Brett Rodger White, Ph.D.

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EDUCATION:

1997-2000	Postdoctoral Trainee, NIH Training Grant and Individual National Research Service Award Department of Physiology Animal Reproduction and Biotechnology Laboratory Colorado State University Mentor: Dr. Colin M. Clay
May 1997	Ph.D. Animal Sciences Thesis: Nuclear transfer with porcine embryonic stem cells
1992-1997	Research Assistant / Ph.D. Candidate: Department of Animal Sciences Reproductive Biology Program University of Illinois at Urbana-Champaign Mentor: Dr. Matthew B. Wheeler
May 1992	M.S. Animal Sciences Thesis: Characterization of reproduction and growth in Chinese Meishan and Yorkshire pigs
1989-1992	Research Assistant / M.S. Candidate Department of Animal Sciences Animal Breeding and Genetics and Reproductive Biology Programs University of Illinois at Urbana-Champaign Mentors: Drs. Matthew B. Wheeler and David G. McLaren
August 1989	B.S. Animal Science: Science Option University of Nebraska-Lincoln Advisor: Dr. Rodger K. Johnson

AREAS OF RESEARCH:

Transcriptional regulation of the porcine gonadotropin-releasing hormone (GnRH) receptor I and II genes

Role of GnRH-II and its receptor in testicular function of swine.

Molecular mechanisms underlying determination of ovulation rate in swine

Gene expression during early embryonic development

GnRH signaling during development of pre-implantation embryos

Nuclear transfer with porcine embryonic stem cells

Transgenic animal production

UNL COURSES TAUGHT:

Fall 2000-2023, Spring 2002	ASCI 341 "Physiology and Management of Reproduction"
Spring 2007-2023	ASCI441/841 "New Techniques in Reproductive Biology"
Fall 2001, Spring 2003	ASCI 905 "Graduate Physiology Seminar"
Spring 2001-2006	ASCI 399 "Independent Study in Animal Science" – "New Techniques in Reproductive Biology"
Fall 2003-2008	ASCI 905 "Animal Biological Systems Seminar"

OCCUPATIONAL EXPERIENCE:

2006-present	Associate Professor: Department of Animal Science Institute of Agriculture and Natural Resources University of Nebraska-Lincoln
2000-2006	Assistant Professor: Department of Animal Science Institute of Agriculture and Natural Resources University of Nebraska-Lincoln
1997-2000	Postdoctoral Research Associate, NIH Training Grant, Department of Physiology, Animal Reproduction and Biotechnology Laboratory, Colorado State University
1989-1997	Research Assistant, Department of Animal Sciences, University of Illinois at Urbana-Champaign
Fall 1992-96	Teaching Assistant: University of Illinois, "Reproductive Physiology of Domestic Animals"
Spring 1995	Teaching Assistant: University of Illinois, "Independent study in Animal Science: In vitro maturation of porcine oocytes"
Spring 1989-90 Fall 1990-91	Teaching Assistant: University of Illinois, "Introductory Animal Science: Swine production laboratory"

1987-1989 Undergraduate Research Assistant, Swine Breeding and Genetics, University of Nebraska-Lincoln

Invited Speaker:

11th International Conference on Pig Reproduction, Ghent, Belgium. "Gonadal steroidogenesis in boars and gilts with reduced endogenous levels of GnRH-II receptor." June 5, 2023.

Swine in Biomedical Research Conference 2022, University of Wisconsin, Madison, Wisconsin. "Identifying novel processes associated with reproductive function utilizing GnRH-II receptor knockdown swine." June 10-14, 2022.

Departmental Seminar, Department of Biological Sciences, Wichita State University, Wichita, Kansas. "Role of GnRH-II and it's receptor in testicular function." September 11, 2017.

Transgenic Animal Research Conference XI, Tahoe City, California. "Utilization of GnRH-II receptor knockdown pigs to explore steroidogenesis in the testis." August 14, 2017.

Physiology Symposium: Molecular Events Impacting Production of Fertile Gametes. Annual Meeting of the Midwest Section of the American Society of Animal Science, Omaha, Nebraska. "A transgenic boar model to elucidate the role of gonadotropin-releasing hormone 2 and its receptor in regulating testes and sperm function." March 14, 2017.

Veteran's Administration Hospital Friday Seminar Series, VA Hospital and University of Nebraska Medical Center, Omaha, Nebraska. "Development of a porcine model to examine the role of gonadotropin-releasing hormone II and its receptor in testicular function." October 2, 2015.

Physiology-Animal Breeding Seminar Series, Department of Animal Sciences and Industry, Kansas State University, Manhattan, Kansas. "Physiological implications of reduced GnRH-II receptors in swine." September 23, 2015.

Department of Animal Science Seminar Series, University of Nebraska-Lincoln. Lincoln, Nebraska. "Green oocytes and ham: Using genetically engineered swine to study reproduction." March 11, 2015.

