

Jeffrey J. Wichtel, BVSc, PhD, Diplomate ACT
Professor
Department of Health Management
Atlantic Veterinary College, University of Prince Edward Island
550 University Avenue, Charlottetown, PEI C1A 4P3, Canada

PROFESSIONAL EXPERIENCE

2013-2014	Interim Director, Animal Resources , Atlantic Veterinary College
2009- 2014	Associate Dean, Graduate Studies and Research , Atlantic Veterinary College
1998-	Associate Professor (1998-2006), Professor (2006-) & Chairman (2004-2009) , Department of Health Management, Atlantic Veterinary College
1990-1997	Senior Lecturer, Clinical Sciences , Massey University, Palmerston North, New Zealand
1987-1990	Clinical Instructor, Theriogenology, Herd & Flock Medicine & Food Animal and Equine Ambulatory Services , North Carolina State University
1985-1987	Resident in Theriogenology , Iowa State University
1981-1985	Mixed Animal Practitioner , Dannevirke, Southern Hawkes Bay, New Zealand

PROFESSIONAL EDUCATION

1991-1995	PhD , awarded in 1995, Veterinary Clinical Sciences, Massey University
1987	Board Certification , Diploma of the American College of Theriogenologists (DACT)
1985-1987	Clinical Theriogenology Residency , Iowa State University
1977-1981	BVSc , Massey University

CURRENT & RECENT ADMINISTRATIVE DUTIES

Selected AVC Appointments

- **Interim Director**, Animal Resources
- **Associate Dean**, Graduate Studies and Research, and Chair of the AVC Graduate Studies and Research Committee, October 2009 – present.
- **Chair**, Sir James Dunn Animal Welfare Centre Management Board 2009 –
- **Chair**, Department of Health Management, 2004 - 2009
- **Section Head (Service Chief)**, AVC Ambulatory Service Section, 2001-2004
- AVC Curriculum Task Force, 2000 - 2002

Selected UPEI Appointments

- **Chair**, Future Directions Committee for Faculty Development 2012
- Member of the Employer Team, Contract Negotiations with Faculty Bargaining Unit 1, 2010-11
- Member of the UPEI Research Advisory and Graduate Studies Advisory Committees
- UPEI Senate Promotions Committee, 1999 - 2004 (**Chair**, 2002 – 2004)
- UPEI Animal Care Committee, 2002 - 2004
- UPEI Graduate Faculty, 1998 - present
- UPEI Board of Governors, 1999 – 2004, member of Finance Committee

Selected Regional, National and International Appointments

- Member, American Association of Veterinary Medical Colleges (AAVMC) Advocacy Committee, 2014-2017
- Member, AAVMC Leadership Committee, 2014-2017
- Member, AAVMC Research Committee, 2010-2014
- Scientific Advisor and Scientific Peer Review Coordinator, National Farm Animal Care Council committee for the revision of the Code of Practice for the Care and Handling of Sheep, 2011-2013.
- Scientific Advisor, development of CFIA National Biosecurity Standards for Sheep, 2011-2013
- Scientific Advisor, development of CFIA National Biosecurity Standards for Goats, 2011-2013
- Board member, PEI Atlantic Shrimp Corporation Inc. 2011-2014
- Board member, PEI Aquaculture and Fisheries Research Initiative, Inc., 2009-2014
- Head Examiner at AVC for the National Examination Board of the Canadian Veterinary Medical Association, and section leader for Food Animal Practice, 2000 - 2004
- Atlantic Bovine Practitioners Association — founding member and Secretary / Treasurer 2000 - 2002
- Veterinary Advisor, Animal Care Committee, Agriculture and Agri-Foods Canada – Nappan Research Centre, 2001 - 2008
- Canadian Veterinary Medical Association 2000 and 2002 Conference Technical Committee — Food Animal Advisor
- Faculty Liaison, American Association of Small Ruminant Practitioners, 1999 – present

Editorial Appointments

- Assistant Editor, *Canadian Journal of Veterinary Research* 2000 - present
- Reviewer for the *Canadian Veterinary Journal* 1998 - present
- Editorial Advisory Board for *The Veterinary Journal* (previously *The British Veterinary Journal*) 1996 - 2006
- Reviewer for *Theriogenology Journal*, 1987 - 2001
- Reviewer for the *New Zealand Veterinary Journal* 1990 - present
- *Ad hoc* reviewer for a number of other international scientific journals

Development Activities

- Solicited funding for several new student awards
- Negotiated arrangements for philanthropic lease of grazing lands contiguous to campus for equine teaching herd

AWARDS

- Australian College of Veterinary Scientists Medal — Award for the Most Commendable Paper Published in the New Zealand Veterinary Journal, 1998

CURRENT PROFESSIONAL AFFILIATIONS

- Canadian Veterinary Medical Association (Associate Editor CJVR 2000-present)
- Prince Edward Island Veterinary Medical Association
- Atlantic Bovine Practitioners' Association (Secretary / Treasurer 2000-2002)
- American Association of Small Ruminant Practitioners (Faculty Liaison at AVC 1998-)
- American College of Theriogenologists
- Society for Theriogenology

CURRENT VETERINARY LICENSURE

- Licensed to practice in Prince Edward Island, Canada
- Holder of the Educational Certificate for Foreign Graduates (ECFVG) issued by the American Veterinary Medical Association

TEACHING & STUDENT MENTORSHIP

Veterinary Undergraduate and Professional Teaching

1985 — present. Didactic, laboratory and clinical instruction of professional veterinary students at Iowa State University, North Carolina State University, Massey University and the University of Prince Edward Island:

- Theriogenology in all species.
- Medicine, nutrition and herd and flock health management for production animals.
- Epidemiology, statistics, animal health economics, client communication, and career development.

Veterinary Postgraduate Training

Clinical Residency Supervision

- Dr. Jennifer McCarron, American Board of Veterinary Practitioners (Dairy Herd Medicine) 2006-2009.
- Dr. Wendela Wapenaar, American Board of Veterinary Practitioners (Dairy Herd Medicine) 2003 – 2006.
- Dr. Shawn McKenna, American Board of Veterinary Practitioners (Dairy Herd Medicine); Co-supervision with Dr. Greg Keefe, 2000 - 2003.

