

Tasty Visions



Does what you see influence what you taste? Design an experiment to test the effect of color or appearance on taste. Visit <http://faculty.washington.edu/chudler/coltaste.html> to get some ideas about the types of experiments that have been done. You can try one of those in a slightly modified format or make up one of your own.

For example:

DuBose et al., Effects of colorants and flavorants on identification, perceived flavor intensity, and hedonic quality of fruit-flavored beverages and cake. *Journal of Food Science*, 45:1393-1399, 1415, 1980.

Cherry, lemon-lime and orange drinks and a "no-flavor" drink were colored either red, orange, green or given no color. Also, a solid food was tested: a white cake with added yellow coloring and lemon flavor. Conclusions:

1. Flavor Identification: it was easier for the subjects to identify the correct flavor when the drink had the expected color. People made errors toward the taste that were expected for a particular color. For example, an orange-colored drink that was really cherry-flavored was often thought to taste like an orange drink; a green colored cherry drink would taste like lime.
2. Acceptability: As the intensity of the color increased, the "acceptability" for the cherry and orange drinks went up. However, if there was too much color, people did not like the drinks.
3. Flavor Intensity: subjects thought that the drinks with more color tasted stronger.
4. If the cake had no added lemon flavoring, the yellow color made the cake more acceptable. People did not like too much yellow color in the cake. Cakes with more yellow coloring were thought to have more lemon flavoring.

Roth, H.A., et al., Psychological relationships between perceived sweetness and color in lemon- and lime-flavored drinks. *Journal of Food Science*, 53:1116-1119, 1988. Subjects were between 20-25 years old. Five different sweetness levels and five different colors of lemon and lime drinks were used. As the color of a drink became more intense, people reported that the drink became more sweet.

So What?

So, color may influence the taste of food. Why is this important? These experiments are important to scientists who are studying how vision interacts with taste and odor. It is apparent that color can affect the perception of foods and drinks. It is likely that people learn and become familiar with specific combinations of colors and tastes. These learned associations may alter our perceptions and create expectations about how a food should smell and taste. The mechanisms that underlie these interactions are not known.

Food and drink companies are also very interested in the results of these experiments. It is important for companies to know how their products are perceived by consumers. Companies work very hard to make their foods and drinks the most desirable so they can sell more product. Companies are always looking for ways to make their products more appealing to consumers. If changing the color of a food or drink can sell more product, you can be sure that the company will make the change.

Food companies regularly add color or odors to food to influence what it tastes/smells like,

since people like to see foods in colors that they expect and expect certain foods to smell a certain way.

Procedure: be very specific



Data: include data table, statistical analysis and graphs

Conclusion: be sure relate to previous research

