



Australian and New Zealand College of Veterinary Scientists

Membership Examination

June 2012

Medicine of Dairy Cattle

Paper 1

Perusal time: **Fifteen (15)** minutes

Time allowed: **Two (2)** hours after perusal

Answer **ALL FOUR (4)** questions

All questions are of equal value

Answer **FOUR** questions each worth 25 markstotal 100 marks

Paper 1: Medicine of Dairy Cattle

Answer **ALL four (4)** questions

1. Answer **both** subparts of this question:
 - a) Outline the pathogenesis of Coliform mastitis in dairy cattle. *(5 marks)*
 - b) Briefly describe: *(20 marks)*
 - i. the clinical signs
 - ii. the treatment
 - iii. the prevention and control of acute coliform mastitis.

2. Answer **both** subparts of this question:
 - a) List the clinical signs of rumen acidosis from grain overload in adult dairy cows. *(10 marks)*
 - b) Briefly describe the pathophysiological mechanisms that can result in epistaxis and haemoptysis in grain overload. *(15 marks)*

3. You are presented with a valuable moribund 14-day-old calf that has a recent history of diarrhoea. On physical examination it has sunken eyes, rectal temperature of 35°C, heart rate of 80 beats per minute and a respiratory rate of 24. Outline a therapeutic plan for this calf. *(25 marks)*

4. A producer calls for advice regarding a high incidence of lameness in their herd. They would like you to perform a herd visit to investigate the problem. Outline a herd investigation plan detailing areas for investigation and how you will assess them. *(25 marks)*

End of paper



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Paper 2: Medicine of Dairy Cattle

Answer **ALL four (4)** questions

1. A large dairy herd in your area is experiencing a high incidence of ‘downer’ cows during the calving period. In the four weeks since the start of calving, forty cows out of a total herd size of one thousand have gone down giving a clinical case rate for the period of 4%. Treatment by the farm staff is often unsuccessful and they have requested your advice.

Discuss your approach to the management of this case.

In your answer include details of:

- a) how you would establish a diagnosis (5 marks)
 - b) treatments you would use for your most likely diagnosis (10 marks)
 - c) preventive strategies that you would advise for your most likely diagnosis now and in the future. (10 marks)
2. A client has requested your opinion on his replacement calves. The mob consists of 135 weaned dairy replacements at five months of age. The calves are currently grazing an irrigated nitrogen boosted clover ryegrass mix which is providing around 2500 kgDM/ha. During the past two weeks approximately fifty calves from this group have begun to lose weight, develop rough coats, develop diarrhoea and become anorexic. Some are coughing intermittently. Two calves have died in the last two days.

Answer **both** subparts of this question:

- a) Discuss your differential diagnoses for this case. (10 marks)
- b) Formulate a preventive health plan suitable for weaned calves in your geographical area that will prevent these diseases occurring. (15 marks)

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3. Chronic poor reproductive performance on a dairy farm is compromising herd performance. Analysis of herd data reveals a first service conception rate to artificial insemination of 20%. Answer **all** subparts of this question:
- a) Discuss the variables that can contribute to poor first service conception rate. (10 marks)
 - b) Outline an investigation plan for this case. (5 marks)
 - c) Describe possible strategies that you would recommend to improve reproductive performance in this herd, including strategies to monitor reproductive performance. (10 marks)
4. A seasonal dairy herd under your care is experiencing an ongoing mastitis problem during mid-lactation characterized by a high average (300,000 cells per mL) and fluctuating bulk tank somatic cell count with some cell counts exceeding 400,000 cells per mL. The clinical mastitis case rate is 6-10% of the milking herd over the past two months. Both *Streptococcus uberis* and *Staphylococcus aureus* have been cultured from recent clinical cases.

Discuss how you would investigate this problem (15 marks) and the advice you would give the farmer to reduce the bulk tank somatic cell count and the clinical case rate during the next two months. (10 marks)

End of paper