Standard Laboratory Operating Procedure #1105
Triangle Taste Test

Laboratory: Biotechnology **Location**: GI, RM 129
SOP prepared by: R. Sanders and B. Wolfe **Last Revision:** 5/31/2014

General: Using the scientific method, students can learn about sensory science to see how interpretation of foods can be analyzed and used for improvements in the food industry. Sensory science can investigate how individuals react to a product's looks, taste, texture, smell or sound. A triangle sensory test allows researchers to distinguish ***if*** there is any sensory difference between 2 items. Items to be tested are labeled in a code and presented to the test participants in random arrangements of 3's. The common six different orders of samples are used: AAB, ABA, BAA, BBA, BAB and ABB. Once the participants taste each sample, they are asked to distinguish the one that is different. This type of test must be controlled and not include any bias or distractions that might affect the participants decisions.

Safety: N/A

Materials:

Sample A	Water
Sample B	Preference Taste Ballot
Plastic Cups	Triangle Taste Test Cards

Procedure:

1. Working in pairs, each team member must receive a Triangle Taste Test Card from instructor and a Triangle Taste Test Ballot. Make sure to write the Test Card number on the ballot to keep track of sample order.
2. Number 3 plastic cups 1-3.
3. Using a graduated cylinder or serological pipette, measure 20 mL of fruit smoothie samples and place into appropriately labeled plastic cups based on the arrangement given on the card.
    a. For example, if card reads AAB, then add 20mL of sample A to cup #1, add 20mL of sample A to cup #2 and add 20mL of sample B to cup #3.
4. Once cups are in arrangement per the card, give the samples to your partner to taste the samples going from left to right. Remind tasters to not drink all the samples at once, in case they need to go back and sample again.

5. Also, panelists need to cleanse their pallet by drinking water in between each sample.
6. Record which sample tasted different from the other 2 samples on the taste ballot.
7. Scientists are usually satisfied with 95% significance of the selected sample as in the preference taste test. Since getting correct responses with the triangle taste test may be difficult (depending on how similar the samples taste), 80% significance may be the best outcome and is reported. See Table below to compare your classmates results:

Number of Testers	Number of correct responses (choosing sample that is different) needed for 80% significance	Number of correct responses (choosing sample that is different) needed 95% significance
6	4	5
8	5	6
10	6	7
12	6	8
15	8	9
20	9	11
25	11	13
30	13	15
35	15	17
40	17	19

Per Taste This!-Developed by *Fighting with Food,* SEPA NIH Grant