Importance of plant variety protection for technology transfer in the seed sector

› The case of Uruguay – with focus on forage crops

Diego Risso
UPOV Seminar
April, 2011
Location in the world

30°/35°

Uruguay
Uruguay, at a glance

Population: 3.3 millions

Total Surface: 17.3 million Ha

Productive Surface: 15.7 million Ha (90%)

Number of Farms: 50,000

Density: 5.5 ha/person

Main production goods:
- Beef
- Dairy
- Grains
- Wool
Legal Framework & Seed Regulations
### Origin and development of PPR

<table>
<thead>
<tr>
<th>Origin and Development</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>UPOV – ’78 Act</td>
<td>1994</td>
</tr>
<tr>
<td>TRIPs / GATT - (WTO)</td>
<td>1995</td>
</tr>
<tr>
<td>Seed Act</td>
<td>Since 1981</td>
</tr>
<tr>
<td></td>
<td>16.811 / 97</td>
</tr>
<tr>
<td></td>
<td>18.345 / 09</td>
</tr>
<tr>
<td>Regulatory Decree</td>
<td>438 / 04</td>
</tr>
<tr>
<td></td>
<td>385 / 09</td>
</tr>
</tbody>
</table>
Institutions involved in the seed sector:

› National Seed Institute (INASE)
› National Research Institute for Agriculture (INIA)
› Uruguayan Seed Chamber (CUS)
› Seed Producers Association (ANAPROSE)
› Uruguayan Breeders Association (URUPOV)
At an international level Uy is member of:

- UPOV
- OECD
- ISTA
- IPPC
- ISF
- SAA
URUPOV: Who we are?

- Founded in 1994
- Association with 33 members
- Main activities:
  - Collect royalties
  - Enforcement
  - Communication
  - Advise and support to members
# of applications evolution
National and Foreign varieties

UPOV ’78 Act

Source: INASE 2010
Protected varieties by origin

Base 100% = 454
Source: INASE 2010

<table>
<thead>
<tr>
<th></th>
<th>National</th>
<th>Foreign</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>27%</td>
<td>73%</td>
</tr>
</tbody>
</table>

# of Seed Co. same %
Protected varieties by group of species

Forages Crops: 26%
Cereals: 21%
Oil crops: 26%
Vegetables: 8%
Fruit: 13%
Other: 1%
Forestry: 5%

Source: INASE 2010
If our main export product is natural beef...

we need to feed cattle with pastures
Seeds Market
USD million

- Sunflower
- Maize
- Sorghum
- Wheat
- Soybean
- Forages
- TOTAL
A “simple” system where PBR management and Technology Transfer are needed

INPUTS
- GERMPLASM
- GENES

PROCESSES

BREEDING PROGRAMS

RESULTS

NEW VARIETIES
R&D Strategy for Market Development

Commodities

PVP Varieties

New generation technologies inside & around the seed

R&D

- Global coordination
- Regional approach
- Local focus
- Uruguay as value-adding market & technology driven model in SA

Intellectual Property needed
Strategic Location

Uruguay as a hub?
Climate Homologues Uruguay (for temperate pastures)
Creating Pathways to Markets

**Partners**
- Universities
- National Research Institutes
- Single Breeders
- Seed Companies
- Biotech Companies

**Innovation**
- 1st Gen Innovation (e.g., endophyte)
- 2nd Gen Innovation (Biotech)

**Pathways to Market**
- > 10 yrs
- 1-2 yrs
- < 1 yr

**Customer**
Long term investments are required to develop breakthrough technologies

Illustrative model

New licensing models required to achieve enhanced customer value

Enhancements, hybrids, new varieties (e.g. new germplasm)

New Platforms (e.g. Endophytes) or next generation products

Breakthroughs (e.g. Biotech)
To transfer technology is necessary to manage PBR and use Licenses
Key concepts for PBR Management and Technology Transfer

PVP application when the cultivar has a potential for marketing
In public/private alliances (actors with different interests) the distribution of the benefits may be one of the main issues in the negotiation.

In alliances, agreements may be considered in:

- technical issues
- economic issues
- political issues
Key concepts for PBR Management and Technology Transfer

Management of PBR helps strengthen Technology Transfer

Enforcement of the PBR is also key to strengthening Technology Transfer
PBR MANAGEMENT AT INIA URUGUAY

- Key Questions -

✓ What kind of invention is (either: product, process)?

✓ Is it possible to protect? how?

✓ Is there a potential for marketing of the invention?

✓ What is the applicable national legal framework?

✓ How to transfer the invention from a public institution perspective?

✓ How the transfer of the invention is administered and managed and by Whom?

✓ What is done with economic benefits?

✓ How to contribute to the ultimate goal of achieving innovation, rural welfare and overall socioeconomic development?
Procedure for market release of new varieties

» Technical Analysis
» Market Opportunities
» PVP Application
» Release Decision
» License Terms
» Public Call for seed companies
» Analysis of Formal Offers
» Adjudication Decision
» License Agreement
» Marketing
Licensing:
Examples in Uruguay
EXAMPLES:

Forage Crops

✓ Domestic market
✓ International

Soybean

Wheat

Barley and Rice
Universities

National Research Institutes

Single Breeders

Seed Companies

Biotech Companies

- Breeding
- Screening
- Testing
- Licensing - Representing
- Marketing (not the case in Uy)
Coexistence
Soybean: Seed sowed by origin

- Certified
- FSStv
- FSS
- Illegal
Wheat: Seed sowed by origin

- Certified
- FSStv
- FSS
- Illegal
Acknowledgements

› UPOV
› National Seed Institute (INASE)
› National Research Institute (INIA)
› Uruguayan Chamber of Seeds
› URUPOV Members – Forages companies

THANK YOU!
Thank you all!

www.urupov.org.uy