Degree Programs Supervised

- | | | | | |
|---|------|-----------------|---------------------------|----------------------------------|
| • | PhD | N. Ratanapob | supervisor | UPEI, in progress |
| • | MVSc | O. Raab | supervisory committee | UPEI, in progress |
| • | PhD | J. Reyes | supervisory committee | UPEI, in progress |
| • | MSc | S. Richards | supervisory committee | UPEI, in progress |
| • | PhD | A. Wagener | chair of committee | UPEI, defended 2012 |
| • | PhD | K. MacDonald | chair of committee | UPEI, defended 2011 |
| • | PhD | A. Ceballos | supervisor | UPEI, defended 2010 |
| • | PhD | J. Montgomery | supervisor | UPEI, defended 2009 |
| • | PhD | A. El Moslamany | chair of committee | UPEI, defended 2009 |
| • | MSc | T. Muirhead | co-supervisor | UPEI, defended 2008 |
| • | MSc | K. Swan | chair of committee | UPEI, defended 2006 |
| • | MSc | Z. Zhang | chair of committee | UPEI, defended 2005 |
| • | PhD | A. Mounchili | supervisor | UPEI, defended 2004 |
| • | MS | A. Nodtvedt | supervisory committee | UPEI, defended 1999 |
| • | MS | E. Leger | supervisory committee | UPEI, defended 1999 |
| • | MS | T. Joseph | supervisory committee | UPEI, defended 1999 |
| • | MVSc | B. Loveridge | supervisor | Massey University, defended 1998 |
| • | MVSc | K. Mueller | supervisor | Massey University, defended 1998 |
| • | MSc | D. Laborde | supervisory committee | Massey University, defended 1998 |
| • | PhD | S. Pearce | supervisory committee | Massey University, defended 1997 |
| • | MVSc | D. Hanlon | supervisory committee | Massey University, defended 1995 |

Biology Honors Program Supervised

- S. Power supervisory committee UPEI, defended 2005

Theses Examined

Doctoral

- Raphael Vanderstichel, University of Prince Edward Island (chairperson of examining committee), defended 2011
- Silvio Miranda, University of Guelph (external examiner), defended 2010
- F. Uehlinger, University of Prince Edward Island, defended 2007
- V. Benson, University of Prince Edward Island, defended 2006
- J. Sanchez, University of Prince Edward Island, defended 2003
- E. Hovingh, University of Prince Edward Island, defended 1998
- M. Curtis, University of Sydney, defended 1997

Masters

- Nadine Brooks, Dalhousie University (external examiner), defended 2013.
- T. Muirhead, University of Prince Edward Island, defended 2008
- K. Swan, University of Prince Edward Island, defended 2006
- J. Brake, University of Prince Edward Island, defended 2002
- P. Campbell, University of Prince Edward Island (chairperson of examining committee), defended 1999
- G. Martin, Nova Scotia Agricultural College (external examiner), defended 1999
- C. Putowski, University of Prince Edward Island, defended 1998
- J. Zhou, University of Prince Edward Island, defended 1998

Other Postgraduate Teaching

- VHM 871: Dairy Herd Health and Production Management, when offered.
- AVC Visiting Practitioner Program in Farm Services. Areas of specialty offered to date: Bovine Farm Service, Cattle Reproduction
- Postgraduate course for MSc students, Current Topics in Reproduction, Massey University, offered 1992-6.
- Production Economics: course offered to Australian College (Epidemiology) examination candidates, Ministry of Agriculture and Fisheries, Palmerston North, NZ, 1991-3.

FIELD OF RESEARCH INTEREST

Interactions between animal nutrition, disease, production and reproduction, with particular emphasis on trace element and vitamin nutrition in ruminants and horses

Citations 864 / h-index 18 / i10-index 26

COMMERCIALIZATION AND INNOVATION

Founding member, Board of Directors, MQM Inc. (2009), a company established to commercialize products and services arising from milk quality research.

RECENT FUNDING * career total ~ \$2M; grants and contracts since 2000 listed below.

Increasing Perinatal Lamb Survival in Island Sheep Flocks. **Wichtel, J.** PEI Sheep Breeders' Association / PEI Agriculture Research and Innovation Program, Applied Research Sub-program (Growing Forward II). \$75,800 (2013).

Improved livestock raising and business management through enhanced poultry production business models. **Wichtel JJ**, Dalziel L, Uehlinger F, and Wichtel M. Department of Foreign Affairs and International Trade, Canada, \$25,000 (2013).

Faculty and curricular development at a new school of veterinary medicine in Cameroon (École des Sciences et de Médecine Vétérinaire, U de Ngoundéré). Daoust P-Y, Wichtel ME, Theoret C, **Wichtel JJ**. Veterinarians Without Borders Canada, \$2500 (2011); UPEI Prospecting Fund, \$2000 (2012).

Enhanced livestock health and production capacity in Haitian rural cooperatives through training of trainers in best practices for livestock health and production management. Dalziel L, Uehlinger F, Wichtel M, and **Wichtel J**. Department of Foreign Affairs and International Trade, Canada, \$25,000 (2012).

Cost-benefit analysis for nutritional management of dairy calves and cows on smallholder dairy farms in Kenya. Vanleeuwen J, Gitau G, **Wichtel JJ**, Uehlinger F, Gamble, E. AVC Research Fund \$10,000 (2012).

Improving selenium nutrition in Maritime dairy herds. **Wichtel JJ**, Dairy Farmers of Prince Edward Island, Nova Scotia and New Brunswick, with matching provincial ACAAF funds, \$100,000 (2008-2010).

The effect of organic and inorganic selenium supplementation on selenium status of mares and selenium status and immune function of their foals. **Wichtel JJ**, Krause, J, Wichtel, M, Markham F, McClure J, McNiven M.. Sir James Dunn Animal Welfare Grant, \$67,461 (2007-2009).

Selenium supplements: transfer to milk and udder immunity in dairy cattle. *Ceballos A, Barkema H, Wittier F, Kruze J, Carlos J, **Wichtel JJ**. Alltech Inc., \$30,000 (2007).

Use of selenium treatment of pasture to prevent Se deficiency in horses. **Wichtel JJ**, Wichtel M McNiven, M, Krause J, Atlantic Veterinary College Internal Research Grant, \$7,465 (2006).

Evaluation of selenium and vitamin E status the general horse population on PEI. **Wichtel JJ**, Muirhead TL, McClure JT. Sir James Dunn Animal Welfare Grant, \$28,850 (2004).

Development of a novel assay for hypomagnesemia in horses. Wichtel MEG, **Wichtel JJ**, Quamme G. Atlantic Veterinary College Internal Research Grant, \$4,596 (2003).

Estrous synchronization and twinning research in beef cattle. **Wichtel JJ**, Charmley E, Duynisveld JL, Richardson GF, Lofstedt R. Agriculture and Agri-Foods Canada, \$17,000 (2001-7).

Factors associated with milk off-flavour in PEI dairy herds. **Wichtel JJ**, Keefe G, Van Leeuwen J, Dohoo I, Halliday L, Sampson R.. The Dairy Producers Association of Prince Edward Island and the Agricultural Research Investment Fund of PEI, \$150,000 (2000-1).

THESES AND BOOK CHAPTERS

Wichtel JJ. The B Vitamins. In: Haskell S. (ed.) Five-Minute Veterinary Consultant: Ruminant, 1st edition, Lippincott Williams and Wilkins (2009).

Wichtel, JJ. The Role of Selenium in Grazing Ruminants. Thesis, Ph.D in Veterinary Clinical Sciences, Massey University, 1995.

INVITED SCIENTIFIC EDITORIALS / REVIEWS / MONOGRAPHS

Cobo-Angel C, **Wichtel JJ**, Ceballos-Márquez A. The effects of selenium in human health. Animal Frontiers April 4:38-43, 2014.

Wichtel JJ, LeBlanc S, DesCôteaux L. Synchronized breeding programs in dairy herds: attitudes and opportunities. Large Animal Clinical Rounds 3:6, June 2004.

