CTBE and IEA Bioenergy Tasks

Workshop on Quantifying and Managing Land Use Effects of Bioenergy

Land use Models and iLUC under a Brazilian Perspective

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Our concerns regarding modeling: an illustrative example

Tyner´s results presented at LCFS last meeting (Sep. 14th)

PURDUE UNIVERSITY — PURDUE AGRICULTURE

Land Use Change Results

(ha/1000 gal. biofuel)

Biofuel	CARB 2009	Purdue 2010	Current Results	Results with CP
US corn ethanol	0.29	0.13 – 0.22	0.18	0.31
US soy biodiesel	0.63	0.94[a]	0.18	0.43
Brazilian sugarcane	0.55	-	0.16	0.40

[a] Preliminary Purdue result provided to CARB in January 2010

Complete details on land use change have been provided to CARB.

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		CARB 2009	Current results	ICONE
ha/1000 gal. Biofuel	Bra Sugarcane	0.55	0.16	**0.05**
ha/3785 li biofuel		0.55	0.16	**0.05**
ha/6300 li biofuel		0.92	0.27	**0.08**

ICONE *	Total	Etanol
Cane 2005-2008	2,375,726	1,834,612
ILUC 2005-2008	190,974	147,476

	2005	2008	2008-05
% Etanol TRS	50%	59%	
Cane	387,442	569,063	181,621
Cane for ethanol	194,195	334,448	140,253
Ethanol production	15,947	27,513	11,566

Ethanol/ha	**6300**
Ethanol contribution to cane expansion	**77%**

* http://www.iconebrasil.org.br/arquivos/noticia/2107.pdf

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Models limitations are still the same…

- Bad analysis on pasture intensification
- Double cropping ignored
- Assumptions that determine native vegetation conversion are not based on reality
  - Overstates land conversion
  - Direct conversion
  - No satellite images
  - It relies only on land rents (global!!!)
  - Land supply elasticity are not estimated using real evidences
- Very simplistic assumptions on competition for land
  - No satellite images
  - Transformation elasticity