Assessment Schedule – 2013

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

Evidence Statement

Question One – Cattle health

Not Achieved		Achievement		Achievement with Merit		Achievement with Excellence	
		"Demonstrate knowledge" requires **describing** how livestock management practices are carried out.		"Demonstrate in-depth knowledge" requires **explaining** why livestock management practices, or steps within practices, are carried out.		"Demonstrate comprehensive knowledge" requires **applying knowledge** 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 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 by comparing and contrasting.

N**0** = No response; no relevant evidence.

Examples of evidence for answers

Describe (Achievement) actions to carry out when monitoring cows for mastitis
Regular udder checks to look for swelling, redness, discharge, or discomfort when putting the cups on, hardening, blood in the milk, lumps in the milk.

Describe (Achievement) the actions taken to prevent spreading / **Explain** (Merit) why those actions are done (needs more of a link than just saying "so the diseased doesn't get passed to another cow")
• Separate / quarantine infected animals (Achievement) to prevent contact contamination (Merit).
• Have a form of identification on the cow, eg tag around leg, paint on udder (Achievement) so that they are milked separately (or last), to prevent contamination through the cups (Merit).
• Treatment of the infected cow (Achievement) so healing can begin and the duration of contamination is reduced (Merit).
• Workers wear gloves / wash hands after handling infected udders (Achievement) to prevent contamination of other cows by touch (Merit).
• Clean equipment / cups (Achievement) to prevent contamination through cups (Merit).
• Clean cows' udders after milking (Achievement) to prevent any contamination from infected cows through the cups (Merit).

Describe (Achievement) / **Explain** (Merit) / **Justify** (Excellence) why one practice is preferable to the other

Vaccinating while pregnant	Vaccinating six weeks after calving
Advantages	*Advantages*
• Vaccine protects the cow, and the calf after it is born.	• Only vaccinating live births.
• Calf gets antibodies / protection in the first 24 hours from drinking colostrum.	• Calves build up their own antibodies.
• Only have to handle one animal.	• Can rear calves on milk supplements.
• Calves are already resistant by the time they are earmarked / castrated / wound site is opened up.	
• Cows are less likely to get infected through injuries sustained during birthing.	
• Cost of vaccine for just one cow, and not a cow and a calf.	
Disadvantages	*Disadvantages*
• Calves have to be drinking vaccinated cow's milk to get benefits.	• Calves can have bad experience in the yards at a young age.
	• Calves are not protected from birth.
	• Possible milk withholding period / not suitable for dairy herds.
	• Cows can be dangerous when handling their calves.

Question Two – Feed management

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 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 by comparing and contrasting.

N0 = No response; no relevant evidence.

Examples of evidence for answers

> **Describe** (Achievement) / **Explain** (Merit) how a ewe's feed requirements vary from mating through to lactation
>
> - Feed increase is needed prior to mating / at flushing (Achievement), to increase ovulation in ewes (Merit).
> - Feed is reduced to maintenance for a few weeks after tupping (Achievement), as foetus is small / is not demanding a lot of nutrition from the ewe (Merit).
> - After scanning, feed is increased, especially for ewes carrying multiple lambs (Achievement), because the ewe needs to provide nutrients to several growing foetuses (Merit).
> - Feed needs to be plentiful during the second half of pregnancy (Achievement), as the foetus is developing rapidly / is bigger, so has higher nutritional requirements (Merit).
> - Less feed is required just before lambing (Achievement), so that the lambs are not too big for birthing / fewer lambing difficulties (Merit).
> - Feed needs to be plentiful during lactation (Achievement), so the ewe can provide enough milk for the growing lamb (Merit).

Describe (Achievement) / **Explain** (Merit) / **Justify** (Excellence) why one feed is better than the others

Justification should link in with the requirements for highly nutritious foods for growing animals for maximum bone, muscle, cellular growth, and / or nutritional requirements for fast-growing weaned pigs. All have high dry matter, so are easily stored. Barley would be the least effective feed.

Barley	Soybean meal	Canola meal
Advantages	*Advantages*	*Advantages*
• High fibre, so pigs feel full once they have eaten it.	• Low fibre, so not that much filler / roughage, which is harder to digest.	• High fibre, so pigs feel full when they eat.
• Has some protein for muscle growth.	• High palatability, so the pigs will eat more.	• Highly digestible, so nutrients are readily available to the animal.
• Cheaper than the other feeds.	• High in protein, which is good for body / muscle / bone growth.	• High in protein, which aids body growth.
• Possible to grow it yourself / more cost efficient.	• Highly digestible, so the nutrients are readily available to the animal.	
Disadvantages	*Disadvantages*	*Disadvantages*
• Low palatability, so they won't eat much / will only eat it when hungry.	• Can be costly.	• Low palatability, so animals are less likely to eat as much, which could reduce growth rates.
• Low protein.	• A lot of wastage, as the pigs eat more than they digest.	• Expensive, as it is an imported meal.
• Difficult to digest, as pigs don't have a rumen / caecum is further down the gut and not very effective at breaking down cellulose.	• Low fibre means digestion is faster, which can lead to more undigested matter in the faeces.	

Question Three – Deer farming

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 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 by comparing and contrasting.

N0 = No response; no relevant evidence.

Examples of evidence for answers

Describe (Achievement) oestrus detection in deer • Swollen, red vulva, mucus / clear discharge from vulva. • Increased restlessness. • Calling out / oestrus bleating. • Tail up. • Mounting other deer or standing to be ridden. • The flehmen response.

Describe (Achievement) / **Explain** (Merit) how identifying deer with the tenderness gene could help to improve the quality of production • By selecting those with the tenderness gene, the farmer can breed from them (Achievement), and the offspring will have that trait (Merit). • By breeding from deer with the tenderness gene, the farmer will have more does with that trait to breed from (Achievement) and can increase the frequency of the gene more quickly (Merit). *Note:* A punnet square can be used to help answer the question, but is insufficient on its own.

Describe (Achievement) / **Explain** (Merit) / **Justify** (Excellence) why a deer breeder buys stags from a specialist breeder rather than breed their own
• The stags have higher quality genetic potential (Achievement), which will improve production (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 material / stags (Achievement), so offspring will have the identifiable (desirable) trait (Merit). • Stags from a breeder have been gene tested (Achievement), so have the desirable traits (Merit). • Farmers have a choice of stags with different genetic traits (Achievement), so they can choose which traits they want introduced to the herd (Merit). • Less chance of undesirable traits being passed on to offspring (Achievement), so the farmer knows what traits the offspring have (Merit). • New stags can be bought every few years with new or different traits (Achievement), so the gene pool / genetics for production keep improving (Merit).

Judgement Statement

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