INTRODUCTION
• PCOS affects 5-10% of reproductive aged women.
• PCOS is a complex systemic reproductive and metabolic disorder.
• Insulin resistance plays a prominent role in PCOS.
• Risk of type 2 diabetes mellitus (DM) and cardiovascular disease (CVD).
• Women with PCOS commonly display features of the Metabolic Syndrome (MS), many of which are cardiovascular risk factors.
• Gynecologic symptoms include hyperandrogenemia, hirsutism, anovulatory infertility, impaired oocyte quality, recurrent pregnancy loss, gestational diabetes and endometrial cancer.
• The etiology and pathogenesis of the syndrome are unclear, and there is no effective cure.
• Currently, no comparative animal model of PCOS exists that embodies the complexity of the syndrome.
• Characterization of a complete animal model will significantly advance the field and provide insight into this multifaceted disease.
• Diagnostic criteria for PCOS include the presence of 2 of the following 3 conditions: 1) oligo­ or anovulation; 2) clinical or biochemical signs of hyperandrogenism; and 3) polycystic ovaries, with the exclusion of other etiologies (Rotterdam 2004).
• Women with PCOS displaying three of the following five criteria are diagnosed with MS: 1) abdominal obesity; 2) elevated triglycerides; 3) elevated HDL; 4) high blood pressure; and 5) impaired glucose tolerance.

CONCLUSIONS
• Diet induces hyperandrogenemia in Ossabaw gilts, a primary diagnostic criteria for PCOS in women.
• The normal recruitment of follicles from the growing pool appears to be altered in MetS gilts, resulting in the accumulation very small sized follicles. This is reminiscent of the accumulation of small follicles (2-9 mm), or cysts, in PCOS women. PCO is another diagnostic criteria for PCOS.
• Higher progesterone and slightly longer cycles in MetS gilts suggest that there may be anomalies in the ovulatory mechanism, potentially due to altered follicular development of very small follicles. Oligo­ or anovulation is also a PCOS diagnostic criteria.
• Metabolically, diet induces abdominal obesity, elevated triglycerides (data not shown), and impaired glucose tolerance, thus meeting the diagnostic criteria for metabolic syndrome in the presence of PCOS.
• In summary, these data demonstrate that Ossabaw swine may represent a novel animal model in which to study the interrelated reproductive and metabolic features of PCOS.