Breeding and Genetics Seminar, UNL Department of Animal Science, Lincoln, Nebraska. "Role of gonadotropin-releasing hormone II and its receptor in testicular function of swine." February 13, 2015.

Department of Animal Science Seminar Series, Purdue University, West Lafayette, Indiana. "Role of the GnRH-II and its receptor in testicular function." April 25, 2014.

Annual Meeting of the International Embryo Transfer Society, Stem Cells/Transgenesis Section, Reno, Nevada. "Production of a GnRH-II knockdown swine line." January 13, 2014.

Animal Biological Systems Seminar, UNL Department of Animal Science, Lincoln, Nebraska. "Role of GnRH receptor isoforms in the reproductive axis of swine." October 15, 2010.

Physiology-Animal Breeding Seminar Series, Department of Animal Sciences and Industry, Kansas State University, Manhattan, Kansas. "Role of GnRH receptor isoforms in the reproductive axis of swine." October 6, 2010.

Gilbert S. Greenwald Symposium on Reproduction, University of Kansas Medical Center, Kansas City, Missouri. "Transcriptional regulation of the porcine GnRH receptor gene." October 6, 2007.

University of Tokyo, Tokyo, Japan. "Transcriptional regulation of the porcine GnRH receptor gene." January 11, 2007.

Reproduction Research Unit, Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, Nebraska. "Transcriptional regulation of the porcine GnRH receptor gene." June 2, 2006.

Oshner Lifelong Learning Institute, Science 101, Lincoln, Nebraska. "Stem Cells: Small Cells with Big Potential." February 24, 2005.

Northeast Lincoln Kiwanis Club, Lincoln, Nebraska. "Stem Cells." March 16, 2005.

Reproduction Research Unit, Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, Nebraska. "Transcriptional regulation of the porcine GnRH receptor gene." April 1, 2003.

Grand Rounds, Department of Obstetrics and Gynecology, University of Nebraska Medical Center, Omaha, Nebraska. "Transcriptional regulation of the porcine GnRH receptor gene." January 15, 2003.

Reproduction Research Unit, Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, Nebraska. "Transcriptional regulation of the GnRH receptor gene." November 7, 2000.

Guest Mini-symposium Presentation for Dr. Colin Clay at the Annual Meeting of the Society for the Study of Reproduction in Madison, Wisconsin. "GnRH regulation of the GnRHR gene: A mixed bag of kinases?" in mini-symposium entitled "Pulses, Peptides, and Promoters: Differential GnRH Actions on the Pituitary." July 16, 2000.

Interview for Assistant Professor, Department of Animal Science, Colorado State University, Ft. Collins, Colorado. "Molecular mechanisms underlying regulation of the GnRH receptor gene." December 20, 1999.

Interview for Assistant Professor, Department of Animal Science, University of Nebraska, Lincoln, Nebraska. "Molecular mechanisms underlying regulation of the GnRH receptor gene." December 9, 1999.

Society for the Study of Reproduction, Trainee Research Award Competition, Texas A&M University, College Station, Texas. "Homologous regulation of the the gonadotropin-releasing hormone receptor gene is mediated by protein kinase C activation of elements located within 600 base pairs of proximal promoter." August 10, 1998.

Post-doctoral Interview, Tufts Universtiy, School of Veterinary Medicine, Department of Biomedical Sciences, N. Grafton, Massachusetts. "Nuclear transfer with porcine embryonic stem cells." September 11, 1997.

Post-doctoral Interview, Colorado State Universtiy, Department of Physiology, Animal Reproduction and Biotechnology Laboratory, Ft. Collins, Colorado. "Nuclear transfer with porcine embryonic stem cells." September 8, 1997.

Post-doctoral Interview, Reproduction Research Unit, Roman L. Hruska U.S. Meat Animal Research Center, Clay Center, Nebraska. "Nuclear transfer with porcine embryonic stem cells." August 21, 1997.

A. L. Neumann Outstanding Graduate Student Award Competition, Monticello, Illinois. "Examination of ovulation rate, uterine and fetal interactions, and reproductive age in Chinese Meishan, Yorkshire, and reciprocal cross gilts: Effects of fetal and maternal genotypes." February 23-24, 1996.

HONORS, AWARDS:

Certificate of Recognition for Contributions to Students (UNL Parents Association)	2020
Certificate of Recognition for Contributions to Students (UNL Parents Association)	2017
Adjunct Faculty, Kansas State University	2014
Senior Faculty Holling Family Award for Teaching Excellence	2011
Promotion and Tenure	2006
Recognition of Junior Faculty for Excellence in Research Award	2005
Junior Faculty Holling Family Award for Teaching Excellence	2005
IANR Research Travel Award	2004
IANR Research Travel Award	2002
Graduate College Faculty Member at UNL	2001
Awarded an Individual National Research Service Award from the National Institutes of Health	1999
Finalist, Society for the Study of Reproduction Trainee Research Award	1998
Society for the Study of Reproduction Travel Award	1998
Cell and Molecular Biology Program Poster Competition Award	1998
Finalist, A.L. Neumann Outstanding Graduate Student Award	1996
Incomplete List of Teachers Ranked as Excellent by Their Students (Animal Sciences 331 Laboratory)	1995
President, Graduates Representing Animal Sciences Students (Departmental Graduate Student Organization)	1991
Graduate College Conference Travel Support Grant	1991

