**2015 Great Lakes Bioenergy Research Center Sustainability Retreat – “Moving Forward”**

The goal of the Sustainability Retreat is to provide a platform for all GLBRC Sustainability researchers to update their colleagues on specific advances made in the last year and to provide a time and space for developing strategies and coordination of efforts between groups across various GLBRC research sites. The timing is of special importance as the retreat takes place well in advance of field season, allowing researchers enough time to plan and coordinate their experiments appropriately so that data gathered is robust and useful for the economic and environmental models used within the Sustainability group. Two years ago, the retreat goal was to identify synthetic manuscripts highlighting lessons learned from the first five years of Sustainability research, also known as the “establishment phase”. Researchers were provided a timeline for producing foundational (e.g., post-establishment yields in intensive plots, summary of biogeochemical cycling in intensive plots, etc.), project-level synthesis papers (e.g., the biodiversity team recently worked on synthetizing information learned from investigating the role of bioenergy crops on plant, insect, microbial, and bird diversity and the ecosystem services resulting from each cropping system), cross-project synthesis (e.g., linking biodiversity services and economic outputs), and finally, sustainability-wide synthesis. Last year, retreat organization changed significantly to include updates on these synthesis topics (as opposed to focusing on specific project research), and a first set of synthesis updates was provided. These updates included RIMA analysis of marginal lands, a biodiversity synthesis paper, N2O emissions during establishment phase, and farm supply response. This year, the topics included evapotranspiration and water use efficiency, regional biomass supply chain modeling, cover crop biocontrol effects, and economic opportunities for energy biomass products. All these synthesis updates are the result of collaborative efforts among the various projects within the Sustainability research area. Concurrent sessions this year included zip-lignin poplar work, biorefinery-modeling scenarios, education & outreach, likelihood of GMO crops and their sustainability implications, linking microbes to N budget, and potential collaborations. The plenary speaker for the retreat was Gerard Ostheimer, Sustainability Bioenergy Lead at the UN Sustainable Energy for All Program. Other goals include integration with other Center research areas and area-wide planning for the rest of year 8, as well as initial stages of proposal preparation for year 9 and beyond.

**References:** N/A.

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