

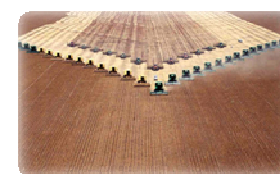
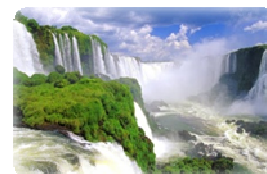
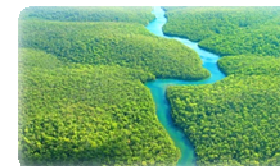


LCA in Brazilian agriculture facing worldwide trends

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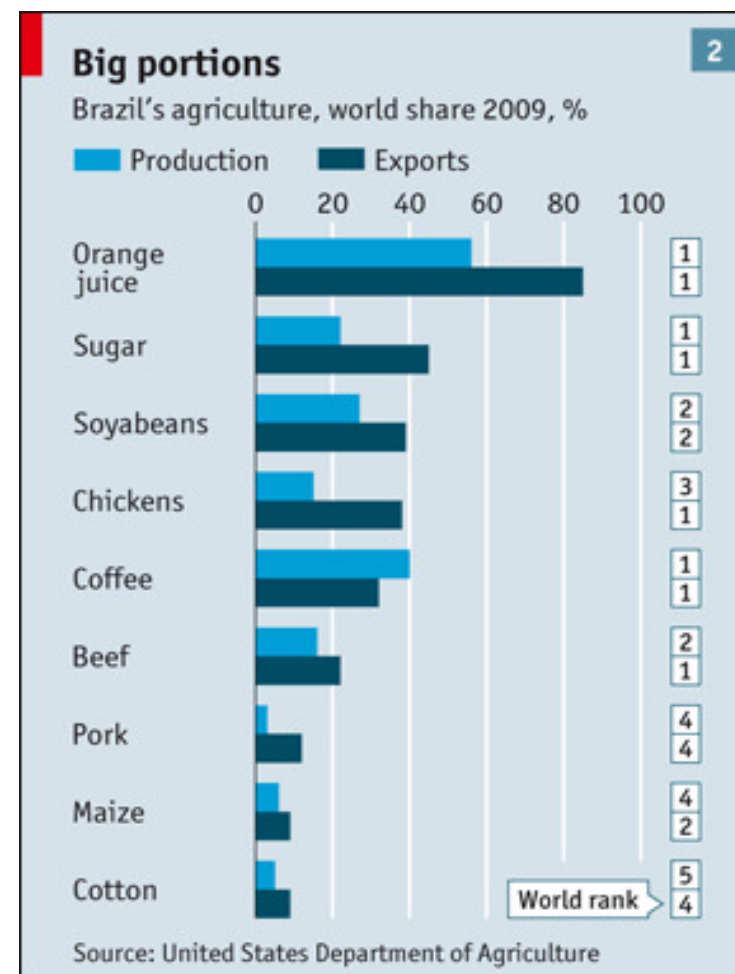


