Unit 3 Life on Earth Revision Questions

Key Area 5 Food Production Mark Scheme

1. D

2. C

3. C

4. B

5.

(a)	(i)	Fertiliser	1	
	(ii)	To make protein/amino acids.	1	
	(iii)	20	1	
(b)	(i)	(Algal) bloom	1	
	(ii)	Bacteria have more food/more algae to feed on.	1	
	(iii)	Drop in oxygen concentration/lower oxygen concentration/less oxygen for fish due to bacteria using up oxygen.	1	Not acceptable: - no oxygen - bacteria use up all the oxygen.

6. (3)-1-5-4-2

1 All required to be correct

7.

(a)	Initial populations all had different starting sizes	1	
(b)	4.3	1	
(c)	Starling and yellow wagtail	1	Both needed

(a)	Set up more than one field for each variety/ Repeat the (whole) investigation/ Use more potatoes/plants in each field	1	If 'both varieties' are mentioned, it must be clear that each variety is grown in a separate field Not acceptable - repeat it/repeat the experiment
(b)	175	1	
(c)	Number of potatoes/plants; Spacing between potatoes/plants; pH of soil; Nutrient content of soil; Moisture content of soil; Fertility of soil; Type of soil	1	Not acceptable- Amount of potatoes Temperature Humidity Light intensity Rainfall CO ₂ concentration Area/size of field
(d)	Pesticides/insecticides/predator/ biological control/crop rotation	1	

9.

(a)	(i)	When predators are present (the number of red spider) mites decrease / there are more (red spider) mites when there is no predator OR converse	1	Additional correct information would not negate.
	(ii)	To allow it to be compared to the one with the predator/to compare the number of (red spider) mites with and without the predator/to show any difference is due to the predator	1	Not acceptable: for comparison.
(b)		Biological control	1	Additional words negate.

(a)	(i)	Both scale and axis label completed correctly (1) Points plotted correctly and joined (1)	2	At least half of the grid must be used. Do not penalise for extrapolation all the way to 35°C.
	(ii)	1300	1	