



FDE443 SENSORY ANALYSIS

Lesson-6

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Product and Panel Controls

Product controls

- ✓ In a sensory evaluation, panel leader is generally interested in some treatment effect:
 - effect of an ingredient change
 - effect of a processing variable
 - effect of a packaging change
 - effect of a storage variable, etc.

Product controls

- ✓ To control the early handling, the preparation, and the presentation for each product is essential.
- ✓ The preparation area should be situated adjacent to the test area.
- ✓ The air handling system should be structured so that the test area has positive pressure which feeds into the preparation area.

Product controls- Sample Preparation

Supplies and Equipment

- Scales, for weighing products and ingredients
- Glassware, for measurement and storage of products
- Timers, for monitoring of preparation procedures
- Stainless steel equipment, for mixing and storing products, etc.





The science of Specialty Coffee
SENSORY LAB¹

MAKING SENSE OF THE LAB
Come on in! We don't bite.
So, how does this work?
It's dead easy. ☺
☺ If you are after a take-away
just head out to the window.
☺ Just want a coffee?
- Take a seat anywhere you like,
and we'll come see you!
☺ Wanna know what we are doing?
They're around here ☺
and we'll explain everything ☺

Product controls- Sample Preparation

Materials

- ✓ Equipment- to reduce the introduction of biases and new variables.
- ✓ **Plastics:** Most plastic cutlery, storage containers, and wraps or bags are unsuitable for preparation of foods, beverages, or personal care products.
 - ✓ The transfer of volatiles to and from the plastic can change the aroma and/or flavor characteristics of a product.

Product controls- Sample Preparation

Materials

- ✓ Equipment- to reduce the introduction of biases and new variables.
- ✓ **Wooden materials:** should not be used for cutting boards, bowls, mixing utensils, or pastry boards.
 - ✓ Because they are porous and absorb aqueous and oil-based materials, these materials might be transferred from the wood to the next product when it contacts.

Product controls- Sample Preparation

Materials

- ✓ Containers used for storage, preparation, or serving;
 - ✓ glass
 - ✓ glazed china or
 - ✓ stainless steel

- ✓ Plastic (pretested for low odor transfer) should be used only when the test product will be held for less than 10 min in the container during and prior to the test.

Product controls- Sample Preparation

Preparation Procedures

- ✓ The controlled preparation of products:
 - Amount of product to be used, measured by weight or volume using precise equipment (volumetric cylinders, gram scales, etc.)
 - Amount of each added ingredient
 - The process of preparation, regulation of time (stopwatch), temperature (thermometers, thermocouples), rates of agitation (rpm), size, and type of preparation equipment
 - Holding time

Product controls-Sample Presentation

Container, Sample Size, and Other Particulars

- **Serving containers**
- **Serving size**
- **Serving matrix**
- **Serving temperature**

Product controls-Sample Presentation

Serving containers

- ✓ Preferably glass or glazed china, not plastic unless tested.

Serving size

- ✓ The precise amount of product
- ✓ The correct amount of product with the least amount of handling
- ✓ Special equipment for measuring precise amounts of a product

Product controls-Sample Presentation

Serving matrix

- ✓ In most of the difference tests, the product is presented without additives.
- ✓ Products such as coffee, tea, peanut butter, vegetables, meats, etc.
 - ✓ are served without condiments
 - ✓ or other adjuncts that may normally be used by consumers, such as milk, bread, butter, spices, etc.



Product controls-Sample Presentation

Serving matrix

- ✓ For consumer tests (preference/acceptance tests), products should be presented as normally consumed (according to the consumer's preference):
 - coffee or tea with milk, sugar, or lemon, as required
 - peanut butter with bread or crackers
 - vegetables and meat with spices



Product controls-Sample Presentation

Serving matrix

- ✓ Products in general consumed *in* or *on* other products (condiments, dressings, sauces, etc.) need to be tested in or on a uniform carrier

- ✓ Examples;
 - flour roux (a cooked flour-and-water base used for sauces)
 - fondant (sugared candy base)
 - sweetened milk (for vanilla and similar spices and flavorings)