

Assessment Schedule – 2018

Agricultural and Horticultural Science: Demonstrate knowledge of livestock management practices (90921)

Assessment Criteria

Not Achieved		Achievement		Achievement with Merit		Achievement with Excellence	
Describes how livestock management practices are carried out.				Links ideas to explain why livestock management practices, or steps within practices, are carried out.		Applies knowledge of livestock management practices to given situations. This may involve comparing and contrasting or justifying management practices.	
N1	N2	A3	A4	M5	M6	E7	E8
Describes ONE idea at Achievement level.	Describes TWO ideas at Achievement level.	Describes THREE ideas at Achievement level.	Describes FOUR ideas at Achievement level.	Explains THREE ideas at Merit level.	Explains FOUR ideas at Merit level.	Justifies the given methods.	Fully justifies the given methods.
N0 = No response; no relevant evidence.							

Question One: Dairy cattle

Examples of evidence for answers	
(a)	<p>Describes (Achievement)/Explains (Merit) how artificial insemination (AI) is carried out.</p> <ul style="list-style-type: none"> • Sterilise equipment (Achievement) so that no infections/bacteria/diseases are transferred to the cow (Merit). • Insert hand into anus (Achievement) so that the cervix can be held (Merit). • Hold cervix (Achievement) – this is to guide the pistollet so that it doesn't damage the uterus (Merit). • Wipe vulva (Achievement) to prevent the introduction of bacteria (Merit). • Guide pistollet through cervix (Achievement) so that semen can be deposited directly into the uterus (Merit). • Compress lever of pistollet (Achievement) so semen is released (Merit).
(b)	<p>Describes (Achievement) what a vaccine is/ Explains (Merit) how it works to improve animal health.</p> <ul style="list-style-type: none"> • Vaccines are weakened or dead forms of disease (Achievement) that are given to animals to stimulate immunity responses (Merit). • Improves animal health, because animals develop a pre-formed defence against disease/build immunity (Achievement); this avoids growth checks through having to fight disease (Merit), or they are not having to be culled from the herd because of the disease (Merit).

(c) **Describes / Explains / Justifies** how the two management practices work together to prevent Bovine Viral Diarrhoea (BVD).

Note: Evidence can be taken from (b) and (c). Justification would come from a reasonable discussion around how the advantages of each method outweigh the disadvantages of each method.

Culling	Vaccination
<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Could increase natural immunity within herd (natural selection). • Immediately removes infection from the herd. 	<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Prevents animals not infected from getting the disease. • Can protect calves from birth by vaccinating pregnant cows. • Long-term success with little to no infection. • No reduction in production. • Cheap. • Prevents having to buy more cows to replace those culled.
<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Does not prevent the disease, so subclinical infections could occur again later. • Cost of having to replace culled cows. 	<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Some potential for microbes to develop resistance to the vaccine. • Calves will still need to be vaccinated prior to weaning.

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Question Two: Sheep

Examples of evidence for answers	
(a)	<p>Describes (Achievement) / Explains (Merit) how crutching / dagging improves sheep health.</p> <ul style="list-style-type: none"> Prevents fly strike (Achievement), so that sheep are not wasting energy on pain or repairing tissue (Merit). Prevents faeces potentially infecting udder / contaminating milk (Achievement), which prevents mastitis (Merit).
(b)	<p>Describes (Achievement) the feed requirements of lactating ewes / Explains (Merit) why they differ from maintenance feed.</p> <ul style="list-style-type: none"> Feed while lactating is two times more than maintenance (Achievement), because energy requirements for producing milk are so high (Merit). Higher-quality feed is needed, so that more energy is available (Achievement) for body processes such as growth and repair, and producing milk (Merit). Sheep are being milked twice a day, so need high feed, like dairy cows. A plentiful/nutritional/balanced diet prevents metabolic diseases such as milk fever (Merit). Lactating feed ensures that the body condition of the ewe is maintained (Achievement). If feed is not increased, body condition will decrease (Merit).

Examples of evidence for answers

(c) **Describes / Explains / Justifies** a farmer's decision to buy breeding rams rather than purchasing more ewes.

Buy breeding rams	Purchase more ewes
<p><i>Advantages</i></p> <ul style="list-style-type: none"> • It will prevent inbreeding within the current flock (Merit). • Already have knowledge of genetic worth of current ewes (Achievement), so know how new genetics will impact into the next generation (Merit). • Adding improved genetics will increase the value of the flock (Merit). • Achieves the desired ratio of rams to ewes, e.g. 1:80 (Achievement). 	<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Can be done almost immediately (Achievement), more immediate quantity increase (Merit). • Can be sourced from specialised flocks proven for milking (Achievement), so improvement is greater (Merit).
<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Takes at least two seasons for replacement stock to enter the milking flock (Merit). 	<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Quality cannot be guaranteed (Achievement), as some purchased ewes could be less desirable animals taken from other flocks (Merit). • When mutton or sheep milk price is high, it is very costly to buy in ewes from other farmers (Merit). • Ewe numbers could be low (Achievement), so farmers cannot always depend on there being plenty in the market (Merit).

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Question Three: Deer

Examples of evidence for answers	
(a)	<p>Describes (Achievement) what “on heat” means / Explains (Merit) why deer can get pregnant only during this time.</p> <ul style="list-style-type: none"> • “On heat” means that an egg has been released from the ovary (Achievement), so this is the only time fertilisation by the sperm is possible (Merit). • Need to have an egg released from ovary (Achievement); egg is released because of decrease in progesterone (Merit). • Does (female deer) stand for mating only when ovulating (Achievement), because egg release has caused high levels of oestrogen (Merit).
(b)	<p>Describes (Achievement) / Explains (Merit) why supplementary feeds should be introduced gradually.</p> <ul style="list-style-type: none"> • Microbes in the rumen take a while to build up (Achievement); slow introduction of feed gives the deer a chance to build up microbes that can break down that feed (Merit) so that all of the feed can be digested (Merit), otherwise much of the feed passes through the system unabsorbed (Merit). • Ruminants have microbes in their rumen to help break down organic matter / cellulose (Achievement); slowly introducing the feed gives the microbes a chance to build up (Merit). • Feed may not be initially palatable to stock (Achievement); gradual introduction means they will become accustomed to the feed and therefore eat more (Merit).

Examples of evidence for answers

(c) **Describes** (Achievement) / **Explains** (Merit) / **Compares and contrasts** (Excellence) the better management practice.

Capsule	Water treatments
<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Capsule guarantees that copper will enter the body. • Ensures that the correct amount is given. • Can do it when deer are in the yards for other management practices, e.g. drenching, or check their health. 	<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Troughs are cheaper and can be spread around the property, so they are not just in one place. • Easy to mix into water in the troughs.
<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Expensive. • Needs to be administered properly for full production value. • Requires more labour to administer. 	<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Not all animals will be attracted to copper in water, and therefore some may miss out. • As the troughs refill, the solution will dilute and be less effective. • Must be drunk every day. • If pasture high in water, reduction in amount of water (and copper) received from trough.

Cut Scores

Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
0 – 6	7 – 12	13 – 18	19 – 24