International Forum

Unleashing Science, Technology and Innovation for Food and Nutrition Security

With special focus on Africa, Caribbean and the Pacific

Developing a road map

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NH Rijnhotel Arnhem, The Netherlands

Forum International

«Libérer la Science, la Technologie et l'innovation pour promouvoir la sécurité alimentaire et nutritionnelle

Avec, comme axe prioritaire, l'Afrique, Les Caraïbes et le Pacifique »

Élaborer une feuille de route

15-17 Octobre 2014

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Controversies over Intellectual Property in Food and Nutrition Security

Dr. Isaac Rutenberg (Director, CIPIT)

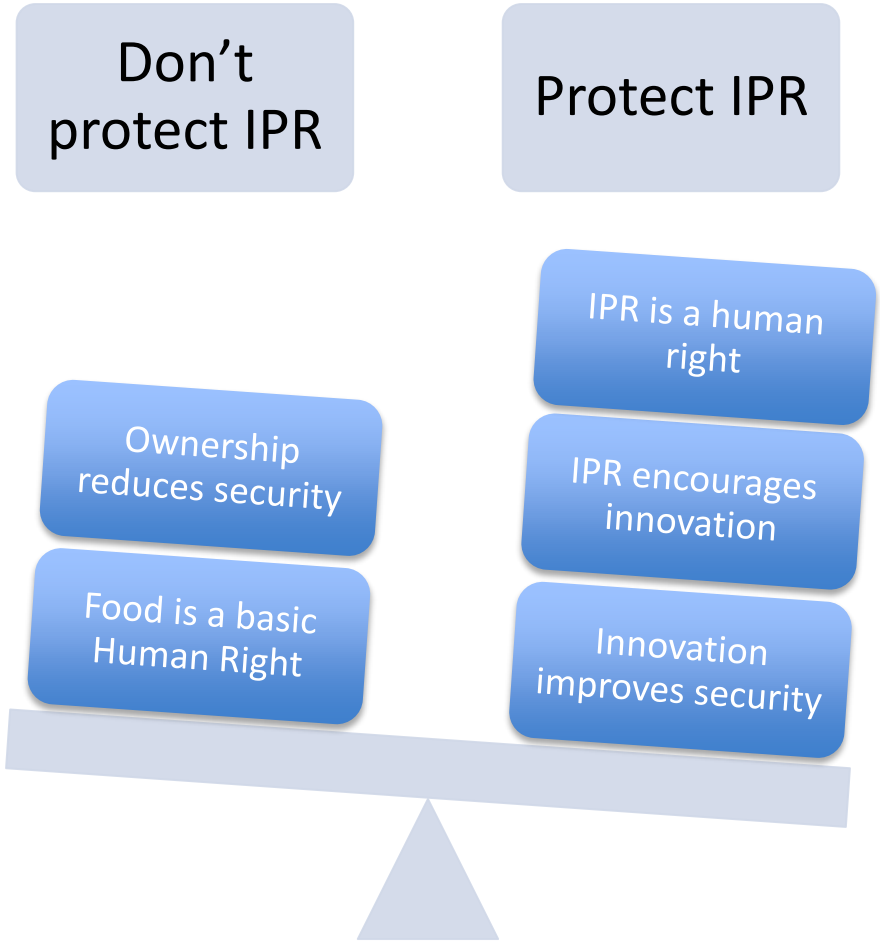
CIPIT
CENTRE FOR INTELLECTUAL PROPERTY AND INFORMATION TECHNOLOGY LAW

Strathmore UNIVERSITY
STRATHMORE LAW SCHOOL


Hey Farmer!
You have been found guilty of violating copyright code 102:778:002 and knowingly exploiting the intellectual property of Monsanto. You are hereby obligated to consign your property (land, livestock, seed and any further holdings) until such a time as this matter is 1) resolved in court 2) settled out of court by Jan 1, 2013.
Have a Farmtastic day!

