2003 *(modified 2012)*

AUSTRALIAN AND NEW ZEALAND COLLEGE OF VETERINARY SCIENTISTS

MEMBERSHIP GUIDELINES

Veterinary Public Health

INTRODUCTION

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

ELIGIBILITY

The candidate shall meet the prerequisites outlined in the College Information Brochure 1996 for Membership in the discipline of Veterinary Public Health.

SPECIFIC OBJECTIVES:

To demonstrate a sound knowledge of the underlying principles of Veterinary Public Health and the application of these principles, and of the professional veterinary skills, knowledge and resources required for the protection and improvement of human health.

DESCRIPTION OF THE SUBJECT

Veterinary Public Health has been defined by WHO as **"the sum of all contributions to the physical, mental and social well-being of humans through an understanding and application of veterinary science"**. Thus, veterinary science contributes to human health by promoting the health of animals, which provide income, food, transport, draught power and the raw materials for clothing throughout the world (WHO, 2002). Veterinary Public Health embraces the following areas of knowledge: diagnosis, surveillance, epidemiology, control, prevention and elimination of zoonoses; protection of food (including meat and milk) for human consumption; food and meat science; environmental protection; animal welfare standards; and the social, behavioural and mental aspects of human-animal relationships.

REQUIREMENTS:

Candidates should demonstrate a sound knowledge of -

1. Zoonotic and non-zoonotic diseases of public health significance including:

a. The aetiology, epidemiology, and control of endemic and exotic zoonoses of Australia and New Zealand.

b. The aetiology, epidemiology, and control of endemic and exotic non-zoonotic food-borne infections and intoxications of Australia and New Zealand.

c. Epidemiological and investigational techniques employed in investigating zoonotic and foodborne disease outbreaks.

d. Surveillance programmes for zoonotic and non-zoonotic diseases, and laboratory techniques used for the diagnosis and surveillance of zoonotic and foodborne diseases.

e. Increased risk of zoonoses in the old, the young and in immunosuppressed groups.

f. Occupational safety and health in veterinary practice and the animal industries.

2. The production of safe meat (red meat, poultry, fish) including:

a. Design, construction and operation of abattoirs, meat processing establishments, cold rooms, meat transport vehicles and meat processing equipment.

b. Ante-mortem inspection, humane slaughter methods and ritual slaughter.

c. Diagnosis and surveillance of endemic and exotic disease in the abattoir and disease trace back procedures.

d. Post-mortem inspection principles and procedures, pathology and carcase disposition.

e. Hygienic dressing and processing protocols including:

i. Slaughter floor operations
ii. Boning room operations
iii. Chiller and freezer management

f. Principles of hygiene and sanitation including:

i. Insect and vermin control
ii. Water supplies
iii. Slaughterhouse sanitation programmes

g. Residues in meat, milk, eggs and honey including:

i. Public health issues surrounding the use of antibiotics for treatment, prophylaxis and growth promotion in food-producing animals, and antibiotic residues in meat.
ii. Public health standards (Maximum Residue Limits) that apply to chemical residues.
iii. Hormonal growth promoters and residues in meat.
iv. National residue surveillance programmes.

h. Hygienic production of fish (also molluscs and crustaceans) and fish products, including:

i. Procurement of fish
ii. Anatomical and physiological factors relating to fish quality
iii. Fish pathology as related to fish quality
iii. General principles of processing and temperature control
iv. Methods for preservation of fish

i. Relevant national and international legislation governing meat, fish and poultry inspection and hygiene, including the Codex Alimentarius.

3. Meat science and technology including:

i. Ante-mortem and post-mortem factors affecting meat quality.

ii. Anatomical and physiological factors affecting humane stunning and slaughter.

iii. The physical and biochemical changes in muscle pre- and post-mortem, with special reference to rigor, factors affecting the physical and chemical qualities of meat at room temperature, chilling and freezing and the electrical stimulation of carcases.

iv. Procedures used for the decontamination of animal carcases.

v. Microbial spoilage of meat.

vi. Microbial sampling of meat, meat contact surfaces and equipment.

vii. Carcass composition and classification, including cuts of meat, names of muscles which make up cuts, trade (product) descriptions and consumer identification practices, including Aus-Meat Standards or New Zealand equivalent

viii. Quality control, quality assurance and Hazard Analysis Critical Control Point (HACCP). principles.

ix. Principles of preservation of meat including physical and chemical methods, e.g. refrigeration, vacuum packaging, canning and curing, and the technology and public health aspects of making sausages and other small goods.

x. Principles of species testing for meat and fish.

xi. By product processing and rendering.

4. The production of safe milk and milk products including:

a. Public health aspects of production, processing and marketing of bovine, caprine and ovine milk and milk products.

b. Quality control of milk and milk products, including milk sampling and testing.

c. Public health issues surrounding antibiotic usage in milk-producing animals and antibiotic residues in milk.

5. Environmental protection including:

a. Pollution of water sources from animal industries.

b. Effluent treatment and disposal from abattoirs and intensive farming operations.

c. Environmental issues associated with aquaculture.

d. Pesticide residues in wool and dip site surrounds as a result of dip wash disposal.

