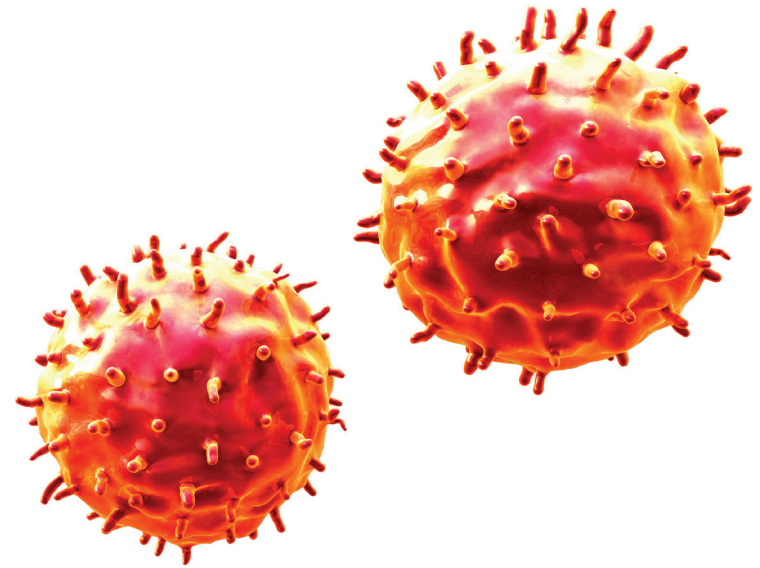


Interactive Example Candidate Responses

Paper 3 (May / June 2016), Question 9

Cambridge IGCSE™
Biology 0610



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- 9 (a) (i) Table 9.1 contains examples of components of a balanced diet and foods that contain a high proportion of the component.

Complete Table 9.1 by filling in the blank spaces.

Table 9.1

component of balanced diet	food containing a high proportion of the component
fat	olive oil
protein	meat
carbohydrate	pasta
fibre (roughage)	unpolished rice

[3]

- (ii) Name **two** other components of a balanced diet that are not listed in Table 9.1.

..... vitamin C

..... calcium

..... iron

[2]

Select
page

Your
Mark

9(a)(i)

9(a)(ii)

9(b)

9(c)

Q9		Mark scheme	
(a)(i)	component	food	
	Protein ;		
	Carbohydrate ;		
		any example of plant cell wall material / any fruit or vegetable ;	
			3 marks
(a)(ii)	A ecf from table if group not given there minerals/ions/named mineral ; vitamins/named vitamin ; water ;		2 marks

(b) Fig. 9.1 shows a picture of food production on a modern farm.

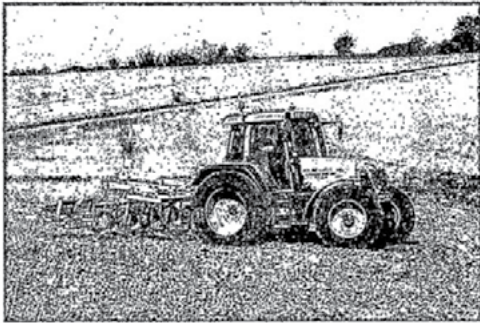


Fig. 9.1

The use of modern technology has increased the amount of food produced.

State **two** examples of modern technology **and** explain how each has contributed to the amount of **plants** grown for food.

example	explanation of technology
watering by dropping droplets of water	small pipes in the a pipe over the crops that water plants in without a lot of water and this saves water and money
chemical fertiliser	substances containing potassium, nitrogen, phosphorus that increase crop yield and size. Make soil more fertile

[4]

(c) On modern farms crop plants can be grown as large-scale monocultures.

Suggest **two** negative impacts on an ecosystem for this method of food production.

- 1 animals/habitats which was living there will not find place. Food chains and webs will be destroyed
- 2 they could die as lack of food and for the effect of pesticides on them

[2]

[Total: 11]

Your
Mark

9(a)(i)

9(a)(ii)

9(b)

9(c)

Q9

Mark scheme

(b)	<p>example and improvement must match</p> <p>A increased yields for any of the explanations</p> <p>A explanations in terms of increased speed or efficiency and I references to an example being easier</p> <p>1 use of agricultural machinery/tractors/trucks ; improved efficiency/greater land area cultivated/plant more seeds/harvest more of the crop/harvest faster/spray pesticides/irrigate the crop ;</p> <p>2 use of (artificial) fertilisers ; improved yields/grow faster ;</p> <p>3 use of herbicides/pesticides/insecticides; no competition from weeds/pests or increases yields ;</p> <p>4 selective breeding; improve quality/quantity of produce ;</p> <p>5 use of glass houses/poly-tunnels ; protect crops from adverse environment/provide optimum growing environment/grow out of season/increased yields ;</p> <p>6 any valid example ; with improvement ;</p> <p>4 marks</p>
(c)	<p>1 death of organisms ;</p> <p>2 disrupts food chains/webs/eutrophication ;</p> <p>3 habitat destruction/soil erosion ;</p> <p>A deforestation</p> <p>4 changes in precipitation ;</p> <p>A reduced biodiversity</p> <p>2 marks</p>

- 9 (a) (i) Table 9.1 contains examples of components of a balanced diet and foods that contain a high proportion of the component.

Complete Table 9.1 by filling in the blank spaces.

Table 9.1

component of balanced diet	food containing a high proportion of the component
fat	olive oil
Protein	meat
Carbohydrates Sugar	pasta
fibre (roughage)	Carrot

[3]

- (ii) Name **two** other components of a balanced diet that are not listed in Table 9.1.

