

BIOLOGY

Control, Genomes and Environment

F215 Monday 13 June 2011 Afternoon

Unofficial Mark Scheme.

Please note that this is not a comprehensive mark scheme. OCR will probably have many other key points so do not worry if you wrote different points to the ones given here.

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1(i) Describe the steps that must occur for plant protein to be converted to animal protein.
[3 marks]

Plants are eaten/ingested by animals.
Digested/broken down into amino-acids.
Amino-acids absorbed by the animal.
Amino-acids used in translation to make animal proteins.

(ii) List the processes that contribute to B in the meadow where sheep are grazed.
[2 marks]

Death/decay (Plants and animals).
Excretion (Animals).
Urination (Animals).

(iii) Name the bacteria that carry out processes C and D, and explain the significance for the growth of plants.
[3 marks]

C = Nitrosomonas (incorrect spelling in Heinemann OCR book Nitrosomonass)
D = Nitrobacter
Plants need nitrates to make DNA and amino-acids.
Nitrites are toxic to plants.

(iv) Why will the soil nitrate concentration decrease in the cabbage field if it is used to repeatedly grow cabbages every year.
[3 marks]

Cabbages harvested each year so very little plant protein returned to the humus/soil by decomposition of dead plant material (B).

No animals = no waste material to contribute to humus/soil (B).

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