Plenish® of ways to use oil

Browning of Potato Chips and Sensory Evaluation

In this lab, students will compare the frying performance of convention vegetable (soybean) oil to Plenish® high oleic oil.

Materials:

2 potatoes of about equal size per group
Mandolin slicer*
3 large containers/beakers (1000ml or larger)
Deep fryer
Plenish® Soybean oil
Soybean oil (Vegetable Oil)
Table sugar (sucrose)
Lysine (Amino Acid)
Saran wrap
Paper towels
Baking sheet/Paper Plate

*Note: Please use caution when slicing potatoes. Blades on mandolins are very sharp! The reason for using a mandolin is that the slices will be uniform in thickness.

Potato Prep for Frying:

1. Wash potatoes, then slice each potato with a mandolin slicer*.
2. Label three 250 ml beakers or plastic cups as follows: control, sucrose, and sucrose + amino acid
3. Make a 3% solution of sucrose and 4% lysine (mixing 3 parts sucrose with 97 parts water and 4 parts lysine with 96 parts water) **
4. Equally distribute the sliced potatoes into each beaker or plastic cup.
5. Add enough of the test solution to each appropriately labeled beaker/cup ensuring the potatoes are completely submerged.
6. Using saran wrap, cover each beaker/cup and place in the refrigerator over night.

**Note: This could be done by the teacher before the lab for each group to use.

Frying of Potatoes:

1. Place 2300 ml (2.3L) of soybean oil into the fryer and turn on to 350 °F. (or enough oil to cover the fry basket)
2. Carefully place the control potatoes into the fryer, ensuring they are separated out in fryer tray.
3. Once the chips appear brown and begin to float to the top (4-5 min), skim the chips onto a paper plate and allow to cool.
4. Repeat steps 2-3 with each trial and other soybean oil type.

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Sensory Evaluation

Visually observe the chips from each potato and record the appearance in the tables below:

Conventional Soybean Oil			
	Control	Sucrose	Sucrose + Amino Acid
Appearance			
Texture			
Smell			
Flavor			
Overall Preference			

Plenish® Soybean Oil			
	Control	Sucrose	Sucrose + Amino Acid
Appearance			
Texture			
Smell			
Flavor			
Overall Preference			