

Assessment Schedule – 2011

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

Evidence Statement

Question One

N1	N2	A3	A4	M5	M6	E7	E8
Describes ONE idea at the Achievement level.	Describes TWO ideas at the Achievement level.	Describes THREE ideas at the Achievement level.	Describes FOUR ideas at the Achievement level.	Explains THREE ideas at the Merit level.	Explains FOUR ideas at the Merit level.	Justifies the method chosen.	Fully justifies the method chosen.
<p>Examples of evidence for described answers may include:</p> <p>In (a) for the selected animal, describes where digestion takes place and the method(s) of digestion, and where nutrients are absorbed in the body.</p> <p>In (b) describes the differences in digestive systems between pigs and sheep.</p> <p>In (c) describes why feed requirements change throughout the year.</p> <p><i>Examples:</i></p> <p><u>Sheep</u></p> <p>Sheep are ruminants. In ruminant animals, pasture is digested by microbial digestion in the rumen. The microbial protein produced as a result of microbial digestion is then chemically digested in the abomasum.</p> <p><u>Pig</u></p> <p>Monogastric animals such as pigs digest food by chemical digestion (acids and enzymes) in the stomach. The nutrients are then absorbed into the blood stream in the small intestine.</p>				<p>Examples of evidence for explained answers may include:</p> <p>In (a) explains special features of the digestive tract that help nutrient absorption.</p> <p>In (b) explains how different feed types affect growth rates of both pigs and sheep.</p> <p>In (c) explains why the feed requirements change throughout the year in relation to lambing percentage or lamb growth rates.</p> <p><i>Example:</i></p> <p>Volatile fatty acids are absorbed through the rumen wall, which provide the animal with energy.</p> <p>Papillae increase the surface area for absorption of volatile fatty acids.</p> <p>Nutrients are absorbed into the blood through the small intestine.</p> <p>Villi increase surface area in the small intestine for the absorption of nutrients.</p>		<p>Examples of evidence for justified answers may include:</p> <p>In (c) justifies the changes in level of nutrition for breeding ewes throughout the year, and by applying comprehensive knowledge of livestock management.</p> <p><i>Example:</i></p> <p>After weaning, ewes can be fed a maintenance diet of summer pasture. They need just enough pasture to maintain their live weight. Before mating, ewes should be flushed (given extra feed) with 1.5 times maintenance, so that they gain weight to 55 kg. Flushing ewes need to be on good quality pasture or a crop such as kale, as they need digestible feed high in energy to increase liveweight. As ewes gain weight, their ovulation rate increases, which will increase the lambing percentage.</p> <p>After mating, ewe liveweight can be maintained until late pregnancy, when ewes need to be fed high</p>	

	<p>Lambs are ruminant animals, so have the ability to digest pasture through microbial digestion in the rumen. Therefore lambs will grow quickly on fresh leafy pasture, which is high in protein and energy, and very digestible. Fresh leafy spring pasture is the cheapest feed for lambs, and if fed high quantities of this, they will reach slaughter weights early. They do not need to be fed expensive meal to achieve high growth rates.</p> <p>Feeds need to have a balance of protein and carbohydrates, as protein is needed for muscle development and the carbohydrates provide the energy for fast growth.</p> <p>After weaning, ewes can be fed a maintenance diet of summer pasture. They need just enough pasture to maintain their live weight. Before mating, ewes should be flushed (given extra feed) with 1.5 times maintenance, so that they gain weight to 55kg. Flushing ewes need to be on good quality pasture or a crop such as kale, as they need digestible feed high in energy to increase liveweight. As ewes gain weight, their ovulation rate increases, which will increase the lambing percentage.</p>	<p>quality feed (1.5 times maintenance) so that they lamb in good condition and produce lots of milk to feed lambs. If feed quantity in late pregnancy is too high, lambs could get too big, causing lambing problems. However if ewes are not given extra feed in late pregnancy, they could lose lambs or get diseases such as sleepy sickness, resulting in the death of ewes and lambs.</p> <p>At lambing, ewes should be fed 3 times maintenance to produce lots of milk to feed lambs, especially multiple lambs, so they will grow quickly and reach good liveweights by weaning. Well-grown lambs at weaning will continue to grow fast after weaning, reaching slaughter weights quickly.</p>
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NØ = No response; no relevant evidence.

