

## 2010-2011 IGERT Publications and Presentations

### Journal Articles in Refereed Publications

Assefa, Y., Staggenborg, S. A. (2010). Grain sorghum yield with hybrid advancement and change in agronomic practices from 1957 through 2008. *Agronomy Journal*, 102, 703-706.

Brijwani, K., \*Rigdon, A., Vadlani, P. (2010). Fungal laccases: Production, function and applications in food processing. *Enzyme Research*, 2010, 10 pages. doi: 10.4061/2010/149748.

Bulatwicz, T., Yang, X., Peterson, J.M., Staggenborg, S., Welch, S.M., Steward, D.R. (2010). Accessible integration of agriculture, groundwater, and economic models using the open modeling interface (OpenMI): Methodology and initial results. *Hydrology and Earth System Sciences*, 14, 521-534.

Douglas-Mankin, K.R., Srinivasan, R., Arnold, J.G. (2010). Soil and water assessment tool (SWAT) Model: Current developments and applications. *Transactions of the ASABE*, 53(5), 1423-1431.

Pfromm, P.H., Amanor-Boadu, V., Nelson, R. (2011). Sustainability of algae derived biodiesel: A mass balance approach. *Bioresource Technology*, 102, 1185-1193.

Pfromm, P.H., Amanor-Boadu, V., Nelson, R., Vadlani, P., Madl, R. (2010). Bio-butanol vs. bio-ethanol: A technical and economic assessment for corn and switchgrass fermented by yeast or *Clostridium acetobutylicum*. *Biomass & Bioenergy*, 34, 515-524.

Propheter, J., Staggenborg, S. (2010). Performance of Annual and Perennial Biofuel Crops: Nutrient Removal during the first two years. *Agronomy Journal*, 102, 798-805.

Propheter, J., Staggenborg, S. (2010). Performance of Annual and Perennial Biofuel Crops: Yield during the first two years. *Agronomy Journal*, 102, 806-814.

Theerarattananoon, K., Wu, X. R., Staggenborg, S., Propheter, J., Madl, R., Wang, D. (2010). Evaluation and Characterization of sorghum biomass as feedstock for sugar production. *Transactions of the ASABE*, 53, 509-525.

Theerarattananoon, K., Xu, F., Wilson, J., Ballard, R., McKinney, S., Staggenborg, L., Vadlani, P., Pei, Z.J., Wang, D. (2011). Physical properties of pellets made from sorghum stalk, corn stover, wheat straw, and big bluestem. *Industrial Crop and Products*, 33(2), 335-342.

Wu, X.R., Staggenborg, S., Propheter, J., Rooney, W.L., Yu, J.M., Wang, D.H. (2010). Features of sweet sorghum juice and their performance in ethanol fermentation. *Industrial Crops and Products* 31, 164-170.

Xu, F., Shi, Y.C., Wu, X.R., Theerarattananoon, K., Staggenborg, S., Wang, D.H. (2011). Sulfuric acid pretreatment and enzymatic hydrolysis of photoperiod sensitive sorghum for ethanol production. *Bioprocess and Biosystems Engineering* 34, 485-492.

### Conference Publications

Paradis S., K. Douglas-Mankin, S. Hutchinson, M. Gay, T. Selfa. 2010. AREM: An original joint educational program to improve the sustainability of agricultural natural resources and environmental management. 9th European International Farming Systems Association (IFSA) Symposium, 4-7 July 2010, Vienna (Austria). WS5.4 (Education in landscape and territory agronomy): 2184-2190.

### Conference Presentations

\*Ballard, T., Bansal, S., Agrupis, S., Haag, L., Vadlani, P., Staggenborg, S.A. (2010, August).

Seeding rate effects for ethanol production in corn and sorghum. Paper presented at the International Symposium on renewable feedstock for bio-fuel and products: the role of kenaf, jute and allied fibers, Austin, TX.

\*Ballard, T., Freeman, O., Staggenborg, S. (2011, April). Annual oil production totals in Kansas from crop combinations. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.

Bergtold, J., \*Fewell, J., Williams, J. (2010, August). Cellulosic Biofuel Feedstock Production and Contracting: An Interactive Survey Building Session. Paper presented at the 2010 Risk and Profit Conference, Manhattan, KS.

Brewer, L., \*Rigdon, A., Abdillahi, H., Liu, W. (2010, July). Pumpkin Seed Oil as a Potential Chemical Feedstock. Paper presented at the Intensive Program: Sustainable Utilization of Renewable Resource II, Graz, Austria.

Campabadal, C., Channaiah, K., Lawrence, J., Martinez, A., \*Rigdon, A., Maier, D.E. (2010, October). Stored Product Protection and Technology Research Group. Poster session presented at Grain Science and Industry Centennial Celebration, Manhattan, KS.

Chin, A.M., English, K.G., Gerlak, A., Harden, C., McDowell, P., Peterson, J., Poff, L., Rosa, E., Wohl, E. (2010, June). Economic linkages to changing landscapes. Paper presented at Landscapes the Anthropocene: Exploring the Human Connections. Eugene, OR.

\*Fewell, J.E., Bergtold, J., Williams, J. (2011, April). Farmers willingness to grow crops for cellulosic bioenergy: A stated-choice approach. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.

\*Fewell, J. and J. Bergtold. (2011, April). Biofuel Production and Crop Acreage Demand Implications. Presentation at the 16th Annual K-State Research Forum, Agricultural Sciences Oral Session, Manhattan, KS.

\*Fewell, J.E., Bergtold, J., Williams, J. (2011, May). Farmers willingness to grow crops for cellulosic bioenergy: A stated-choice approach. Poster session presented at the NSF 2011 IGERT Trainee Poster Competition on IGERT.org.