SOCIETIES:

American Association for the Advancement of Science
Endocrine Society
Society for the Study of Reproduction
International Embryo Transfer Society
American Society of Animal Science
Sigma Xi
Gamma Sigma Delta
Alpha Zeta
Nebraska Physiological Society

AD HOC REVIEWS:

Biology of Reproduction
Animal Reproduction Science
Reproduction
Theriogenology
Toxicology and Applied Pharmacology
The Journal of Pathology
Molecular Reproduction and Development
Journal of Animal Science
Animal Biotechnology

Journal of Endocrinology
Animal: An International Journal of Animal Bioscience
USDA/NIFA

PUBLICATIONS:

Manuscripts (reverse chronological order)**:**

Desaulniers, A.T., C.E. Ross, R.A. Cederberg, M.A. Ebrecht, K.W. Lovercamp, C.A. Lents, and **B.R. White**. 2024. Gonadotropin-releasing hormone II and its receptor regulate motility, morphology, and kinetics of porcine spermatozoa. Gen. Comp. Endocrinol. (Submitted).

Ahern, D.F., K. Martins, J. Florez, C.E. Ross, A. Huisman, R.A. Cushman, S.L. Shuping, C.C. Nestor, A.T. Desaulniers, B.R. White, T.S. Sonstegard and C.A. Lents. 2024. Development of KISS1 knockout pigs is characterized by hypogonadotropic hypogonadism, normal growth, and reduced skatole. Biol. Reprod. (Accepted).

Desaulniers, A.T., R.A. Cederberg, C.A. Lents, and **B.R. White**. 2024. Knockdown of gonadotropin-releasing hormone II receptor impairs ovulation rate, corpus luteum development, and progesterone production in gilts. Animals (Basel) 14:2350.

Desaulniers, A.T., and **B.R. White**. 2024. Role of gonadotropin-releasing hormone 2 (GnRH2) and its receptor in human reproductive cancers. Front. Endocrinol. 14:1341162.

White, B.R., R.A. Cederberg, D.H. Elsken, C.E. Ross, C.A. Lents and A.T. Desaulniers. 2023. Role of gonadotropin-releasing hormone-II and its receptor in swine reproduction. Mol. Reprod. Dev. 90:469–479.

Desaulniers, A.T., R.A. Cederberg, E.A. Carreiro, C.B. Gurumurthy and **B.R. White**. 2021. A transgenic pig model expressing a CMV-ZsGreen1 reporter across an extensive array of tissues. J. Biomed. Res. 35:163-173.

Gruhot, T.R., L.A. Rempel, **B.R. White** and B.E. Mote. 2020. The effect of varicocele on semen quality in boars exposed to heat stress. Trans. Anim. Sci. 4:293-298.

Manca, S., B. Upadhyaya, E. Mutai, A.T. Desaulniers, R.A. Cederberg, **B.R. White** and J. Zempleni. 2018. Milk exosomes are bioavailable and distinct microRNA cargos have unique tissue distribution patterns. Sci. Rep. 8:11321.

Desaulniers, A.T., R.A. Cederberg, C.A. Lents, and **B.R. White**. 2017. Expression and role of gonadotropin-releasing hormone 2 and its receptor in mammals. Front. Endocrinol. 8:269.

Lents, C.A., J.F. Thorson, A.T. Desaulniers, and **B.R. White**. 2017. RFamide-related peptide 3 and gonadotropin-releasing hormone-II are autocrine-paracrine regulators of testicular function in the boar. Mol. Reprod. Dev. 84:994-1003.

Desaulniers, A.T., R.A. Cederberg, G.A. Mills, C.A. Lents, and **B.R. White**. 2017. Production of a gonadotropin-releasing hormone 2 receptor knockdown (GnRHR2 KD) swine line. Transgenic Res. 26:567-575.

Thorson, J.F., N.L. Heidorn, V. Ryu, K. Czaja, D.J. Nonneman, C.R. Barb, G.J. Hausman, G.A. Rohrer, L.D. Prezotto, R.B. McCosh, E.C. Wright, **B.R. White**, B.A. Freking, W.T. Oliver, S.M. Hileman, and C.A. Lents. 2017. Neuropeptide FF receptor function affects gonadotropin secretion and age at puberty in gilts. Biol. Reprod. 96:617-634.

Brauer, V.M., J.R. Wiarda Bell, A.T. Desaulniers, R.A. Cederberg, and **B.R. White**. 2016. Functional activity of the Gnrhr2 gene promoter in testis-derived cells is partially conferred by nuclear factor-κB, specificity protein 1 and 3 (SP1/3) and overlapping early growth response 1/SP1/3 binding sites. Gene 587:137-146.

