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NZQA

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Level 1 Agricultural and Horticultural Science, 2018

90921 Demonstrate knowledge of livestock management practices

9.30 a.m. Thursday 22 November 2018
Credits: Five

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate knowledge of livestock management practices.	Demonstrate in-depth knowledge of livestock management practices.	Demonstrate comprehensive knowledge of livestock management practices.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–12 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

Merit

TOTAL 16

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QUESTION ONE: DAIRY CATTLE

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The majority of dairy cows in New Zealand are artificially inseminated (AI) by an AI technician.

(a) Describe THREE actions that are performed when artificially inseminating dairy cows, and explain why each action is carried out in that way.

Action	Explanation
Check gear is clean and sterilised	it is important that before you stick the tube in the cows uterus it is properly cleaned and sterilised so know desiease can be transmited and that if semen has been left behind from prior use it will not change the genetics
make sure cow is secured	when artificially inseminating cows you have to stick your hand and a tube into the uterus which won't feel the best for the cows so they might kick and and try and wrestle their way so it is important so you don't get hurt and also you can give the cow the full dose and it won't get away
make sure the cow is on heat	half the time when cows are artificially inseminated they are not on heat meaning the egg is not ready for the semen which would be a waste of semen that the farmer has paid for that could of been used in another cow that was really on heat but also a waste of valubel time.

Bovine viral diarrhoea (BVD) is a highly infectious disease in New Zealand cattle that can cause reproductive losses, reduced growth rates, and lowered milk production. Cattle with BVD cannot be cured, but they can be vaccinated to prevent them getting it.

(b) ~~Describe~~ what a vaccine is, and explain how it works to improve animal health.

(vaccine)
A is a shot of antbiotics or some sort of medicen that is adminstered by a gun which is used to Prevent infectious disease from entering the system of cattle in new zealand by creating a barrier which would not allow Disease such as Bovine viral diarrhoea to effect animal health creating better growth rates better milk Production and better repoductions

In order to control bovine viral diarrhoea (BVD) in New Zealand, farmers vaccinate their cattle and cull any stock that are infected.

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(c) Justify why vaccinating the herd and culling infected cattle prevents outbreaks and the spread of BVD.

In your answer, consider:

- short-term and long-term effects on herd health
- the effectiveness of controlling the disease
- overall farm production.

When A farmer culls the infected Cattle of Bovine viral diarrhoea he is losing Profit or money because hes spent all this money raising the cow and giving it food then goes and culles it which could Posibbly end the spread of the disease on the spot but if he was identifying the disease by looking for the disease it could be to late and the disease could already be transmited to other cows therefore the cull of cows is only a short-term opperation optian and will not be effective on controlling Bovine viral diarrhoea where as if the faumer was to vaccinate the cows for Bovine viral diarrhoea it may cost him a little bit of money to start with but in the long run he would be earning money from the cows milk Production and would also gaining a extra cow when it reproduces the effectiveness of vacinating is good because once the cow has been given the vaccine the cow is now longer able to receive the disease //

More space for this answer is available on the next page.

