TABLE OF CONTENTS

IN THIS ISSUE ................................................................. 976

JAVMA News

The drought drags on ....................................................... 980
Survey identifies barriers to pet ownership ....................... 1002
West Nile outbreak on track to being worst in US history .... 1006

Sky’s the limit as AVMF heads into 50th year ..................... 988
Former CVTEA member now on AVMA staff ....................... 989
Auxiliary tables dissolution, installs male president .......... 990
Affiliated groups meet in San Diego ................................. 991
FDA issues guidance on therapeutic diets for pets .............. 1003
Controlled substances laws could change ....................... 1004
AAHA warns about raw pet diet risks .............................. 1005
Florida veterinarian ousts 12-term GOP congressman ........ 1008
Obituaries ....................................................................... 1011

Views

Letters to the Editor .......................................................... 1019
Clostridium perfringens enterotoxin A gene
Sow housing: a swine veterinarian’s perspective
Thoughts on how to evaluate complementary and alternative medicine
Adjunct faculty and nonclinical practice
Relationship between private practice and animal welfare
Support for AVMA presidential candidate

Veterinary Medicine Today

What Is Your Diagnosis? .................................................... 1025
Theodora C. Dong and Maria A. Fahie

Pathology in Practice .......................................................... 1029
Devorah A. Marks Stowe, Adam J. Birkenheuer, and Carol B. Grindem
Julia K. Ryseff, Debra A. Kamstock, Katrina M. Hissam, and Paul R. Avery

Facts & Figures
Employment of female and male graduates of US veterinary medical colleges, 2012 .......... 1040
Allison J. Shepherd and Laura Pikel
TABLE OF CONTENTS

SCIENTIFIC REPORTS

Small Animals/Exotic
Accuracy of radiographic vertebral heart score and sphericity index in the detection of pericardial effusion in dogs .......................................................... 1048
Carlo Guglieimini, Alessia Diana, Giorgia Santarelli, Alessandra Torbidone, Morena Di Tommaso, Marco Baron Toaldo, and Mario Cipone

Comparison of efficacy, safety, and convenience of selamectin versus ivermectin for treatment of Trixacarus caviae mange in pet guinea pigs (Cavia porcellus) .................................................. 1056
David Eshar and Tali Bdoeh-Abram

Roxanna Khorzad, Justine A. Lee, Megan Whelan, Ahna G. Bratlag, Elizabeth P. Martin, Lee T. Miyahara, and Lynn R. Hovda

Tumor thrombus formation in two dogs with insulinomas .................................................. 1065
Lydia E. Hambrook and Simon T. Kudnig

Equine
Evaluation of foal production following intracytoplasmic sperm injection and blastocyst culture of oocytes from ovaries collected immediately before euthanasia or after death of mares under field conditions .................................................. 1070
Katrin Hinrichs, Young-Ho Choi, Jody D. Norris, Linda B. Love, Sylvia J. Bedford-Guiaux, David L. Hartman, and Isabel C. Velez

Ruminants
Effect of orally administered electrolyte solution formulation on abomasal luminal pH and emptying rate in dairy calves .................................................. 1075
Geoff W. Smith, Ahmed F. Ahmed, and Peter D. Constable

Echocardiographic findings and clinical signs in dairy cows with primary cardiac lymphoma: 7 cases (2007–2010) .................................................. 1083
Sébastien Buczinski

Wildlife
Evaluation of Cytaxoon felis infection status in captive-born wild felids housed in an area endemic for the pathogen .................................................. 1088
Kristin M. Lewis, Leah A. Cohn, Megan E. Downey, Marlyn S. Whitney, and Adam J. Birkenheuer

From this month's American Journal of Veterinary Research
Urodynamic and morphometric characteristics of the lower urogenital tracts of female Beagle littermates during the sexually immature period and first and second estrous cycles ... 1055

Pharmacokinetics of a long-acting cetliotifur crystalline-free acid formulation in Asian elephants (Elephas maximus) .................................................. 1082

Pharmacokinetics and tissue elimination of tulathromycin following subcutaneous administration in meat goats .................................................. 1087