Question Two

N1	N2	A3	A4	M5	M6	E7	E8
Describes ONE idea at the Achievement level.	Describes TWO ideas at the Achievement level.	Describes THREE ideas at the Achievement level.	Describes FOUR ideas at the Achievement level.	Explains THREE ideas at the Merit level.	Explains FOUR ideas at the Merit level.	Justifies the method chosen.	Fully justifies the method chosen.
<p>Examples of evidence for described answers may include:</p> <p>In (a) describes how to insert an ear tag(s) in the correct position OR describes the information that should be found on ear tag(s).</p> <p>In (b) describes the importance of ram selection.</p> <p>In (c) describes the effect of foot rot on wool quantity or quality.</p> <p><i>Examples:</i></p> <p>Load the plastic ear tag /brass into the applicator. The plastic tag should be placed in the centre of the ear, so that the number is easy to read and will not pull out or get caught on anything.</p> <p>The brass/nickle tag should be placed on the top corner of the ear, so that it fits on the ear but cannot move about or hang down, so that it does not get caught.</p> <p>Information could include: number, name of farm, year code.</p> <p>A ram can have several hundred offspring in his lifetime, compared to a ewe, which could have 6–10.</p> <p>Foot rot problems can reduce the quality, ie staple length of the fleece, as the animal is sick and more energy and resources go into combating the disease.</p>				<p>Examples of evidence for explained answers may include:</p> <p>In (b) explains why more emphasis is put on selecting sires / rams.</p> <p>In (c) explains how environment affects genetic potential.</p> <p><i>Example:</i></p> <p>More emphasis will be put on selecting rams, as they pass on more genetic material to more offspring in their lifetime, compared to ewes. A ram can have several hundred offspring in his lifetime, compared to a ewe, which could have 6–10. Therefore it is important they have the right characteristics, such as fine wool, to pass on to their offspring to improve farm profit.</p> <p>The rams from Breeder 2 have been bred in a similar environment to those of the high country farmer, so their genetic potential should be similar on that farmer's property. The fibre measurement (in microns) is similar, but the rams from Breeder 2 are free of foot rot.</p> <p>The rams from Breeder 1 have been bred on lower country,</p>	<p>Examples of evidence for justified answers may include:</p> <p>In (c) justifies the decision to buy rams from Breeder 2 by applying comprehensive knowledge of livestock management.</p> <p><i>Example:</i></p> <p>Buying rams from Breeder 2 is better than buying rams from Breeder 1. The rams from Breeder 2 have been bred in a similar environment to those of the high country farmer, so their genetic potential should be similar on that farmer's property. The fibre measurement (in microns) is similar, but the rams from Breeder 2 are free of foot rot.</p> <p>The rams from Breeder 1 have been bred on lower country, which is a different environment to the high country farm. Therefore they may not perform the same (ie produce the same amount of fine wool or as fine a wool) as those from the high country environment. Breeder 1's flock also has problems with foot rot, which the high country farmer does not have, and does not want to introduce to the flock.</p> <p>Although fine wool receives a</p>		

	<p>which is a different environment to the high country farm. Therefore they may not perform the same (ie produce the same amount of fine wool or as fine a wool) as those from the high country environment.</p>	<p>higher price than coarser wool, the finer wool also needs to be good quality and have a good fleece weight/quantity. To get good quality fine wool, buying rams with the genetic potential to pass this characteristic on to his progeny/offspring is important. However, foot rot problems can reduce the quantity and quality of wool produced, as sheep will not be able to move around to get feed, so will lose condition. This will affect both the quantity and quality (wool break) of wool, reducing the value of the wool.</p> <p>Foot rot problems can increase farm costs from treatment and increased labour from trimming feet, or regularly running sheep through a footbath to reduce the incidence of infection.</p>
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NØ = No response; no relevant evidence.

