Brazil Climate

Source: http://www.guianet.com.br/brasil/mapaclima.htm
Brazil Soybean Expansion

1960

1975

2002

396 ADAPTED CULTIVARS, BIOLOGICAL N$_2$ FIXATION MANAGEMENT, PESTS and DISEASE CONTROLS

(Souza et al., 2003)
Brazilian Soybean Area Compared to the US

Source: Leibold, K., Brazil’s soybean production, AgDM newsletter article, September 2001
18 million hectares of pasture in cerrados can be converted to cropland, according to the Embrapa Cerrados research institute located at Planaltina, District Federal.
Cropland Expansion in Brazil

Development of no-till cropping in Brazil and in the Cerrado region

Source: Federação Brasileira de Plantio Direto na Palha (FEBRAPDP), 2003.
Soy Area Expansion Occurred in Cerrado Soils and Outer Fringes of the Amazon

2005 Soybean Production

Ecosystems
Amazon Deforestation

This map was created by overlaying the INPE map of deforestation as of 2001 over the map of vegetation by IBGE (IBGE 1997).

Scales of maps: Deforestation (1:250,000). The scale of the vegetation map was 1:2,500,000. The scale of this which aggregates all types of forest is 1:1,000,000.
A 20-km wide radius surrounds the location of the 450 municipal seats in the Brazilian Amazon, to estimate the extent of human pressure from these centers. See Section III for details. Source: IBGE 1997.
Main Soybean Export Routes

Mato Grosso is landlocked and has high transport costs.
Roads & Rails in Poor Conditions

Source: USDA/AMS/Soybean Transportation Guide

Condition of major Brazilian highways

Brazilian rail system

Source: Ministério dos Transportes, Brazil National Association of Rail Transports (ANTF)
Proposed Railroads

Source: USDA/AMS/Soybean Transportation Guide
Bottlenecks in Southern Ports and Undeveloped Ports in the North

Source: USDA/AMS/Soybean Transportation Guide
U.S. and Brazilian Soybean Transportation to Port by Mode

for U.S.:
- Waterway: 66%
- Railroad: 22%
- Road: 12%

for Brazil:
- Waterway: 5%
- Railroad: 28%
- Road: 67%
BRAZILIAN ROADS

BR – 163 BETWEEN NOVA MUTUM AND LUCAS DO RIO VERDE-MATO GROSSO STATE

Source: BUNGE
ARRIVAL AT PORT OF SANTOS, SÃO PAULO

Source: BUNGE
Major ports are located in the south, with high transport costs from Mato Grosso.
Proposed Transportation Improvements for Roads, Rail & Rivers

Source: Schnepf, Dohlman, and Bolling, 2001, Agriculture in Brazil and Argentine, ERS, USDA, Agriculture and Trade Report, WRS-01-3
Top 5 Soybean Exporting Countries

Canada
Paraguay
Argentina
Brazil
United States

*Forecast, April 2006
Source: USDA/FAS

Source: USDA/AMS/Soybean Transportation Guide
Mato Grosso is Largest Exporting State

Top 6 Brazil soybean exporting states

Source: USDA/AMS/Soybean Transportation Guide

Sources: Secretaria de Comércio Exterior (SECEX) and Companhia Nacional de Abastecimento (CONAB)

Source: USDA/AMS/Soybean Transportation Guide
Most exports go to China.

Source: USDA/AMS/Soybean Transportation Guide
Keys to Future Growth

- Area growth in Cerrado soils
  - Convert abandoned pastures to crops
  - More feedlots being built in Mato Grosso

- Yield growth
  - Development of tropical varieties resistant to pests & fungal diseases
    - Better yielding early-season varieties which allow two crops per year
  - Less mono-cropping and more crop rotation to control Asian rust and nematodes.
  - In-country fertilizer production

- Infrastructure development (roads, rails, and ports) for Mato Grosso
GPS Crop Tour Route with POST from February 13-March 5, 2008
Two Crop Seasons (Sept. 15th-Jan & Feb-May): Summer Corn (left) & Winter Corn (right)

Winter corn is typically planted on same day as the summer soybean harvest (i.e., February).
Large Fields & Different Crop Stages

Green fields indicate different crop stage and crop seasons.

Section not yet harvested.
Large John Deere Harvesters at Primavera do Leste, Mato Grosso

Imported farm equipment is now cheaper in Brazil due to weak US dollar.
Soybean Rust

S 13° 19.275'  W 058° 52.511'  536 m  02/26/2008  2:53:57 PM
Soybean Rust
Soybeans next to Forest
Cattle, hog, and poultry feedlots are increasing in Mato Grosso
Poultry factory under construction at Lucas do Rio Verde, Mato Grosso

New poultry factory will employ 6000 people.