Wichtel JJ. Micronutrient research: why a cow is not a large rat. The Veterinary Journal 166: 107-8, 2003.

REFEREED JOURNAL PAPERS ¹

Richards S, VanLeeuwen JA, Shepelo G, Gitau G, Kamunde C, Uehlinger F, and **Wichtel JJ**. Association of farm management practices with yearly milk sales on smallholder dairy farms in Kenya. Preventative Veterinary Medicine, 2014 (in preparation)

Wichtel ME, Gomez D, Burton S, **Wichtel JJ**, Hoffman A. Relationships between equine airway reactivity measured by flowmetric plethysmography and specific indicators of airway inflammation in horses suspected of having inflammatory airway disease. Equine Veterinary Journal, 2014 (in preparation).

*Montgomery JB, **Wichtel JJ**, Wichtel MG, McNiven MA, McClure JT, Markham F, Adams AA, Horohov DW. The effects of selenium source on measures of selenium status of mares and selenium status and immune function of their foals. Equine Veterinary Science 32:352-9, 2012.

*Montgomery JB, **Wichtel JJ**, Wichtel MG, McNiven MA, McClure JT, Markham F, Horohov DW. Effects of selenium source on measures of selenium status and immune function in horses. Canadian Journal of Veterinary Research 76:281-91, 2012.

VanLeeuwen JA, Mellish T, Walton CG, Kaniaru A, Gitau G, Mellish K, Maina B, **Wichtel JJ**. A three-way north-south non-governmental organization partnership for improving smallholder dairy farms in rural Kenya. Tropical Animal Health and Production, 44:231-8, 2012.

*Ceballos-Márquez A, Barkema HW, Stryhn H, Dohoo IR, Keefe GP, **Wichtel JJ**. Bulk tank milk selenium and its association with milk production parameters in Canadian dairy herds. Canadian Veterinary Journal, 53:51-6, 2012.

*Montgomery JB, **Wichtel JJ**, Wichtel MG, McNiven MA, McClure JT. The efficacy of selenium treatment of forage for the correction of selenium deficiency in horses. Animal Feed Science and Technology, 17:63-71, 2011.

*Ceballos A, Barkema HW, Stryhn H, **Wichtel JJ**, Neumann J, Mella A, Kruze J, Espindola MS, Wittwer F. The effect of selenium supplementation before calving on early-lactation udder health in pastured dairy heifers. Journal of Dairy Science, 93: 4602-12, 2010.

*Ceballos A, Barkema HW, Stryhn H, Dohoo IR, Keefe GP, **Wichtel JJ**. Milk selenium concentration and its association with udder health in Atlantic Canadian dairy herds. Journal of Dairy Science, 93:4700-09, 2010.

*Muirhead TL, **Wichtel JJ**, Stryhn H, McClure JT. The selenium and vitamin E status of horses in Prince Edward Island. Canadian Veterinary Journal, 51:979–985 2010.

¹ * Indicates first author is a supervised graduate student

*Elmoslemany AM, Keefe GP, Dohoo IR, Wichtel JJ, Stryhn H, Dingwell RT, The association between bulk tank milk analysis for raw milk quality and on-farm management practices. Preventive Veterinary Medicine, 95: 32-40, 2010.

*Muirhead TL, McClure TJ, Wichtel JJ, Stryhn H, Markham RJF, McFarlane D, Lunn DP. The effect of age on the immune response of horses to vaccination. Journal of Comparative Pathology 142 (Suppl. 1) S85-S90. 2010.

*Ceballos A, Kruze J, Barkema HW, Dohoo IR, Sanchez J. Uribe D, **Wichtel JJ**, Wittwer F. Barium selenate supplementation and its effect on intramammary infection in pasture-based dairy cows. Journal of Dairy Science, 93:1468–1477, 2010.

*Ceballos A, Sanchez J, Stryhn H, Montgomery JB, Barkema HW, **Wichtel JJ**. Meta-analysis of the effect of oral selenium supplementation on milk selenium concentration in cattle. Journal of Dairy Science 91:1-19, 2009.

Wichtel JJ, Charmley E, Richardson GF, Duynisveld JL and Lofstedt R. Effects of postpartum energy intake on pregnancy rates in beef cattle subjected to GnRH- or CIDR-based timed artificial insemination protocols. Canadian Journal of Animal Science 88:439-447, 2008.

*Muirhead T, McClure TJ, **Wichtel JJ**, Stryhn H, Markham F, McFarlane D, Lunn DP. The effect of age on systemic antibody response following rabies and influenza vaccination in healthy horses. Journal of Veterinary Internal Medicine 22:654-661, 2008.

*Mouchili A, **Wichtel JJ**, Sanchez J. Geographical and temporal aspects of an outbreak of off-flavours in milk in Prince Edward Island dairy herds. Preventative Veterinary Medicine 17:154-61, 2006.

*Mouchili A, **Wichtel JJ**, Bousset J, Imhof MR, Altieri D, Mallia S and Stryhn H. HS-SPME GC characterization of volatile compounds in milk tainted with feed off-flavour. International Journal of Dairy Science 15: 1204-15, 2005.

*Mouchili A, **Wichtel JJ**, Dohoo IR, Keefe GP, Halliday LP. Risk factors for the sudden increase in off-flavours in Prince Edward Island dairy farms. Preventive Veterinary Medicine 64: 133-45, 2004.

Wichtel JJ, Van Leeuwen J, Keefe G, Spangler, E, McNiven, MA, Ogilvie, TH. The selenium status of lactating cows in Prince Edward Island. Canadian Veterinary Journal, 45: 124-32, 2004.

Wichtel MEG, Fenwick SG, Hunter J, Stephenson A, Martin D, **Wichtel JJ**. *Lactococcus lactis* as a cause of septicaemia and septic arthritis in a neonatal calf. Veterinary Record 153: 22-3, 2003.

Pfeiffer DU, Williamson NB, Reichel MP, **Wichtel JJ**, Teague WR. A longitudinal study of *Neospora caninum* infection on a dairy farm in New Zealand. Preventive Veterinary Medicine 54:

11-24, 2002.

VanLeeuwen JA, Tremblay R, Keefe GP, C. Power, **Wichtel JJ**. Seroprevalence of infection with Johnes's disease, enzootic bovine leukosis and bovine viral diarrhoea in Maritime Canada dairy cattle. *Canadian Veterinary Journal*, 42: 193-198, 2001.

*Hanlon DW, **Wichtel JJ**, Xu Z, Burton L. The reproductive performance of anoestrous dairy cows following treatment with CIDRs prior to the start of mating. *New Zealand Veterinary Journal*, 48: 5, 136-143, 2000.

Keefe GP, **Wichtel JJ**. Evaluation of melengestrol acetate and pregnant mare serum gonadotrophin for out-of-season breeding in Prince Edward Island sheep. *Canadian Veterinary Journal*, 41: 211-4, 2000.

Firth EC, Delahunt J, **Wichtel JJ**, Birch HL, Goodship AE. Galloping exercise induces regional changes in bone density within the third and radial carpal bones of Thoroughbred horses. *Equine Veterinary Journal*, 31: 111-5, 1999.

