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Degree Objective: Ph.D. Dairy Science, (Endocrinology & Reproductive Physiology Minor).

Background: BS Natural Sciences University of Wisconsin- Madison, Madison, WI

Current Research Project:

Genomic imprinting, a phenomena causing silencing of a single parental allele, occurs in a subset of genes important for early embryonic development. Knockout and copy number manipulation experiments of imprinted genes have been shown to result in conditions such as embryonic growth retardation and low postnatal survival rates in mice. Therefore, investigation of these genes is critical to gain a better understanding of the genetic framework driving development. The objective of our study is to investigate possible effects of imprinted genes in bovine embryos. In order to accomplish this our lab utilizes an established in-vitro fertilization system for embryonic profiling. We hypothesize that imprinted genes will play an important role on the developmental success of the bovine pre-implantation embryo.

In order to test this hypothesis three aims have been created. First, to profile expression of genes with known imprinting status between pools of blastocyst and degenerate embryos providing candidate genes involved in early development. Then, validation will be completed in the second aim using single embryos to establish if there is an effect on expression due to the IVF process itself. Lastly, candidate genes will undergo functional tests in the third aim to determine if they have a significant impact on the development of the pre-implantation embryo. It is from these aims that we intend to determine imprinted genes that may have a direct effect and serve as possible markers for developmental progress during the pre-implantation stages.

Honors:

Grants Received:

Publications:

National Presentations:

Other Presentations:

ERP Service: