

**Bioenergy Sustainability and Land-Use Change Report  
Oak Ridge National Laboratory  
November 2010**

**Invited Talks and Presentations:**

November 4: Debo Oladosu attended the National Corn Growers Association (NCGA) Ag Energy Symposium in Washington, D.C. and presented “Empirical Analysis of the Sources of Corn Used for Ethanol Production in the United States: 2001-2009.”

November 12-13: Carolyn Hoagland presented a poster, “Do Cellulosic Ethanol Incentives Threaten Food Producing Acres?” at the Sigma Xi annual conference in Raleigh, NC.

November 16-18: Bob Perlack was an invited speaker at the Renewable Energy Biomass Field Days held in Knoxville, TN. Bob presented “Biomass Production – Agricultural perspective,” an overview of the billion-ton resource assessment emphasizing agricultural biomass feedstocks, namely primary crop residues and energy crops.

November 18: Keith Kline gave a presentation on bioenergy, land-use and the Global Sustainable Bioenergy initiative at the monthly American Institute of Chemical Engineers (AIChE) meeting in Knoxville, TN.

November 18: Mac Post gave the monthly Center for BioEnergy Sustainability (CBES) Forum presentation on “An Integrative Modeling Framework to Evaluate the Productivity and Sustainability of Biofuel Crop Production Systems.”

November 20: Virginia Dale was part of a panel on career opportunities at the “Undergraduate Research Conference at the Interface of Biology and Mathematics” conducted by the National Institute for Mathematical and Biological Synthesis (NIMBioS) in Knoxville, TN ([http://www.nimbios.org/education/undergrad\\_conf2010](http://www.nimbios.org/education/undergrad_conf2010)). Several of the students were interested in careers involving agriculture and sustainability.

**Other Activities:**

Expert Work Group reports were submitted to the California Air Resources Board (CARB) with recommendations for improving regulations related to land-use change under the Low-Carbon Fuel Standard. In addition to submitting several recent analyses of empirical data concerning land use and ethanol in the U.S., the input from Oak Ridge National Laboratory (ORNL) covered issues related to modeling uncertainty, time accounting, land availability, effects of other fuels, food-fuel interactions, and emission factors. Based on the reports, CARB staff agreed that the indirect land-use change (ILUC) estimates previously proposed will require substantive changes. See <http://www.arb.ca.gov/fuels/lcfs/lcfs.htm>.

Rebecca Efroymsen and Lenny Bernstein, a consultant retiree with long-term experience in the petroleum industry and lead author of IPCC assessment reports, met with Charles Bancroft and Bud Moore from Sunburst Systems (<http://www.sunburstsystems.net>) of Asheville, NC. The meeting, convened by the Blue Ridge Sustainability Institute, concerned design, system process efficiency and carbon balance of an innovative system to reclaim landfill gas to produce

biodiesel and ethanol from algae. As a byproduct of the system, electricity will be produced and used for internal use and the rest sold back to the electrical grid.

Comments and suggestions were submitted to the ISO PC248 Work Group on developing a Standard for Sustainable Bioenergy; this task focused on definitions and procedures for greenhouse gas (GHG) emission analysis. The resolutions from this task group will be shared with other working groups. A series of webinars and meetings are scheduled to generate an initial draft for wider ISO consideration by March, 2011.

**Publication:**

Dale, V. H., R. Lowrance, P. Mulholland and G. Phillip Robertson. 2010. Bioenergy Sustainability at the Regional Scale. *Ecology and Society* 15 (4): 23.

<http://www.ecologyandsociety.org/vol15/iss4/art23/>

**Upcoming ORNL Visits/Events:**

December 6-9: Several ORNL staff will participate in the meeting of A Community in Ecosystem Services (ACES) in Phoenix, AR.

December 19: Virginia Dale will be interviewed on the radio show, Garden Guys (96.9 FM out of Boston <http://www.garden-guys.com/>). She will discuss the role of agriculture in hypoxic zones that occur in the Gulf of Mexico.

The below chart represents hits on different sections of the website for the Center for BioEnergy Sustainability (CBES).

Center for BioEnergy Sustainability														
Web Statistics Report														
	2009			2010										
Site	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Monthly & Annual Report		61	109	84	99	92	252	185	201	135	136	107	136	238
Symposia						83	777	442	399	637	213	249	410	1,020
Factsheets	200	220	252	180	280	227	872	511	502	391	266	377	295	511
Forums	515	496	565	578	723	773	2,144	1,312	1,556	1,127	731	1,022	1,191	2,309
Collaborations													117	202
Images	2,141	1,706	2,412	2,839	2,306	2,224	2,423	2,101	1,504	1,241	794	885	827	1,416
Workshops														
Land-Use	414	299	280	1,171	1,390	1,007	2,228	1,315	1,432	1,004	541	700	965	1,546
EPA	191	199	239	136	171	183	316	196	211	143	105	125	149	242
Watershed	89	125	197	151	85	111	207	324	161	121	84	89	104	182