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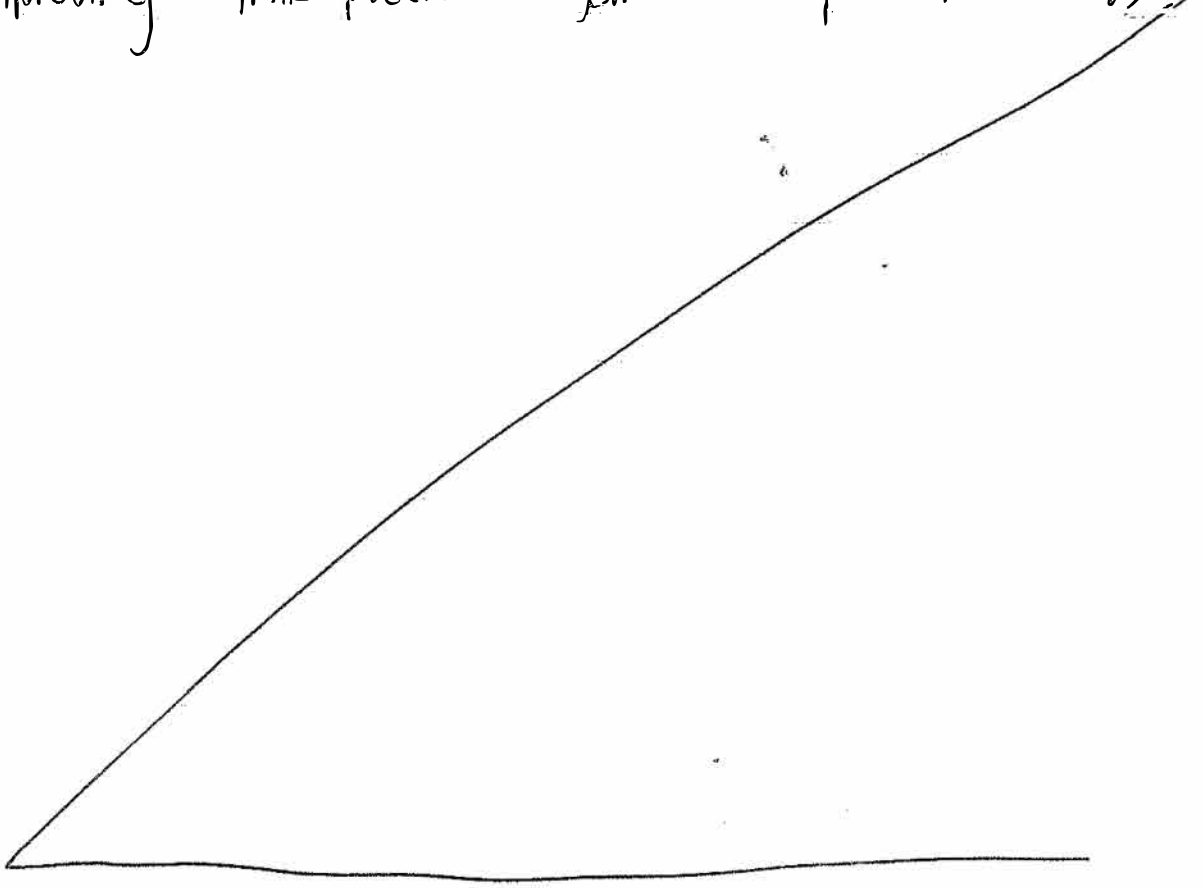
which would create a relaxed invironment for the farmer and his cows but avaral farm production would be great because the vaccine would improve animal health therefore improving milk production and reproduction //



M6

QUESTION TWO: SHEEP

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Sheep need to be crutched/dagged (removal of wool from around the tail and between the rear legs) regularly.

(a) Explain how crutching/dagging improves sheep health.

when the removal of wool from the tail and between the legs happens it stops the Dung getting traped in the wool and Dirtying the ~~wool~~ wool which improves sheep health by minimising the chance of getting disease and falling ill but also stops the smell.

Milk from sheep is a highly nutritious alternative to cow's milk. In New Zealand, milking sheep are farmed in a similar way to dairy cows and are milked twice a day.

Sheep-milking platform

Source: www.stuff.co.nz/business/farming/sheep/9441640/Milking-ewes-for-all-their-worth.

(b) Describe the feed requirements of lactating ewes, and explain why they differ from maintenance feed.

When feeding a lactating ewes you would have to ~~feed~~ increase the amount of food you give them but also ~~the right~~ like high protein foods feed that would improve milk production where as if you are maintenance feeding you have to give the right food like high carbs that will help maintain or increase the body weight.

In order to increase the quality and quantity of milking sheep in their flock, a farmer can either buy in rams to breed with their ewes or purchase more ewes.

