

## Assessment Schedule – 2014

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

#### Evidence Statement

#### Question One: Sheep

Not Achieved		Achievement		Achievement with Merit		Achievement with Excellence	
		“Demonstrate knowledge” requires <b>describing</b> how livestock management practices are carried out.		“Demonstrate in-depth knowledge” requires <b>explaining</b> why livestock management practices, or steps within practices, are carried out.		“Demonstrate comprehensive knowledge” requires <b>applying knowledge</b> of livestock management practices to given situations. This may involve comparing and/or 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 TWO ideas at Merit level.	Explains THREE ideas at Merit level.	Justifies the method chosen.	Fully justifies the method chosen by comparing and contrasting.

**N0** = No response; no relevant evidence.

#### Examples of evidence for answers

##### **Describes** (Achievement) how to vaccinate and **Explains** (Merit) why it is done

- Measure vaccine dose to the highest weight in the flock (Achievement,) so that no sheep are under-dosed (Merit).
- Create a tent of skin in the neck area (Achievement), to ensure that the injection is under the skin but not into the muscle (Merit).
- Inject into the neck area (Achievement), so that valuable meat is not damaged /cysts don't form from the needle (Merit).
- Ensure the needle is new, clean, and not damaged or rusty (Achievement), as poor-quality or faulty equipment can cause infection (Merit).
- Check expiry date of vaccine /don't use old vaccine (Achievement), as vaccines can lose their effectiveness if old or expired (Merit).
- Avoid wet conditions (Achievement), as vaccinating in the wet can result in infection (Merit).
- Make sure every sheep is vaccinated (Achievement), as missed sheep are more susceptible to disease.
- Make sure there are no air bubbles in the gun (Achievement), because air in the gun will result in sheep being under-dosed.
- Check that the vaccination gun is correctly calibrated (Achievement), so that sheep are not under-dosed.
- Read instructions on Vaccine (Achievement), so that sheep are not under-dosed.
- Put sheep in a race (Achievement), so that all sheep receive the vaccination.

**Explains** (Merit) how vaccinating improves production

Helps to prevent the occurrence of disease in stock/the flock (Achievement); healthy animals grow/produce better, which improves overall production (Merit). It also reduces the spread of disease amongst the herd (Merit). Ewes will pass the immunity on to their lambs through the colostrum (Merit).

**Describes** (Achievement) / **Explains** (Merit) / **Justifies** (Excellence) why one practice is preferable to the other

<b>Breeding with resistant rams</b>	<b>Treating with zinc</b>
<p><i>Advantages</i></p> <ul style="list-style-type: none"> <li>• Will eventually have a resistant flock (Achievement), so there will be no need to treat it (Merit).</li> <li>• Resistant animals will pass on their resistance to their offspring (Achievement), thereby improving future stock (Merit).</li> <li>• Will not have to pay for treatment every year (Achievement), so the cost of the resistant rams is outweighed by those savings in the long term (Merit). Less labour needed (Merit).</li> </ul>	<p><i>Advantages</i></p> <ul style="list-style-type: none"> <li>• The effect is immediate (Achievement), so don't have to wait for lambs to be born resistant/resistance to be bred in (Merit).</li> <li>• Only have to treat vulnerable or affected stock (Achievement), so money is not wasted on treating the whole flock (Merit).</li> <li>• Treatment only needed if the season is likely to have spores (Achievement).</li> <li>• Relatively cheap compared to buying in rams (Achievement).</li> </ul>
<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> <li>• Takes time to build a resistant flock.</li> <li>• Animals and production can be affected/reduced while resistance is bred in.</li> <li>• Can be costly to buy in rams.</li> <li>• Have to feed rams and provide ongoing care.</li> </ul>	<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> <li>• Does cost money.</li> <li>• May have to do it every year.</li> <li>• It is another job to do/labour-intensive.</li> <li>• Not permanent, so can re-occur.</li> </ul>

**Question Two: Deer**

Not Achieved		Achievement		Achievement with Merit		Achievement with Excellence	
		<b>Describes</b> how livestock management practices are carried out.		<b>Links ideas</b> to explain why livestock management practices, or steps within practices, are carried out.		<b>Applies knowledge</b> of livestock management practices to given situations. This may involve <b>comparing and contrasting</b> or <b>justifying</b> 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.

**Examples of evidence for answers**

**Describes** (Achievement) information tracked through the ear tags / **Explains** (Merit) how this information is used to improve production

- Drenching times, types, and amounts (Achievement), so that accurate records for that animal/ specific animals are kept (Merit).
- Vaccinating times, types, and amounts (Achievement), so that accurate records for that animal/ specific animals are kept (Merit).
- Weight records (Achievement), so that weight gains/ growth can be tracked (Merit). More feed can be given if needed (Merit).
- Pedigree (Achievement) to trace lineage, to help with future mating to improve herd quality (Merit), and to prevent mating with close relatives (Merit).
- All data gives better traceability (Achievement) so that data is easily transferred and accurate if stock is sold on (Merit), and so that the product is tracked through all processes from birth to retail [for the consumer] (Merit).
- Traceability of disease (Achievement), so can source or prevent outbreak (Merit).
- Traceability for temporary movement (Achievement), eg if animals are sent away for grazing (Merit).

