AGRICULTURAL PRODUCTION OF URUGUAY

Ing. Agr. Claudio Williman
September 2007
URUGUAY AND THEIR STATES

URUGUAY
Population: 3,241,003 people
Surface: 176,215 Km²

NORTH CAROLINA
Population: 8,856,565 people
Surface: 139,509 km²
NATURAL RESOURCES: Climate

Annual average temperature

19 º C
16,5º C

Fuente de datos: Dir. Nat. Meteorología
NATURAL RESOURCES: Climate

Annual average precipitation

1300 mm

1000 mm
NATURAL RESOURCES: Topography

550 m
### NATURAL RESOURCES: Soils

<table>
<thead>
<tr>
<th>Soils</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHALLOW</td>
<td>32</td>
</tr>
<tr>
<td>HIDROMORFIC</td>
<td>5</td>
</tr>
<tr>
<td>LIGHT TEXTURED (Low fertility)</td>
<td>13</td>
</tr>
<tr>
<td>MEDIUM TEXTURED (Medium fertility)</td>
<td>28</td>
</tr>
<tr>
<td>HEAVY TEXTURED (High fertility)</td>
<td>22</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100 %</td>
</tr>
</tbody>
</table>

![Soil Map](image)
The soils, the weather and the distance to the markets have driven the distribution of the farming production in Uruguay.

The knowledge of the Uruguayan soils is very large, with information of the different soil types at farm level.
SOILS MAP OF THE FARM

Soils use of the farm

www.prenader.gub.uy/conaeat
NATURAL RESOURCES:
Pastures

VEGETATION INDEX
FEBRUARY 2007
NATURAL RESOURCES:
Pastures

VEGETATION INDEX
APRIL 2007

[Map of Uruguay with vegetation index]
VEGETATION INDEX

JULY 2007

NATURAL RESOURCES:
Pastures
### BASIC FARMING CHARACTERISTICS, FOR YEAR OF CENSUS

<table>
<thead>
<tr>
<th>Concept</th>
<th>2000</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farms number</td>
<td>57.131</td>
<td>54.816</td>
</tr>
<tr>
<td>Total surface (thousand has)</td>
<td>16.420</td>
<td>15.804</td>
</tr>
<tr>
<td>Rural population</td>
<td>189.838</td>
<td>213.367</td>
</tr>
<tr>
<td>Permanent workers</td>
<td>157.009</td>
<td>140.430</td>
</tr>
<tr>
<td>Hectares by farm</td>
<td>287</td>
<td>288</td>
</tr>
</tbody>
</table>

Source: Farming Census of the 2000 – MGAP - DIEA
## SOIL USE (Year 2000)

<table>
<thead>
<tr>
<th>SOIL USE</th>
<th>SURFACE (HA)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>NATURAL FORESTS</td>
<td>589.853</td>
<td>3.6</td>
</tr>
<tr>
<td>ARTIFICIAL FORESTS</td>
<td>660.869</td>
<td>4.0</td>
</tr>
<tr>
<td>FRUIT TREES</td>
<td>40.921</td>
<td>0.25</td>
</tr>
<tr>
<td>VEGETABLE CROPS</td>
<td>34.695</td>
<td>0.21</td>
</tr>
<tr>
<td>AGRICULTURAL CROPS</td>
<td>597.533</td>
<td>3.6</td>
</tr>
<tr>
<td>FORAGE CROPS</td>
<td>2,100,590</td>
<td>12.8</td>
</tr>
<tr>
<td>PLOWED LAND</td>
<td>535.513</td>
<td>3.2</td>
</tr>
<tr>
<td>PASTURE RANGE</td>
<td>11,859,709</td>
<td>72.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>16,419,683</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Farming Census of the 2000 – MGAP - DIEA
Area of forest priority: 3,600,000 has.

Forest area – year 2000: 660,000 has.
THE FOREST AT 2007

- Natural Forests: 590,000 has.
- Cultivated Forests: 760,000 has.
- 80% of cultivated forests: eucalyptus.
- Total Forests: 1,350,000 has.
THE FOREST PRODUCTION

- **Production:** 3,000,000 m³
- **Use like fuel:** 1,400,000 m³ (47%)
- **Industrial use:** 1,600,000 m³ (53%)
- **National industry:** 500,000 m³
- **Exports:** 1,100,000 m³ = 102 million dollars
CROPS

Soils of agricultural attitude: 3,000,000 has.
CROPS

EVOLUTION OF THE CROPPED AREA

YEARS

HECTARES

- Barley
- Soybean
- Sunflower
- Wheat
- Sunflower
- Corn

88/89 89/90 90/91 91/92 92/93 93/94 94/95 95/96 96/97 97/98 98/99 99/00 00/01 01/02
<table>
<thead>
<tr>
<th>Year</th>
<th>CROPS</th>
<th>Has.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Year</td>
<td>597.533</td>
</tr>
<tr>
<td>2007</td>
<td>Year</td>
<td>956.000</td>
</tr>
</tbody>
</table>

