Learning activity 2

Deep frying of French fries with different fats

**Objective**

To investigate the changes in different fats after deep frying and how they affect the flavour and appearance of food cooked.

**Principle**

Different fats have different smoke points. When heating the fat with temperature higher than its smoke point, fats begins to smoke. The release of free glycerol is followed by the breakdown of glycerol to acrolein which has offensive odour. Some fats will get darken and smoke excessively while food is greasy.

**Equipment & materials**

|  |  |
| --- | --- |
| **Equipment** | **Materials** |
| Scale  Small deep fryer / saucepan  Thermometer  Slotted tongs | French fries 35g x 3 (105g)  Melted Butter 200ml  Canola oil 200ml  Peanut oil 200ml  kitchen paper |

**Procedure**

1. Heat 200ml butter in a saucepan until 150oC.
2. Add 35g French fries and cook for 4 minutes.
3. Remove French fries with slotted tongs and drain.
4. Record the appearance, aroma of French fries and observe the changes of oil.

Repeat Step 1 – 4 with canola oil and peanut oil respectively.

**Results**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of fats** | **Colour of oil** | | **Smoke** | **Appearance of French fries** | **Texture, aroma of French fries** |
| **Before frying** | **After frying** | **During frying**  **Y/N**  **if yes,**  **record oC** |  |  |
| Butter |  |  |  |  |  |
| Canola oil |  |  |  |  |  |
| Peanut oil |  |  |  |  |  |

**Questions**

1. Which, if any, of the fats starts to smoke during cooking?
2. Which, if any, of the fats changes colour after heating?
3. Which sample of French fries is the most crispy?