Correction
Impact of the Purdue University School of Veterinary Medicine's Boiler Vet Camp on participants’ knowledge of veterinary medicine .................................................. 1074

American Journal of Veterinary Research Table of Contents .................................................. 1094

ANNOUNCEMENTS
Meetings and CE Offerings—Log on to www.avma.org
Examinations .................................................. 1098
Applications for Membership .................................................. 1098
Educational Opportunities .................................................. 1100
Classified Advertisements .................................................. 1103
Instructions for Authors—Log on to JAVMA at avmajournals.avma.org

JAVMA, Vol 241, No. 8, October 15, 2012 973
Animal Genetics

Molecular Genetics


Quantitative Genetics

Direct and associative effects for androsterone and genetic correlations with backfat and growth in entire male pigs. N. Duijvesteijn, E.F. Knol, and P. Bijma

The impact of vitamin A restriction and ADH1C genotype on marbling in feedlot steers. A. K. Ward, J. J. McKinnon, S. Hendrick, F. C. Buchanan

An association between lifespan and variation in insulin-like growth factor I receptor in sheep. S. O. Byun, R. H. Forrest, C. M. Frampton, H. Zhou, and J. G. H. Hickford


Animal Growth, Physiology, and Reproduction

Cell Biology

In vivo lipopolysaccharide injection alters CD4+CD25+ cell properties in chickens. R. Shanmugasundaram and R. K. Selvaraj

Growth and Development Biology


Physiology, Endocrinology, and Reproduction

Boar sperm quality in lines of pigs selected for either ovulation rate or uterine capacity. B. A. Freking, P. H. Purdy, S. F. Spiller, C. S. Welsh, and H. D. Blackburn

Seasonal changes in the interactions among leptin, ghrelin, and orexin in sheep. K. Kirsz, M. Szczesna, E. Molik, T. Misztal, A. K. Wojtowicz, and D. A. Zieba


Animal Nutrition

Nonruminant Nutrition


Selenium status in adult cats and dogs fed high levels of dietary inorganic and organic selenium. S. E. Todd, D. G. Thomas, G. Bosch, and W. H. Hendriks

Comparative effects of level of dietary fiber and sanitary conditions on the growth and health of weanling pigs. L. Montagne, N. Le Floch, M. Arturo-Schaan, R. Foret, M. C. Urdaci, and M. Le Gall

Impact of weaning and an antioxidant blend on intestinal barrier function and antioxidant status in pigs. L. H. Zhu, K. L. Zhao, X. L. Chen, and X. Xu .................................................. 2581


Response of the modern lactating sow and progeny to source and level of supplemental dietary fat during high ambient temperatures. D. S. Rosero, E. van Heugten, J. Odlé, C. Arellano, and R. D. Boyd .................................................. 2609


Effects of cooked navy bean powder on apparent total tract nutrient digestibility and safety in healthy adult dogs. G. M. Forster, D. Hill, G. Gregory, K. M. Wetsloa, S. Lana, J. E. Bauer, and E. P. Ryan .................................................. 2631


Barley-derived β-glucans increases gut permeability, ex vivo epithelial cell binding to E. coli, and naïve T-cell proportions in weaning pigs. J. B. Ewachuk, I. R. Johnson, K. L. Madsen, T. Vasanthan, R. Ball, and C. J. Field .................................................. 2652

Effects of porcine somatotropin administration on the responses to dietary lysine and a near-ideal blend of amino acids for growing pigs. W. A. Dozier, III G. L. Croomwell, and M. D. Lindemann .................................................. 2663

Effect of chito-oligosaccharide on growth performance, intestinal barrier function, intestinal morphology and cecal microflora in weaned pigs. C. M. Yang, P. R. Ferket, Q. H. Hong, J. Zhou, G. T. Cao, L. Zhou, and A. G. Chen .................................................. 2671

Ruminant Nutrition

Effects of timing and duration of dietary vitamin A reduction on carcass quality of finishing beef cattle. C. L. Pickworth, S. C. Loech, and F. L. Fluharty .................................................. 2677


Effects of copper supplementation on feedlot performance, carcass characteristics, and rumen sulfur metabolism of growing cattle fed diets containing 60% dried distillers grains. T. L. Felix, W. P. Weiss, F. L. Fluharty, and S. C. Loech .................................................. 2710