Wichtel JJ, Grace ND, Firth EC. The effect of injectable barium selenate on the selenium status of the horse. *New Zealand Veterinary Journal* 46: 142-6, 1998.

Wichtel JJ: A review of selenium deficiency in grazing ruminants 1: New roles for selenium in ruminant metabolism. *New Zealand Veterinary Journal* 46: 47-52, 1998.

Wichtel JJ: A review of selenium deficiency in grazing ruminants 2: Towards a more rational approach to diagnosis and prevention. *New Zealand Veterinary Journal* 46: 54-58, 1998.

*Pearce SG, Grace ND, Firth EC, **Wichtel JJ**, Holle SA and Fennessy PF. The effect of copper supplementation on copper status of pasture-fed young Thoroughbreds. *Equine Veterinary Journal* 30: 204-10, 1998.

*Pearce SG, Grace ND, **Wichtel JJ**, Firth EC, Fennessy PF. The effect of copper supplementation on copper status of pregnant mares and their neonates. *Equine Veterinary Journal* 30: 200-3, 1998.

*Hanlon DW, Williamson NB, Steffert IJ, **Wichtel JJ** and Pfeiffer DU: Re-insertion of the CIDR progesterone-containing intravaginal device to synchronise returns to oestrus in dairy heifers. *New Zealand Veterinary Journal* 45:15-18, 1997.

*Hanlon DW, Williamson NB, **Wichtel JJ**, Steffert IJ, Craigie AL and Pfeiffer DU: Ovulatory responses and plasma luteinizing hormone concentrations in dairy heifers after treatment with exogenous progesterone and estradiol benzoate. *Theriogenology* 47:963-975, 1996.

Wichtel JJ, Freeman DA, Craigie AL, Varela-Alvarez H and Williamson NB. Effect of selenium and iodine supplementation on growth rate, thyroid and somatotrophic function in dairy calves at

pasture. *Journal of Dairy Science* 79:1865, 1996.

Wichtel JJ, Thompson, KG and Williamson NB. Serum glutathione peroxidase activity reflects short-term changes in selenium intake in goats. *New Zealand Veterinary Journal*, 44: 148-150, 1996.

Wichtel JJ, Craigie AL, Varela-Alvarez H, Thompson, KG and Williamson NB. Effect of selenium and α -tocopherol supplementation on postpartum reproductive function of dairy heifers at pasture. *Theriogenology* 46: 491-502, 1996.

*Hanlon DW, Williamson NB, **Wichtel JJ**, Steffert IJ, Craigie AL and Pfeiffer DU: The effect of estradiol benzoate administration on estrus and ovulatory synchrony in dairy heifers after treatment with exogenous progesterone. *Theriogenology* 45: 775-786, 1996.

Wichtel JJ, Craigie AL, Varela-Alvarez H, Thompson KG and Williamson NB. Short-term alteration of voluntary feed intake after selenium supplementation in Angora goat kids. *New Zealand Journal of Agricultural Research* 39: 107-110, 1996.

Wichtel JJ, Craigie AL, Varela-Alvarez H, Thompson KG and Williamson NB. Effects of selenium and iodine supplementation on the growth rate, mohair production and thyroid status of Angora goat kids. *New Zealand Journal of Agricultural Research* 39:111-115, 1996.

Wichtel JJ, Freeman DA, Craigie AL, Varela-Alvarez H and Williamson NB. Alpha-tocopherol, selenium and polyunsaturated fatty acid concentrations in the serum and feed of spring-calving dairy heifers. *New Zealand Veterinary Journal* 44: 15-21, 1996.

Wichtel JJ, Craigie AL, Varela-Alvarez H and Williamson NB. Effect of intra-ruminal selenium pellets on growth rate, lactation and reproductive efficiency in dairy cattle. *New Zealand Veterinary Journal* 42:205-10, 1994.

Haven ML, **Wichtel JJ**, Bristol DG, Fetrow JF and Spears JW: Effects of antibiotic prophylaxis on postoperative complications after rumenotomy in cattle. *Journal of the American Veterinary Association* 200:1332-1335, 1992.

Wichtel JJ and Whitlock RH: An outbreak of botulism in horses associated with feeding of square bale alfalfa hay. *Journal of the American Veterinary Association* 199:471-472, 1991.

Wichtel JJ: When and why prostaglandins are used in postpartum dairy cows. *Veterinary Medicine*, June, 647-651, 1991.

Wichtel JJ, Whitacre MD, Yates DJ, and Van Camp SD: Comparison of the effects of PGF_{2 α} and bromocryptine in pregnant beagle bitches. *Theriogenology* 34:829-836, 1990.

Wichtel JJ, Reinertson EL, and Clark TL: Nonsurgical treatment of uterine torsion in seven mares. *Journal of the American Veterinary Medical Association* 193:337-338, 1988.

Wichtel JJ, Evans LE, and Clark TL: Termination of midterm pregnancy in mares using intra-allantoic dexamethasone. *Theriogenology* 29:1261-1267, 1987.

REFEREED SCIENTIFIC ABSTRACTS ²

Cobo C, Villa N, Duque P, **Wichtel JJ**, Sánchez J, Ceballos A. Systematic review and meta-analysis of the effect of selenium supplementation on udder health in cattle. National Mastitis Council, Ghent, Belgium, 2014 (under review).

Wichtel JJ, Fofana, B. Increasing selenium intake and milk selenium concentration of dairy cattle under commercial conditions through selenium-enhancement of forage and soybeans. World Buiatrics Congress, Lisbon, Portugal June 2012.

*Montgomery JB, **Wichtel JJ**, Wichtel MG, McNiven MA, McClure JT, Markham F, Horohov DW. The effects of selenium source on measures of selenium status of mares and selenium status and immune function of their foals. Conference of Research Workers in Animal Diseases (CRWAD) 90th Annual Meeting, Chicago, Illinois, USA, December 2009.

*Ceballos A, Stryhn H, Barkema HW, Neumann J, Mella A, Kruze J, Espindola S, Wichtel JJ, Wittwer F. Selenium supplementation in pasture-based primiparous cows and its effect on somatic cell count in early lactation. 12th Conference of the International Society for Veterinary Epidemiology and Economics (ISVEE XII), Durban, 2009.

*Ceballos A, Kruze J, Uribe D, Dohoo I, Sanchez J, Barkema HW, **Wichtel JJ**, Neumann J, Wittwer F. Selenium supplementation and SCC in pasture-based dairy cows. Mastitis Research Workers Conference, Toronto, Canada, 2008.

*Ceballos A, Neumann J, Mella A, Kruze J, Barkema HW, **Wichtel JJ**, Wittwer F. Effect of selenium supplementation on somatic cell count around calving and in lactating dairy cows. In: Lam TJGM (ed) *Mastitis Control: From Science to Practice*. Wageningen Academic Publishers. Wageningen, The Netherlands p155 2008.

