AQA GCSE Biology | 8461

SPECIFICATION POINT 4.7.5.2

Farming techniques

Mark schemes and examiner comments

Tier	**Foundation**
Question groups	**3**
Available paper years	**2010–2016**

Using this booklet

1. Booklet answer numbers match the question booklet.
2. Use the original question number within marking tables.
3. Examiner comments are included where available.

Name: _____ **Date:** _____

Where a precise marking extract is unavailable, the full source document is included in an appendix. Any missing mark scheme is explicitly identified.

4.7.5.2 Farming techniques

Answer 01 · Mark scheme

Question 7

question	answers	extra information	mark
7(a)(i)	20		1
7(a)(ii)	one tenth / 0.1 / 10% / 1:9 / 1 in 10 / 1 out of 10 / $\frac{1}{10}$	for correct answer irrespective of working **2** marks ignore any units accept equivalent fractions eg $\frac{4}{40}$ / $\frac{2}{20}$ do **not** allow eg 1:10 / 1 to 10 if answer is incorrect clear selection of 2 **and** 20, **or** equivalent **or** 1:4:5 / 1:5:4 gains **1** mark	2
7(b)	any **two f**rom: • (body) heat / maintaining body temperature • movement (max 2) • growth / cell division / repair / reproduction / building molecules • accept active transport	do **not** accept sweating / cooling / excretion allow keep warm allow **2 different** examples of movement, internally and / or externally eg breathing / exercise / eating / circulation allow muscle contraction if no other muscle action is credited movement + breathing = 1 mark allow examples eg making proteins (from amino acids) ignore 'chemical reactions' / digestion	2

Question 7 continues on the next page

4.7.5.2 Farming techniques

Answer 01 · Mark scheme

BLY2F

Question 7 continued

question	answers	extra information	mark
7(c)	more movement / have to hunt / catch food	allow converse if stated for herbivore eg herbivores food is all around ignore reference to size **or** predator unqualified	1
7(d)	any **two** from • less movement • less heat loss • less respiration	ignore reference to food allow no movement allow less space to move ignore less space unqualified allow no heat loss **or** they are kept warm	2
Total			**8**

4.7.5.2 Farming techniques

Answer 02 · Mark scheme

June 2013 | BL3FP | Original Q8 | Legacy

Question 8

question	Answers	extra information	mark
8(a)(i)	wheat → humans chain transfers 10 times more energy than wheat → pigs → humans chain or wheat → pigs → humans chain transfers 810 000 (kJ per hectare) less	allow 10% if given as a comparison e.g. one is 10% of the other ignore less unqualified	1
8(a)(ii)	any **one** reason for energy loss from pigs e.g.: • movement • (maintaining) body temperature • waste materials • not all parts of pig eaten by human • because there is an extra stage (pigs) in the food chain and energy is lost at each stage	ignore respiration, growth ignore heat unqualified allow named examples allow longer food chain so more energy lost	1

Question 8 continues on the next page . . .

Question 8 continued

8(b)	Marks awarded for this answer will be determined by the Quality of Written Communication (QWC) as well as the standard of the scientific response. Examiners should also refer to the information on page 5, and apply a 'best-fit' approach to the marking.		6
0 marks	**Level 1 (1-2 marks)**	**Level 2 (3-4 marks)**	**Level 3 (5-6 marks)**
No relevant content.	There is a basic description of at least one factory farming method **or** identification of an advantage or disadvantage of factory farming.	There is a description of at least one factory farming method **and** an advantage or disadvantage is explained.	There is a description of factory farming methods **and** advantage(s) and disadvantage(s) are explained.

examples of biology points made in the response:

factory farming methods e.g.:

- Kept in cramped conditions / battery hens / calf crates / pig barns / fish tanks
- Controlled temperature / heating
- Controlled feeding / modified food given / growth hormones
- Controlled lighting
- Treated with prophylactic antibiotics

Advantages e.g.:

- Increased efficiency / profit / greater food production / cheaper food / faster growth
- Farmer can have more livestock
- Less energy is lost through movement
- Less energy is used keeping warm
- (Food is high in calories / protein) so animals will grow faster / lay more eggs
- Easier to vaccinate all the animals
- Easier to protect animals from predators
- Antibiotic treatment stops infections in animals

Disadvantages e.g.:

- Stress / cruelty / inhumane / unethical
- Restricted movement / overcrowding
- Faster spread of diseases
- Antibiotics in the food chain / residual chemicals in the food chain
- Wasting fossil fuels / increasing global warming
- Increased pollution from animal waste and from additional transport

Total			**8**

UMS Conversion Calculator: www.aqa.org.uk/umsconversion

4.7.5.2 Farming techniques

Answer 03 · Mark scheme June 2016 | BL3FP | Original Q5 | Legacy

Question	Answers	Extra information	Mark	AO / Spec. Ref.
5(a)(i)	any **three** from: • lights to help guide / attract fish (to the holes) • (rigid so) holes stay open • (holes) allow small / young fish to escape • (so that) they can breed		3	AO2/3 3.4.4c
5(a)(ii)	(fishing) quotas / legislation		1	AO1 3.4.4c
5(b)(i)	movement is restricted (in a building **or** close together so) heat is conserved	 allow in heated buildings to reduce heat loss	1 1	AO2 3.4.4b
5(b)(ii)	any **two** from: • it is cruel • disease spreads faster • (meat) often has antibiotics in it	allow descriptions of ‘cruelty’	2	AO3 3.4.4b
Total			**8**	

4.7.5.2 Farming techniques

Answer 03 · Mark scheme

June 2016 | BL3FP | Original Q5 | Legacy