Quantifying the effect of monensin dose on the rumen volatile fatty acid profile in high-grain-fed beef cattle. J. L. Ellis, J. Dijkstra, A. Bannink, E. Kebreab, S. E. Hook, S. Archibeque, and J. Frace .................................................. 2717

Technical Note: Can the sulfur hexafluoride tracer gas technique be used to accurately measure enteric methane production from ruminally cannulated cattle? K. A. Beauchemin, T. Coates, B. Farr, and S. M. McGinn .................................................. 2727


Technical Note: Evaluation of bimodal distribution models to determine meal criterion in heifers fed a high-grain diet. J. C. Bailey, L. O. Tedeschi, E. D. M. Mendes, J. E. Sawyer, and G. E. Carstens .................................................. 2750

Animal Production

Behavior

Early experience with diverse foods increases intake of nonfamiliar flavors and feeds in sheep. F. Catanese, R. A. Distel, F. D. Provenza, and J. J. Villalba.......................................................... 2763

Health and Well-Being

Anti-inflammatory effects of several plant extracts on porcine alveolar macrophages in vitro. Y. Liu, M. Song, T. M. Che, D. Bravo, and J. E. Pettigrew.......................................................... 2774


Management


Serum hormone profiles, pregnancy rates, and offspring performance of Rambouillet ewes treated with recombinant bovine somatotropin before breeding. L. E. Camacho, J. M. Benavidez, and D. M. Halford.......................................................... 2826

Animal Products

Meat Science and Muscle Biology

Effects of prechilling parameters on water-holding capacity of chilled pork and optimization of prechilling parameters using response surface methodology. Hui Chen, Xiaoguang Dong, Zhongfeng Yao, Baoci Xu, Shaobo Zhen, Chun Li, Xingmin Li.......................................................... 2836

Chilling rate effects on pork loin tenderness in commercial processing plants. S. D. Shackelford, D. A. King, and T. L. Wheeler.......................................................... 2842


Special Topics

EXTENSION EDUCATION SYMPOSIUM: The future of biosecurity and antimicrobial use in livestock production in the United States and the role of extension. S. Clark, R. Daly, E. Jordan, J. Lee, A. Mathew, and P. Ebner.......................................................... 2861

Announcements and Society Business

News and Notes.......................................................... 2873
Placement.......................................................... 2874
Effects of mixing piglets on growth and welfare responses
Quinonero J, Ramis G, Lopes E, et al

Gilt replacement strategies in regard to PRRSV
Lambert ME, Denicourt M, Poljak Z, et al

Effect of turmeric on growth and physiological and morphological parameters
Maneewan C, Yamauchi K, Mekbungwan A, et al
### Table of Contents

- President's message ......................................................... 209
- From the Executive Director ............................................ 211
- From the Executive Editor ................................................ 213
- Letter to the Editor .......................................................... 215
- Effect of mixing piglets affected by *Escherichia coli* diarrhea on growth and welfare responses ........................................ 216
  Quiñónero J, Ramis G, Lopes E, et al

- Gilt replacement strategies used in two swine production areas in Quebec in regard to porcine reproductive and respiratory syndrome virus .................................................. 223
  Lambert ME, Denicourt M, Poljak Z, et al

- Effect of turmeric (*Curcuma longa* Linnaeus) on growth performance, nutrient digestibility, hematological values, and intestinal histology in nursery pigs .................................................. 231
  Maneewan C, Yamauchi K, Mekbougwan A, et al

- Conversion tables .......................................................... 241
- News from the National Pork Board ..................................... 243
- AASV news ....................................................................... 245
- Advocacy in action .......................................................... 253
- Straight talk ...................................................................... 257
- Upcoming meetings .......................................................... 259

"[The Wisconsin Grocers Association president and CEO] was asked where he gets information on animal care or pork production to promote pork products. His answer was that he doesn’t get much or any information on how the product is raised. He encouraged us to improve communication with the grocers association members and form a relationship to allow open communication and consultation for questions regarding care.”

*quoted from the President’s message, page 209*