

Selective breeding and tissue culture: practice questions

3 questions • 8 marks • mark scheme at the back

For Edexcel GCSE Combined Science 1SC0. **Higher tier** is only on the Higher paper.

Name

Total / 8

1 Which is a possible disadvantage of selective breeding? [1 mark]

- A. ☐ It increases genetic variation.
- B. ☐ It reduces genetic variation.
- C. ☐ It only takes one generation.
- D. ☐ It involves inserting genes from other species.

2 Describe how a farmer could use selective breeding to produce cattle that give more milk. [4 marks]

3 In a plant, resistance to a disease is controlled by a dominant allele R. Susceptibility is controlled by the recessive allele r. Two plants with the genotype Rr are crossed. Use a genetic diagram to find the probability that an offspring is susceptible. [3 marks]

Answer =

Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [1]

B B (1)

2. [4]

- select a bull and cows that produce a lot of milk / with high milk yield (1)
- breed them together (1)
- select offspring that produce the most milk and breed them (1)
- repeat over many generations (1)

3. [3]

- gametes R and r from each parent (1)
- offspring RR, Rr, Rr, rr (1)
- probability of rr = 1/4 or 25% (1)