This slide was shown in the USDA Outlook Forum 2002 as an innovation.
Corn 2nd Crop | Agronomics and Optimization Benefits

- Crop rotation between corn and beans (C4 – C3)
- Soil protection in a “no-tillage system”
- Fertilization of the fields as a single system
- Better control of nematodes, diseases and pests
- Machinery and Labor optimization in the farm, diluting fixed costs
- Better balanced cash flow of the farming business during the year
Corn/Brazil | Production

Corn – 1st Crop (summer)

Corn – 2nd Crop (fall/winter)

Source: IBGE, Elaborated by: Agroconsult
Corn/Brazil | Planted Area
(million acres)

Source: CONAB, Forecast: Agroconsult
Soybean / Brazil | “Ace in the hole”

The period when soybean planting is not allowed (soybean rust prevention) ends on Sep-15

Last 20 years: Focus on early cycle breeding improvement. Reducing the total cycle from 120-130 days to 95-100 days.

Ideal calendar to planting Corn 2nd crop:
% of soybean harvest:
10 years ago: 35%
Last 2 crops: 60%

Source: IMEA, Elaborated by: Agroconsult
Evolution of Corn 2nd crop over Soybean area (%)

Source: CONAB, Elaborated by: Agroconsult
Corn/Brazil | Yield

(bushel/acre)

Source: Agroconsult
Corn/Brazil | Domestic Consumption
(million t.)

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic Consumption (million t.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>35</td>
</tr>
<tr>
<td>2007</td>
<td>42</td>
</tr>
<tr>
<td>2012</td>
<td>52</td>
</tr>
<tr>
<td>2017</td>
<td>59</td>
</tr>
</tbody>
</table>

- **Swine**: Last 10 years, 3%
- **Poultry + Eggs**: Last 10 years, 3%
- **Cattle + Milk**: Last 10 years, 7%
- **Ethanol**: Last 10 years, 87%
- **Others**: Last 10 years, 2%
- **Total**: Last 10 years, 3%

**Domestic Market Share**:
- 2002: 99%
- 2007: 82%
- 2012: 71%
- 2017: 59%

Source: IBGE, CONAB and Agroconsult

* Food, Industrial Use, Seeds and Others
Ethanol | Estimated Corn-based Output in Brazil

**Corn-based Ethanol Output** (Bi liters)

- 2017/18: 0.1 billion liters of ethanol
- 2018/19: 0.6 billion liters of ethanol
- Next years: 3.2 billion liters of ethanol

**Corn crushed for Ethanol** (MMT)

- 2017/18: 0.2 MMT of corn
- Next years: 8.2 MMT of corn

Source: UNICA. Forecast: Agroconsult

2017/18
6 Working Facility (1 Full + 3 Flex)
1.3 mmt of corn
0.55 million liters of ethanol

Next years
+ 13 Facilities (5 Full + 8 Flex)
8.2 mmt of corn
3.2 billion liters of ethanol
Corn/Brazil | Production and Exports

**Production area**

- North, Northeast and Center-West:
  - 24 mmt 38%

- South and Southeast:
  - 36 mmt 62%

**Exports Ports**

- North, Northeast and Center-West:
  - 0.4 mmt 8%

- South and Southeast:
  - 5.9 mmt 92%

**Source:** Agroconsult, SECEX
Corn/Brazil | Production and Exports

2017

Production area

North, Northeast and Center-West:
- 59.1 mmt
- 60%

South and Southeast:
- 39.5 mmt
- 40%

Exports Ports

North, Northeast and Center-West:
- 8.6 mmt
- 29%

South and Southeast:
- 20.6 mmt
- 71%

Source: Agroconsult, SECEX
Soy + Corn/Brazil | Northern Arc Export

(millions t.)

Source: CONAB, Forecast: Agroconsult. Calendar: Jan/Dec
## Corn/Brazil | Production and Logistics Costs

### Production in Sorriso/MT

(USD/bu)

<table>
<thead>
<tr>
<th></th>
<th>07/08</th>
<th>2016/2017</th>
<th>2027/2028</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Ports</td>
<td>1,9</td>
<td>1,9</td>
<td>3,3</td>
</tr>
<tr>
<td>North Ports</td>
<td>2,5</td>
<td>1,4</td>
<td>1,1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Last Crop</th>
<th>Next 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Ports</td>
<td>1,7</td>
<td>3,3</td>
</tr>
<tr>
<td>North Ports</td>
<td>1,7</td>
<td>2,8</td>
</tr>
</tbody>
</table>