Richardson GF, **Wichtel JJ**, Duynesveld J, Spears J. Effects of gonadotropin-releasing hormone five days post-insemination on luteal function and pregnancy rate in synchronized beef cattle. Proceedings of the 25th World Buiatrics Congress, Budapest, Hungary July 2008.

*Ceballos A, Sanchez J, Stryhn H, Krause J, Barkema HW, **Wichtel JJ**. Oral selenium supplementation in dairy cattle and milk selenium concentration: a meta-analysis. Proceedings of the Annual Meeting of the Canadian Association for Veterinary Epidemiology and Preventive Medicine (CAVEPM) Meeting, Charlottetown 2008.

² * indicates first author was a supervised graduate student or supervised honours or DVM student

*Montgomery JB, Wichtel MG, **Wichtel JJ**, McNiven MA, Markham F, Sheppard J, McClure JT. Effect of selenium source on selenium status and immune function in horses. Abstract. Poster presentation. Proceedings of the 2008 ACVIM Forum, San Antonio, Texas, USA. American College of Veterinary Internal Medicine, Lakewood, Colorado.

*Montgomery JB, Wichtel MG, **Wichtel JJ**, McNiven MA, Markham F, Sheppard J, McClure JT. Effect of selenium source on selenium status and immune function in horses. Poster presentation; Health Management seminar, Atlantic Veterinary College, February, 2008

*Ceballos A, Sanchez J, Krause J, Wittmer H, Barkema HW, **Wichtel JJ**. Effect of oral selenium supplementation in dairy cattle and milk selenium concentration: a meta-analysis. In: XXXII Annual Meeting of the Chilean Society of Animal Production. Frutillar, Chile, 2007.

*Muirhead T, McClure JT, **Wichtel JJ**, McFarlane D, Lunn DP. Effect of age on systemic antibody response following rabies and influenza vaccinations in healthy horses. Abstract, Proceedings of the ACVIM Forum 2006. American College of Veterinary Internal Medicine, Lakewood, Colorado, 2006.

Wichtel ME, *Power S, Quamme G, Hale L, **Wichtel JJ**. Differential gene expression in response to changes in magnesium intake in the horse: a measure of intracellular magnesium? Abstract 304 in Proceedings of the ACVIM Forum 2005. American College of Veterinary Internal Medicine, Lakewood, Colorado, June 1-4, 2005 p. 942.

Wichtel JJ, Bossett JO, Dohoo IR, Stryhn H, *Mouchili A. Effect of feeding baled grass silage on the sensory characteristics and the volatile fraction of raw milk. Proceedings of the 23rd World Buiatrics Congress, Quebec, 11-16 July 2004, abstract 594.

Wichtel JJ, Richardson GF, Charmley E, Lofstedt, R. The effects of synchronization method and postpartum energy intake on reproductive performance following timed artificial insemination in beef cows. Proceedings of the 23rd World Buiatrics Congress, Quebec, 11-16 July 2004, abstract 158.

Charmley E, **Wichtel JJ**, Duynisveld JL, Richardson GF. Effect of post-partum energy intake by beef cows on reproductive performance following timed AI by two methods. Canadian Journal of Animal Science 84:772, 2004.

Charmley E, **Wichtel JJ**, Richardson GF and Lofstedt R. Interaction between plane of nutrition and success of estrus synchronization using two methods. Paper presented at the joint ASAS/ASDA/CSAS meeting Quebec City, July 2002. Journal of Animal Science 80 (Supp.1): 206.

Dooley MP, **Wichtel JJ**, Plante C, and Hopkins SM: The influence of eosin B exposure on the in vitro development of bovine embryos. 20th Annual Meeting of the Society for the Study of Reproduction, University of Illinois, Urbana Ill., July 20-23, 1987. Abstract 94, p.78.

KEYNOTE / INVITED CONFERENCE PAPERS

Wichtel JJ. Keynote Speaker, Saskatchewan Sheep Development Symposium, Saskatoon, 2014

Wichtel JJ. Keynote Speaker for International Veterinary Conference on Reproduction and Metabolism, 4 papers delivered: Subfertility in High-producing Dairy Cows: Fact or Fiction?; Metabolic Determinants of Fertility in High-producing Dairy Cows; Improving Fertility in High-producing Dairy Cows; New Approaches to Treating Old Problems: Retained Placenta, Cystic Ovaries and Endometritis. Universidad de Nariño, Pasto, Nariño, Colombia, September 2008.

Wichtel JJ. Advances in Selenium and Vitamin E Nutrition in Dairy Cattle, and, Post-Partum Energy Intake: Effect on Reproductive Performance of Synchronized Beef Cows. International Seminar on Nutrition and Animal Feed, UNISARC, Santa Rosa de Cabal, Colombia, September 6-7, 2007.

Wichtel JJ. Advances in Supplementation of Selenium and Vitamin E; and, Truths and Myths in the Management of Reproductive Problems in Dairy Cattle. Sixth International Seminar in Reproduction and Metabolism in Cattle, Universidad de Caldas, Manizales, Colombia, May 2007.

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Wichtel JJ: Vitamin E in Grazing Ruminants. Trace Elements in Ruminants Workshop. Foundation for Continuing Education, Massey University, Palmerston North, New Zealand, December 8-9, 1997.

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Wichtel JJ and Cusack P: Micronutrients in cattle: toward a more rational approach to maintaining adequacy. Pp 61-70. The Australian Association of Cattle Veterinarians Brisbane Conference Proceedings 1997. Australian Association of Cattle Veterinarians, Indooroopilly, Queensland.

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*Muirhead T, McClure TJ, **Wichtel JJ**, Stryhn H, Markham F, McFarlane D, Lunn DP. The effect of age on the immune response of horses to vaccination. Prague, May 2009.

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Wichtel JJ, Keefe GP, Riley C. Oral melengestrol acetate treatment for out-of-season breeding in sheep possessing an extended breeding season: is prostaglandin F_{2α} beneficial? Proceedings of the 6th International Veterinary Sheep Congress, Fthenakis GC, McKellar QA (eds), Herisonissos, Crete, June 17-21, 2005, p.328-9.

*Mouchili A, **Wichtel JJ**, Dohoo IR, Keefe GP, VanLeeuwen JA, Halliday LJ. Off-flavours in bulk milk in Prince Edward Island Dairy Farms. Proceedings of the 10th Symposium of the International Society for Veterinary Epidemiology and Economics, Vina del Mar, Chile, 2003, published by ISVEE on compact disk.

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² * indicates first author was a supervised student

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*Mueller K, **Wichtel JJ**, Williamson NB: Comparison of milk oestrone sulphate with rectal palpation, ultrasound and farmers' observation for pregnancy diagnosis in seasonal New Zealand dairy herds. XX World Buiatrics Congress, World Association for Buiatrics, Sydney, Australia, July 1998.

Wichtel JJ: The role of selenium and iodine metabolism in thyroid function of calves. In: Denovo R (ed.), Proceedings of the Twelfth Annual Veterinary Medical Forum. American College of Veterinary Internal Medicine, Lakewood, Colorado, 1994.