IP and Agriculture

- IPR puts control into private hands



Main topics

- TRIPS-based Exclusionary rights
- Genetic Resources
- Data

TRIPS, Art. 27

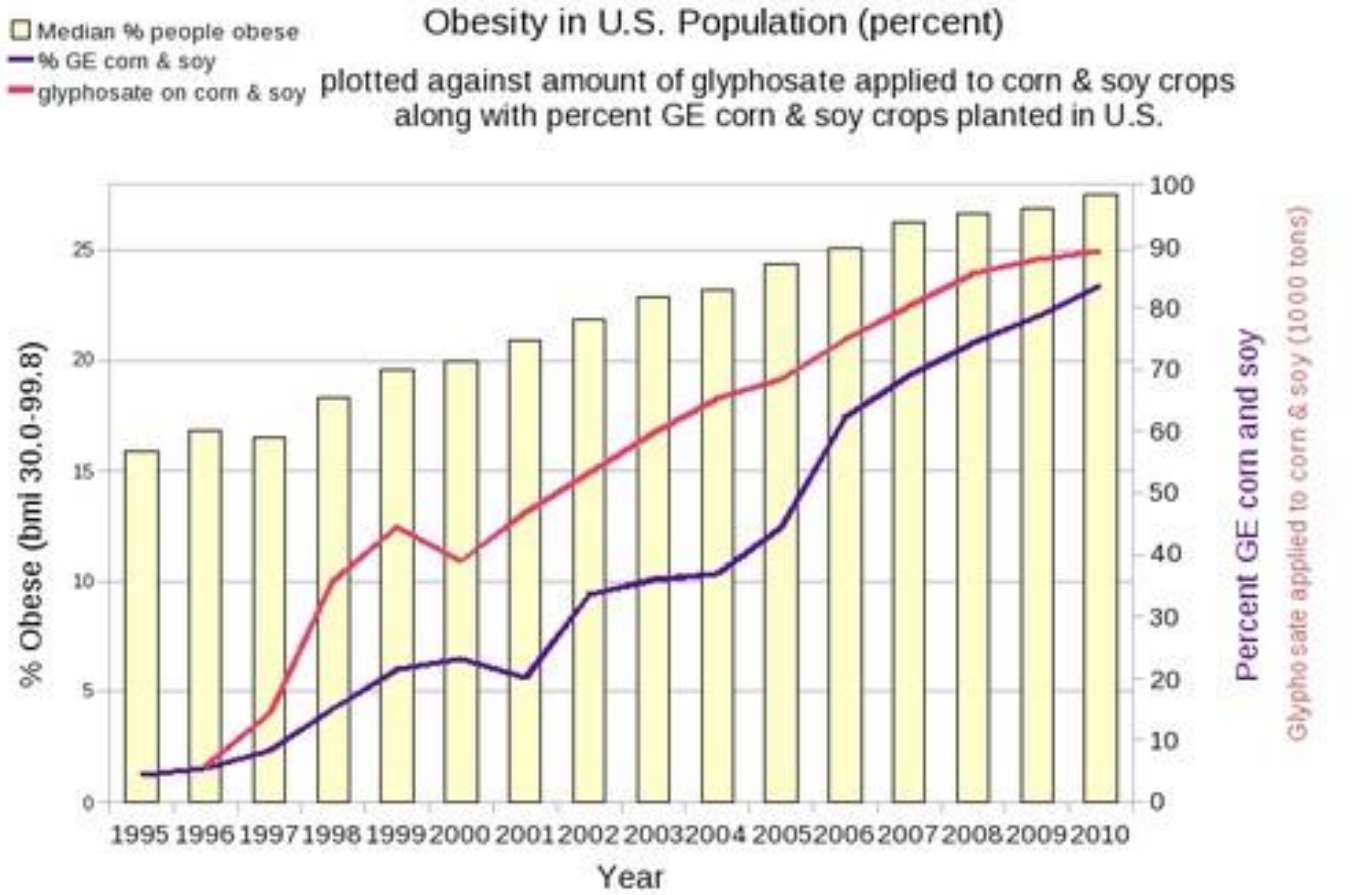
3. Members may also exclude from patentability:

(b) plants and animals other than micro-organisms, and essentially biological processes for the production of plants or animals other than non-biological and microbiological processes. However, Members shall provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by any combination thereof.