Source: Agroconsult
Corn | Break-even
(USD/bu) – FOB Cost

- Land rent included in IOWA cost
- Land rent not included in Mato Grosso; it’s on summer soy cost

Source: USDA, AMS, Agroconsult.
Corn | Break-even
(USD/bu) – FOB Cost

- Land rent included in IOWA cost
- Land rent not included in Paraná; it’s on summer soy cost

Source: USDA, AMS, Agroconsult.
**Corn | Exports**

(million t.)
Calendar: October/September

Source: USDA     Forecast: Agroconsult. Calendar: OCT/SEP.
SOYBEAN MARKET
17/18
Soybeans market

1. We are heading to a record crop
Soybean/Brazil | Production (millions t.)

Source: CONAB, Forecast: Agroconsult
Soybean/Brazil | Crop Condition

Area (%)

56 - Better than the previous crop
10 - Equivalent to the previous crop
34 - Worse than the previous crop

Source: Agroconsult
The Rally da Safra Roadmap follows the soybean and corn farming calendar.

12 teams

9 teams will focus on soybean

3 teams will focus on corn

95% of the soybean production area and 72% of the corn production area

www.rallydasafra.com.br
RALLY DA SAFRA

SAMPLES
Soybeans  1163
Corn       407
TOTAL      1570

MATO GROSSO
Soybean/Brazil | Yields
(bu/acre)

Source: Conab. Forecast: Agroconsult

CAGR (yoy) 1.8%
Soybeans market

1. We are heading to a record crop
2. Argentina already has irreversible losses
Soybean/Argentina | Yields and Production

Yields (bags/ha)

Production (millions t.)

Source: USDA, Forecast: Agroconsult
Soybean/ARG and BRA | 2017/18 Production
(millions t.)

ARG                | BRA
---                | ---
111.3             | 117.5
54.2              | 49.0
165.5             | 166.5

Source: USD and CONAB. Forecast: Agroconsult
## Soybean Meal/ARG and BRA | 2017/18 Production

(millions t.)

<table>
<thead>
<tr>
<th></th>
<th>ARG+BRA Initial Prod.</th>
<th>ARG</th>
<th>BRA</th>
<th>ARG+BRA Current Prod.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>87.0</td>
<td>-2.5</td>
<td>+0.4</td>
<td>84.8</td>
</tr>
</tbody>
</table>

Source: USD and CONAB. Forecast: Agroconsult
Soybeans market

1. We are heading to a record crop
2. Argentina already has irreversible losses
3. Arg. Crushing volumes reduction might increase crushing in USA. But imports from Paraguay can balance the meal production in Argentina
Soybeans market

1. Brazil is heading to a record crop
2. Argentina already has irreversible losses
3. Arg. Crushing volumes reduction might increase crushing in USA. But imports from Paraguay can balance the meal production in Argentina
4. Brazilian exports will be record again
Soybean/Brazil | Export
(millions t.)

<table>
<thead>
<tr>
<th>Year</th>
<th>Export (millions t.)</th>
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<tbody>
<tr>
<td>12/13</td>
<td>41.7</td>
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<tr>
<td>13/14</td>
<td>45.7</td>
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<tr>
<td>14/15</td>
<td>51.2</td>
</tr>
<tr>
<td>15/16</td>
<td>53.1</td>
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<tr>
<td>16/17</td>
<td>62.8</td>
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<td>17/18</td>
<td>71.3</td>
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<tr>
<td>2027/28</td>
<td>102.0</td>
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</table>

Source: CONAB, Forecast: Agroconsult. Calendar: OCT/SEP
Soy+Corn/Brazil | Exports vs. Theoretical Capacity

(millions t.)

Exports in 2017: 98 mmt
Maximum already observed month by month: 113 mmt

Soybeans market

1. Brazil is heading to a record crop
2. Argentina already has irreversible losses
3. Arg. Crushing volumes reduction might increase crushing in USA. But imports from Paraguay can balance the meal production in Argentina
4. Brazilian exports will be record high
5. Pricing soybeans is BRL rational
Soybean/Mato Grosso | Marketing (BRL/bag of 60kg)

<table>
<thead>
<tr>
<th>Exc. Rate (BRL/USD)</th>
<th>8,0</th>
<th>8,5</th>
<th>9,0</th>
<th>9,5</th>
<th>10,0</th>
<th>10,5</th>
<th>11,0</th>
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<tr>
<td>2,40</td>
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<td>2,80</td>
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<tr>
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THANK YOU!!!