

GCSE Biology A (Gateway)

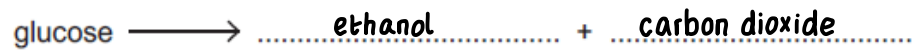
J247/01 B1-B3 and B7 Foundation (Foundation Tier)

Question Set 24

1

Yeast cells can respire anaerobically.

(a) Complete the word equation for **anaerobic** respiration in yeast.



[1]

(b) Write down **two** ways in which anaerobic respiration in yeast cells is different from anaerobic respiration in human muscle cells.

- 1 **Ethanol is produced in yeast cells but not in human muscle cells (produce lactic acid).**
- 2 **Carbon dioxide is produced in yeast cells but not in human muscle cells.**

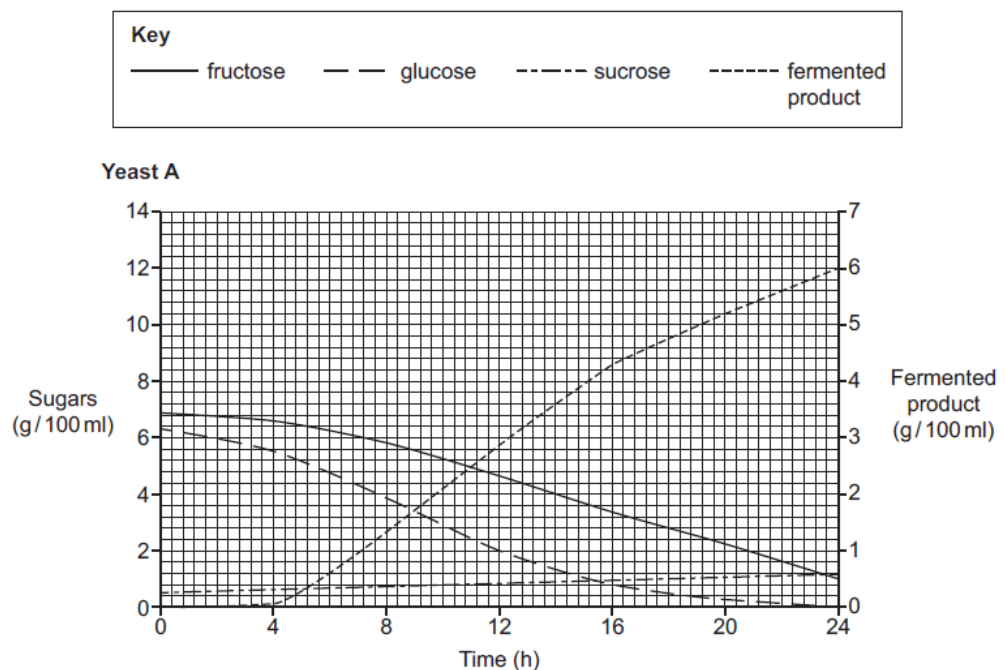
[2]

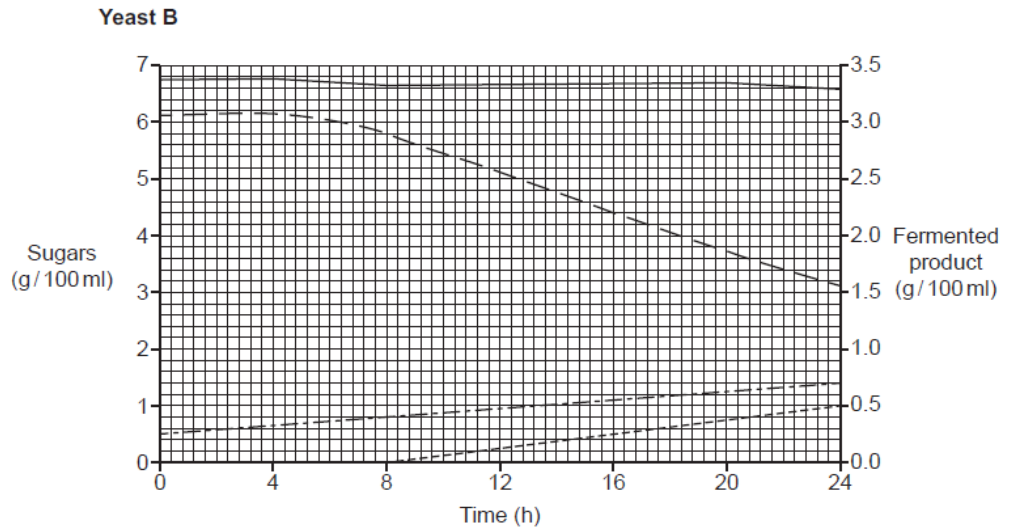
(c) (i) Date fruits contain three different sugars, fructose, glucose and sucrose.

Different strains of yeast can ferment different sugars to produce a fermented product.

Scientists investigate how two different strains of yeast, **A** and **B**, ferment sugars inside datefruits.

Look at their results.





Which sugar is **not** fermented by either strain of yeast?

Tick (✓) **one** box.

- Fructose
- Glucose
- Sucrose

[1]

(ii) After 24 hours, how many times higher is the fermented product yield of yeast **A** compared to yeast **B**?

$$6 \div 0.5 = 12$$

Number of times higher = **12**

[2]

(iii) Which sugar would increase fermentation the **most** if added to either yeast **A** or yeast **B**?

Tick (✓) **one** box.

- Fructose
- Glucose
- Sucrose

[1]

(iv) Fermented dates are used to supply both fructose and fermented product.

Explain why it would be best to use yeast **B** to ferment dates to supply both fructose and fermented product.

[2]

Fructose is only fermented to a small extent by yeast **B**, reducing from 6.75 to 6.6 g/100ml, whereas it is fermented almost completely in 24 hours by yeast **A**. To supply both fructose and fermented product, yeast **B** is thus most appropriate as it would not break down the fructose while breaking down other sugars in dates.

Total Marks for Question Set 24: 9

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