

ARTIS MICROPIA

Making yoghurt

Put bacteria to work

Yoghurt is one of the most fun and delicious products you can make on your own with the help of microbes. Humans have been making yoghurt for about 7000 years. The actual work is done by two types of bacteria: *Streptococcus thermophilus* and *Lactobacillus delbrueckii bulgaricus*. If you look at these so called lactic acid bacteria through a microscope you will see vibrating spheres (*Streptococcus*) and rods (*Lactobacillus*). The way these bacteria make yoghurt is by converting lactose, the sugar found in milk, into lactic acid. It is this lactic acid that gives yoghurt its distinctly sour flavour. In addition, the acid causes the proteins in milk to solidify, making it thicker in substance. This process is called curdling. Below you can find a step-by-step guide to make your very own yoghurt with the use of these two microbes, good luck!

Answers

Question 5: Why do you think the milk is heated to 90°C before adding the yoghurt?

Answer: We do this for two reasons. The first is to make sure that other (unwanted) microorganisms that might be present in the milk do not survive. This way, we know for sure that the bacteria that grow in our yoghurt are only lactic acid bacteria. The second reason is that it improves the texture of the yoghurt. After heating it, a certain protein in the milk changes and the yoghurt becomes thicker and more stable.

Question 6: What do you think will change in the yoghurt if you keep it warm for a longer time?

Answer: Multiple things can change if you let your yoghurt stand around for a longer time in a warm spot. However, in general the yoghurt will become thicker and stronger in taste. Not everybody likes strong tasting yoghurt though, so try again with a different waiting time and see what you like best!