Patents

- Plant patents, Gene patents, Methods of making patents
- Examples: Roundup Ready, Bt crops

Roundup Ready



Source: www.examiner.com

Roundup Ready Patents

- The first-generation Roundup Ready® soybean trait – the world's most widely adopted biotech trait, planted by farmers on billions of acres since 1996—comes off patent in 2015.
- Since the launch of Monsanto's first-generation Roundup Ready soybeans in 1996, agricultural technology and science has advanced by leaps and bounds. One result has been Monsanto's development of Genuity® Roundup Ready 2 Yield® trait technology.
- Genuity Roundup Ready 2 Yield trait technology and Roundup Ready trait technology are protected by different patents. While the Roundup Ready soybean trait patent expires in 2015, the Genuity Roundup Ready 2 Yield trait is protected by patents for many more years.

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Source: Monsanto Website

Roundup Ready SOYBEANS

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Patents for Roundup Ready Corn

- US 5717084 (claims the DNA seq, exp. 2015)
- US 5728925
- US 6025545
- US 6825400 (claims a seed of a corn plant)
- US 7582434
- US 8273959 (Claims a corn plant, exp. 2021)

Bowman v. Monsanto

- March 19, 2013 SCOTUS decision

Source: NPR.org

Plant Breeders' Rights

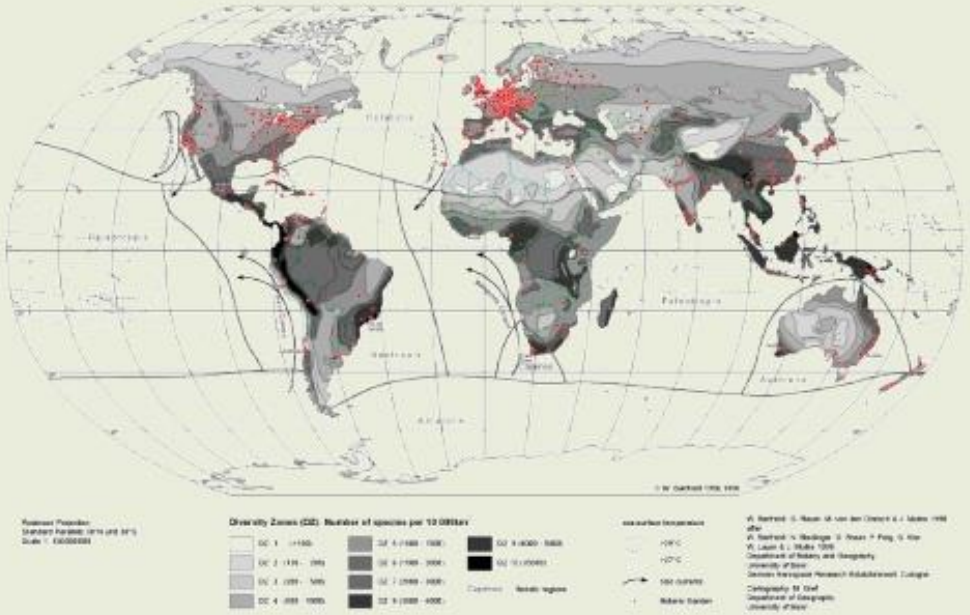
- UPOV (International Union for the Protection of New Varieties of Plants)
- UPOV '78 v UPOV '91

Ghana and UPOV

- Through the back door

Genetic Resources

Global distribution of biodiversity



+ 80% of the world's biotechnology-related patents are owned by US, EU and Japan (Patent Cooperation Treaty, 2006)

Source: Barthlott, W., Kier, G. & Mutke, J. 1999. Biodiversity – The uneven distribution of a treasure. NNA Reports 12/1999: 18-28