McDonald, E.A., J.E. Smith, R. A. Cederberg, and B.R. **White**. 2016. Divergent activity of the gonadotropin-releasing hormone receptor gene promoter among genetic lines of pigs is partially conferred by nuclear factor (NF)-κB, specificity protein (SP)1-like and GATA-4 binding sites. Reprod. Biol. Endocrinol. 14:36.

Cederberg, R.A., J.E. Smith, E.A. McDonald, C. Lee, A.R. Perkins, and **B.R. White**. 2015. Activity of the porcine gonadotropin-releasing hormone receptor gene promoter is partially conferred by a distal gonadotrope specific element (GSE) within an upstream enhancing region, two proximal GSEs and a retinoid X receptor binding site. Reprod. Biol. Endocrinol. 13:45.

Desaulniers, A.T., R.A. Cederberg, G.A. Mills, J.J. Ford, C.A. Lents, and **B.R. White**. 2015. LH-independent testosterone secretion is mediated by the interaction between GnRH2 and its receptor within porcine testes. Biol. Reprod. 93:45.

Thorson, J.F., A.T. Desaulniers, C. Lee, **B.R. White**, J.J. Ford, and C.A. Lents. 2015. The role of RFamide-related peptide 3 (RFRP3) in regulation of the neuroendocrine reproductive and growth axes of the boar. Anim. Reprod. Sci. 159:60-65.

White, B.R. 2010. Swine Symposium: Environmental concerns based on swine production. J. Anim. Sci. 88(Suppl. 13):E82-83.

Crisp, S.E.R.H., J.B. Griffin, **B.R. White**, C.F. Toombs, G. Camporeale, H.M. Said, and J. Zempleni. 2004. Biotin supply affects rates of cell proliferation, biotinylation of carboxylases and histones, and expression of the gene encoding the sodium-dependent multivitamin transporter in JAr choriocarcinoma cells. Eur. J. Nutr, 43:23-31.

Daberkow, R.L., **B.R. White**, R.A. Cederberg, J.B. Griffin and J. Zempleni. 2003. Monocarboxylate transporter 1 mediates biotin uptake in human peripheral blood mononuclear cells. J. Nutrition 133:2703-2706.

Ellsworth, B.S.*, **B.R. White***, A.T. Burns, B.D. Cherrington, A.M. Otis, and C.M. Clay. 2003. c-Jun N-terminal kinase (JNK) activation of activator protein-1 underlies homologous regulation of the gonadotropin-releasing hormone receptor gene in αT3-1 cells. Endocrinology 144:839-849. *Both authors contributed equally to this work.

White, B.R., R.W. Gerfen, E.M. Walters, and M.B. Wheeler. 2000. Comparisons of culture of Chinese Meishan with Yorkshire pig embryos in vitro: Effects of protein supplementation, development. J. Appl. Anim. Res. 17:169-184.

White, B.R., D.L. Duval, J.M. Mulvaney, M.S. Roberson, and C.M. Clay. 1999. Homologous regulation of the gonadotropin-releasing hormone receptor gene is partially mediated by protein kinase C activation of an activator protein-1 element. Mol. Endocrinol. 13:566-577.

Bleck, G.T., **B.R. White**, D.J. Miller, and M.B. Wheeler. 1998. Production of bovine α-lactalbumin in the milk of transgenic pigs. J. Anim. Sci. 76:3072-3078.

White, B.R., Y.H. Lan, F.K. McKeith, J. Novakofski, M.B. Wheeler, and D.G. McLaren. 1995. Growth and body composition of Meishan and Yorkshire barrows and gilts. J. Anim. Sci. 73:738-749.

White, B.R., and M.B. Wheeler. 1995. Examination of ovulation rate, uterine and fetal interactions, and reproductive age in Chinese Meishan, Yorkshire, and reciprocal cross gilts: Effects of fetal and maternal genotypes. Anim. Reprod. Sci. 39:147-158.

Gerfen, R.W., **B.R. White**, and M.B. Wheeler. 1994. Comparison of the semen characteristics of Fengjing, Meishan and Yorkshire boars. Theriogenology 41:461-469.

White, B.R., D.G. McLaren, P.J. Dziuk, and M.B. Wheeler. 1993. Age at puberty, ovulation rate, uterine length, prenatal survival and litter size of Chinese Meishan and Yorkshire females. Theriogenology 40:85-97.

White, B.R., D.G. McLaren, Y.H. Lan, J. Novakofski, F.K. McKeith, and M.B. Wheeler. 1993. Effects of porcine somatotropin on growth and carcass composition of Meishan and Yorkshire barrows. J. Anim. Sci. 71:3226-3238.

