



**AUSTRALIAN AND NEW ZEALAND  
COLLEGE OF VETERINARY SCIENTISTS**

**MEMBERSHIP GUIDELINES**

*Medicine of Sheep*

**INTRODUCTION**

These Membership Guidelines should be read in conjunction with the *Membership Candidate Handbook*.

**ELIGIBILITY**

Refer to Section 2 of the *Membership Candidate Handbook*.

**OBJECTIVES**

To demonstrate that the candidate has sufficient knowledge of and experience in the veterinary care and medicine of sheep to be recognised as an advanced practitioner. Successful completion of Membership examination represents a middle-tier of knowledge, competence and experience in medicine, production and management of sheep.

**LEARNING OUTCOMES**

These guidelines relate to the discipline of general ovine medicine which covers the veterinary care of commercially farmed sheep in Australia and New Zealand, including an understanding of production related disease. Veterinary care of sheep kept as pets is not a specific focus of the Chapter; rather, candidates should be able to address these issues using first principles.

The candidate should have a **sound**<sup>1</sup> knowledge of the production and management of sheep and the associated diseases when sheep are farmed for:

- a. meat
- b. wool and
- c. milk

across a range of production systems, including:

- a. high rainfall
- b. wheat-cereal zone, and
- c. pastoral zones

in either Australia or New Zealand.

They will demonstrate a **sound** knowledge of:

- the aetiology, epidemiology, economic impact, pathology, diagnosis, treatment and control of diseases of sheep endemic to these countries (both infectious and non-infectious)
- the infectious diseases of sheep currently exotic to either Australia or New Zealand, but which pose a significant threat to sheep health if introduced. This includes developing a differential list to exclude such diseases, and a knowledge of the likely industry and governmental response to an incursion
- the investigation of disease outbreaks and nutritional, metabolic, genetic and toxicological disorders
- factors which adversely affect the reproductive capacity of sheep flocks and ways to investigate the cause or causes of low reproductive rates
- the welfare issues relevant to the farming of sheep and their legislative controls
- the application of biosecurity principles as they relate to sheep management
- the public health issues (including zoonotic diseases, food safety, antimicrobial stewardship and chemical residues) associated with sheep veterinary practice and how to practically mitigate their risks
- the nutritional management of sheep as it relates to both production and disease
- the sheep industries and the routine operation of sheep enterprises, with familiarity of normal husbandry procedures.

## DESCRIPTION OF THE SUBJECT

The candidate should study:

- The sheep industry of the country of residence, its structure and role
- Farm management, as it relates to routine procedures, animal welfare, disease prevention and biosecurity, and those factors that may act as constraints to optimal production or lead to the occurrence of disease.
- The nutrition of sheep in relation to their survival, growth, disease, reproduction and productivity.

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<sup>1</sup>

**Sound knowledge** – candidate must know all of the principles of the topic including some of the finer detail and be able to identify areas where opinions may diverge. A middle level of knowledge.

**Basic knowledge** – candidate must know the main points of the topic and the major literature.

- Diseases of sheep endemic to Australia and New Zealand, including their epidemiology, clinical signs, post-mortem lesions, samples required to confirm diagnosis, treatment, control, prevention and economic impact.
- Reproductive physiology of the ram and ewe and diseases and other factors that may reduce reproductive performance.
- Those plants and agents toxic to sheep in the region of residence, and the resulting toxicological conditions, with reference to those in the candidate's own district.
- Diseases of sheep exotic to the country of residence which pose a threat to the sheep industry, the appropriate measures for preventing their introduction, and the strategies to be employed in the event of an incursion.
- Methods of investigation of disease outbreaks and of occurrences of suboptimal production in a group of sheep.

## EXAMINATIONS

For information on the required standard and format for both the Written and Oral examinations the *Membership Candidates Handbook*. The Membership examination has **two components**:

1. **Written Examination (Component 1)**  
**Written Paper 1** (two hours): Principles of the Subject  
**Written Paper 2** (two hours): Applied Aspects of the Subject
2. **Oral Examination (Component 2)**  
**Oral** (one hour)

The written examination will comprise of two separate two-hour written papers taken on the same day. There will be an additional 15 minutes perusal time for each paper, during which no writing in an answer booklet is permitted. In each paper you are provided with four (4) questions to answer, worth 30 marks each, giving a total of 120 marks per paper. There is no choice of questions. Questions may be long essay type, a series of shorter answer sub-questions, or multiple-choice questions. Marks allocated to each question and to each subsection of questions will be clearly indicated on the written paper.

### Written Paper 1:

This paper is designed to test the Candidate's knowledge of the principles of Medicine of Sheep as described in the Learning Outcomes. Answers may cite specific examples where general principles apply but should primarily address the theoretical basis underlying each example.

### Written Paper 2:

This paper is designed to (a) test the Candidate's ability to apply the principles of Medicine of Sheep to particular cases/problems or tasks and (b) test the Candidate's familiarity with the current practices and current issues that arise from activities within the discipline Medicine of Sheep in Australia and New Zealand.