Source: Brendan Coolseat

Genetic Resources

- Convention on Biological Diversity
  - Nagoya Protocol
  - Cartagena Protocol

Data in Agriculture

- Copyright, Database rights
- Data exclusivity for regulatory approval

Examples in IP and Ag

Ex. 1: GMOs

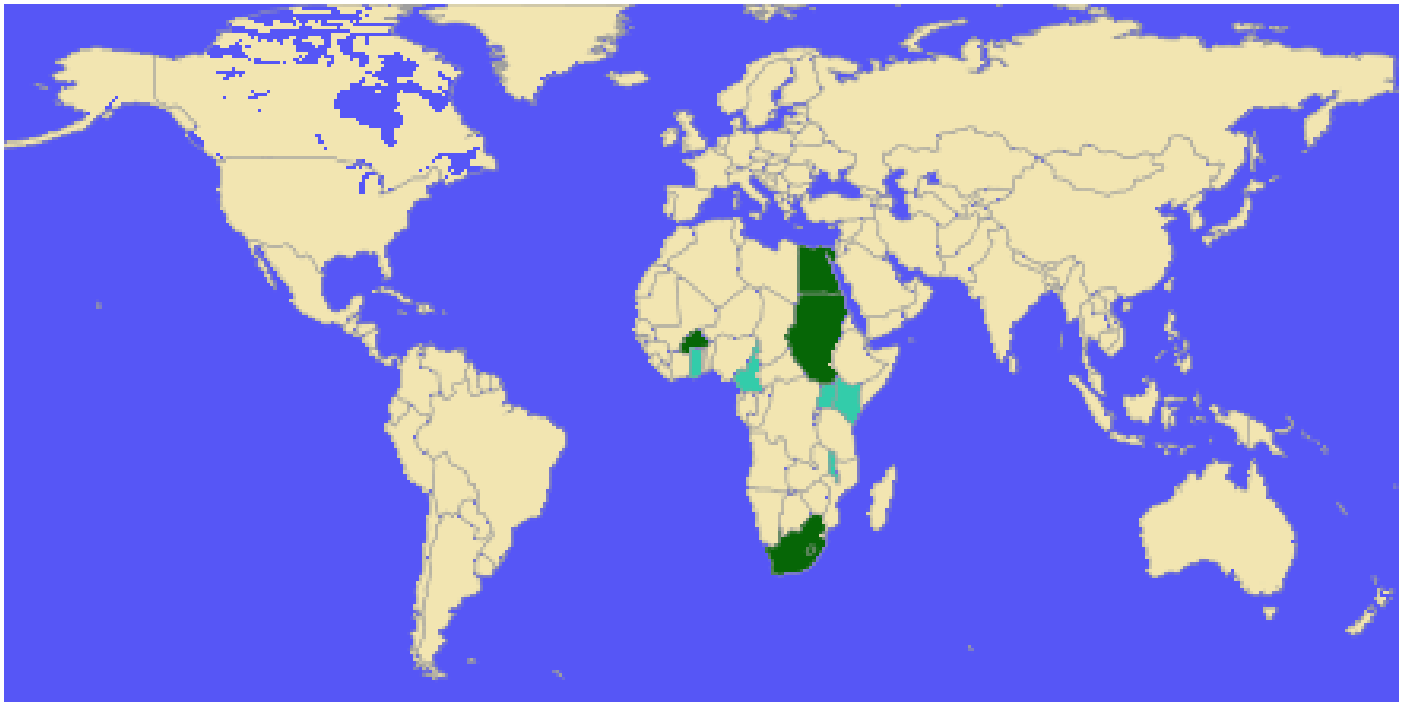
Country	USA	Argentina	Brazil	Canada	China	Paraguay	India	South Africa
1996	1.5	0.1	--	0.1	--	--	--	--
1997	8.1	1.4	--	1.3	0	--	--	--
1998	20.5	4.3	--	2.8	<0.1	--	--	<0.1
1999	28.7	65.7	1.4*	4	0.3	--	--	0.1
2000	30.3	10	3.6*	3	0.5	--	--	0.2
2001	35.7	11.8	5.7*	3.2	1.5	--	--	0.2
2002	39	13.5	6.3*	3.5	2.1	--	<0.1	0.3
2003	42.8	13.9	3	4.4	2.8	--	0.1	0.4
2004	47.6	16.2	5	5.4	3.7	1.2	0.5	0.5.
2005	49.8	17.1	9	5.8	3.3	1.8	1.3	0.5
2006	54.6	18	11.5	6.1	3.5	2	3.8	1.4

