

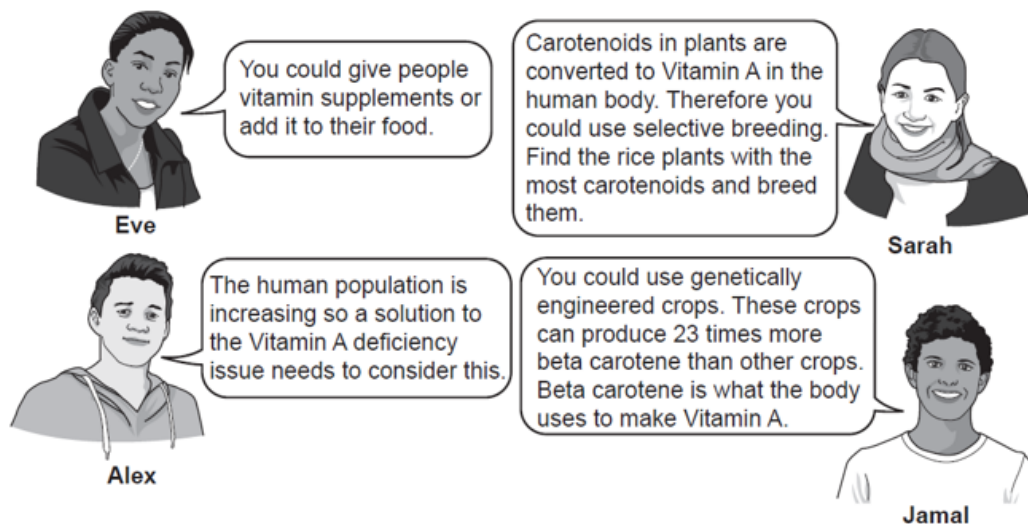
GCSE Biology B (Twenty First Century Science)
J257/03 Breadth in Biology (Higher)

Question Set 24

1

In many developing countries people rely on rice and corn for their diet. As both these crops are low in nutrients, Vitamin A deficiency is a concern. Deficiency in Vitamin A can cause blindness.

A group of friends are discussing how Vitamin A deficiency in developing countries could be tackled.



- (a) Which method of tackling Vitamin A deficiency in developing countries is the best long-term solution?

Justify your answer.

[3]

Jamal solution is the best method. This is because genetically engineered crops produce much higher beta carotene level and these crops can be grown continuously supplying Vitamin A over long time. Vitamin supplements needs to be continuously supplied which is not ideal as a long-term solution. Selective breeding may increase the level of carotenoids but not high enough to tackle the Vitamin A deficiency.

- (b) What is meant by 'genetic engineering'?

[2]

Modifying the genome of an organism by introducing gene from another organism to result in a desired characteristic.

- (c) State one concern about using genetically engineered crops.

[1]

Consuming GM crops may cause allergic reaction.

Total Marks for Question Set 24: 6

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