### Oral Examination:

This examination requires the candidate to demonstrate achievement of the above-mentioned Learning Outcomes. The duration of this examination is approximately one (1) hour. Five cases are presented with supporting questions asked verbally. The oral examination has a total of 100 marks with each case allocated 20 marks.

## RECOMMENDED READING MATERIAL<sup>2</sup>

The candidate is expected to read widely within the discipline, paying particular attention to areas not part of their normal work experiences. This list of books and journals is intended to guide the candidate to some core references and other source material. Candidates also should be guided by their mentors. *The list is not comprehensive and is not intended as an indicator of the content of the examination.*

### Recommended textbooks

The Practice of Sheep Veterinary Medicine (2018) Kym Abbott. Adelaide University Press, available as a free PDF download at:

<https://www.adelaide.edu.au/press/titles/sheep-medicine/>

*Veterinary Medicine* 11<sup>th</sup> ed (2016) Eds Peter D. Constable, Kenneth W. Hinchcliff, Stanley H Done and Walter Gruenberg. Elsevier Health Sciences.

*The Sheep. Health Diseases and Production* (2018) DM West, AM Bruere and AL Ridler. Massey University Press.

### Additional references

#### Country specific reading lists for Medicine of Sheep candidates

These are listed on the Small Ruminant Chapter home page under sheep – see <https://www.anzcvms.org.au/chapters/small+ruminant+chapter> or use [this link](#)

*Diseases of Sheep* 4<sup>th</sup> ed (2007)– ed ID Aitken. Blackwell Publishing, Oxford

*Trace Elements for Pastures and Animals in Victoria* Hosking *et al* available online at:

[http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/trace\\_elements\\_pastures](http://vro.agriculture.vic.gov.au/dpi/vro/vrosite.nsf/pages/trace_elements_pastures)

*Reproduction of Sheep* (1986) eds DR Lindsay and DT Pearce, an Australian Wool Corporation Technical Publication (reprinted 2011)

*Temperature Pastures, their production, use and management* (1987) eds JL Wheeler, CJ Pearson and GE Robards, an Australian Wool Corporation Technical Publication

*Australia's Poisonous Plants, Fungi and Cyanobacteria: A Guide to Species of Medical and Veterinary Importance* (2011) Ross McKenzie

*Veterinary Clinical Toxicology* 3<sup>rd</sup> ed (2006) K Parton, AM Bruere and KP Chambers published by New Zealand Veterinary Association

AUSTVETPLAN: <https://www.animalhealthaustralia.com.au/our-publications/ausvetplan-manuals-and-documents/> section 1 of Disease Manuals for exotic sheep diseases

[www.paraboss.com.au](http://www.paraboss.com.au)

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<sup>2</sup> **Recommended textbook** – candidates should own or have ready access to a copy of the book and have a sound knowledge of the contents.

**Additional references** – candidates should have access to the book and have a basic knowledge of the contents

**Additional reading materials** - These are conference proceedings, other non-refereed publications and other journals that would offer some information in the subject area including differing points of view but are not required reading.

### **Recommended Journals<sup>3</sup>**

Australian Veterinary Journal

New Zealand Veterinary Journal

Australian Animal Production Society Proceedings

New Zealand Animal Production Society Proceedings

### **Additional Reading Material**

*Sheep Health and Production* Sydney University Postgraduate Foundation – Proceedings 110

*Sheep Medicine* Sydney University Postgraduate Foundation – Proceedings 141

*Sheep Proceedings from Sydney University Postgraduate Foundation* Proceedings 58, 67, 11,111,141

Australian Sheep Veterinarians Conference Proceedings

New Zealand Sheep and Beef Cattle Society Proceedings

International Sheep Veterinary Congress Proceedings

### **Further sources**

Sheep Medicine lecture notes from a number of Veterinary faculties are also available, and are very useful. In addition, there are several consultancy/production newsletters available from colleagues.

Industry websites provide current management recommendations, for example:

<https://www.mla.com.au/extension-training-and-tools/sheep-producers/>

<https://www.wool.com/sheep/>

<http://www.lifetimewool.com.au/LTEM.aspx>

<https://beeflambnz.com/knowledge-hub>

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<sup>3</sup> **Recommended Journal** – candidates should have ready access to either print or electronic versions of the journal and have a sound knowledge of the published articles in the subject area.

**Additional Journal** – candidates should be able to access either printed or electronic versions of the journal and have a basic knowledge of the published articles in the subject area.

## **FURTHER INFORMATION**

For further information contact the College Office

Telephone: International +61 (07) 3423 2016

Email: [examinations@anzcvs.com.au](mailto:examinations@anzcvs.com.au)

Web: [www.anzcvs.org.au](http://www.anzcvs.org.au)

Postal Address: Building 3, Garden City Office Park, 2404 Logan Road  
EIGHT MILE PLAINS QLD 4113 Australia

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