



Experimental instructions for the preparation of oat drinks

Basically, domestic production can be chosen from two variants. The simplest type of production takes place without enzymatic treatment, the other variant with. In order to compare the taste of the two beverages, a test was developed that covers both variants. No hazardous substances are used and the products are to be consumed.

It can be carried out in a kitchen or other room with a hotplate. To minimize the potential danger, only the cold water / oatmeal mixture is pureed.

For the second variante, half of the part of the product from the first part is used.

Textile cloths made of fine cotton or nylon are suitable for filtering, paper filters do not work!

The enzyme solutions N1 and N2 were purchased from Nectarbar [Eco Shop](#)

Apart from the final taste test, the increase in viscosity due to the gelatinization reaction can be observed during heating.

Duration of the experiment: approx. 60 min

Cost for 1 liter: 65 Cents

Part 1: Preparation of an oat drink without the addition of enzymes

Ingredients: 100g flowery or kernel oat flakes, 1000 ml water, 0.5 g salt

Material: vessel 2000 ml, ice bath (suitable for 2000 ml vessel), hand blender, measuring cup 1000 ml,

Scale, tablespoon, teaspoon, small bowl for weighing the salt, cooking pot or beaker

(capacity > 500 ml), cotton cloth for filtering, funnel, vessel (capacity > 500 ml)

div. cups or mugs for tasting

In the absence of a scale, 100 g of oat flakes is equal to 16 level tablespoons

Implementation:

- 100 g of oat flakes are added to the 2000 ml vessel together with 1000 ml of water.
- The vessel is placed in the ice bath. The mixture is pureed with the hand blender for 3 min.
- Half of the product (approx. 500 ml) is transferred to a saucepan or beaker and used for the second part of the experiment.
- The other half is filtered through a cloth and 0.5 g of salt is added.

Part 2: Production of an oat drink using enzymes

Ingredients and material: enzyme solutions, hot plate, cooking spoon, 0.5 g salt, vessel (> 500 ml),

Thermometer, various cups or mugs for tasting

From part 1: oat product, 2 pipettes, funnel, cotton cloth for filtering, balance, small bowl, teaspoon

Implementation:

- The pureed product from part 1 is heated to 74 °C with continuous stirring and then separated from taken from the stove top.
- 1 drop of enzyme solution N1 is added while stirring.
- Wait until the liquid has cooled down to approx. 60 °C. Stir in between.
- Add 1 drop of enzyme solution N2 while stirring.
- The mixture continues to cool, stirring in between.
- At approx. 40 °C, the mixture can be filtered through the cloth.
- Add 0.5 g of salt and mix well once again.

Experiment instructions and video by Nicole Voss comparing cow's milk and oat milk. Bachelor thesis University of Bremen, August 2021