BIODIVERSITY AND DEVELOPMENT:
EUCALYPTUS & FOREST LAW
IN RURAL MINAS GERAIS, BRAZIL

Research Presentation by Maggie Stevens

Outline

Profile of Brazil
Eucalyptus ecology, background
Eucalyptus History and Industry
Environmental Laws
Controversy surrounding APP
Future of industry and environmental constraints

Research in Conjunction with:

"To advance the science, management, and appreciation of natural resources in Tennessee, the region, and beyond through programs in research, teaching, and extension."

Thanks to Dr. Hodges & Dr. Ostermeier

Created in 1960, DEF-UFV is the oldest forestry school in Brazil. Specializations include: Wood construction, industrialization and marketing of forest products, and development of superior clones of Eucalyptus Grandis.

Thanks to Professor Marcio.
Research in Conjunction with:

“Rotary is a voluntary worldwide organization which can fulfill humanity’s need for fellowship, service opportunities, and the need to leave a legacy.”

Thanks to: Rotary of Oak Ridge & District 6780 & Rotary of Viçosa, District 4580

Profile: Brazil

- HDI (Human Development Index): ranked 70th out of 175 countries
- 5th largest country by geographical area
- 5th most populous country
- 10th largest economy at market exchange rates
- Area: 8,514,877 km² (Continental U.S.)
- Largest and most populous country in South America
- Population: around 190 million
- 9th largest in purchasing power

Eucalyptus

- Eucalyptus grandis
- Non-native crop
- High interception rate
- Deep root system
- Short rotations of 6-7 years
- Managed for Fiber or Fuel-wood

Abundantly Planted


http://www.woodycrops.org/mechconf/mcnabb.html

Abundantly Planted
Background: Minas Gerais Crops

Shift to Eucalyptus farming

Changes in coffee market


Background: Why Eucalyptus?

Grows Well
1) monoculture crop

Easily integrated
2) soil fertility

Grows Quickly
3) water resources

Energy

4) diminished rainfall

“other” uses

2) soil fertility

3) water resources

4) diminished rainfall


New Forests 17: 37-52

Coulto, L. and F. Dube 2001 “The Status and Practice of Forestry in Brazil at the Beginning of the 21st Century: A Review”

The Forestry Chronicle

Vol. 77, No. 5: 73-80


Energy

Grows Quickly

“other” uses

Eucalyptus Industry

Charcoal Production

Minas Gerais – Largest Area

Short-rotation yields 55 MAI (m³ ha⁻¹ yr⁻¹)²

* 20-50% reduction after 1st rotation

* Steres

stocked meters of roundwood in 1m³ piles

Majority are clones and hybrids

*85% of saplings used by Aracruz²

Composition of The Market

48% to fuel-wood industries
45% to pulp industry

Other:
A. 4% to sawmills
B. <1% Wood pellets
C. <1% Biomass Integrated Gasification/Dual Turbine (BIG/GT)

Brazilian Forest Laws

Limit on Expansion
Tree-Farmer Programs
7% annual expansion

1500-1950s – little environmental regulation
1950s - 1960s – lasting economic effects of degradation
1965 – First Brazilian Forestry Code:
Areas of Permanent Protection
Legal Reserve Area

International Forest Industries 2010 report

Brazilian Forest Laws

Limit on Expansion
Tree-Farmer Programs
7% annual expansion

1500-1950s – little environmental regulation
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Areas of Permanent Protection
Legal Reserve Area

International Forest Industries 2010 report

3/21/2011
Constraint and Controversy

The “B” word...

“Brazil”

“mata em pé, homem diante”
(“wherever a tree stands, a lazy man lies in its shade”)

The Future...

Laws are hotly disputed

Much pressure for conservation (and funding)

Increased demand for eucalypt resources

Future Implications

Iracambi is trying to assist the community:

• Economic development
• Eucalyptus production
• Legal Reserve requirement adherence
Questions?

References


International Forest Industries report 2010


Profile: Territory of Brigadeiro State Park

• Data Source: Iracambi GIS 2006 Map: Maggie R. Stevens 2007
Profile: Typical Rural Minas Gerais

Brigadeiro State Park – 15,000 ha; created in 1996

Non Governmental Organization; Research Center; Working Farm

Small Scale Farms growing Eucalyptus in the 30,000 ha that borders the Park

Data Source: Iracambi GIS 2006 Map: Maggie R. Stevens 2007

Governmental Organization; Research Center; Working Farm in the 30,000 ha that borders the Park.