..... ~~sugar~~ water

..... minerals [2]

Your
Mark

9(a)(i)

9(a)(ii)

9(b)

9(c)

Q9	Mark scheme	
(a)(i)	component	food
	Protein ;	
	Carbohydrate ;	
		any example of plant cell wall material/ any fruit or vegetable ;
		3 marks
(a)(ii)	A ecf from table if group not given there minerals/ions/named mineral ; vitamins/named vitamin ; water ;	
		2 marks

(b) Fig. 9.1 shows a picture of food production on a modern farm.

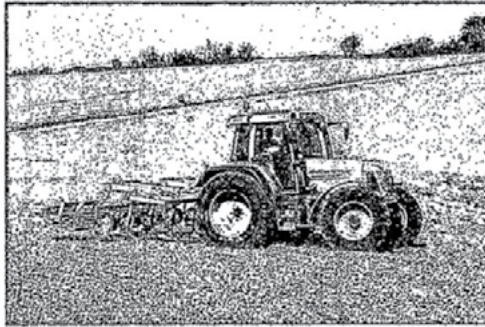


Fig. 9.1

The use of modern technology has increased the amount of food produced.

State **two** examples of modern technology **and** explain how each has contributed to the amount of **plants** grown for food.

example	explanation of technology
Fertilisers	It increased the amount of food grown food production.
herbicides	It is possible the Herbicides are poured over the farm which increase the food production and kill insect.

[4]

(c) On modern farms crop plants can be grown as large-scale monocultures.

Suggest **two** negative impacts on an ecosystem for this method of food production.

1. ~~It is very hard to control a large scale~~
~~farm.~~ crop plants on large areas don't grow well.
2. the ~~farm~~ may get harmed by insects and other animals.

[2]

[Total: 11]

Your
Mark

9(a)(i)

9(a)(ii)

9(b)

9(c)

Q9 Mark scheme

(b)	<p>example and improvement must match</p> <p>A increased yields for any of the explanations</p> <p>A explanations in terms of increased speed or efficiency and 1 references to an example being easier</p> <p>1 use of agricultural machinery/tractors/trucks ; improved efficiency/greater land area cultivated/plant more seeds/harvest more of the crop/harvest faster/spray pesticides/irrigate the crop ;</p> <p>2 use of (artificial) fertilisers ; improved yields/grow faster ;</p> <p>3 use of herbicides/pesticides/insecticides; no competition from weeds/pests or increases yields ;</p> <p>4 selective breeding; improve quality/quantity of produce ;</p> <p>5 use of glass houses/poly-tunnels ; protect crops from adverse environment/provide optimum growing environment/grow out of season/increased yields ;</p> <p>6 any valid example ; with improvement ;</p> <p style="text-align: right;">4 marks</p>
(c)	<p>1 death of organisms ;</p> <p>2 disrupts food chains/webs/eutrophication ;</p> <p>3 habitat destruction/soil erosion ;</p> <p>A deforestation</p> <p>4 changes in precipitation ;</p> <p>A reduced biodiversity</p> <p style="text-align: right;">2 marks</p>

- 9 (a) (i) Table 9.1 contains examples of components of a balanced diet and foods that contain a high proportion of the component.

Complete Table 9.1 by filling in the blank spaces.

Table 9.1

component of balanced diet	food containing a high proportion of the component
fat	olive oil
protein	meat
carbohydrate	pasta
fibre (roughage)	fruits

[3]

- (ii) Name **two** other components of a balanced diet that are not listed in Table 9.1.

*calcium and vitamins
[2]

Your
Mark

9(a)(i)

9(a)(ii)

9(b)

9(c)

Q9		Mark scheme	
(a)(i)	component	food	
	Protein ;		
	Carbohydrate ;		
		any example of plant cell wall material/ any fruit or vegetable ;	
3 marks			
(a)(ii)	A ecf from table if group not given there minerals/ions/named mineral ; vitamins/named vitamin ; water ;		2 marks

(b) Fig. 9.1 shows a picture of food production on a modern farm.



Fig. 9.1

The use of modern technology has increased the amount of food produced.

State **two** examples of modern technology **and** explain how each has contributed to the amount of **plants** grown for food.

example	explanation of technology
Truck machine	It throws seeds and fertilizers in the whole farm

[4]

(c) On modern farms crop plants can be grown as large-scale monocultures.

Suggest **two** negative impacts on an ecosystem for this method of food production.

- 1 Many grasshoppers will feed on it
- 2 some poisons/fertilizers are thrown to kill insects which also makes the food produced containing poisonous substance.

[2]
[Total: 11]

Your
Mark

9(a)(i)

9(a)(ii)

9(b)

9(c)

Q9 Mark scheme

(b)	<p>example and improvement must match</p> <p>A increased yields for any of the explanations</p> <p>A explanations in terms of increased speed or efficiency and 1 references to an example being easier</p> <p>1 use of agricultural machinery/tractors/trucks ; improved efficiency/greater land area cultivated/plant more seeds/harvest more of the crop/harvest faster/spray pesticides/irrigate the crop ;</p> <p>2 use of (artificial) fertilisers ; improved yields/grow faster ;</p> <p>3 use of herbicides/pesticides/insecticides; no competition from weeds/pests or increases yields ;</p> <p>4 selective breeding; improve quality/quantity of produce ;</p> <p>5 use of glass houses/poly-tunnels ; protect crops from adverse environment/provide optimum growing environment/grow out of season/increased yields ;</p> <p>6 any valid example ; with improvement ;</p> <p>4 marks</p>
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