\*Fewell, J. and J. Bergtold. (2011, May). Biofuel Production and Crop Acreage Demand Implications. Poster session presented at the annual Capitol Graduate Research Summit, Topeka, KS.

Freeman, O., \*Ballard, T., Staggenborg, S. (2011, April). Cover crop benefits in corn and forage sorghum rotations in the central plains. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.

Garay, P.V., Peterson, J.M., Golden, B.B., Smith, C.M. (2010, July). Disaggregated Spatial Modeling of Irrigated Land and Water use. Paper presented at the Agricultural and Applied Economics Association Annual Meeting, Denver, CO.

Maier, D. (2010, May). Sustainability of Human Capital for the Grain Processing Industry. Paper presented at the Corn Dry Milling Conference, Peoria, IL.

Maier, D.E. (2010, May). Stored Product Protection Research. Paper presented at the New Technologies and Practices, Food Safety Workshop, Delhi, India.

Maier, D.E., Channaiah, L.H., Martinez-Kawas, A., Lawrence, J.S., Chaves, E.V., Coradi, P.C., Fromme, G. A. (2010, July) Monitoring carbon dioxide concentration for early detection of spoils in stored grain. Paper presented at the 10th International Working Conference on Stored Product Protection. Esortil, Portugal.

Martinez, A., Maier, D.E. (2010, September). Quantifying feedstock availability using a geographical information system. Paper presented at the 3rd GSI Graduate Student Organization

geographical information system. Paper presented at the 31st USA Statewide Student Organization Symposium, Manhattan, KS.

Martinez, A., Maier, D.E. (2011, April). Quantifying feedstock availability using a geographical information system. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.

Michalsky, R., Pfromm, P.H. (2010, February). Sustainable production of ammonia from air water and biomass in Kansas. Poster session presented at the annual Kansas State Research Forum, Manhattan, KS.

Michalsky, R., Pfromm, P.H. (2010, March). Sustainable production of ammonia from air, water and biomass in Kansas. Poster session presented at the annual Capitol Graduate Research Summit, Topeka, KS.

Michalsky, R., Pfromm, P.H. (2010, May). Sustainable production of ammonia utilizing a chromium reactant and solar processing. Poster session presented at the annual meeting of the Center for Sustainable Energy, Manhattan, KS.

Michalsky, R., Pfromm, P. H. (2010, September). Sustainable production of ammonia utilizing transition metal reactants and solar processing. Poster session presented at the annual IGERT Energy and Sustainability Conference, Newark, DE.

Michalsky, R., Pfromm, P. H., \*Parman, B., Amanor-Boadu, V. (2011, April). Reactive NH<sub>3</sub> synthesis for food and fuel production via solar thermochemical processing at atmospheric pressure. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.

\*Parman, B., Amanor-Boadu, V., Michalsky, R., Pfromm, P. H., (2011, April). Plant configuration scale, and economic feasibility of Reactive NH<sub>3</sub> synthesis using solar thermochemical processing. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.

\*Parman, B. Amanor-Boadu, V., Pfromm, P.H. (2011, January). Third Generation Biofuels and the Food versus Fuel Debate: The Case of Algae Biofuels from a Systems Perspective. Paper presentation at the 7th International Conference on Environmental, Cultural, Economic, and Social Sustainability, Hamilton, New Zealand: University of Waikato.

Peterson, J.M. (2010, March). Economic Linkages to Changing Landscapes. Invited presentation at the workshop, Landscapes in the Anthropocene: Exploring the Human Connection, Eugene, OR: University of Oregon.

Pfromm, P.H., Amanor-Boadu, V., Nelson, R. (2010, October). Sustainability of algae derived biodiesel: a mass balance approach. Presentation for the University of Missouri, Columbia Department of Chemical Engineering Research Seminar, Columbia, MO.

Pfromm, P.H., Amanor-Boadu, V., Nelson, R. (2010, October). Sustainability of algae derived biodiesel: a mass balance approach. Presentation for Missouri University of Science and Technology Department of Chemical and Biological Engineering Research Seminar, Rolla, MO.

Pfromm, P.H., Amanor-Boadu, V., Nelson, R. (2010, October). Sustainability of algae derived biodiesel: a mass balance approach. Presentation for the University of Nebraska, Lincoln Department of Chemical and Biomolecular Engineering Research Seminar, Lincoln, NE.

Rezac, M.E. (2010, May) Bioenergy perspectives. Paper presented at the Tribal Renewable Energy Research Workshop, University of Washington, Seattle, WA.

\*Rigdon, A., \*Ballard, T., Brewer, L., Bunnell, K. (2010, July). Renewable resources and sustainability in the US Central Great Plains. Paper presented at the Intensive Program: Sustainable Utilization of Renewable Resource II, Graz, Austria.

\* Rigdon, A., Maier, D.E., Vadlani, P., Jumponen, A. (2011, April). Evaluation of composition and

enzymatic activity changes of sorghum biomass under various storage conditions. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.

\*Schulte, L., Rezac, M.E., \*Ballard, T., Staggenborg, S.A. (2011, April). Synthesis of cyclic carbonates from epoxides and carbon dioxide. Poster session presented at the Kansas State University Center for Sustainable Energy Bioenergy Symposium, Manhattan, KS.

Smith, C.M., Peterson, J.M., Leatherman, J.C. (2010, July). Simulation of Factors Impeding Water Quality Trading Market Performance. Paper presented at the Agricultural and Applied Economics Association Annual Meeting, Denver, CO.

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