NON-REFEREED PUBLICATIONS

Non-refereed Conference Papers

*Ceballos A; Sánchez J; Krause JB; **Wichtel JJ**. The effect of selenium supplementation on milk selenium concentration in cattle: a meta-analysis. Poster, AVC Health Management Seminar Series, University of Prince Edward Island, March 2007.

*Mounchili A, **Wichtel JJ**, Halliday L, Dohoo I, Keefe GP, Van Leeuwen JA, Gottshall-Pass K.

Transmitted flavours in milk in PEI dairy herds. Proceedings of the 54th Annual Convention of the Canadian Veterinary Medical Association, Halifax, July 2002; pp 260-1.

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Van Leeuwen JA, Tremblay R, Keefe GP, **Wichtel JJ.** Seroprevalence of production limiting diseases in Ontario and Maritime dairy cattle. Proceedings of the Annual Convention of the Canadian Veterinary Medical Association, Saint John, 2000, p. 397-405.

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Pfeiffer DU, **Wichtel JJ,** Reichel M, Williamson NB, Teague WR and Thornton RN. Investigations into the epidemiology of *Neospora caninum* infection in dairy cattle in New Zealand. Pp 279-92. In: Dairy Cattle and Industry. Proceedings of the 75th Jubilee New Zealand

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Firth EC, **Wichtel JJ**, Delahunt J, Goodship AE and Wilson AM: Bone mineral density in the third and radial carpal bones of exercised thoroughbred horses. Proceedings of the Equines Sessions, Second Pan Pacific Veterinary Conference, Christchurch. Publication 172, Veterinary Continuing Education, Palmerston North pp 79-82, 1996.

Wichtel JJ, Williamson NB and Craigie AL: Growth and reproduction in dairy heifers following administration of selenium pellets. In: Lee J, Turner MA, Joblin KN, Grace, ND, Savage, GP (eds.), Trace Elements: Roles, Risks and Remedies, Proceedings of the New Zealand Trace Element Group Conference, pp 130-134, Palmerston North, New Zealand 1992.

Wichtel JJ: A computerized spreadsheet for use in breeding soundness examinations of bulls. Proceedings of Society Theriogenology Annual Conference, 1989, p. 348.

Technical Reports

Dalziel L, Uehlinger F, Wichtel M, and **Wichtel J**. Enhanced Livestock Health and Production Capacity in Haitian Rural Cooperatives. Final report for DFAIT-sponsored project in Haiti, 2012.

Wichtel JJ, Mounchili, A. Assessment report on the University of Ngaoundere School of Veterinary Medicine and Sciences (ESMV), Ngaoundere, Cameroon. June 2011

Wichtel JJ. Improving Selenium Nutrition in Maritime Dairy Herds. For Dairy Farmers of PEI, NS and NB. 2011

Wichtel JJ, Mounchili A, Halliday LJ, Dohoo IR, Keefe GP, Van Leeuwen JV, Gottschall-Pass K, Gao L, McNiven MA, Sampson R. *The PEI Milk Off-flavours Project 2001-2004*. For the Dairy Farmers of PEI, April 2005.

Wichtel JJ, Keefe GP, Van Leeuwen JA, Spangler E, McNiven MA, Ogilvie TH. *The Selenium Status of Dairy Herds in Prince Edward Island*. For the PEI Dairy Farmers Association, November 2000.

Technical Publications and Reports

Wichtel JJ, Dalziel L, Uehlinger F, Wichtel M. Enhanced Livestock Health and Production Capacity in Haitian Rural Cooperatives: Phase I Report. Team Visit 22 April – 5 May 2012.

Wichtel JJ. Selenium Updates, Parts 1, 2, and 3. Mail-out brochures published for Dairy Farmers of PEI, NS and NB. 2012

Wichtel JJ, Mounchili A. Report of the UPEI team visit to the University of Ngaoundere School of Veterinary Medicine and Sciences, Ngaoundere, Cameroon, 22-26 June 2011.

*Montgomery J, **Wichtel JJ.** It's elemental, my dear: selenium – why it is important for your horse's health. A Vet's View column, *Atlantic Horse and Pony*, 25:5, pp 1012, April-May 2010.

*Mounchili A, **Wichtel JJ.** Milk off-flavour research in Prince Edward Island. *Cornerpost*, September 2003.

Wichtel JJ. Beef cattle growth implants - how do they work? *Atlantic Beef*, January, 2000.

Wichtel JJ. The selenium status of dairy herds in PEI. AVC Dairy Research Update, 2000.

Wichtel JJ. What can be done about milk off-flavour? Newsletter to PEI dairy producers, October, 1999.

Wichtel JJ, editor for a bimonthly column, Production Animal Update. *Vetscript*. The New Zealand Veterinary Association, Wellington, 10(5, 7, 9, 11), 1997.

Hanlon DW, **Wichtel JJ**, Xu Z, Burton L. The efficacy of treating anoestrous dairy cows with CIDRs: a controlled field trial - preliminary report. Newsletter of the Society of Dairy Cattle Veterinarians, Pp 3-4, September, 1997.

Wichtel JJ, Grace ND and Firth EC. Selenium in the horse: new developments. Equine Branch of the NZVA Newsletter, pp 8-14, October, 1997

Wichtel JJ. Production Animal Health Management Update. Newsletter of the Society of Dairy Cattle Veterinarians. April, 1997.

Wichtel JJ. Production Animal Health Management Update. Newsletter of the Society of Dairy Cattle Veterinarians. December, 1996.

Wichtel JJ: Bovine Trace Element Deficiencies. *The Veterinarian*. Reed Business Publishing, Chatswood, NSW, Australia. August, 1996.

Wichtel JJ: Subclinical iodine deficiency: is production affected? *Vetscript*. The New Zealand Veterinary Association, Wellington. 8:4 pp 4-5, May 1995.

Hughes P, Mossman D, McNeil P and **Wichtel JJ:** Serving Capacity Testing of Beef Bulls. Newsletter of the Sheep and Beef Cattle Society of the New Zealand Veterinary Association. Issue 1, December 1991.

Wichtel JJ: Question and answer article: canine gestation length. Society for Theriogenology Newsletter, March/April 1989.

Wichtel JJ: Taking another look at synchronization using prostaglandins. *Carolina Cattle Connection* 2:1, 1988.

Book Reviews

Color Atlas of Diseases and Disorders of Cattle, Second Edition. Blowey RW and Weaver AD. Mosby, 2003. The Veterinary Journal, in press 2003.

A Veterinary Book for Dairy Farmers. Blowey RW. Ipswich, Farming Press, 1999. The Veterinary Journal 159: 3, 1999.

Animal Breeding and Infertility. Edited by MJ Meredith. Blackwell Science Ltd, Oxford, 1995. Review provided to the New Zealand Veterinary Journal, 1996.

Managing Trace Element Deficiencies. Grace N. New Zealand Pastoral Agriculture Research Institute, 1994. Review published in the New Zealand Veterinary Journal, 1995.

McDonald's Veterinary Endocrinology and Reproduction. 4th edition. McDonald LE and Pineda MH, eds. Lea and Febiger, Philadelphia, 1989. Review published in the New Zealand Veterinary Journal, 1991.

