

## Case Study on Taste: Citrus Fruit

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The Five Senses

To evaluate the sense of taste, an experiment was set up with a few informants to test their reactions toward a variety of citrus fruits. The informants, L. Rain, B. Tanner, and C. Reyland, were placed together in the setting of a clean kitchen, with absolutely no distractions. They were given five different types of sliced citrus fruit to try: a navel orange, minneola tangelo, red grapefruit, lemon, and lime.

The first fruit to be tested was the navel orange. L. appeared to be the only informant to really enjoy this fruit, as he smiled throughout the duration of his consumption. Whereas, C. seemed to be most displeased with the navel orange, as she held slightly furrowed brows and a slight frown. B. even stated before he began that he “doesn’t even really like oranges,” and grimaced with the realization that his hands would smell like oranges after this test. Upon this display, I inquired further about C. and B.’s displeasure. C. stated that she liked the juice of the fruit, but not the white pericarp (the white, threadlike part of citrus) and flesh of the actual fruit, claiming that it makes for a bad texture. She additionally did not enjoy the stickiness caused by the fruit, and had gotten up several times during the entire study to wash her hands free of sticky citrus juice. B. had no problem with the texture or pulp; for him, it was the smell and actual taste of oranges that caused a negative reaction. In fact, he mentioned his preference for processed orange juice because of its sweeter taste in comparison to the actual orange fruit. In stark contrast, L. claimed to love the fruit in all of its entirety, especially the pulp. He finds the pulp to be extremely satisfactory in texture, therefore, he often buys orange juice with extra pulp. Despite these different reactions, all of the informants came to an agreement that this particular orange was a little sour in taste.

About half the size of the navel orange, was the minneola tangelo. Upon the first bite, C. immediately exclaimed it to be “disgusting,” and continued to repeat that word in regard to the fruit. All informants agreed that the fruit tasted very sweet, a factor that seemed to especially displease C., for she thought the tangelo tasted *too* sweet. B. stated that it was “not as gross as the navel orange,” while C. favored the orange over the tangelo. L., however, enjoyed the tangelo, as seen by his apparent smile. He noticed that the pericarp and seeds in this fruit were more intrusive than in the orange, and overall, would prefer the orange over the tangelo.

In transition to the red grapefruit, B. and C. were incredibly happy to move on. B. appeared to be very content, and stated that grapefruit was one of his favorite fruits in both taste and smell. C. appeared to be disappointed after tasting her slice, and claimed that the fruit “was a bad grapefruit with a chemical flavor.” Upon hearing this, there was a small debate between B. and C., in which B. claimed that it was “the sweetest grapefruit he’d ever had.” C. mentioned that it left a potent taste on her tongue, and that it needed a spoonful of sugar. L., on the other hand, felt that it tasted “sweet and good” at first, but then left a bitter aftertaste. He felt like he “licked a kitchen sponge,” and also made note of the fruit’s similar scent to hand soap.

Next was the lime, which C. fully enjoyed. She noted its pleasing scent and taste, as well as a tingly feeling on her tongue (most likely due to the abundance of citrus fruit consumption). B. also enjoyed it, but would have preferred to have some salt on his. Although he did like the taste and scent, he stated that it was difficult to eat a lime after a grapefruit. L. was more hesitant to try the lime, and when he did take his first bite, he had a strong facial reaction to the sourness which caused him to scrunch up his entire

face. He enjoyed the sweet smell of the lime, but the sour taste felt like “small shocks were being sent to his jaw.”

The lemon was last, which C. was especially excited for. The excitement vanished when C. took her first bite, made a pucker face, and shrieked from the sourness. Despite this reaction, C. claimed that it was satisfactory and tasted like a warhead. In fact, the lemon was C.'s favorite, as she often eats them either raw or in lemon water. B. maintained a calm expression and stated that the lemon was delicious and sweet. L. also made a pucker face, and stuck his tongue out from the sourness of the lemon. He acknowledged the lemon as his “least favorite.”

For the next half of this study, the informants were given the same citrus fruits to try, but with their senses of sight and smell removed. Each informant was tested on individually, with a blindfold and nose plugs, without the knowledge of which order of fruits they would be trying. The only senses available for them to use were their hearing, taste, and touch.

C. was the first informant to experience two removed senses, and instantly noted the ease of this experience, since she does not normally “like the look of the fruit.” The entire experience was made better without her vision and smell, and even helped in making the fruit taste better. She was able to recognize which fruit she was eating, but noticed that the removal of two of her senses made the fruit seem to taste sweeter. The most interesting part of this test was during the last piece of fruit being tested, the lime. I had written down for L. to retrieve the lime, but B. suggested to do the lemon again. C. was listening to our hesitancy and started to nervously ask what was going on. L. retrieved the lime, but before handing it to C., started opening and closing random

cabinet doors to make it sound like C. would not be consuming just a plain lime. C. in response, demanded to know what was being put on the fruit, even though nothing was being placed on the lime. C. hesitantly took her first bite, and claimed that it “tasted suspicious,” and drew herself back from the fruit to ask what was on it. When told that nothing was on it, she realized that it tasted like a simple lime.

B. was next, and utilized his hearing and touch senses to his advantage. He was able to successfully identify the fruits based on the size of the slices, and the texture and pore sizes of the individual rinds of the fruit. In terms of visualization, touching the fruit helped him picture which fruit it could be in his mind. Whereas, C. did not experience any visualization of the fruit in her mind with the removal of her sight. Regarding taste, B. stated that the lemon and lime remained the same, while the other three fruits tasted sweeter than they did initially.

Lastly, L. was also able to successfully guess each fruit. He had some interesting visual experiences with the sourer fruit even with his lack of sight. With the lime, he again facially reacted with a pucker face, but also mentally pictured white dots in correlation to the bursts of sour taste. When he tried the lemon, the sourest in his opinion, his internal vision seemed to get brighter, almost white. These visual experiences did not occur with the other fruit, but L. was able to focus more on the textures of the pulp and flesh this time, which he enjoyed. The most intriguing fruit with two senses removed was the tangelo, because to L., “it felt like a new fruit.” It was the one fruit that drastically changed in taste for him.

With these results in mind, it is clear that the fruits most enjoyed by the informants were ones in which they most commonly consume in their everyday life.

Citrus fruit can tend to have very intense flavors that can be hard to enjoy on its own, unless it's regularly ingested. L. had a difficult time with the sourness of the lemon and lime as it is something he never had raw. Additionally, the claims of disgust factoring into one's perception of something is proven true in this study. Regarding all of the fruits, C. disliked the slimy appearance and feeling of them, and only had a better experience when her sense of vision was taken away. All of the fruits seemed to taste better since she was more focused on the taste of the fruit, rather than how it visually appeared. It was also proven that everyone has different visualization processes. With the removed sense of sight, B. was still able to "see" the fruit in his mind from what he felt in his hands. L. was able to visualize the sensation of the sourness of the lemon and lime, while C. had no prominent visual experience. This goes to show that one does not need to rely on sight, in order to visualize.