Question Three

N1	N2	A3	A4	M5	M6	E7	E8
Describes ONE idea at the Achievement level.	Describes TWO ideas at the Achievement level.	Describes THREE ideas at the Achievement level.	Describes FOUR ideas at the Achievement level.	Explains THREE ideas at the Merit level.	Explains FOUR ideas at the Merit level.	Justifies the method chosen.	Fully justifies the method chosen.
<p>Examples of evidence for described answers may include:</p> <p>In (a) describes how ONE method of controlling internal parasites is carried out.</p> <p>In (b) describes the effect of controlling parasites on ewe condition or lamb growth rates.</p> <p>In (c) describes ONE advantage or disadvantage of a method of controlling parasites.</p> <p><i>Examples:</i></p> <p><u>Oral drench</u></p> <p>The ewe is drenched by putting the drench gun down the throat/in the back of mouth/ side of mouth/into back of throat and holding the head back until the ewe swallows to make sure the ewe gets the correct amount of drench.</p> <p><u>Capsule</u></p> <p>Use the appropriate capsule applicator/dosing gun and the correct size of capsule for the weight of the ewes. Control the ewe by straddling its neck and holding the head against your knees or thighs. Hold the head and neck to match the angle of the dosing gun/ applicator, so as not to cause damage to the ewe’s throat. Insert the capsule and gun/ loaded applicator into the side of the mouth and onto the tongue until the animal starts to swallow. Allow the swallowing to draw the capsule and gun over the tongue and into the throat. Once the hilt/neck of the gun is at the corner of the mouth, press the plunger button to release the capsule gently. Observe the ewe to make sure the capsule has been swallowed and not spat out.</p> <p>By drenching sheep, they have no internal parasites/worms, meaning less pain/irritation of the gut, so they spend more time feeding. This leads to higher feed intake and better utilisation of feed, keeping sheep in good condition.</p> <p>Oral drenching is quicker to give to ewes than a capsule, as capsules are more difficult to give to ewes, so this method is more time-consuming.</p>				<p>Examples of evidence for explained answers may include:</p> <p>In (b) explains the effect of controlling parasites on ewe condition and lamb growth rates.</p> <p>In (c) explains the advantages and disadvantages of a method of controlling parasites.</p> <p><i>Example:</i></p> <p>By drenching sheep, they have no internal parasites/worms, meaning less pain/irritation of the gut, so they spend more time feeding. This leads to higher feed intake and better utilisation of feed, keeping sheep in good condition. If ewes are drenched before/after lambing they will be in good condition and will produce more milk for lambs, which will grow faster. If ewes are parasite-free, there will be fewer parasites in the pasture for lambs to pick up, reducing the need to drench them until weaning. Lambs free of internal parasites will eat more and grow faster.</p> <p>Giving ewes a capsule is more time-consuming than giving an oral drench, but it only has to be</p>		<p>Examples of evidence for justified answers may include:</p> <p>In (c) discusses the merits of both methods of internal parasite control, by providing advantages and disadvantages for the hill country farms. This will require applying comprehensive knowledge of livestock management.</p> <p><i>Example:</i></p> <p>Both methods will control internal parasites, resulting in better ewe condition, better milk production, and faster lamb growth rates.</p> <p>However, oral drench is cheaper than capsules. Oral drenching is quicker to give to ewes than a capsule, as capsules are more difficult to give to ewes, so this method is more time-consuming.</p> <p>Giving ewes a capsule is more time-consuming than giving an oral drench, but it only has to be done once, compared to oral drenching which will have to be carried out at least twice. It may be less labour-intensive than drenching orally, especially if the ewes have to be mustered in from long distances to the yards, which is difficult to do when ewes are in late pregnancy. If</p>	

	<p>done once, compared to oral drenching which will have to be carried out at least twice. It may be less labour-intensive than drenching orally, especially if the ewes have to be mustered in from long distances to the yards, which is difficult to do when ewes are in late pregnancy.</p>	<p>yards are close and mustering ewes is easy and does not take too long, then oral drenching is more cost-effective.</p> <p>There is a higher risk of causing parasite resistance when using capsules, as towards the end of the 100 days there is an increasing risk of the drench not killing all parasites, increasing the problem of causing drench resistance. However, if ewes are drenched correctly, based on weight, then problems with drench resistance can be minimised.</p>
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∅ = No response; no relevant evidence.

Judgement Statement

	Not Achieved	Achievement	Achievement with Merit	Achievement with Excellence
Score range	0 – 7	8 – 13	14 – 19	20 – 24