INTERVIEWS

Newsprint Interviews

Wichtel JJ: June, 2001. Off-Flavours in Milk. Kathy Burt, interviewer, for Island Harvest

Wichtel JJ: August 14, 1996. Management of dairy cows before mating. Peter Bartlett, interviewer, for Country Wide Newspaper.

Wichtel JJ: September 13, 1996. Management of dairy cows during mating. Peter Bartlett, interviewer, for Country Wide Newspaper.

Radio & Television Interviews

Numerous interviews in capacity as Associate Dean - regarding research and graduate studies at UPEI / AVC

Wichtel JJ: October 2004. Selenium deficiency in health and disease, for CBC Radio Maritime

Noon.

PRESENTATIONS AND ADDRESSES

(See also Invited Papers, Conference Proceedings and Scientific Abstracts, above)

For Professional Audiences

Introduction to the NS Sheep Flock Health Program. NS Department of Agriculture, NSAC, Truro NS, December 7, 2007

Using professional competencies in the development of veterinary curricula: everyone's doing it! Presented to the AVC Faculty, April 30th 2003.

The teaching dossier and its importance in academic promotion. Presented at the Teaching Dossier Workshop, UPEI Teaching and Learning Centre, February 18th 2003.

New developments in estrous cycle control in beef cattle. Atlantic Bovine Practitioner's Meeting, Moncton, NB, January 2002.

New Roles for Selenium in Agriculture. Invited presentation to the Department of Herd Medicine and Theriogenology, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Saskatchewan. October, 1999.

Applying trace elements to pasture for the prevention of deficiency in grazing animals. Eastern Forage Improvement Conference, Nova Scotia Agricultural College, Truro NS, June 22, 1999.

Are grazing cows healthier cows? Invited address, Department of Animal Science, Nova Scotia Agricultural College, Truro NS, March, 1999.

Meat from pasture. Invited presentation to the Department of Herd Medicine and Theriogenology, Western College of Veterinary Medicine, University of Saskatchewan, Saskatoon, Saskatchewan. October 30, 1998.

Selenium deficiency - recent developments. Invited seminar provided for Department of Population Medicine, Ontario Veterinary College, University of Guelph, May 7, 1998.

Selenium in grazing ruminants. Trace Elements in Ruminants Workshop. Foundation for Continuing Education, Massey University, Palmerston North, New Zealand, December 8-9, 1997.

Vitamin E in grazing ruminants. Trace Elements in Ruminants Workshop. Foundation for Continuing Education, Massey University, Palmerston North, New Zealand, December 8-9, 1997.

Iodine deficiency in dairy cattle. Trace Elements in Ruminants Workshop. Foundation for Continuing Education, Massey University, Palmerston North, New Zealand, December 8-9, 1997.

Effective small group teaching for students of production animal medicine. Australian Veterinary Association Conference, Brisbane, May 9, 1997.

Micronutrients in cattle: toward a more rational approach to maintaining adequacy. The Australian Association of Cattle Veterinarians Brisbane Conference May 5, 1997.

Selenium metabolism in the horse. Seminar: Nutrition Growth and Development of the Horse. Agricultural Pastoral Research Institute, Palmerston North, New Zealand, May 28, 1997.

The role of selenium in grazing ruminants. ICP / Trace Elements Conference, Hamilton, New Zealand, November 20-22, 1996.

Evaluation of bull breeding soundness. Foundation for Continuing Education of the New Zealand Veterinary Association, Te Anau, October 8, 1996.

The role of selenium in grazing ruminants. Veterinary Faculty Seminar, Massey University, August 9, 1996.

The role of selenium in grazing ruminants. Presented to the Faculty, University of Pennsylvania, New Bolton Center, Kennett Square, Pennsylvania, June 27, 1996.

Bull soundness evaluation. Post Graduate Module in Dairy Cattle Reproduction, Foundation for Continuing Education of the New Zealand Veterinary Association, Palmerston North, June 14, 1996.

Current problems in the diagnosis and management of selenium, copper and cobalt deficiencies in grazing ruminants. Workshop on Fertilizer Requirements of Grazed Pasture and Field Crops: Macro- and Micro-nutrients. Massey University, Palmerston North, 1995.

Bull soundness evaluation. Presented twice, at the Te Awamutu Veterinary Services clinic and the Ashburton Hotel. September/October 1994.

Production animal providers of continuing education - a presentation at the plenary session of the Foundation for Veterinary Continuing Education strategic planning meeting, Palmerston North, October 5, 1994.

Novel concepts in the teaching of production animal medicine. Presented to the Animal Health Group, Veterinary Faculty, Massey University, Palmerston North, July, 1994.

The role of selenium and iodine metabolism in thyroid function of calves. Annual Forum, American College of Veterinary Internal Medicine, San Francisco, June 1994.

Selenium deficiency in dairy cattle: recent developments. Veterinary Faculty Seminar, University of Minnesota, June 1994.

The role of selenium and iodine metabolism in thyroid function of calves. Veterinary Faculty Seminar, Massey University, Palmerston North, April 1994.

Selenium deficiency in New Zealand dairy cattle: recent developments. Principal speaker at the Mineral Nutrition Seminar/Workshops for Veterinarians, presented in Whangarei, Morrinsville, Rotorua and Wanganui and Lincoln, March, 1994.

Micronutrient nutrition: its role in the reproductive efficiency of grazing cattle. Presented at the Post Graduate Module in Dairy Cattle Reproduction, Palmerston North, November, 1993.

Bull soundness evaluation, a seminar-workshop for veterinarians (principal speaker). Presented twice, at the Taranaki Agricultural Research Station, September 30, and the Morrinsville Veterinary Club October 30 1993.

Aspects of selenium deficiency in New Zealand dairy cattle: research update -presented to the Animal Health Group, College of Veterinary Medicine, Massey University, March 1993.

Fertility of mares after treatment with chlorhexidine. Society for Theriogenology Annual Meeting, San Antonio, 1992 (second author for poster presentation).

Growth and reproduction in dairy heifers following administration of selenium pellets. Poster presentation, Conference of the Trace Element Group, Palmerston North, New Zealand, 1992.

Serving capacity testing of beef bulls - presented to the Animal Health Group, College of Veterinary Medicine, Massey University, May 1992.

DairyMAN: computer program for dairy herd records - workshop for veterinarians, Massey University, February 20-21 1992.

A computerized spreadsheet for use in breeding soundness examination of bulls - presentation to the American Association of Bovine Practitioners Annual Conference, Kansas City, November 1989.

Sheep and goat medicine update - presented to the Salisbury/Concord Veterinary Group, Salisbury, NC, November 1988.

Canine reproduction update - presented to the Asheville Veterinary Group, Asheville, NC, April 1988.

Reproductive endocrinology of the mare - presented at the Student Chapter of the American Association of Equine Practitioners Seminar, North Carolina State University, October 1987.

The influence of eosin-B on in vitro development of bovine embryos - presented to the Faculty of the College of Veterinary Medicine, North Carolina State University, May 1987.

Reproductive management of the mare and stallion during the breeding season - presented to the Laboratory Animal Resource Section of the College of Veterinary Medicine, Iowa State University, December 1986.