bari, september 22-24 2010

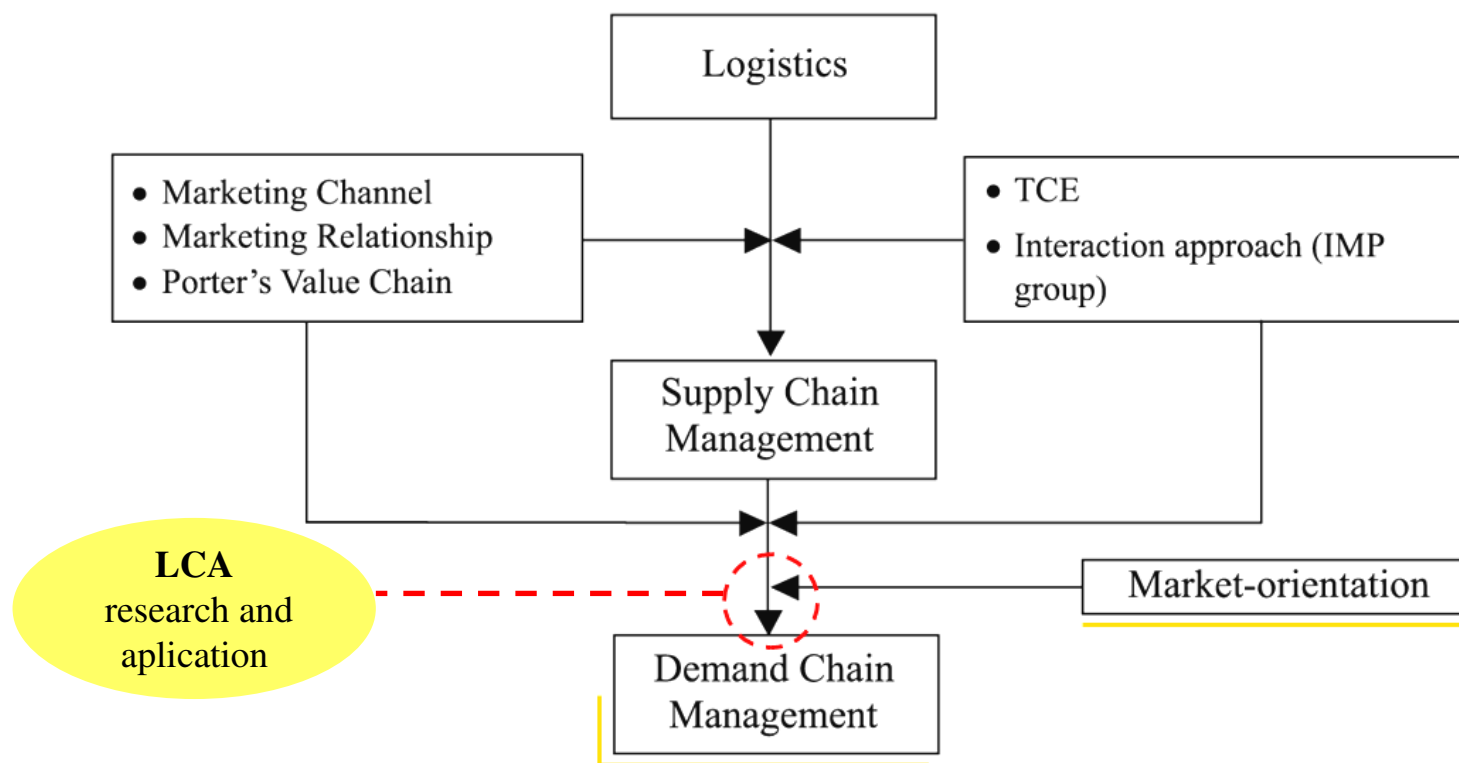
VII international
conference on
life cycle assessment
in the agri-food
sector

Brazil is a major exporter of food, and must be concerned with the environmental and food safety issues

LCA methodologies are critical for global agribusiness



LCA in agri-food chain management



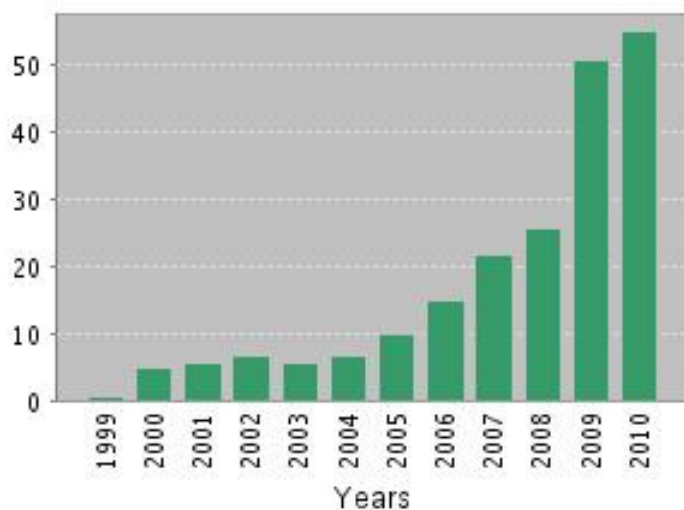
Source: Adapted from Canaver, Van Trijp e Beers (2008)

LCA publications in the agri-food sector

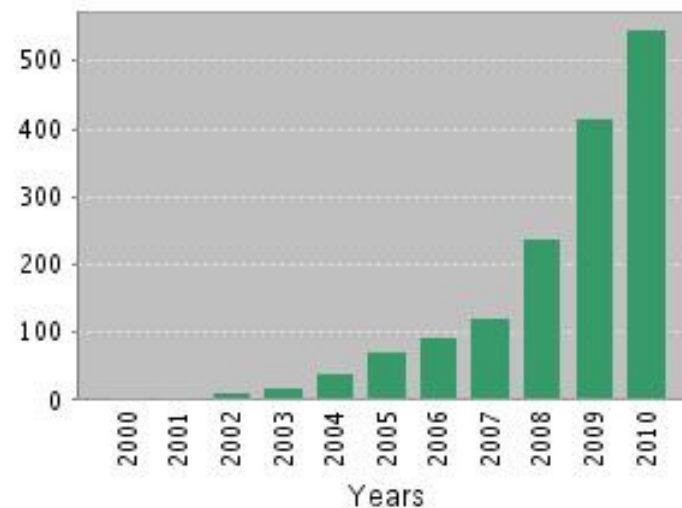
Citation Report

Topic=(agric*) AND Topic=(LCA) Timespan=2000-2010. Databases=SCI-EXPANDED, SSCI, A&HCI.

