



AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

MEMBERSHIP GUIDELINES

Avian Health (Poultry)

INTRODUCTION

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

ELIGIBILITY

The candidate shall meet the eligibility prerequisites outlined in the *Membership Candidate Handbook*.

OBJECTIVES

To demonstrate that the candidate has acquired a high level of knowledge and competence in the principles and applications of the discipline of poultry health which includes health related issues of commercial, fancy, backyard and show chickens; domestic ducks and geese; turkeys; gamebirds; quails and meat pigeons. A successful candidate is able to give sound advice in this field to veterinary colleagues.

LEARNING OUTCOMES

These outcomes relate to the discipline of poultry health, which includes veterinary care for poultry likely to be encountered in Australia and New Zealand, including:

- commercial, fancy, backyard and show chickens
- domestic ducks and geese
- turkeys
- gamebirds
- quails
- meat pigeons

Candidates are expected to be able to demonstrate that they have sound comparative knowledge of infectious and non-infectious diseases, husbandry, medicine and welfare of the species and varieties of birds that are commonly encountered in poultry practice in Australia and New Zealand, and relevant regulations and Codes of Practice.

For these species:

- 1 The candidate will have a **sound**¹ level of knowledge of:
 - 1.1 The anatomy and physiology of these particular species
 - 1.2 Taxonomy of these particular species
 - 1.3 Husbandry of extensive and intensive production systems
 - 1.4 The interaction between genetic, nutritional and environmental factors and pathogens in the development of disease
 - 1.5 The aetiology, clinical signs, lesions, pathogenesis, pathophysiology and epidemiology of infectious and non-infectious diseases in these particular species
 - 1.6 Investigation of health and performance issues including history taking, data collection and analysis and post mortem and sample collection techniques
 - 1.7 Diagnostic test interpretation and appropriate use including, but not limited to,
 - 1.7.1 Serology
 - 1.7.2 Molecular diagnostics
 - 1.7.3 Isolation and culture
 - 1.7.4 Histopathology.
 - 1.8 Treatment, husbandry and preventative techniques, including, but not limited to:
 - 1.8.1 Biosecurity
 - 1.8.2 Supportive flock care
 - 1.8.3 Feed and water management
 - 1.8.4 Appropriate prescribing guidelines, including the Codes of Practice for the Use of Therapeutics in Australia and New Zealand;
 - 1.8.5 Pharmacology, including knowledge of the pharmacokinetics and the pharmacodynamics of drugs which are suitable for treatment and also the various methods of administration.
 - 1.8.6 Medication programs for prevention and treatment of disease
 - 1.8.7 Vaccination programs and procedures
 - 1.8.8 Shed and equipment design, cleaning and disinfection
 - 1.9 Relevant welfare issues, including the Codes of Practice for Poultry Welfare in Australia and New Zealand;
 - 1.10 Regulations relevant to poultry practice including the list of reportable diseases and notification process involved in Australia and New Zealand:
 - 1.11 Normal species appropriate behavior, and how it relates to welfare
 - 1.12 New and emerging pathogens of poultry in Australia and New Zealand

¹ **Knowledge Levels:**

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.

- 2 The candidate will have a **basic**¹ level of knowledge of:
 - 2.1 Embryology, reproduction and incubation techniques, chick sexing techniques and hatchery hygiene principles
 - 2.2 The principles of immunology as they apply to production species
 - 2.3 Nutrition of extensive and intensive production systems
 - 2.4 Infectious diseases of birds currently exotic to Australia and New Zealand but which could be of potential significance or importance to the economics or production of these species. This includes legislative responses to exotic disease incursion.
 - 2.5 Hazard Analysis Critical Control Point (HACCP) principles
 - 2.6 Flock performance parameters in different production systems, including the methodology for demonstrating the economic benefits of new programs and procedures
 - 2.7 Hygienic meat and egg processing procedures
 - 2.8 Public health, food safety and zoonoses in Australia and New Zealand
 - 2.9 Be familiar with the provision of veterinary care for pet poultry.

The candidate will be expected to be competent at practical skills associated with the discipline, including catching and handling, clinical examination, history taking, diagnostic sampling and necropsy techniques.

EXAMINATIONS

For information on both the standard and format of the Written and Oral examinations, candidates are referred to the *Membership Candidates Handbook*. The Membership examination has **two separate 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 (approximately 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 or a series of shorter answer sub-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 and welfare of poultry, 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 and welfare of poultry 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 of medicine and welfare of poultry 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 hour. This will be conducted as a power point presentation, but test results or other physical aids may be used. Four (4) cases are presented with supporting questions asked verbally in a face-to-face setting. The oral examination has a total of 120 marks with each case allocated 30 marks.

RECOMMENDED READING MATERIAL

The candidate is expected to read widely within the discipline, from editions listed or later, 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 exhaustive and is not intended as an indicator of the content of the examination.

BIBLIOGRAPHY

Recommended Reading²:

Anon. (2002). *Australian Model Code of Practice for the Welfare of Animals – Domestic Poultry*, 4th Ed., Standing Committee Agriculture and Resource Management Report 83.

Anon. (2011). *USVETPLAN Manual on Avian Influenza, Agriculture and Resource Management Council of Australia and New Zealand*, Animal Health Australia, Canberra.

Anon. (2014). *AUSVETPLAN Manual on Newcastle Disease, Agriculture and Resource Management Council of Australia and New Zealand*, Animal Health Australia, Canberra.

Anon. (2017). *AUSVETPLAN Manual Poultry Industry enterprise, Agriculture and Resource Management Council of Australia and New Zealand*, Animal Health Australia, Canberra.

Anon. (2001). *Code of Practice for the Use of Antibiotics in the Poultry Industry*, Australian Veterinary Poultry Association.

Boulianne, M. (2013). *Avian Disease Manual*, 7th Ed., American Association of Avian Pathologists

Swayne, D. (2013). *Diseases of Poultry*, 13th Ed. Wiley Blackwell

Pattison, M. et al (2007). *Poultry Diseases*, 6th Ed. Elsevier Health Sciences.

Reece, W. O. (2015). *Dukes' Physiology of Domestic Animals*, 13th Ed. Cornell University Press, Ithaca.

King, A. S. and McLelland (1984). *Birds, their Structure and Function*, 2nd Ed. Balliere Tindall, London.

McLelland, J. (1991). *A Colour Atlas of Avian Anatomy*, WB Saunders Co, Philadelphia.

Bell D. D., Weaver W. D. (2002). *Commercial Chicken Meat and Egg Production*, 5th Ed., Kluwer Academic Publishers.

Dufour-Zavala, L. et al (2008). *Isolation and Identification of Avian Pathogens*, 5th Ed, American Association of Avian Pathologists, Pennsylvania.

² **Definitions of Textbooks**

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.

Randall, C. J. (1991). *Color Atlas of Diseases and Disorders of the Domestic Fowl and Turkey*, Iowa State University Press, Ames Iowa.

Sturkie, P. D. (1999). *Avian Physiology*, 5th Ed, Springer-Verlag, New York.

Useful Journals and Proceedings:³

- Australasian Veterinary Poultry Association / Commercial Poultry Veterinarians conference proceedings
- Avian Pathology
- Avian Diseases
- Poultry Science

Recommended Production Manuals and Standards:

Commercial broiler and broiler breeder

- Aviagen – Ross
- Cobb

Commercial layer and layer breeder

- Hy-Line
- Lohmann
- Isa

Commercial duck

Commercial turkey

FURTHER INFORMATION

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³ Definitions of Journals

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.

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.

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