

Name:

Date:

Class:



IGCSE BIOLOGY EDEXCEL 9-1
CHAPTER WORKBOOK

Food Production - Microorganisms



Photo credit: Pixabay.com

Yeast

1. Give the word equation for anaerobic respiration in yeast

2. Fill in the blanks below to give a description of how yeast is involved in producing alcoholic drinks.

grape fermentation ethanol
amylase starch barley Sugar
carbon dioxide

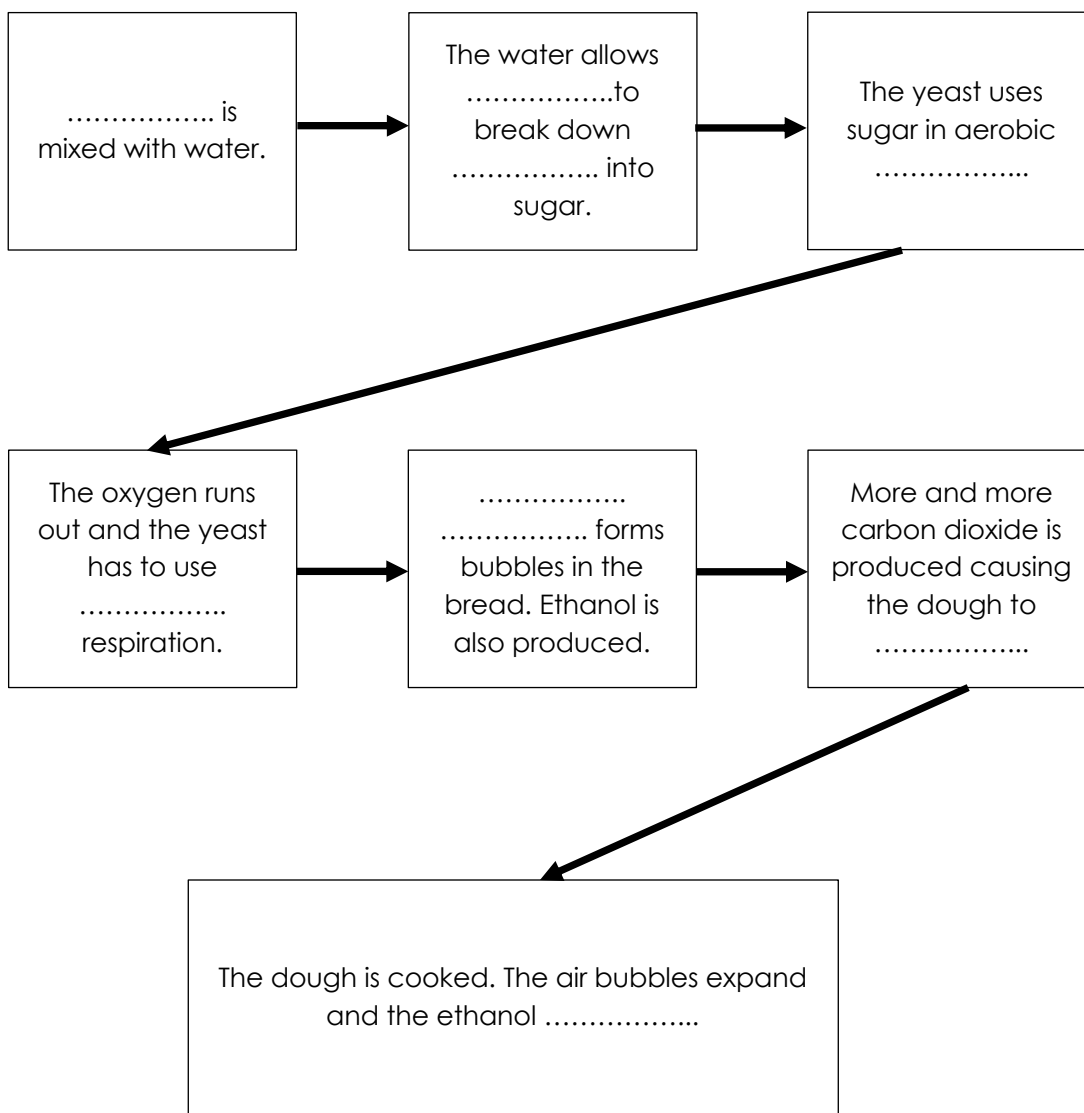
Yeast uses (such as glucose) as a reactant for anaerobic respiration. When producing wine, yeast is mixed with juice. The grape juice contains glucose and the yeast uses this to produce, which is the chemical name for the type of alcohol found in all alcoholic drinks.