6. Animal welfare including:

a. Welfare of food producing animals from farm to slaughter, including the standards set out in the official Codes of Practice in Australia and New Zealand.

b. Welfare of animals during transport, including live animal export.

c. Companionship and the human animal bond.

SUGGESTED READING LIST FOR CANDIDATES

This is a guide to relevant texts and it is not intended that all titles are acquired or read, however, the selection may be useful to candidates with different access capabilities. 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.*

Texts:

1. Synopsis of Zoonoses in Australia (1988). Stevenson WJ, Hughes KL. Commonwealth Department of Community Services and Health, 2nd Ed., Canberra.

2. Zoonoses in New Zealand. (1997) Wilks CR, Humble MW, Continuing Veterinary Education Foundation, Massey University, Palmerston North.

3. Handbook of Zoonoses (1994) Beran GW. 2nd ed., Section A/Section B; CRC Press, Boca Raton.

4. Exotic Diseases of Animals (1995) Geering, WA; Forman, AJ; Nunn, M J; BRS publication, Canberra

5. Livestock disease surveys: a field manual for veterinarians (1982). Cannon and Roe. Australian Government Publishing Service, Canberra.

6. Meat Safety Quality and Veterinary Public Health (2001) Andriessen, E. 4th ed., Penny Farthing Publishing Services, Port Adelaide.

7. Lawrie's Meat Science (1998) Lawrie RA. 6th ed., Woodhead Publishing.

8. Foodborne Microorganisms of Public Health Significance (1997) Hocking, AD; Arnold, G; Jenson, I; Newton, K; Sutherland, P. 5th ed., AIFST (NSW Branch) Food Microbiology Group, Sydney.

9. Veterinary Public Health. (1991/2) Revue Scientifique et Technique Vols. 10 (4), 11 (1).

10. Food Microbiology (1995) Adams, MR; Moss, MO. Royal Society of Chemistry, Cambridge, UK.

11. Meat Hygiene (1999) Gracey, JF; Collins, DS; Hue, RJ. 10th ed., Elsevier Science.

12. Food poisoning and Food Hygiene (1993) Hobbs, BC; Roberts, D. 6th ed., Arnold, London.

13. Veterinary Public Health Australia and New Zealand – a workshop for veterinarians (1991). Department of Primary Industry and Energy; Proceedings 172, Postgraduate Committee in Veterinary Science, University of Sydney.

14. The Use of Antibiotics in Food-producing Animals: antibiotic-resistant bacteria in animals and humans (1999) Report of the Joint Expert Advisory Committee on Antibiotic Resistance (JETACAR); Commonwealth Department of Health and Aged Care; Commonwealth Department of Agriculture, Fisheries and Forestry, Australia.

15. Future Trends in Veterinary Public Health (2002) Report of a WHO Study Group, Geneva.

16. Poultry Meat Hygiene and Inspection (1996) Bremner, AS; Johnston, AM. 2nd ed., Saunders, London.

17. A Colour Atlas of Meat Inspection (1990) Gil, JI; Durao, JC. Wolfe, London.

18. Wilson's Practical Meat Inspection (1998) Wilson, A; Wilson, W. 8th ed., Blackwell Science.

19. Animal Welfare and Meat Science (1998) Gregory, NG. CABI Publishing.

20. Australian Code of Practice for the Care and Use of Animals for Scientific Purposes (1997) 6th ed., NHMRC, publication no. 1960.

21. A Guide to the Implementation and Auditing of HACCP (1999) SCARM report 60, CSIRO publishing.

22. HACCP: An Integrated Approach to Assuring the Microbiological Safety of Meat and Poultry (1996) Sheridan, JJ; Buchanan, RL; Montville, TJ. Culinary and Hospitality Industry Publications Services, USA.

23. Food Safety and Quality Assurance: Foods of Animal Origin (1996) Hubbert, WT; Hagstad, HV; Spangler, E; Hinton, MH; Hughes, KL. 2nd ed., Iowa State Press.

Journals (these are journals that regularly publish public health-related articles)

1. Australian and NZ Veterinary Journals

3. Medical Journal of Australia and NZ Medical Journal

4. International Journal of Zoonoses

5. Epidemiology and Infection

6. Preventive Veterinary Medicine

7. Emerging Infectious diseases (hard copy or on-line: http://www.cdc.gov/ncidod/EID/index.htm)

7. Journal of Food Protection

8. International Journal of Food Microbiology

9. Meat Science and Poultry Science

WWW resources

1. ProMED - Project for the Monitoring of Emerging Diseases (Majordomo@usa.healthnet.org)

2. Various electronic special interest lists, e.g. EpiVet-L (listproc@upei.ca)

3. Online databases - Medline http://www.ncbi.nlm.nih.gov/PubMed/

Government reports

1. Communicable Disease Intelligence (Australian Commonwealth Dept of Health and Family Services) - http://www.health.gov.au/pubhlth/cdi/cdiintro.htm

2. The NZ Public Health Report - http://www.moh.govt.nz/nzphr.html

3. Morbidity and Mortality Weekly Reports (online) – http://www.cdc.gov/epo/mmwr/mmwr_snd.html

FURTHER INFORMATION

For further information contact the College Office

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