LEON J. SPICER
Professor
Department of Animal Science
Oklahoma State University
Stillwater, OK 74078

Education:

1984	Michigan Sate University, East Lansing, Michigan, **Ph.D.** in Dairy Science
1979	University of Idaho, Moscow, Idaho, **M.S.** in Animal Science
1977	University of Minnesota, St. Paul, Minnesota, **B.S.** in Animal Science

Professional Appointments:

1998-	Professor, Department of Animal Science, **Oklahoma State University**
2005	Visiting Professor, Department of Obstetrics and Gynecology, **Stanford University** Medical Center, Stanford, CA
1993-98	Associate Professor, Department of Animal Science, **Oklahoma State University**
1988-93	Assistant Professor, Department of Animal Science, **Oklahoma State University**
1987-88	Instructor, Division of Endocrinology, The Milton S. Hershey Medical Center, The **Pennsylvania State University**
1984-87	Project Assistant, Division of Endocrinology, The Milton S. Hershey Medical Center, The **Pennsylvania State University**

Current Professional Memberships:

American Society of Animal Science
American Registry of Professional Animal Scientists
American Dairy Science Association
Sigma Xi - The Scientific Research Society
Society for the Study of Reproduction
The Endocrine Society

Selected Honors/Awards:

2006	Elected, member OSU Faculty Council; Two *Science Direct Top25* articles within Domestic Animal Endocrinology.
2005	Who's Who Among America's Teachers; Two *Science Direct Top25* articles within Domestic Animal Endocrinology; Chair, Biological Sciences, Group I Graduate Faculty
2004	Pfizer Animal Health Physiology Award, American Dairy Science Association; Two *Science Direct Top25* articles within Domestic Animal Endocrinology.
1999	President, Sigma Xi, The Scientific Research Society, Oklahoma State University.
1994	The James A. Whatley Award for Meritorious Research in Agricultural Science, Division of Agricultural Sciences and Natural Resources, Oklahoma State University
1987	Individual National Research Service Award from the National Institute of Child Health and Human Development of NIH

Teaching:
2002-Present **AG 3080**, Culture and Agriculture of Italy
1995-2006 **ANSI 4543**, Dairy Cattle Science
1989-Present **ANSI 3443**, Animal Reproduction
1989-Present **ANSI 4900**, **ANSI 5010,** Special Problems
1990-1992 **ANSI 4900**, Techniques in Animal Biotechnology
1990-Present **ANSI 5000, 6000**- Research and Thesis
1989-Present **ANSI 5110**, Seminar

Advising:
1988-Present Animal Science Undergraduate Advisor
1990-92; 1995-97; 2006-present Dairy Science Club Co-advisor

Research: My research involves in vitro and in vivo approaches to study nutritional and hormonal control of ovarian function and follicular development including the study of insulin-like growth factor-I (IGF-I) as an endocrine factor linked to energy balance in early lactating dairy cows and the study of metabolic factors such as leptin, IGF-I and the IGF system in ovarian follicular function and milk production.

Publications (Total: 387; Peer-reviewed journal articles: 138; Abstracts: 178; Other: 71) :

5-year Peer-reviewed Publication List –Representative (2004-2008):

- Spicer, L.J. Proteolytic degradation of insulin-like growth factor binding proteins by ovarian follicles: A control mechanism for selection of dominant follicles. Biol. Reprod. 70:1223-1230, 2004.

- Voge, J.L., C.A.T. Santiago, P.Y. Aad, D.W. Goad, J.R. Malayer, and L.J. Spicer. Quantification of insulin-like growth factor binding-protein mRNA using real-time PCR in bovine granulosa and theca cells: Effect of estradiol, insulin and gonadotropins. Domest. Anim. Endocrinol. 26:241-258, 2004.

- Voge, J.L., P.Y. Aad, C.A.T. Santiago, D.W. Goad, J.R. Malayer, and L.J. Spicer. Effects of insulin-like growth factor (IGF), FSH, and leptin on IGF-binding protein mRNA expression in bovine granulosa and theca cells: Quantitative detection by real-time PCR. Peptides 25:2195-2203, 2004.

- Spicer, L.J., J.L. Voge and D.T. Allen. Insulin-like growth factor-2 stimulates steroidogenesis in cultured bovine thecal cells: Role of insulin-like growth factor receptors. Mol. Cell. Endocrinol. 227:1-7, 2004.

