

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME John E. Bauer, DVM, PhD		POSITION TITLE Professor and M.L. Professor of Clinical Nutrition	
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
University of Kentucky	BS	1971	Chemistry – High Honors
University of Illinois, Urbana-Champaign	MS	1875	Nutritional Sciences
University of Illinois, Urbana-Champaign	DVM	1979	Veterinary Medicine
University of Illinois, Urbana-Champaign	PhD	1980	Nutritional Sciences
American college of Veterinary Nutrition	Diplomate	1988	Veterinary Nutrition

A. Positions and Honors.

List in chronological order, previous positions first, concluding with your present position. List any honors. Include present membership on any Federal Government public advisory committee.

Positions and Employment

1980-1985 Assistant Professor, Department of Physiological Sciences, University of Florida
 1985-1991 Associate Professor, Department of Physiological Sciences, University of Florida
 1989-1991 Courtesy Associate Professor, Department of Food Science, Oregon State University
 1991-1991 Professor, Department of Physiological Sciences, University of Florida
 1991-Present Professor and Mark L. Morris Professor of Clinical Nutrition, Department of Small Animal Clinical Sciences, Texas A&M University

Other Experience and Professional Memberships

American College of Veterinary Nutrition (ACVN), Charter Diplomate
 Certified Nutrition Specialist (C.N.S.), Certifying Board of Nutrition Specialists
 American Association of Veterinary Nutrition
 International Society for the Study of Fatty Acids and Lipids
 American Veterinary Medical Association
 American Academy of Veterinary Nutrition
 American Oil Chemists' Society
 American Society for Veterinary Clinical Pathology (1981-1991)
 The Society for Experimental Biology and Medicine
 Phi Zeta
 Keys Honorary

Honors

2000-2006 National Academy of Sciences-National Research Council, Committee on Animal Nutrition; Subcommittee on Cat and Dog Nutrition, 2000-2006.
 2006-2009 Five Best Research Abstract Awards at National Meetings for Graduate Students.

B. Selected peer-reviewed publications (in chronological order).

Do not include publications submitted or in preparation.

1. *Bingham, A.K., Phillips, T.D., and **Bauer, J.E.** Potential for dietary protection against the effects of aflatoxins in animals. **J.A.V.M.A.** 222, 591-596 (2003).
2. *Bingham, A.K., Heubner, H.J., Phillips, T.D., and **Bauer, J.E.** Identification and reduction of urinary aflatoxin metabolites in dogs. **Food Chem. Toxicol.** 42, 1851-1858 (2004).