**Increase of 60 % between 2000 to 2007**
<table>
<thead>
<tr>
<th>CROPS</th>
<th>URUGUAYAN AREA (HAS)</th>
<th>NORTH CAROLINA AREA (HAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHEAT</td>
<td>270.000</td>
<td>178.000</td>
</tr>
<tr>
<td>BARLEY</td>
<td>140.000</td>
<td>6.340</td>
</tr>
<tr>
<td>SOYBEAN</td>
<td>400.000</td>
<td>550.000</td>
</tr>
<tr>
<td>SORGHUM</td>
<td>36.000</td>
<td>29.500</td>
</tr>
<tr>
<td>SUNFLOWER</td>
<td>16.000</td>
<td>NO DATA</td>
</tr>
<tr>
<td>CORN</td>
<td>89.000</td>
<td>283.000</td>
</tr>
<tr>
<td>COTTON</td>
<td>5.000</td>
<td>374.000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>956.000</td>
<td>1.420.840</td>
</tr>
</tbody>
</table>
Potential rice area: 800,000 has.
Actual rice area: 145,000 has.
RICE:
EXPORT VS CONSUMPTION

- Rice production: 870,000 tons
LIVESTOCK

The most important product of Uruguay

Beef Cattle

Dairy Cattle

Sheep
LIVESTOCK

CATTLE AND SHEEPS

DAIRY CATTLE

MAPA 4
Producción de leche (*)
Año 2000

Porcentaje
- Menos de 50
- 50 - 85
- 86 - 95
- Más de 95
Producción de leche

DAIRY CATTLE

Fuente: OPYPA y DIEA
DAIRY CATTLE

EXPORTS

- Powder
- Cheese
- Butter

Year:
- 1980
- 1982
- 1984
- 1986
- 1988
- 1990
- 1992
- 1994
- 1996
- 1998
- 2000
- 2002

Units: 0, 10,000, 20,000, 30,000, 40,000, 50,000, 60,000, 70,000

Years:
- 1980
- 1982
- 1984
- 1986
- 1988
- 1990
- 1992
- 1994
- 1996
- 1998
- 2000
- 2002

Units:
- 0
- 10,000
- 20,000
- 30,000
- 40,000
- 50,000
- 60,000
- 70,000
CATTLE AND SHEEP LIVESTOCK

<table>
<thead>
<tr>
<th>Year</th>
<th>Thousand cattle</th>
<th>Thousand sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>10.5</td>
<td>11</td>
</tr>
<tr>
<td>1994</td>
<td>10.5</td>
<td>11</td>
</tr>
<tr>
<td>1995</td>
<td>10.5</td>
<td>11</td>
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<td>1999</td>
<td>10.5</td>
<td>11</td>
</tr>
<tr>
<td>2000</td>
<td>10.5</td>
<td>11</td>
</tr>
<tr>
<td>2001</td>
<td>10.5</td>
<td>11</td>
</tr>
</tbody>
</table>

- Cattle: Year 2007 = 12,000,000
- Sheep: Year 2007 = 11,000,000
BEEF EXPORTS % INCREASE (2001 - 2006)

Source: USDA
STEERS SLAUGHTER BY AGES

![Graph showing steers slaughter by ages from 1990 to 2005. The graph displays the percentage of steers slaughtered by age, categorized into '2 Teeth', '4 Teeth', '6 Teeth', and '8 Teeth'.]

Fuente: Instituto Plan Agropecuario en base a INAC
FORAGE IMPROVEMENTS

MEJORAMIENTOS FORRAJEROS
(miles de Hás.)

Fuente: Instituto Plan Agropecuario en base a DICOSE
In 2004 the Agribusiness produced:

- 24% of Uruguayan GDP
- 100% of Agricultural GDP
- 57% of Industry GDP
- 4% of Service GDP

In 2007 the Agribusiness is around the 30% of Uruguayan GDP

<table>
<thead>
<tr>
<th>YEARS</th>
<th>TOTAL EXPORTS (million dollars)</th>
<th>AGRICULTURAL EXPORTS (million dollars)</th>
<th>Agr. Exp. / Total Exp. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>1.860</td>
<td>1.170</td>
<td>63 %</td>
</tr>
<tr>
<td>2004</td>
<td>2.890</td>
<td>1.900</td>
<td>66 %</td>
</tr>
<tr>
<td>2006</td>
<td>4.000</td>
<td>2.700</td>
<td>67 %</td>
</tr>
</tbody>
</table>
THE CHANGES IN THE URUGUAYAN AGRICULTURAL

- The forestry growth
- The agricultural growth (soybean and wheat)
- The transgenic crops increase
- Technological changes in crops
- The land price increase
THE CHALLENGE OF THE FARMING PRODUCTION IN URUGUAY

TO DEVELOP PRODUCTION SYSTEMS TECHNICALLY SUSTAINABLE AND ENVIRONMENTALLY FRIENDLY