

## Speaker: Qingyu Feng



**Master's Candidate**

**Adviser: Dr. Indrajeet Chaubey**

Agricultural and Biological Engineering

Committee: Dr. Bernard Engel, Dr. Jeffery Volenec

**Wednesday, October 23<sup>th</sup>**

**2:30 PM**

**ABE Room 301**

### Biomass production and hydrological/water quality of perennial crop production on marginal land

Marginal land is proposed as a viable choice for biomass production, but the total area, biomass production and unintended consequences have not been fully evaluated. This study focused on identifying land area and estimate biomass productivity from marginal land in the St. Joseph River watershed. The hydrologic and water quality impacts from growing switchgrass and *Miscanthus* on marginal land were also evaluated. Biomass potential was estimated using both experimental data and simulated yield from Agricultural Policy Environmental eXtender (APEX) model. The model was used for hydrological/water quality impacts evaluation. Totally, there are 641 km<sup>2</sup> marginal land in the watershed, which is 22.6% of total watershed area. 45 million gallon bioethanol could be produced from marginal land by growing switchgrass and 57 million gallon bioethanol could be produced by growing *Miscanthus*. Total water yield will be reduced while water quality will generally be improved when marginal land was converted to perennial biomass production.



**Bio** — **Qingyu Feng** received the B.S. degree in College of Natural Resource and Environment in 2009 from Northwest A&F University. After graduation, he was recommended to be as a continuous educational student for Master and PhD and stayed there for one year. He then joined Agricultural and Biological Engineering Department's Master program at Purdue University in January 2011.