3. Burkholder, W., Lees, G., LeBlanc, A., Slater, M., **Bauer, J.**, Kashtan, C., McCracken, B., Hannah, S. Diet modulates proteinuria in heterozygous femal dogs with X-linked hereditary nephropathy. **J. Vet. Int. Med.** 18, 165-175 (2004)
4. Rutz, G.M., Steiner, J.M, **Bauer, J.E.**, and Williams, DA. The effect of dietary medium chain triglycerides on dogs with exocrine pancreatic insufficiency. **J. Vet Int. Med.** 65, 1293-1302 (2004)
5. Waldron, M.K., Hannah, S.S., and **Bauer, J.E.** Differential response of canine plasma and neutrophils to fish oil and linseed oil containing diets when fed at the same n-6:n-3 fatty acid ratio. **J. Nutr.** (submitted).
6. **Bauer, J.E.** Lipoprotein-mediated transport of dietary and synthesized lipids and lipid abnormalities of dogs and cats. **J.A.V.M.A.** 224, 668-675 (2004).
7. *Hester, S.L., Rees, C.A., Kennis, R.A., Zoran, D.L., Bigley, K.E., *Wright, A.S., *Kirby, N.A., **Bauer, J.E.** Evaluation of corneometry (skin hydration) and transepidermal water loss measurement in two canine breeds. **J. Nutr** 134, 2110S-2113S (2004).
8. *Wright, A.S., **Bauer, J.E.**, Bigley, K.E., Lees G.E., Waldron M.K. Maternal dietary fatty acids modify canine puppy plasma lipoprotein distributions during the suckling period. **J. Nutr.** 134, 2106S-2109S (2004).
9. **Bauer, J.E.** *Heinemann, K.M. Bigley, K.E., Lees, G.E., Waldron, M.K. Maternal diet alpha-linolenic acid during gestation and lactation does not increase canine milk docosahexaenoic acid. **J. Nutr.** 134, 2035S-2038S (2004).
10. *Heinemann, K.M., Waldron, M.K., Bigley, K.E., Lees, G.E., **Bauer, J.E.** Long-chain (n-3) polyunsaturated fatty acids are more efficient than α -linolenic acid in improving electroretinogram response of puppies exposed during gestation, lactation, and weaning. **J. Nutr.** 135. 1960-1966 (2005).
11. *Wright-Rodgers, A.S., Waldron, M.K. Bigley, K.E., Lees, G.E., **Bauer, J.E.** Dietary fatty acids alter plasma lipids and lipoprotein distributions in dogs during gestation, lactation, and the perinatal period. **J. Nutr** 135, 2230-2235 (2005).
12. Umeda, T., **Bauer, J.E.**, Otsuji, K. Weight loss effect of dietary diacylglycerol oil in dogs. **J. An. Physiol. An. Nutr.** 90, 208-215 (2006).
13. LeBlanc, C.J., **Bauer, J.E.**, Hosgood, G., Mauldin. Effect of dietary fish oil and vitamin E supplementation on hematological and serum biochemical analytes and oxidative status in young dogs. **Vet. Ther.** 6, 325-340 (2005).
14. Brinsko, S.P., Love, C.C., **Bauer, J.E.**, Macpherson, M.L. Varner, D.D. Cholesterol and phosholipid analysis in sperm of stallions with unexplained fertility. **AAEP Proceedings** 51, 1-3 (2005).
15. *Heinemann, K.M., **Bauer, J.E.** Docosahexaenoic acid and neurological development in animals. **Am. J. Vet Res.** 228, 700-705 (2006).
16. **Bauer, J.E.** 2006 update on essential fatty acids. **Proceedings, Symposium on Dermatology, Hill's Pet Nutrition, Palm Springs, CA**, pp 11-15 (2006).
17. **Bauer, J.E.**, *Nagaoka, D., *Porterpan, B., Bigley, K.E., Umeda, T., Otsuji, K. Post-prandial lipolytic activities, lipids, and carbohydrate metabolism are altered in dogs fed diacylglycerol meals containing high and low glycemic index starches. **J. Nutr.** 136, 1955S-1957S (2006).
18. **Bauer, J.E.**, *Heinemann, K.M., Lees, G.E., Waldron, M.K. Retinal functions of young dogs are improved and maternal plasma phospholipids are altered with diets containing long chain n-3 polyunsaturated fatty acids during gestation, lactation and after weaning. **J. Nutr.** 136, 1991S-1995S (2006).
19. **Bauer, J.E.**, *Heinemann, K.M., Lees, G.E., Waldron, M.K. Docosahexaenoic acid accumulates in plasma of canine puppies raised on α -linolenic acid rich milk during suckling but not when fed α -linolenic acid rich diets after weaning. **J. Nutr.** 136, 2087S-2089S (2006).
20. *Bingham, A.K., Huebner, H.J. Phillips, T.D., **Bauer J.E.** Dietary clay (HSCAS) included in an extruded diet reduces metabolites of aflatoxin B₁. **J. An. Physiol. An. Nutr** (under revision).
21. Waldron, M.K., Hannah, S.S., and **Bauer, J.E.** Differential response of canine plasma and neutrophils to fish oil and linseed oil containing diets when fed at the same n-6:n-3 fatty acid ratio. **J. Nutr.** (under revision).
22. Leblanc, C.J., **Bauer, J.E.**, Hosgood, G., Mauldin, G.E. Effect of dietary fish oil and vitamin E supplementation on hematologic and serum biochemical analytes and oxidative status in youg dogs. **Vet. Ther.** 6: 315-330 (2005).