Manuscripts Submitted or In Preparation:

Desaulniers, A.T., C.E. Ross, R.A. Cederberg, M.A. Ebrecht, K.W. Lovercamp, C.A. Lents, and **B.R. White**. 2023. Gonadotropin-releasing hormone II and its receptor regulate motility, morphology, and kinetics of porcine spermatozoa. Gen. Comp. Endocrinol. (Submitted).

Bass, B.E., R.A. Cederberg, G.A. Mills, and **B.R. White**. 2024. Responsiveness of GnRH receptor and gonadotropin subunit genes to GnRH in lines of swine divergent for ovulation rate. Dom. Anim. Endocrinol. (In preparation).

Montagner, M.M, Paulo B.D. Goncalves, G.A. Mills, R.K. Christenson, and **B.R. White**. 2024. Divergent survival of Meishan and white crossbred porcine embryos following vitrification using a microdroplet method. Animals (In preparation).

Invited Papers and Technical Reports (reverse chronological order)**:**

Ross, C.E., and **B.R. White**. 2024. Ain't no lie: Understanding the porcine estrous cycle is the key to ensuring your breeding program is N'Synch. Nebraska Pork Talk, Nebraska Pork Producers Association. 56(1):20-21.

Ross, C.E., A.T. Desaulniers and **B.R. White**. 2020. It takes two to tango: Don't count the boar out of the reproductive equation. Nebraska Pork Talk, Nebraska Pork Producers Association. 52(3):8-9.

Desaulniers, A.T., R.M. McFee, and **B.R. White**. 2016. Smoothing the transition from classroom to hog farm: Use of case studies to enhance swine industry knowledge and interest in college students. Nebraska Pork Talk, Nebraska Pork Producers Association. 48(6):14-15.

White, B.R. 2015. Can a "reproductive hormone" predict appetite in first parity, lactating sows? Nebraska Pork Talk. Nebraska Pork Producers Association. 47(3):6-7.

Burkey, T., D. Ciobanu, P. Miller, A. Schmidt, and **B.R. White**. 2013. UNL resources for the pork industry. Nebraska Pork Talk. pp. 10-12. Nebraska Pork Producers Association.

Slepicka, B.J., J.L. Martin, R.A. Ten Broeck, M.M. Baltes, D.T. Clopton, Z.C. Hall, N.C. Hart, S.G. Kruse, R.A. Longfellow, J.R. Wiarda, K.V. Moline, J.W. Bergman, R.A. Cushman, **B.R. White**, and A.S. Cupp. 2007. Progestin concentrations alter follicle characteristics and may affect quality of oocytes (Eggs). 2007 Nebraska Beef Report, p. 7. University of Nebraska-Lincoln.

Bass, B.E., R.A. Cederberg, G.A. Mills, and **B.R. White**. 2006. Regulation of pituitary gene expression in lines of swine with different ovulation rates. Nebraska Swine Report. pp. 26-29. University of Nebraska-Lincoln.

Montagner, M.M., P.B.D. Goncalves, G.A. Mills, R.K. Christenson and **B.R. White**. 2006. Freezing swine embryos: Do success rates differ between breeds? Nebraska Swine Report. pp. 21-25. University of Nebraska-Lincoln.

Bass, B.E., G.A. Mills, and **B.R. White**. 2004. Role of the gonadotropin-releasing hormone (GnRH) receptor in determining ovulation rate between lines of swine. Nebraska Swine Report. pp. 32-34. University of Nebraska-Lincoln.

White, B.R., and M.B. Wheeler. 1998. Activation of in vivo matured porcine oocytes. Illinois Swine Report. pp. 18-23. Illinois Agricultural Experiment Station, University of Illinois, Urbana.

White, B.R., and M.B. Wheeler. 1997. Examination of ovulation rate, uterine and fetal interactions, and reproductive age in Chinese Meishan, Yorkshire, and reciprocal cross gilts: Effects of fetal and maternal genotypes. Illinois Swine Report, pp. 58-60. Illinois Agricultural Experiment Station, University of Illinois, Urbana.

Bleck, G.T., W.S. Boston, **B.R. White**, D.J. Miller, and M.B. Wheeler. 1996. Production of transgenic pigs with altered milk to improve piglet growth, health and survivability. Illinois Swine Report. pp. 24-27. Illinois Agricultural Experiment Station, University of Illinois, Urbana.

Wheeler, M.B., **B.R. White**, and G.T. Bleck. 1995. Using the tools of technology for genetic improvement of swine. Proceedings of the University of Illinois Pork Industry Conference. pp. 23-44. University of Illinois, Urbana.

Wheeler, M.B., and **B.R. White**. 1993. Characterization of reproduction and growth in Chinese Meishan swine. National Pork Producer's Council, Research Investment Report. pp. 389-399.

Wheeler, M.B., and **B.R. White**. 1991. Chinese pigs at the University of Illinois. Illinois Pork Press 23:9:20.

