

## **GCSE Biology A (Gateway)**

**J247/02 B4-B6 and B7 Foundation (Foundation Tier)**

### **Question Set 17**

1

This question is about selective breeding.

(a) The table shows the main steps in the process of selective breeding.

They are **not** in the correct order.

<b>A</b>	Repeat the process over many generations.
<b>B</b>	Decide which features are wanted.
<b>C</b>	Choose the individuals that have the features that are wanted.
<b>D</b>	Choose the offspring that have the features that are wanted.
<b>E</b>	Allow the individuals to mate.

Write the letters in the boxes below to give the correct order.

Two have been done for you.

[2]

(b) Cows are female and are used by farmers to produce milk.

Bulls are male.

Look at the details of different varieties of cows and bulls.

Variety	Milk production	Aggressive
Cow A	thin and watery	no
Cow B	medium yield and creamy	no
Cow C	medium yield and creamy	yes
Bull A	mother produced high yield	yes
Bull B	mother produced high yield	no
Bull C	mother produced low yield	no

A farmer wants to produce cows that produce a high yield of creamy milk.

He does **not** want his animals to be aggressive.

Suggest which cow and bull he should choose to mate with each other.

Explain your answer.

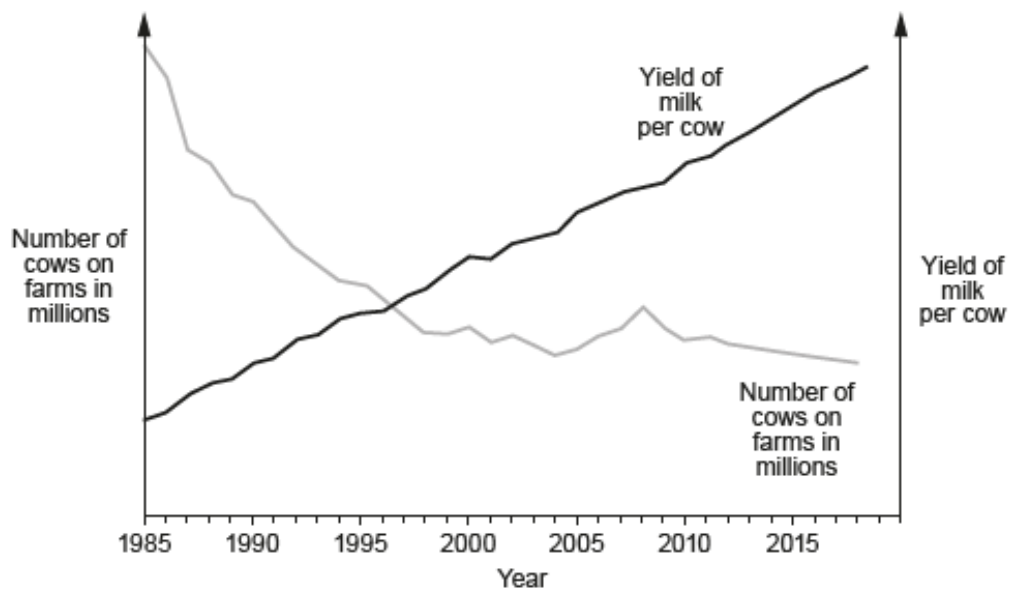
cow B × bull B

Explanation:

cow B produces thick creamy milk, and is not aggressive. [4]

bull B is not aggressive, and their mother produced the type of milk wanted. characteristics of type of milk & aggression are inherited.

- (c) The graph shows the number of cows and the yield of milk per cow on farms in the USA since 1985.



- (i) Describe the relationship between number of cows and yield of milk shown in the graph.

As the number of cows on farms has decreased, the yield of milk per cow has increased.

[1]

(ii) Suggest **two** reasons for the relationship shown in the graph.

- <sup>1</sup> cows are selectively bred to produce more milk
- <sup>2</sup> intensive farming means cows produce more milk  
so less are required

[2]

**Total Marks for Question Set 17: 9**

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