**Describes** (Achievement) ONE other system used to identify animals for tracking prior to NAIT tagging

- Numbered ear tags can be attached to the ear of the animal.
- The animal can be branded with a hot iron. This is permanent, so the animal can be identified for life.
- The animal can be tattooed. This is permanent, so the animal can be identified for life.
- Ear marks or piece removed from the ear.
- Neck tags.
- Leg tags.

**Describes** (Achievement) / **Explains** (Merit) / **Justifies** (Excellence) why and when supplements would be fed

- Extra feed would have to be given in winter – May through August – (Achievement), because the hinds are pregnant during the winter months, so need extra feed for the growing foetus (Merit). Also, there is a pasture growth deficit (Merit).
- Pasture growth is typically slower during the winter months (Achievement), so extra feed is needed to maintain growth (Merit).
- Supplementary feed would be given in mid-summer – January and February – (Achievement), because the deer are still lactating/feeding the fawns (Merit) and pasture growth is low (Merit).
- Supplementary feeds are usually highly nutritional (Achievement) and so will maintain/boost energy levels for pregnancy and lactation (Merit).
- Pasture growth is nutritious and higher in spring than feed requirements (Achievement), so supplements will not need to be fed out then (Merit).
- Extra feed during the cold months will reduce condition loss (Achievement), and they will have more energy available to keep warm/maintain pregnancy growth (Merit).

**Question Three: Cattle**

Not Achieved		Achievement		Achievement with Merit		Achievement with Excellence	
		<b>Describes</b> how livestock management practices are carried out.		<b>Links ideas</b> to <b>explain</b> why livestock management practices, or steps within practices, are carried out.		<b>Applies knowledge</b> of livestock management practices to given situations. This may involve <b>comparing and contrasting</b> or <b>justifying</b> 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.

**Examples of evidence for answers**

**Describes** (Achievement) the steps taken during artificial insemination / **Explains** (Merit) why the steps are carried out

- Correctly identifying cows on heat (Achievement), so cow is more likely to get in calf or there is an egg present for the sperm (Merit).
- Semen is warmed/defrosted (Achievement), so it is viable/active/can swim and the uterus is not frost-damaged (Merit).
- Semen straw is loaded into the pistollet (Achievement), so that it can be inserted and then injected (Merit).
- Animal is restrained (Achievement) to prevent too much movement that could cause damage whilst the instruments are inside (Merit).
- Vulva is cleaned (Achievement) to reduce the chance of infection (Merit).
- Tools are cleaned between cows (Achievement) to reduce the risk of STIs/infection (Merit).
- Pistollet is guided through the cervix by a hand in the rectum (Achievement). This is to ensure that the pistollet passes through the cervix (Merit), and it also helps to prevent puncturing or damaging the uterus, vagina, or cervix (Merit).
- Semen is released high into the uterus (Achievement). This gives a better chance of fertilisation, because the sperm are closer to the fallopian tube where the egg is (Merit), and also because sperm are not lost in the convoluted cervix (Merit).
- Tail-paint cows that have been inseminated (Achievement), so the cow can be identified if she comes on heat again, meaning the AI was unsuccessful.

**Describes** (Achievement) the effect internal parasites have on cattle

- They absorb nutrients from the gut before they reach the bloodstream of the animal.
- They damage internal organs, meaning they do not function as well.
- They can release toxins that cause illness.

**Describes** (Achievement) / **Explains** (Merit) / **Justifies** (Excellence) why one sire is preferable to the other

<b>Sire A</b>	<b>Sire B</b>
<p><i>Advantages</i></p> <ul style="list-style-type: none"> <li>• Has low birth weight, therefore easier for the cow during calving (Achievement), so less likely to lose stock during calving (Merit).</li> <li>• Has rapid growth after weaning (Achievement), so will reach target weight faster (Merit), meaning they can be sent to the works earlier (Merit), giving a better price (Merit) and putting less pressure on pasture (Merit). Will not have to farm for a second winter (Merit).</li> <li>• Has high weight after 18 months, because of rapid growth after weaning (Achievement); this means it will have a high carcass weight at the works and fetch a better price (Merit).</li> </ul>	<p><i>Advantages</i></p> <ul style="list-style-type: none"> <li>• Good-sized calf at birth (Achievement), and still a good end weight (Achievement). Can wean earlier (Merit). Better survival rate when born because bigger and stronger (Merit).</li> <li>• Has higher resistance to parasites (Achievement), which means they will require less drenching / vaccinating (Merit), meaning less handling / labour (Merit) and lower costs of drenches (Merit). Will pass resistance on to offspring (Merit). Less likely to get internal parasites (Merit).</li> </ul>
<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> <li>• Rapid growth after weaning could mean that they need a lot of grass, putting pressure on pasture management.</li> <li>• Low resistance to parasites means that stock will need to be drenched / vaccinated regularly. This is costly and labour-intensive.</li> </ul>	<p><i>Disadvantages</i></p> <ul style="list-style-type: none"> <li>• High birth weight could cause trouble with calving.</li> <li>• Less growth and weight gain overall.</li> <li>• Slower growth rates.</li> </ul>

**Cut Scores**

	<b>Not Achieved</b>	<b>Achievement</b>	<b>Achievement with Merit</b>	<b>Achievement with Excellence</b>
<b>Score range</b>	0 – 6	7 – 12	13 – 18	19 – 24