White, B.R., and M.B. Wheeler. 1991. Procedures for determining age at puberty in gilts. II-A-1. In: M.B. Wheeler and P.J. Dziuk (Eds.) Handbook of Techniques for Reproductive Studies. p. 7. University of Illinois, Department of Animal Sciences, Urbana.

White, B.R., and M.B. Wheeler. 1991. Determination of ovulation rate, uterine length, fetal spacing, and feto-placental measurements in female pigs at mid-gestation. II-A-1. In: M.B. Wheeler and P.J. Dziuk (Eds.) Handbook of Techniques for Reproductive Studies. p. 62. University of Illinois, Department of Animal Sciences, Urbana.

Wheeler, M.B., and **B.R. White**. 1991. Superovulation and surgical collection of bovine ova. III-B-3a. In: M.B. Wheeler and P.J. Dziuk (Eds.) Handbook of Techniques for Reproductive Studies. pp. 3-4. University of Illinois, Department of Animal Sciences, Urbana.

Wheeler, M.B., and **B.R. White**. 1991. Non-surgical transfer of bovine embryos. V-C-2. In: M.B. Wheeler and P.J. Dziuk (Eds.) Handbook of Techniques for Reproductive Studies. p. 83. University of Illinois, Department of Animal Sciences, Urbana.

Wheeler, M.B., **and B.R. White**. 1991. Collection, fixation, and staining of bovine ova. VII-C. In: M.B. Wheeler and P.J. Dziuk (Eds.) Handbook of Techniques for Reproductive Studies. p. 48. University of Illinois, Department of Animal Sciences, Urbana.

Book chapters (reverse chronological order)**:**

Desaulniers, A.T., R.A. Cederberg, C.A. Lents and **B.R. White**. 2018. Expression and role of gonadotropin-releasing hormone 2 and its receptor in mammals. In: I. Bjelobaba, S.S. Stojilkovic and Z. Naor (Ed.). Gonadotropin-Releasing Hormone Receptor Signaling and Functions. Frontiers Media SA, Lausanne, Switzerland. pp. 116-140.

Rund, L.A., G.T. Bleck, M.M. Izard, L.R. Grum, R.W. Gerfen, **B.R. White**, and M.B. Wheeler. 1996. Development of Swine Embryonic Stem (ES) Cells. In: M. Tumbleson and L. Schook (Eds.) Advances in Swine in Biomedical Research (Volume 1), pp. 207-222. Plenum Press, New York, NY.

White, B.R., J. Barnes, and M.B. Wheeler. 1996. Reproductive Physiology in Chinese Meishan Pigs: A University of Illinois Perspective. In: M. Tumbleson and L. Schook (Eds.) Advances in Swine in Biomedical Research (Volume 2), pp. 503-521. Plenum Press, New York, NY.

Wheeler, M.B., and **B.R. White**. 1993. Strategies for Improving Swine Growth. In: G. Hollis (Ed.) Growth in Pigs. pp. 167-183. CAB International, Wallingford, UK.

Abstracts (reverse chronological order)**:**

Adeyanju, O., M.E. González-Alvarez, C. Antwi-Boasiako, L.J. Polivanov, J. Shelton, N.E. Nordell, S.J. Sillman, **B.R. White**, M.J. Laws, L. Raetzman, J.A. Flaws, A.T. Desaulniers, and A.F. Keating. 2024. Female offspring ovarian chemical metabolism protein abundance is altered by *in utero* atrazine exposure. Proceedings of the 57th Annual Meeting of the Society for the Study of Reproduction.

Laws, M.J., S. Kramer, K. Weis, L.J. Polivanov, J. Shelton, N.E. Nordell, **B.R. White**, S.J. Sillman, L. Raetzman, A. Keating, J.A. Flaws, and A.T. Desaulniers. 2024. Environmentally relevant maternal atrazine exposure leads to aberrant endocrine effects in piglets. Proceedings of the 57th Annual Meeting of the Society for the Study or Reproduction.

Lents, C.A., D.F. Ahern, K. Wilson, C.E. Ross, G.A. Mills, D.H. Elsken, J.M. Florez, K. Martins, M. Beltramo, T.S. Sonstegard, R.A. Cushman, and **B.R. White**. 2024. Serum concentrations of luteinizing hormone (LH) and follicle stimulating hormone (FSH) in *KISS1* knockout gilts treated with neurokinin B, kisspeptin, and GnRH hormone analogs. Proceedings of the 57th Annual Meeting of the Society for the Study of Reproduction.

Nordell, N.E., C.A. Lents, **B.R. White**, and A.T. Desaulniers. 2024. A porcine model to study lactocrine programming within the testis. Swine in Biomedical Research 2024.

Ross, C.E., D.F. Ahern, R.A. Cederberg, F.H. Choat, D.H. Elsken, S.G. Kurz, G.A. Mills, A.T. Desaulniers, C.A. Lents, and **B.R. White**. 2024. Preovulatory follicles of GnRH-II receptor knockdown gilts possess fewer hypertrophic theca cells, but similar numbers of hypotrophic granulosa cells compared with littermate controls. Proceedings of the 57th Annual Meeting of the Society for the Study of Reproduction.