- Santiago, C.A.T., J.L. Voge, P.Y. Aad, D.T. Allen, D. Stein, J.R. Malayer and L.J. Spicer. Pregnancy-associated plasma protein-A and insulin-like growth factor binding protein mRNAs in granulosa cells of dominant and subordinate follicles of preovulatory cattle. Domest. Anim. Endocrinol. 28:46-63, 2005.

- Spicer, L.J., C.A. Santiago, T.R. Davidson, T.S. Bridges and C.S. Chamberlain. Follicular fluid concentrations of free insulin-like growth factor (IGF)-I during follicular development in mares. Domest. Anim. Endocrinol. 29:573-581, 2005.

- Spicer, L.J. Effects of estradiol on bovine thecal cell function in vitro: dependence on insulin and gonadotropins. J. Dairy Sci. 88:2412-2421, 2005.

- Stein, D.R., D.T. Allen, K.W. Gates, T.G. Rehberger, K.J. Mertz, D.A. Jones and L.J. Spicer. Effects of feeding propionibacteria to dairy cows on milk yield, milk components, and reproduction. J. Dairy Sci. 89:111-125, 2006.

- Caloni, F., G. Ranzenigo, and L.J. Spicer. Fusariotoxins and pig granulosa cells: In vitro effects on cellular proliferation. Vet. Res. Commun. 30(Suppl 1):281-3, 2006.

- Aad, P.Y., C.A.T. Santiago, J.L. Voge, J.R. Malayer and L.J. Spicer. Real-time RT-PCR quantification of pregnancy-associated plasma protein-A gene expression in bovine granulosa and theca cells. Dom. Anim. Endocr. 31:357-72, 2006.

- Spicer, L.J., P.Y. Aad, D. Allen, S. Mazerbourg, and A.J. Hsueh. Growth differentiation factor-9 has divergent effects on proliferation and steroidogenesis of bovine granulosa cells. J. Endocrinol. 189:329-339, 2006.

- Alemán, M.M., D. R. Stein, D. T. Allen, E. Perry K. V. Lehloenya, T. G. Rehberger, K. J. Mertz, D. A. Jones, and L. J. Spicer. Effects of feeding two levels of propionibacteria to dairy cows on plasma hormones and metabolites. J. Dairy Res. 74:146-153, 2007.

- Spicer, L.J., and P.Y. Aad. Insulin-like growth factor (IGF) 2 stimulates steroidogenesis and mitosis of bovine granulosa cells through the IGF1 receptor: Role of follicle-stimulating hormone and IGF2 receptor. Biol. Reprod. 77:18-27, 2007.

- Lehloenya, K.V., D. R. Stein, D. T. Allen, G. E. Selk, D. A. Jones, M. M. Aleman, T. G. Rehberger, K. J. Mertz, and L. J. Spicer. Effects of feeding yeast and propionibacteria to dairy cows on milk yield and components, and reproduction. J. Anim. Physiol. & Anim. Nutr. (In press) 2007.

- Ranzenigo, G., F. Caloni, F. Cremonesi, P.Y. Aad, and L.J. Spicer. Effects of Fusarium mycotoxins on steroid production by porcine granulosa cells. Anim. Reprod. Sci. (In press), 2007.

- Spicer, L.J., P.Y. Aad, D. Allen, S. Mazerbourg, A. Payne, and A.J. Hsueh. Growth Differentiation Factor 9 (GDF9) stimulates proliferation and inhibits steroidogenesis by bovine theca cells: Influence of follicle size on responses to GDF9. Biol. Reprod. 78:243-253, 2008.

- Lehloenya, K.V., C. R. Krehbiel, K.J. Mertz, T.G. Rehberger, and L.J. Spicer. Effects of propionibacteria and yeast culture fed to steers on nutrient intake and site and extent of digestion. J. Dairy Sci. 91:653-662, 2008.

- Lagaly, D.V., P.Y. Aad, A. Grado, L.B. Hulsey, and L.J. Spicer. Role of adiponectin in regulating granulosa and theca cell function in cattle. Mol. Cell. Endocrinol. (In Press), 2008.

Current Program Initiatives:

Research: Current projects: 1) "Impact of Sub-clinical Mastitis on Quality and Produciton of Goat Milk and Cheese". Co-PI: Steve Zeng (Langston University), grant funded by United States Department of Agriculture 2007-10. 2) Micrarray analysis of gene expression in porcine and bovine granulosa cells; 3) Evaluation of the role of IGF type II receptors (IGF2R) and growth differentiation factor-9 in control of bovine ovarian follicle development.