOPs)
• Are a set of directions which must be followed to ensure food safety when completing tasks such as cooking or cooling a food or ______________ a work surface
• Should be used as a guide to establish a food safety program
• Include the following principles:
  – ______________
  – monitoring procedures
  – verification procedures
  – record keeping procedures
14. Corrective Actions
- Can include the following practices:
  - punishing an employee who does not follow SOP guidelines
  - rewashing or _____________ food contact surfaces
  - retraining employees over operating procedures
  - halting a production line for emergency cleaning or maintenance
  - recalling a product which is discovered to be _____________ or damaged in some way

15. Monitoring Procedures
- Can include the following processes:
  - visually and physically inspecting food contact surfaces of equipment and utensils
  - taking temperature readings of sanitizing and cleaning solutions
  - watching temperature and pressure _____________, if applicable, to ensure the machine is operating according to specifications
  - observing production lines to _____________ nothing goes wrong

16. Verification Procedures
- Can include the following actions:
  - confirming foodservice employees have taken the required temperatures and tested the sanitizer _____________ by visually monitoring foodservice employees during the shift
  - reviewing, initialing and dating the Food Contact Surfaces Cleaning and Sanitizing Log
  - keeping logs on file for at least _____________

17. Record Keeping Procedures
- Can include the following records:
  - Cooking and _____________ Log
  - Cooling Temperature Log
  - Food Contact Surfaces Cleaning and Sanitizing Log
  - Production Log
  - Receiving Log
  - _____________ Log
  - Thermometer Calibration Log
  - Food Safety Checklist
Food Quality & Palatability Factors

- Teacher Notes

18. Good Manufacturing Practices (GMPs)
- ______________ the methods, equipment, facilities and controls for producing processed foodstuffs
- Provide control over the safety of the nation’s food supply
- Cover the safe ______________ of foodstuffs from bottled drinking water to infant formula

19. Top Quality Management
- Is an approach to long-term success through customer ______________ which improves processes, products, services and working culture
- Foodstuffs must comply with desired and required ______________ sought out by management

20. Trouble Shooting
- Solves various problems caused by the following:
  – poor quality ______________
  – unreliable supplies
  – ______________ equipment
  – customer complaints
- Can keep a problem from repeating

21. Value Based Quality
- Is the ______________ of the price and worth of products and services
- Can impact food acceptability by placing more value on produce and meat which are raised using ______________ practices
  – higher worth in the mind of the consumer balances the high price of the item

Food Palatability Segment
1. Palatability
- Is how ______________ one finds a particular food
- Depends on the following senses:
  – taste
  – smell
  – texture
  – ______________
Food Quality & Palatability Factors
- Teacher Notes

2. Taste
• Is detected on the tongue and in the mouth through taste
– ____________
• Is composed of five basic ______________ zones
  – sweet
  – salty
  – sour
  – bitter
  – umami
Fun Fact: All receptor zones can taste every flavors, but tend to taste one more strongly than the others.

3. Taste Buds
• Are structures on the surface of the tongue and mouth which detect food ______________
• Consists of 50 to 100 specialized ______________ cells
• Allow signals to be transferred from the ends of nerve fibers to the specific parts of the brain which perceive taste
Fun Fact: Every person has between 5,000 and 10,000 taste buds in their mouths.

4. Umami
• Is a ______________ word meaning savory or tasty
• Is typically detected on taste receptors for L-glutamate
• Shares common glutamate compounds as ______________ (MSG)
  – umami is derived from naturally occurring glutamates such as tomatoes
Fun Fact: Umami was first scientifically discovered in 1908 by Kikunae Ikeda, an Imperial University of Tokyo chemist. Other scientists did not believe a fifth taste (umami) existed until 2002.

5. Smell
• Is detected in the nose and nasal cavity,
  – contains specialized ______________ neurons located in a small spot of the membrane lining the roof of the nose
• Is an olfactory response in our brains
• Can be intensified through the heating of ______________
  – such as baking a cake or pie
6. Olfactory Response
   • Processes include:
     1. odorants stimulate receptors on the ______________
     2. odorants stimulate more than one receptor and a single receptor
        interacts with more than one different odorant
     3. this pattern of activity is sent to the ______________, where other
        neurons are activated to form a perception of the odor
     4. these perceptions pass through the brain, influencing the flavor of
        a food

7. Taste & Smell

8. Food Texture
   • Is defined as the overall measure of oral ______________ associated
     with placing food in the mouth
     – also known as mouthfeel
   • Can significantly alter the palatability of a food
     – example: people perceive hard, rough-textured foods as lower in
       ______________ than soft, smooth ones
9. Food Appearance
• Is the ___________ effects of a food or its packaging
• Can greatly influence the palatability of a food
  – example: foods and packaging which are bright and colorful are more appealing to consumers than dark, dim colors because they are more healthy looking in ___________

10. Early Man
• Used taste as a key way of ___________ when eating foods
  – sweet taste meant energy providing carbohydrates
  – salty taste meant essential minerals
  – sour taste meant it was possibly going bad
  – bitter taste meant it was possibly ___________
  – umami taste meant it contained protein

11. Factors Affecting Meat Palatability
• Include:
  – species
    • red meat or ___________
  – breed
  – gender
    • female or male ___________
  – diet
    • grain-fed vs. grass-fed
  – age
    • veal vs. steak

12. More Factors Affecting Meat Palatability
• Include:
  – packaging
    • ___________, cling wrapped, etc.
  – fat
    • amount and type
  – ___________
    • location of the meat
  – aging
    • dry vs. wet
  – cooking methods
    • degree of doneness
13. Factors Affecting Plant Food Palatability
- Include:
  - protein content
  - sugar content
    - higher __________________
  - growth stage of the plant
    - maturity and ______________
  - environmental conditions
    - climate and soil

14. Flavor
- Is the perception of a food ______________ mainly by the information ______________ from aroma and taste

15. Flavor Chemistry
- Is the study of ______________ which elicit a flavor sensation produced from chemical compounds reacting with ______________ in the mouth and nasal cavities

16. Food Choice & Acceptability
- Can be discovered by thorough market research and consumer testing
- Is comprised of the following determinants:
  - biological
    - hunger, appetite, taste
  - economic
    - cost, income, ______________
  - physical
    - access, education, skills, time
  - social
    - culture, family, peers, meal patterns
  - ______________
    - mood, stress, attitudes, beliefs
17. Food Acceptability

- Spicy
- Metallic
- Amplitude
- Continuity
- Aroma
- Texture
- Temperature
- Color
- Shape
- Sound

18. Consumer Testing

- Ensures ______________ approve of quality and palatability of a product through various testing methods
- Includes:
  - market ______________
  - focus groups
  - consumer panels

19. Market Research

- Is the action or process of gathering and ______________ information about consumers’ needs and preferences to understand which products and services are in demand
- Can be carried out through ______________ which already exist
- Can be carried out through surveys
20. Focus Groups
• Are controlled groups of consumers judging the effectiveness of marketing ____________ used in things such as radio and TV ads
• Allow food industry manufacturers and producers to create consumer aimed marketing based on suggestions of real ____________

21. Consumer Panels
• Are groups of consumers in specific areas of ____________, recruited by research companies and agencies who are used to answer specific research relating to product testing, ____________, ad testing or other areas
Fun Fact: Consumer panels work best for short, quick surveys, where the consumers are those with specialist knowledge rather than someone of the general population.