Ross, C.E., N.E. Nordell, J.N. Shelton, D.F. Ahern, F.H. Choat, G.A. Mills, **B.R. White**, and A.T. Desaulniers. 2024. Elucidating the proteome of seminal plasma-derived extracellular vesicles from GnRH-II receptor knockdown boars with poor semen quality. Proceedings of the 57th Annual Meeting of the Society for the Study of Reproduction.

Shelton, J., L.J. Polivanov, N.E. Nordell, H. Qiu, E.G. Rogan, S.E. Bartelt-Hunt, M. Zahid, **B.R. White**, S. J. Sillman, and A.T. Desaulniers. 2024. A swine model to investigate the effects of environmentally relevant atrazine exposure on maternal physiology. Swine in Biomedical Research 2024.

Shelton, J., L.J. Polivanov, N.E. Nordell, H. Qiu, E.G. Rogan, S.E. Bartelt-Hunt, M. Zahid, **B.R. White**, S.J. Sillman, and A.T. Desaulniers. 2024. Maternal consumption of atrazine impairs offspring birth weight, growth, and organ function in a swine model. Swine in Biomedical Research 2024.

Ahern, D.F., C.E. Ross, G.A. Mills, D.H. Elsken, H.L. McConnell, J.M. Florez, K. Martins, M. Beltramo, T.S. Sonstegard, **B.R. White**, and C.A. Lents. 2023. Neurokinin B, kisspeptin, and GnRH hormone analogs fail to stimulate secretion of luteinizing hormone (LH) in KISS1 knockout boars. Proceedings of the American Society of Animal Science – Canadian Society of Animal Science Annual Meeting. Abstract 27.

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PATENTS/INVENTION DISCLOSURES:

Schook, L.B., M.B. Wheeler, H.A. Lewin, P.A. Clamp, R. Feltes, **B.R. White**, and D.L. Bidner. 5/93. "Production of a Three Generation Reference Family for Swine Genome Mapping." Disclosure, RCT #366A-C266-93.

Wheeler, M.B., and **B.R. White**. 5/13/08. "Nuclear Transfer with Porcine Embryonic Stem Cells." US patent number 7,371,922.

GRANT PROPOSALS FUNDED:

USDA/NIFA AFRI EWD Postdoctoral Fellowship: Co-Mentor
"Regulation of mRNA methylation during bovine oocyte in vitro maturation."
June 1, 2024 – May 31, 2026. $225,000

UNL Agricultural Research Division Bridge or Revision Grant: Collaborator
"Dynamics of oocyte mRNA degradation."
July 11, 2023 – June 30, 2024. $29,980

USDA/NIFA AFRI EWD Predoctoral Fellowship: Mentor
"Biological mechanisms underlying the regulation of porcine ovarian follicular dynamics

through GnRH-II and its receptor."
June 15, 2023 – June 14, 2025. $120,000

USDA/NIFA-AFRI: Co-Principal Investigator
"Enhancing boar fertility in the face of climate change through the mitigation of in utero heat stress."
May 1, 2023 – April 30, 2026. $650,000.

Streck, Inc.: Principal Investigator
"Boar semen collection." January 1, 2023 – December 31, 2024. $14,130.

Acceligen (Recombinetics, Inc.): Principal Investigator
"Characterizing the reproductive physiology of castration-free pigs."
January 1, 2021 – June 30, 2022. $93,870.

Streck, Inc.: Principal Investigator
"Boar semen collection." January 1, 2021 – December 31, 2022. $14,130.

USDA/NIFA-UNL Multistate Hatch Project: Principal Investigator
"W4171: Germ cell and embryo development and manipulation for the improvement of livestock."
October 1, 2019 – September 30, 2024. $50,000

USDA/NIFA-AFRI: Principal Investigator
"Role of GnRH-II and its receptor in testicular function of swine."
May 1, 2017 – April 30, 2021. $480,000.

Streck, Inc.: Principal Investigator
"Boar semen collection." January 1, 2019 – December 31, 2020. $12,384.

USDA/NIFA AFRI ELI Predoctoral Fellowship: Mentor
"Biological mechanisms mediating GnRH-II regulation of LH-independent testosterone biosynthesis within the porcine testis."
February 1, 2017 – January 31, 2019. $95,000

USDA/NIFA-CSREES-UNL Multistate Hatch Project: Principal Investigator
"W3171: Germ cell and embryo development and manipulation for the improvement of livestock."
October 1, 2014 – September 30, 2019. $40,000

Nebraska Pork Producer's Association: Principal Investigator
"Effect of GnRH-II on feed efficiency and immune function of growing/finishing pigs."
Sept. 1, 2014 – August 31, 2015. $24,873