Published Items in Each Year



Citations in Each Year



Source: Web of Science

http://apps.isiknowledge.com/CitationReport.do?product=WOS&search_mode=CitationReport&SID=2Dd3DIhNlpiJ@mMGKI&page=1&cr_pqid=1

Application of LCA Methodology

Livestock Production (example)

Country	Issues	Functional Units	Major points	Year	Author (s)
New Zealand	Eco-efficiency of intensification scenarios for milk production	kg fertiliser-N/ha/year; t DM ; cows/ha	Comparison NZ x European needs validation	2009	Basset-Mens, C., <i>et al.</i>

Grain, Vegetables and others (example)

Country	Issues	Functional Units	Major points	Year	Author (s)
China	Land and water requirements of biofuel	m3 (water)/L(biofuel) and m2 (land)/L(biofuel)	Biofuel development paths could pose impacts on China's food supply and trade, as well as the environment	2009	Yang <i>et al.</i>

Animal Products (example)

Country	Issues	Functional Units	Major points	Year	Author (s)
Germany	CO ₂ -Footprints for Food of Animal Origin - Present Stage and Open Questions	CO ₂ eq/kg	Standardisation of methods; improvement of knowledge to reduce emissions	2009	Flachowsky, G. Hachenberg, S.

Brazilian publications on LCA Methodology

Subject	Goal	Functional Units	Results	Year	Author (s)
Poultry	stages of poultry production impacts	Ton	logistic performance of chains	2008	Silva <i>et al</i>
Oyster	stages of production analysis	Unit	water consumption, CO2 emission, solid waste	2008	Alvarenga <i>et al</i>
Frozen concentrated orange juice	energy use	kg	GWP related to non-renewable energy	2008	Coltro <i>et al</i>
Aquiculture	human-environmental context	undefined	environmental licensing	2007	Eler and Millani
Green Coffee	production inventory data	MJ , kg and ha	agricultural practices	2006	Coltro <i>et al</i>

Conclusions

Worldwide literature



Conclusions

Brazilian literature





Conclusions

General protocols needed for international trade

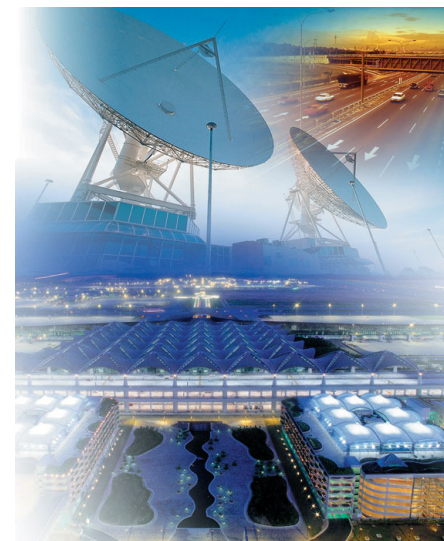
LCA tools must be adapted to local environmental peculiarities and technological context

Few studies on biodiversity, land use, and water use

LCI, no Brazilian agriculture database is open to access

Conclusions

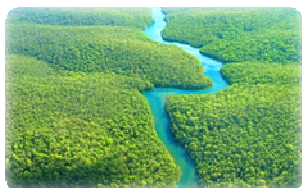
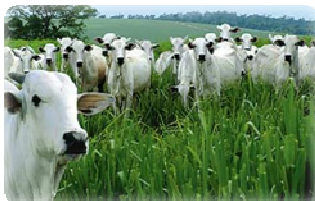
Promote LCA-related advanced education, human resources training, infra-structure, and institutional build up



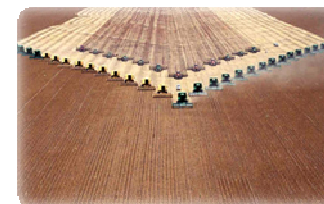
LCI and LCIA methodologies are needed for Brazil as a major food and feed exporter



Thanks!



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