

Assessment Schedule – 2017

Subject: 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 method chosen.	Fully justifies the method chosen by comparing and contrasting.
N0 = No response; no relevant evidence.							

Question One: Sheep

Examples of evidence for answers	
(a)	<p>Describes (Achievement) / Explains (Merit) how a ewe's feed requirements change throughout pregnancy and lactation.</p> <ul style="list-style-type: none"> Maintenance feed is the amount of food required to keep an animal alive and healthy (Achievement), with no loss of condition (Merit). Early stages of pregnancy only require maintenance feed, because the foetus is still small (Achievement) and the ewe does not need significant extra nutrition for its development (Merit). During the later stages of pregnancy, the ewe needs more feed for the developing foetus, and more still if she is carrying twins (Achievement). This is because the foetus is quite large now, and is taking a lot of nutrients from the ewe. However, the amount of additional feed should not be too high, as large lambs cause birthing difficulties (Merit). Feed requirements are high during lactation, as a lot of energy is required to produce milk to feed the offspring (Achievement). <p>Describes (Achievement) / Explains (Merit) how a ewe's feed requirements change and methods a farmer could use to ensure that feed requirements are met.</p> <ul style="list-style-type: none"> Careful pasture management (Achievement), so that the ewes with multiple births are on better-quality pasture than those with single lambs (Merit). Lower stocking rates for those with multiple births (Achievement), so the pasture goes further (Merit) and has time to grow back while they are still grazing that paddock (Merit). Supplementary feeds (Achievement) if pasture growth is slow or low (Merit).

Examples of evidence for answers

- (b) **Explains** (Merit) why a farmer may or may not choose to breed from terminal rams.
- Terminal sires may have other qualities that are not desirable (Achievement), such as poor wool or low fertility rates, so would not be used to breed replacement stock (Merit).
 - Breeding with terminal sires means that a higher percentage of offspring will be ready for slaughter / sale to the works earlier (Achievement) which means they will fetch a premium price (Merit). Terminal sires have a higher meat to size ratio, so are heavier and get a better price (Merit); they also have a higher survival rate, due to greater lamb vigour (Merit).

- (c) **Describes / Explains / Justifies** which of the management practices is best.
- A vaccine is a dead or denatured version of the disease that is injected into the animal (Achievement) and causes the animal to produce antibodies for that disease (Merit). Therefore, if the animal comes into contact with that disease, they will have the antibodies to fight it (Merit).

Vaccination before lambing	Vaccination of ewes and lambs at docking
<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Antibodies will be passed on to lamb through milk/colostrum after birth, not in-utero. • Lambs get immunity from mother / milk until docking. • Only have to vaccinate once for that period. • Easier to dose larger animals than little lambs. • Lambs are already resistant by the time they are earmarked / docked / wound site is opened up. • Less susceptible to disease after pregnancy, with some vaccines able to reduce abortions. 	<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Don't have to bring the ewes in twice / before lambing which could cause stress / loss of condition prior to lambing. • Have to vaccinate lambs at docking anyway. • Lambs are usually in cradle, so easy to administer.
<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Still have to vaccinate at lambing. • Lambs' immunity relies on them drinking their mother's milk. • Can be difficult / stressful moving pregnant ewes to or in the yards. 	<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Lambs do not have immunity for the weeks immediately after birth. • Have to vaccinate ewes as well as the lambs, which increases docking labour.

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Question Two: Angora goats

Examples of evidence for answers	
(a)	<p>Describes (Achievement) / Explains (Merit) how providing Angora kids with a varied diet/roughages improves rumen development.</p> <ul style="list-style-type: none"> Allows rumen and reticulum microbes to build up (Achievement) so that all the feed can be broken down/digested (Merit), otherwise much of it passes through the digestive system unabsorbed (Merit). Scratch factor increases rumen papillae development (Achievement), which increases rumen size/papillae growth (Merit) and also increases fatty acids and sugar absorption (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). Varied diet increases nutrient availability (Achievement).
(b)	<p>Describes (Achievement) / Explains (Merit) how two white goats can produce a brown kid.</p> <ul style="list-style-type: none"> Brown colouring is recessive (Achievement). The parents must be heterozygous (Achievement) and the offspring has inherited one brown allele from each parent (Merit); this means that the offspring is homozygous recessive (Merit). Correct punnett square (Achievement), linked to possible outcomes of the offspring (Merit).

Examples of evidence for answers

(c) **Describes / Explains / Justifies** the better management practice.