Nebraska Pork Producer's Association: Principal Investigator
"GnRH-II effects on reproductive efficiency and productivity of first parity sows."
Sept. 1, 2012 – August 31, 2013. $25,073

USDA-CSREES-UNL Multistate Hatch Project: Principal Investigator

"W2171: Germ cell and embryo development and manipulation for the improvement of livestock."
October 1, 2009 – September 30, 2014. $80,000

Nebraska Pork Producer's Association: Collaborator
"Using high-fiber diets to limit energy intake in developing gilts: effects on puberty, reproduction, culling rates, lifetime productivity, and progeny health and growth."
September 1, 2010 – August 31, 2012. $40,000

UNL Institute of Agriculture and Natural Resources – Enhancing Interdisciplinary Teams: Collaborator
"Developing nanospheres from zein for therapeutic anti-cancer drug delivery applications."
July 1, 2010 – June 30, 2012. $20,000

UNL Research Council Faculty Seed Grant: Principal Investigator
"Cellular function of GnRH-II receptor isoforms."
January 1, 2011 – December 31, 2011. $10,000

NIH: Co-Principal Investigator
"Role of VEGF in testis morphogenesis."
July 1, 2007 – June 30, 2011. $1,087,763

USDA-NRI Animal Genome Program: Principal Investigator
"Transcriptional regulation of the porcine GnRH receptor gene."
January 1, 2004 – December 31, 2006. $287,193

USDA-CSREES: Co-Principal Investigator
"Impact of biotin supplementation on early embryonic development."
July 1, 2005 – June 30, 2007. $40,000

University of Nebraska Layman Award: Principal Investigator
"Functionality of the Type II GnRH receptor gene in the pig."
May 1, 2005 - April 30, 2006. $10,000

USDA-CSREES-UNL Hatch Project: Principal Investigator
"Transcriptional regulation of the porcine gonadotropin-releasing hormone (GnRH) receptor gene."
October 1, 2002 – October 1, 2007. $25,000

USDA-CSREES: Principal Investigator
"Expression analysis of GnRH stimulated pituitary genes in lines of swine divergent for ovulation rate."
March 1, 2004 – September 30, 2005. $34,655

University of Nebraska – Research Council Seed Grant: Principal Investigator
"GnRH regulation of the porcine GnRH receptor gene."
January 1, 2003 – December 31, 2003. $10,000

University of Nebraska Layman Award: Principal Investigator
"Molecular mechanisms underlying murine GnRH receptor gene expression during early embryonic development."
June 1, 2002 - May 31, 2003. $10,000

UNL Tobacco Settlement Biomedical Research Enhancement Award: Co-investigator
"Functional genetic analysis of the mouse."
October 1, 2001 – March 31, 2003. $300,000

University of Nebraska Foundation Award: Co-Principal Investigator
"Genomics and proteomics workstation."
July 16, 2001. $173,985

University of Nebraska Layman Award: Principal Investigator
"Transcriptional regulation of the porcine GnRH receptor gene."
June 1, 2001 - May 31, 2002. $7,500

Individual National Research Service Award - NIH: Principal Investigator
"Molecular regulation of the GnRH receptor gene by GnRH." Sponsor: Colin M. Clay.
August 1, 1999 - July 31, 2000. Assignment Number: 1 F32 HD08558-01. $47,292.

Illinois Pork Producers Association: Co-Investigator
"Analysis of milk proteins and genetic markers for milk proteins in Meishan, Duroc, Yorkshire and Meishan X Yorkshire sows. June 1, 1994 - May 31, 1995. $8,000

Illinois Pork Producers Association: Co-Investigator
"Genetic markers for reproductive performance of purebred Meishan and 1/2-Chinese sows and gilts." June 1, 1993 - May 31, 1994. $10,000

GRANT PROPOSALS SUBMITTED:

NIH: Co-Investigator (J. Wood, UNL, P.I.)
"Effect of inflammation on oocyte developmental competence."
2023. $1,789,066.

RECENT GRANT PROPOSALS NOT FUNDED:

NIH: Co-Investigator (J. Wood, UNL, P.I.)
"Dynamics of mRNA metabolism in oocytes and embryos."
2022. $2,447,205.

NIH: Co-Investigator (M. Carlson, UNMC, P.I.)
"Transgenic models of pancreatic cancer in swine."
2021. UNL Subcontract $742,066.

NIH: Co-Investigator (M. Carlson, UNMC, P.I.)
"Development and application of a porcine model of breast cancer."
2021. UNL Subcontract $556,235.

NIH: Co-Investigator (J. Zempleni, UNL, P.I.)
"Bioavailability and delivery of RNA cargos by dietary exosomes among mammals." 2018. $1,809,405.

NPB: Co-Investigator (B. Mote, UNL, P.I.)
"Sow and piglet survival." 2018. $1,999,971

NIH: Co-Principal Investigator (C. Gurumurthy, UNMC, P.I.)
"Pig reporter model for gene editing." 2017. UNL Subcontract $1,452,342.