



BreAd making

Ingredients (to make 250gr)

- 190 grams of flour,
- 7,5 grams of baker's yeast,
- half a tablespoon of salt,
- 100 ml. of warm water and
- if you want, a pinch of sugar.

preparation

- Preparation starts by making a flour volcano and put the salt into the crater.
- If you have decided to use a little sugar, mix it with the yeast and then just mix it with the warm water and incorporate it over the flour.
- Mix until you get a paste that is firm and sticky, then, prepare the work surface and flour it.
- Arrange the dough on it and start to knead it until you see that it stays elastic and shiny.



- When you see that the dough is already ready, form a ball and cover it with a cloth.
- Let it rest until you see that it doubles its volume, depending on the temperature and humidity, it will take between 1 and 2 hours.
- Now you will check if the dough is already ready, press the dough with one finger and if your fingerprint stays a few moments, it is ready
- Add the seeds you want now.
- You can now prepare the bread for baking. Give it the desired shape and make a few incisions on the surface, to your liking.

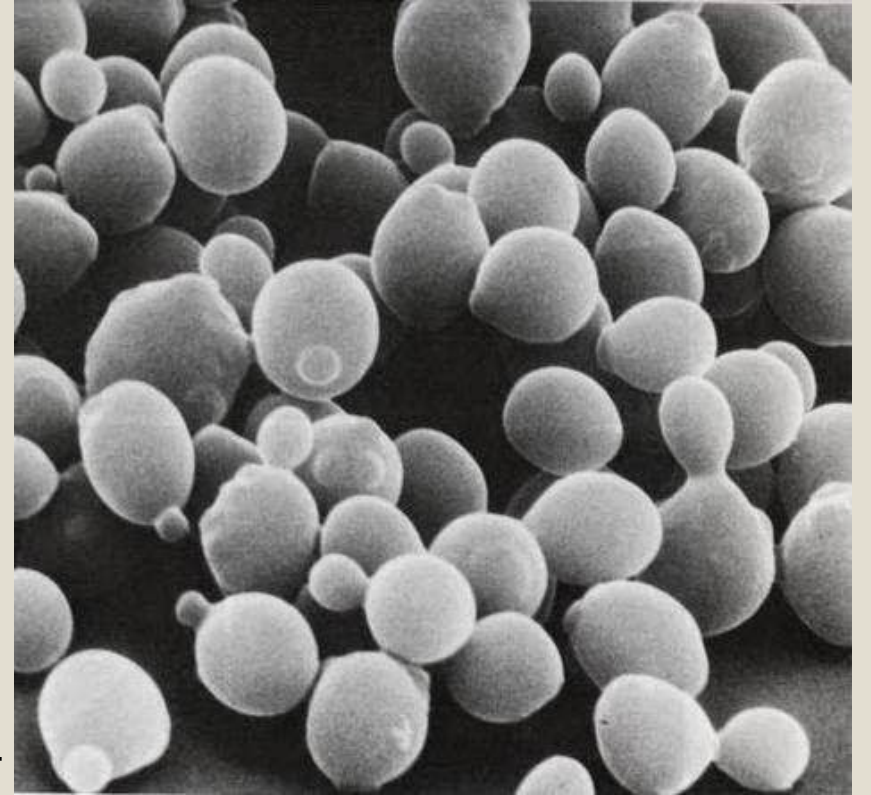


- The oven should be preheated to 220° C and you should put a container with water to give it moisture.
- Introduce the bread, after 20 minutes, take out the water and let it bake 15 minutes more.
- Then also reduce the temperature to 190° C and maintain it during the rest of cooking.



explanation

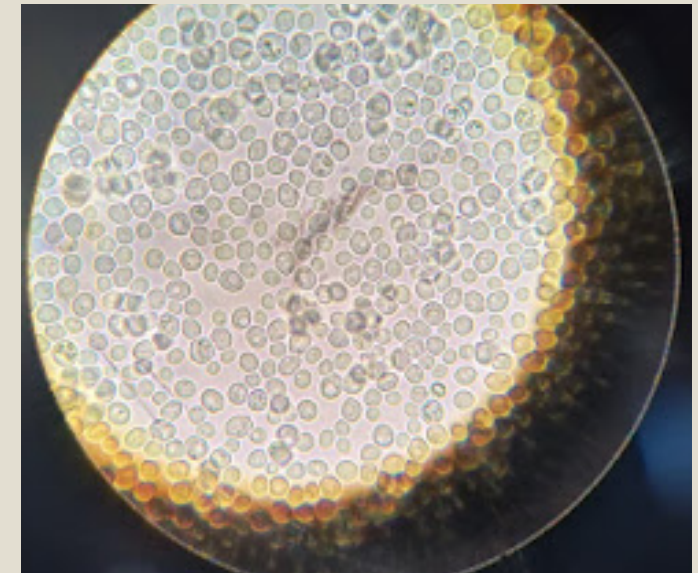
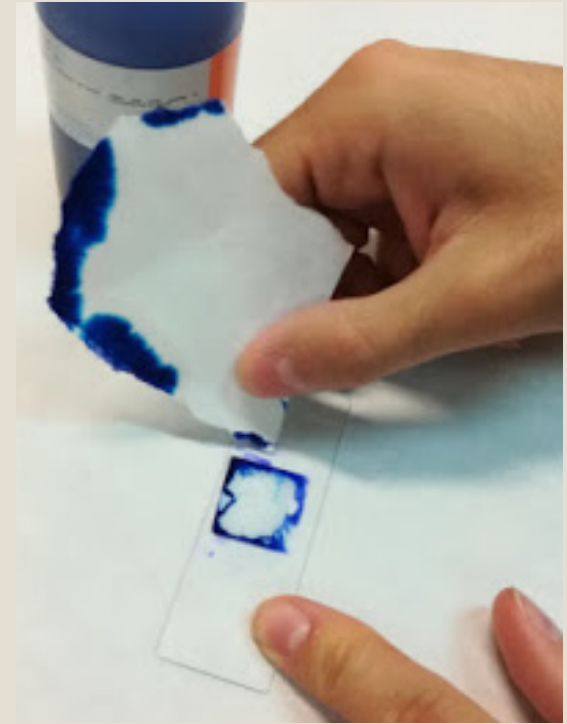
- Yeast is a fungus and therefore is heterotrophic.
- It feeds on flour sugar, which is **starch** and expels **carbon dioxide** and **alcohol**.
- The gas forms the bubbles in the bread, so it increases in volume, while the alcohol evaporates with cooking and the yeast dies.



Yeast observation under a microscope

◦ Procedure:

- We carry out the mixing of the distilled water with the yeast with the help of the spatula in a beaker.
- When we achieve a homogeneous mixture we place a drop on a slide and place a coverslip on top.
- We perform your observation under a microscope with different magnifications.
- Finally we dye the sample with methylene blue and observe the sample one last time under a microscope in search of a budding.



observation of the production of carbon dioxide by yeasts

- The yeasts ***Saccharomyces cerevisiae*** are organisms that, in the absence of O₂, produce CO₂ and ethanol, for which they are widely used industrially, for example, in the manufacture of beer.
- To observe the production of this gas we need to build a **respirometer**:
 - Put in a tube 3/4 parts of yeast suspension with water and sugar.
 - Place a larger tube as a lid.
 - Press the two tubes and turn them over.
 - Mark the level that has no liquid and wait 30 minutes.