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(c) Justify why a farmer would buy rams to breed with, rather than purchase ewes.
In your answer, consider:

- genetic potential
- short-term and long-term effects on production
- costs and efficiency.

short-term it would be better for the farmer to Purchase ewes but you would be unsure of the ewes genetic potential but it would increase milk production faster. long-term it would definetly be better to buy rams to breed with but ones that have good genetic Potential for milk Production so the offspring have the right traits for good milk production. the farmer would spend less (money) and almost double it flock if he was to breed lambs therefore increasing the quantity of milk he is producing. with the right genetic's from the rams the farmer could easily improve the quality of milking sheep. it would be a lot cheaper to Purchase rams to breed with but would take about a year improve the quality and quantity of miking sheep but which Purchasing ewes it would be more (difficult) cost effective but would faster (to) improve quality and quantity of milk therefore long-term would be to buy rams to breed or if the farmer was just looking for a short term option it would be to Purchase ewes

M5

QUESTION THREE: DEER

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Female deer can get pregnant only when they are in season or "on heat".

(a) Describe what "on heat" means, and explain why deer can get pregnant only during this time.

On heat means when a deer is ready to be mated by a male deer and the eggs is waiting for the semen in the female ovevs, female deer can only get pregnant when the ovavs release and egg which only happens evey couple of months//

A farmer has decided to buy in grain and palm kernel expeller (PKE) to use as supplementary feed.

(b) Explain why it is important that deer are gradually introduced to these feeds.

if the deev nas mever tryed to eat Palm kevnel expellev pefove it is veally impavtant that you gvadually intvoduce this supplementaly feed by limiting half and hour on that feed a day for the first couple days then change the deev back to thev navmaly feed then increase the amount of time on the Palm kemal expellev each days this is so the deev do nat get sick as thev stomach wont be used to the type of food//

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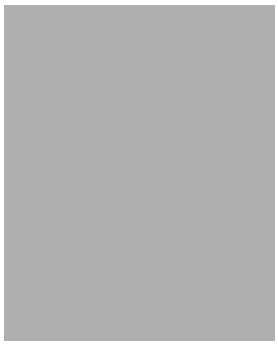
Copper is an element essential for deer health, and often deer need more than they can get from their diet alone. In order to increase the amount of copper in a herd's diet, a farmer can either place a slow-release capsule down the throat into the rumen or mix a copper-rich solution into the water troughs.

Copper capsules



Source: https://www.bayeranimal.co.nz/en/products/products-details.php?id=993.

Deer at a water trough

Source: https://www.rainmakerwildlife.com/drinkers/.

(c) Select the better method for ensuring that deer get enough copper in their diet. Justify your selection by comparing and contrasting it with the other management practice.

Selected management practice: Copper caps / Deer at a water trough //

In your answer, consider:

- effectiveness of each method
- labour and other costs
- long-term deer health.

Adding a copper rich solution into the water troughs would be easier for the farmer apply because all he would have to do is go around to each trough and mix it in to the water where as with the copper capsules he would have to round up every deer and place them in a pen then go around and then one by one place a capsule down there throats which would probably cost the farmer more for the capsules because he would have to purchase more. //

More space for this answer is available on the next page.

The effectiveness of the copper-rich solution could vary because some deer could drink more than others but with the copper capsule the farmer will be sure that each deer got the right amount of copper in their diet. but for the long term health of the deer both methods could really help add copper to their diet but overal the copper-rich solution would be easily and better for the deer diet.

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M5

Merit Exemplar 2018

Subject	Level 1 Agricultural and Horticultural Science	Standard	90921	Total score	16

Q	Grade score	Annotation
1	M6	The candidate showed an understanding of two of the three parts for this question. The candidate was not able to describe a vaccination and explain the linking to animal health. There were good points made in part C, which helped to show the candidate's greater understanding, i.e. the animal may be infected before symptoms show.
2	M5	Candidate was able to show a basic understanding of feed requirements for lactating ewes, and also impact of flystrike. For part C the candidate was able to show they understood the genetic potential rate of a ram vs a ewe, linking to production, cost and profit, and understood the benefits that the ram could bring into the flock.
3	M5	The candidate understood and could explain why a deer can only get pregnant when they are on heat. Part B was not done well, as they did not understand that the microbes of the rumen need to build up and adjust to the new feed to allow breakdown and then utilisation. Part C showed a basic comparison between the capsule and solution, in particular the labour and effectiveness.