Millions of Hectares under cultivation with GMOs

Source: GMO Compass

Ex. 1: GMOs

- 2013 Data: 170 M hectares global production



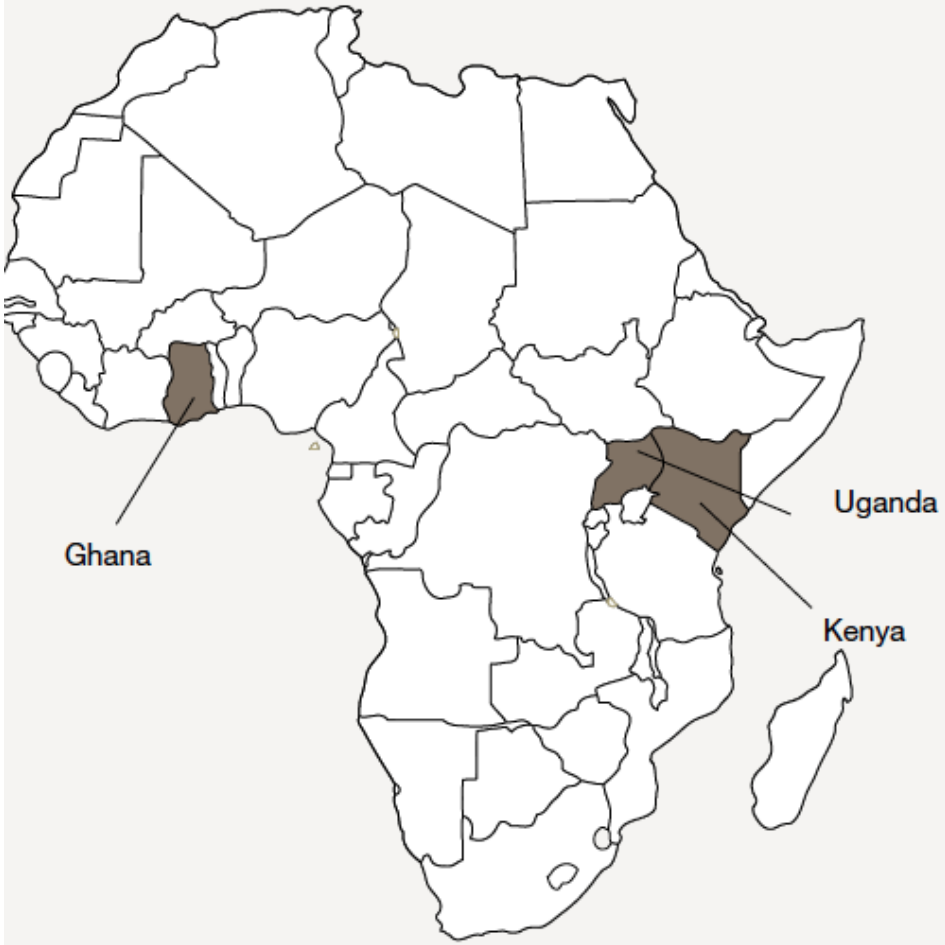
Source: Reuters

Ex. 1: GMOs

- Safety → out
- Efficacy → In
- Food sovereignty → In

Ex. 2: Patents in Food Aid

Ex. 3: Nerica



- AATF coordinates project activities throughout the entire product value chain.
- Arcadia Biosciences is donating the NUE,WUE and ST trait technologies, producing transgenic plants and providing technical support.
- Public Intellectual Property Resource for Agriculture (PIPRA) is donating the enabling technologies for plant transformation.
- International Centre for Tropical Agriculture (CIAT) is carrying out seed increase and preliminary agronomic trials.
- National agricultural research partners - National Agricultural Research Organisation, Uganda and the Crop Research Institute, Ghana are involved in field testing for trait gain.

Sources: WARDA and AATF

Ex. 4: Prescriptive Planting

Source: “Digital disruption on the farm”
The Economist, May 24, 2014

Thank you

Questions?

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www.cipit.org