Overview of soybean rust in South America during 2005-06

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Soybean crop calendar for most of South America

<table>
<thead>
<tr>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
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</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>55.0</td>
<td>22.0</td>
<td></td>
</tr>
<tr>
<td>Argentina</td>
<td>40.5</td>
<td></td>
<td>15.2</td>
</tr>
<tr>
<td>Paraguay</td>
<td>4.0</td>
<td></td>
<td>2.1</td>
</tr>
<tr>
<td>Bolivia</td>
<td>2.2</td>
<td></td>
<td>0.8</td>
</tr>
<tr>
<td>Uruguay</td>
<td>0.8</td>
<td></td>
<td>0.3</td>
</tr>
</tbody>
</table>
PARAGUAY
First report: March 2001

- 2001/02: drought during regular crop season
  outbreaks in late plantings
- 2002/03: incidence in plants with 30-35 days/ high temperatures
  outbreaks in late plantings
- 2003/04: incidence in plants with 25 days/ drought after flowering
  outbreaks in late plantings
- 2004/05: incidence in plants with 40 days/ drought after flowering
  outbreaks in late plantings

Early incidence

Drought

Outbreaks in second crop season/ late plantings
2005/06
Outbreaks in late plantings
W.M. Paiva

Pirapo May 2006
Late soybean planted
50% loss
Survival: volunteer soybean plants
Survival: alternative hosts

Kudzu (*Pueraria lobata*)

Perennial soybean (*Neonotonia wightii*)
ARGENTINA
First report: March 2002 (Misiones)

2002/03 - Misiones and Corrientes

December 2003 - National Soybean Rust Program

Early detection and spread the information
www.sinavimo.gov.ar

2004/05 - Misiones, Corrientes, Santa Fe (December 2004), Chaco, Entre Rios, Salta, Tucumán, Buenos Aires, Córdoba, Santiago del Estereo, La Pampa, Formosa and Jujuy.

First detection in provinces of Misiones and Corrientes

Border with Brazil and Paraguay

Alternative hosts
First report - Dec 2005 - Corrientes


Soybean growth stage at the time of the ASR detection (%)

Source: Sinavimo, Argentina
According to data from 2003 - 2006:

✓ SBR established in the country;

✓ Until last crop season it was considered a less important fitosanitary problem, compared to Brazil, Paraguay, Bolivia.
BRAZIL
First report: May 2001 → volunteer soybean plants second crop

September 2004 - Anti-rust consortium

Wide spread information
Standard presentation/ leaflets
Labs Network
Website’s warning system in real time

http://www.cnpso.embrapa.br/alerta/
✓ SBR established in the country reported in 98% of soybean areas

✓ Outbreaks weather conditions initial inoculum
2005/06

Presence detected
Presence and losses

✓ Estimated Losses: 2.9 million tons of grain → US$640 million
Early detection (vegetative)

Soybean growth stage at the time of the ASR detection (%)

Source: Sistema de Alerta

near areas with soybean under irrigation during “winter”

MT, MG, GO, SP
GREEN BRIDGE

CONTINUOUS SOYBEANS WITH RUST BETWEEN TWO CROP SEASONS

Primavera do Leste, Mato Grosso - July 2003
What did we do to avoid these detections in the vegetative stage?

- Allow 90 days between harvest and sowing MT, GO, MS
- Destroy volunteer soybeans

“sanitary emptiness”

Reduce source of inoculum
Early plantings producing inoculum for late plantings
FUNGICIDES

Number of recommend fungicides


- 2002: 4
- 2003: 10
- 2004: 20
- 2005: 25
- 2006: 30
Losses:

- Delay in application time
- Reduce of application volume and fungicide rate
- Farmers indebtedness
  - High transportation costs
  - Strong currency
  - Low international prices
  - High production costs
- Soybean rust (4%)
Summarize

Soybean rust has come to stay

Epidemic Outbreaks are related with:
✓ Source of inoculum
   (winter crop/ volunteer plants/ other hosts)
✓ Weather conditions

Control:
✓ Scouting
✓ Fungicides at the right time
THANK YOU!

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