..... is also produced and this is allowed to bubble out. This type of anaerobic respiration is commonly known as

When making beer, seeds are germinated. During germination, the in the seeds is converted into maltose with the help of (an enzyme which is present in the seeds). Yeast uses this maltose in fermentation to produce alcohol.



3. Complete the flow diagram below to summarise the use of yeast in bread-making.



Lactobacillus

1. Using the keywords in the table, summarise the process of yoghurt production

Sterilisation
Pasteurisation
Incubation
Fermentation
Additions



Industrial Fermentation

The diagram below shows an industrial fermenter. These are large machines used to grow microorganisms in large quantities. The questions below relate to the diagram.

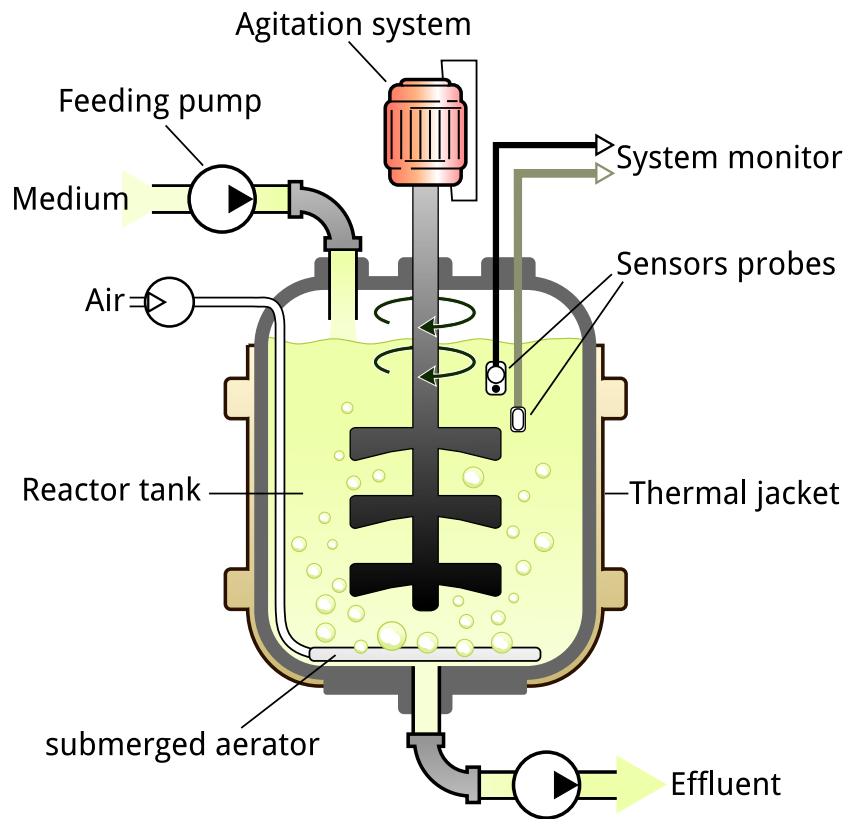


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1. What materials may be included in the medium?

.....

.....



2. What is the purpose of:

a) the thermal jacket?

.....
.....

b) the sensor probes?

.....
.....

c) the agitator system?

.....
.....

d) the aerator?

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.....

3. Conditions in the fermenter must be sterile before use. Explain why.

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