Breeding sires on-site	Hiring / buying a stud sire
<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Can select which male offspring to grow to be the sires (Achievement), so that you can develop sires with desired traits (Merit) over many generations (Merit). • Don't have to buy or hire anyone else's sires (Achievement), so are saving money that could be used for other management practices (Merit). • Lineage of the sire is known (Achievement). 	<p><i>Advantages (hiring)</i></p> <ul style="list-style-type: none"> • Can select different sires (Achievement) to improve overall herd quality (Merit), and select for different traits (Merit). • No need for ongoing maintenance (Achievement) – less costly / less risk / more pasture (Merit). • There is no chance of sires breeding with their offspring (Achievement), so there is less chance of mutations or genetic abnormalities (Merit). • Specialist breeders only sell top-quality genetic sires (Achievement), so offspring will have the identifiable (desirable) trait (Merit). • Sires have been gene tested (Achievement), so have the desirable traits (Merit). <p><i>Advantages (buying)</i></p> <ul style="list-style-type: none"> • Own the animal, so can breed from it repeatedly / future years (Merit). • Can sell after a few years and get money back (Merit). • Can put the sire out when goats are ready (Achievement), not when hiring is available (Merit).
<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Possibility of inbreeding (Achievement), especially if you are not vigilant with tracking lineage (Merit). • Difficult to introduce new genes into the herd (Achievement), because you are selecting from the existing traits / animals (Merit). 	<p><i>Disadvantages (hiring)</i></p> <ul style="list-style-type: none"> • Tend to be expensive. • Can be risky having an expensive hired animal on the property (Achievement) – could get injured or sick (Merit). <p><i>Disadvantages (buying)</i></p> <ul style="list-style-type: none"> • Have to feed and maintain the sire (Achievement), and this will cost money and pasture (Merit). • Will need to get more than one / more in the future (Achievement) to avoid inbreeding (Merit).

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Question Three: Chickens and pigs

Examples of evidence for answers	
(a)	<p>Describes (Achievement) / Explains (Merit) why drenching is important, and why powdered form is preferred.</p> <ul style="list-style-type: none"> Drenching kills internal parasites (Achievement) which can harm internal organs (Merit) and reduce growth/production (Merit), or take nutrients from the gut before they are absorbed into the bloodstream (Merit). Easy to administer the drench into the feed, because it can be difficult to orally drench pigs (Achievement) due to body shape and teeth (Merit), although it would be difficult to know if each pig had the required dose (Merit).
(b)	<p>Describes (Achievement) / Explains (Merit) how the non-ruminant digestive tract affects feed types.</p> <ul style="list-style-type: none"> No rumen or reticulum, which contain microbes to break down cellulose (Achievement), so a diet high in raw plant matter is not suitable (Merit). The caecum, which does break down cellulose, is located further down the digestive tract (between small and large intestine) (Achievement), so some cellulose can be broken down (Merit), but it is not as effective (Merit). Birds have a crop and gizzard (Achievement), which are effective at grinding/breaking up pellets (Merit). Stomach contains acid and enzymes (Achievement), which are efficient for breaking down protein (Merit).

Examples of evidence for answers

(c) **Describes** (Achievement) / **Explains** (Merit) / **Compares and contrasts** (Excellence) which feed is more suitable for week-old chicks.

- Young animals need high-protein diets (Achievement), as protein is needed for muscle and bone development (Merit), and for growth and repair (Merit).
- Fats contain nutrients and trace elements (Achievement), and also provide energy for growth and body functions (Merit).

Mash	Crumble	Pellets
<p><i>Advantages</i></p> <ul style="list-style-type: none"> • Easy to eat, as the pieces are small. • High in fats, which provide energy for growth. 	<p><i>Advantages</i></p> <ul style="list-style-type: none"> • High in protein, which is needed for muscle and bone development. • High in fats, which provide energy and vitamins for growth. • Low in minerals/salts – as they are not laying, they do not need as much calcium. • Small pieces, so is easy to eat. 	<p><i>Advantages</i></p> <ul style="list-style-type: none"> • High in fats, which provide energy for growth.
<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Low in protein, so not as good for growth. • Very small pieces, which are easily lost or wasted on the ground. 	<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Small pieces are easily lost or wasted on the ground. 	<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> • Low in protein. • Large, so difficult to eat. • High in minerals/salts, which is not good for young chicks – especially as they are not laying.

Cut Scores

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