Immunisation against androstenedione to increase fecundity in ewes - presented to the Department of Veterinary Clinical Sciences, Iowa State University, 1986.

Vaginal artificial insemination in the ewe - practical demonstration to the Eastern Iowa Veterinary Medical Association Meeting, Cedar Rapids, Iowa, May 1986.

Breeding soundness in the ram - presented to the Sheep Health Meeting, Iowa State Veterinary Extension, Iowa State University, April 1985.

Presentations for Non-professional / Producer Audiences

Health Problems that Rob Profits. New Brunswick Sheep Breeders' Association, Strategies for Hard Times Workshop, Moncton NB October 26, 2013.

The *Modern Shepherd* (Health Module, 2 days, with Dr. Paula Menzies): Dalhousie University Faculty of Agriculture, Truro NS, December 7-9, 2007, January 29-30, 2011, January 2012, March 2013.

Managing Pastures to Prevent Parasitism. Bedeque Bay Environmental Management Association, Emerald PEI, March 16, 2012.

Starting Out Right. Workshop for producers entering to the sheep industry. PEI Department of Agriculture, January 20, 2012.

PEI Sheep Breeders Association Seminar Series

- New Developments in Sheep Reproduction, April 7, 2001
- Sheep Parasitism, September 29, 2001
- Enhancing Lamb Survival, April 6, 2002
- Mystified by Medicines: The Proper Use of Pharmaceuticals in the Sheep & Goat Industries, April 26, 2003
- Sheep Feeding and Nutrition, March 6, 2004
- Preparing the Ewe for Winter, October 4, 2008
- Parasitism, March 2012
- Out of Season Breeding in Ewes, April 2013

Goat Production in the Tropics. Smallholder and Veterinary Agent Education Program (1 week), Funded by DFAIT. Fon Batis, Haiti, February 2011.

Biosecurity. Presentation to PEI sheep producers, hosted by the Sheep Breeders Association and the PEI Department of Agriculture, two offerings August and September 2010.

Valacta Reproduction Seminars: (7 days) Deer Lake, Schubunacadie, Antigonish, Summerside, Charlottetown, Fredericton, Moncton, February 2009.

Update on Dairy Reproduction (4 hours) Prince Edward Island Dairy Clubs, Prince County, Kensington and Wellington, April 2008.

Update on Dairy Reproduction (4 hours) Central Region Dairy Farmers of New Brunswick, Keswick Ridge NB, November 21, 2007.

Ovine Johne's Disease. Purebred Sheepbreeders' Association of NS, Truro NS, March 17, 2007.

Medicines for Minors: Use of Pharmaceuticals in the Sheep & Goat. SCVMA Symposium, Charlottetown, January 2007.

Problems in Paradise: How to Prevent Parasitism in the Era of Global Warming. PEI Sheep Breeders Association Annual General Meeting, Charlottetown, December 2006.

Control of Parasitism. Sheep Producers' Association of Nova Scotia, Annual General Meeting, Truro NS, November 19, 2005.

Safe Injection Techniques for Beef Cattle Producers. PEI Cattlemen's Association Annual General Meeting and Workshop: November 27, 2004

The Success and Benefits of Synchronization in Beef Cattle. Beef Up Your Dollars Workshop, sponsored by the PEI Department of Agriculture and Forestry and the Atlantic Veterinary College, AVC, February 22, 2003.

Is it a Boy or a Girl? Pregnancy Diagnosis and Fetal Sexing in Cattle. Presentation for the AVC Veterinary Camp, July 10, 2002.

Beef Cattle Reproduction. Beef Information Night, Nappan Research Centre, November 13, 2001 and March 13 2002.

AVC Dairy Producer Meetings, May 2, 2001 — Selenium Survey of PEI Dairy Herds

Keeping Sheep and Goats Healthy, 4-H Veterinary Project, lecture and laboratory, Atlantic Veterinary College, May 2000 & April 2004.

A Survey of the Selenium Status of Dairy Herds on Prince Edward Island Using Selenium Concentrations in Bulk Milk: Interim Report. Prince Edward Island Dairy Producers' Association Annual Meeting, February 17, 2000.

Farming in New Zealand. 1999 4-H Veterinary Project, Atlantic Veterinary College, April 1999.

A Coordinated Approach to the Management of Milk Off-flavours. Presented to the Annual ADL Producers' Meetings, Charlottetown and Summerside, March 10 and 11, 1999.

Management of Calving Spread in Seasonal Dairy Herds. Massey University Dairy Farmers' Workshop, February 20, 1997.

Trace Element Deficiencies in Dairy Herds. Dairy Farmers' Extension Meeting, Department of Veterinary Clinical Sciences, Massey University, June 1995.

Animal Health Expenditure: a Veterinary Perspective. Seminar on Animal Health Expenditure on Dairy Farms, Te Awamutu, March 1995.

Animal Health - its Effect on Fertility in Your Herd. Ambreed/NRM Higher Conception Seminars, Presented to Farmer Groups in Manawatu, Wairarapa, and Taranaki, July-August 1993.

Getting Value for Your Animal Health Dollar. Farming for Profit Seminar, Guardian Trust, July 1993.

Selenium Supplementation in Dairy Cattle: Recent Research Findings - Linton Dairy Farmer Discussion Group, October 1993.

Trace Element Supplementation in Dairy Cattle on Pasture: Recent Research Findings - Rongotea Dairy Farmer Discussion Group, December 1992.

Broodmare Reproductive Management - Presented at the North Carolina State University Extension Equine Seminar, March 1988.

Broodmare Reproductive Management - Presented at the North Carolina Horse Councils Horse Industry Extravaganza, December 1987.

Sheep Health Panel - Panel Participation at the Seventh Annual Iowa Sheep Symposium, Des Moines, Iowa, November 1986.

Artificial Insemination and Embryo Transfer in Sheep - Presented to the Seventh Annual Iowa Sheep Symposium, Des Moines, Iowa, November 1986.

Breeding Soundness in Rams - Presented to Iowa Suffolk Breeders Association Annual Symposium, Ames, Iowa 1986.

Herd Health Field Day - Dannevirke Dairy Farmers, 1984.

COMMUNITY SERVICE

Farmers Helping Farmers (FHF), a Canadian NGO based in PEI which works with Kenyan Small Holder Families, Project Committee member and Board member 2005-2013, Kenya Development Team member 2006 & 2012, President 2009-2011.

<http://www.farmershelpingfarmers.ca/>

International Sustainable Community Assistance - Appui International Durable aux Communautés (ISCA-AIDC). A Canadian NGO based in PEI focused on sustainable agricultural development with a focus on livestock health management and marketing, through a participatory, knowledge-sharing approach in partnership with local communities, governments, non-governmental organizations, educational institutions and international agencies. Founding Member 2010 - present. <http://www.isca-aidc.ca/>

Prince Edward Island 4-H. Leader and Coordinator for the Provincial 4-H Veterinary Project for senior 4-H members 2004-2009. Board Member, PEI 4-H Council (2006-07)

September 3, 2014