23. Umeda, T., **Bauer, J.E.**, Otsuji, K. Weight loss effect of dietary diacylglycerol oil in obese dogs. **J. An. Phys. An. Nutr.** 90:208-215 (2006).
24. Brinsko, S.P., Love, C.P., **Bauer, J.E.**, MacPherson, M.L., Varner, D.D. Cholesterol and phospholipid analysis in sperm of stallions with unexplained subfertility. **Am. Assoc. Eq. Pract.** 51:1-3 (2006).
25. Hill, R.C., Burrows, C.F., **Bauer, J.E.**, Ellsion, G.W., Finke, M.D., Jones, G.L. Texturized vegetable protein containing indigestible soy carbohydrate affects blood insulin concentrations in dogs fed high fat diets. **J. Nutr** 135: 2024S-2027S (2006).
26. *Heineman, K.E., **Bauer, J.E.** Docosaehaenoic acid and neurological development in animals. **JAVMA** 228:700-705 (2006)
27. **Bauer, J.E.** Facilitative and functional fats in dies of dogs and cats. **JAVMA** 229: 680-684 (2006).
28. **Bauer, J.E.** Dietary Fat and Fatty Acids, In: Dietary Requirements of Dogs and Cats. Ad hoc committee on Dog & Cat Nutrition, Committee on Animal Nutrition,, Board on Agriculture and Natural Resources, Division of Earth and Life Sciences, National Research Council. National Academy of Science. National Academies Press, Washignton D.C. 2006. pp 81-110.
29. Brinsko SP, Love CC, Bauer JE, Macpherson ML, Varner DD. Cholesterol-to-phospholipid ratio in whole sperm and seminal plasma from fertile stallions and stallions with unexplained subfertility. **Anim Reprod Sci.** 99:65-71, 2007.
30. LeBlanc, C.J., Dietrich, M.A., Horohov, D.W., Bauer, J.E., Hosgood, G., Mauldin, G.E. Effects of dietary fatty fish oil and vitamin E supplementation on canine lymphocyte proliferation evaluated using a flow cytometric technique. **Vet. Immunol. Immunopath.** 119:180-188 (2007).
31. Bauer, J.E., Heinemann*, K.M., Waldron, M.K. Recent studies on omega-3 fatty acid effects in canine species. *Comp. Cont. Ed. Vet.* 29:1-4 (2007).
32. Kirby*, N.A., Hester*, S.L., Bauer, J.E. Dietary fats and the skin and coat of dogs. **JAVMA** 230:1641-1644 (2007).
33. Bauer, J.E. Responses of dogs to dietary omega-3 fatty acids. **JAVMA** 231:1657-1661 (2007).
34. Clauss, M., Dierenfeld, E.S., Bigley, K.E., Wang, Y., Ghebremeskel, K., Hatt, J-M., Flach, E.J. Behlert, O., Castell, J.C., Streich, W.J., Bauer, J.E. Fatty acid status in captive and free ranging balck rhinoceroses. (*Diceros biconic*). **J. An. Physiol. An. Nutrition** 92,231-241 (2008)
35. LeBlanc, C.J., Horohov, D.W., Bauer, J.E., Hosgood, G., Mauldin, G.E. Effects of dietary supplementation with fish oil on in vivo production of inflammatory mediators in clinically normal dogs. **Am J Vet Res.** 69, 486-493 (2008).
36. Kirby, N.A.* , Hester, S.L.* , Rees, C.A., Kennis, R.A., Zoran, D.L., and Bauer J.E. Skin surface lipids and skin and hair coat condition in dogs fed increased total fat diets containing polyunsaturated fatty acids. **J. An. Physiol. An. Nutrition**, online early release (February, 2009).
37. Nagaoka, D.* , Mitsuhashi, Y.* Angell, R.J.* , Bigley, K.E., and Bauer, J.E. Re-induction of obese body weight occurs more rapidly and at lower caloric intake in beagles, **J. An Physiol. An. Nutrition.** (accepted, March, 2009).
38. Angell, R.J.* , Mitsuhashi, Y.* , Bandy, D., Bigley, K.E., Nagaoka, D.* , and Bauer, J.E. Plasma LCAT activity and lipid subfraction composition in obese beagles undergoing weight loss. **Lipids.** 44, 415-424 (2009).

C. Research Support

List selected ongoing or completed (during the last three years) research projects (federal and non-federal support). Begin with the projects that are most relevant to the research proposed in this application. Briefly indicate the overall goals of the projects and responsibilities of principal investigator identified above.

Ongoing Projects

Bauer, J.E. Mark L. Morris Professorship of Clinical Nutrition, Intramural support, 1992-Present.

The objective of this support is to advance dog and cat nutrition through fundamental and clinical studies in veterinary medicine and clinical science. Graduate student, Resident, and Professional student research is supported with these funds. (J.E. Bauer, Principal Investigator).

Bauer, J.E. Metabolism of Polyunsaturated Fatty Acids and Long Chain Fatty Acid Enrichment. Nestle Purina Global Resources, \$156,162. 9/1/06-10/01/08 (J.E. Bauer, Principal Investigator).

The objective of this study is to evaluate the extent of arachidonic acid synthesis in cats fed gamma-linolenic acid and investigate alternate pathways of its synthesis.

Saunders, A., Roland, R., Bauer, J.E. Use of Long Chain Polyunsaturated Fatty Acid Supplements in Cardiovascular Disorders. Nestle-Purina Pet Care Global Resources. \$29,380.00. 08/01/06-09/30/07. (J.E. Bauer, Co-Investigator).

The objective of this study is to investigate clinical cases of pulmonic stenosis and dietary fatty acid therapy.

Completed Projects

Bauer, J.E. Diacylglycerol Effects on Obesity Biomarkers. Kao Corporation, Tokyo, Japan. \$28,600. 02/14/06 – 04/15/07 Approved. (J.E. Bauer, Principal Investigator).

This study is a continuation of the one listed below

Bauer, J.E. Evaluation of Dietary Diacylglycerol Oil in Obesity Management. Kao Corporation, Tokyo, Japan. \$155,597. 02/01/05 – 10/30/06. (J.E. Bauer, Principal Investigator).

The objective of this study is to investigate dietary diacylglycerol oil plus low or high glycemic index starches in canine obesity management.