

Let's See the C

Ingredients

For the cake

- 3 large eggs at room temperature
- 1¼ cups sugar
- 1 cup orange juice (squeezed or fresh; you can enhance the taste with frozen orange juice concentrate)
- 2 teaspoons baking powder
- 2 cups flour
- ¾ cup canola oil

For the solution

- ¼ cup cold water
- ¾ cup hot water
- 1 teaspoon potato flour
- Iodine solution (known as Polydine and sold in pharmacies)

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The experiment

Making the cake

1. Preheat oven to 180°C.
2. Beat together eggs and sugar, until the mixture is light and fluffy. Add the oil slowly, while beating.
3. Continue beating, gradually adding the orange juice alternately
4. with the flour and baking powder, until the batter is uniform. Remove one tablespoon of the cake batter and place it in a small plate to check for the presence of vitamin C prior to baking.
5. Transfer the rest of the batter to two loaf pans and bake for
6. about 40 minutes.
Optional: Prepare fruit syrup by dissolving two tablespoons of
7. sugar in $\frac{1}{3}$ of a cup of orange juice, and pour it over the cakes while they are still warm.

Preparing the solution and checking for the presence of vitamin C

1. Make the starch solution from 1 teaspoon of potato flour and 1 cup of water. Start by adding the flour to $\frac{1}{4}$ cup of cold water and mix. Then add hot water until the cup is full.
2. To test for the presence of vitamin C in the unbaked batter: In a small bowl, add one teaspoon of the starch solution to the tablespoon of cake batter, as well as a few drops of the iodine solution. A blue color will initially appear, but will disappear completely in a short time because there is enough vitamin C.
3. When the cake is ready, take a slice from it. Pour over the slice a teaspoon of the starch solution and a few drops of the iodine solution. A blue color will appear, then gradually disappear, although not completely - because some of the vitamin C is degraded.