



Protecting New Plant Varieties to promote Agricultural Research

UPOV Office

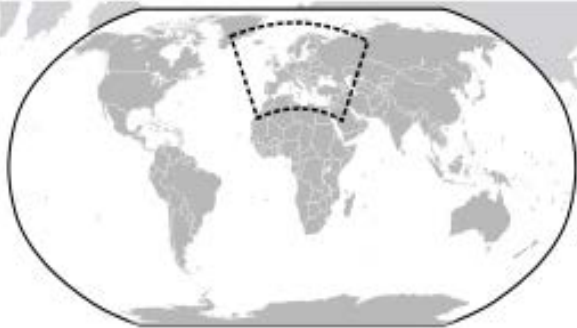
Mr. Ben Rivoire - Technical/ Regional Officer

October 19, 2018 - Nairobi, Kenya

***WIPO IP Forum on strengthening IP management
in African Universities***

Purpose of the presentation

- What is UPOV ?
- Why and How it could be relevant for African Universities ?



UPOV



UPOV: INDEPENDENT INTERGOVERNMENTAL ORGANIZATION

The International **Convention** for the Protection of New Varieties of Plants

established in 1961

The International **Union** for the Protection of New Varieties of Plants

Union internationale pour la **p**rotection des **o**btentions **v**égétales

UPOV

MISSION STATEMENT

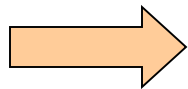
“To provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society”



Plant Variety Protection (PVP)

UPOV MISSION STATEMENT

“To provide and promote an **effective**
system of plant variety protection (PVP),
[...]



PBR: An IP tool amongst others

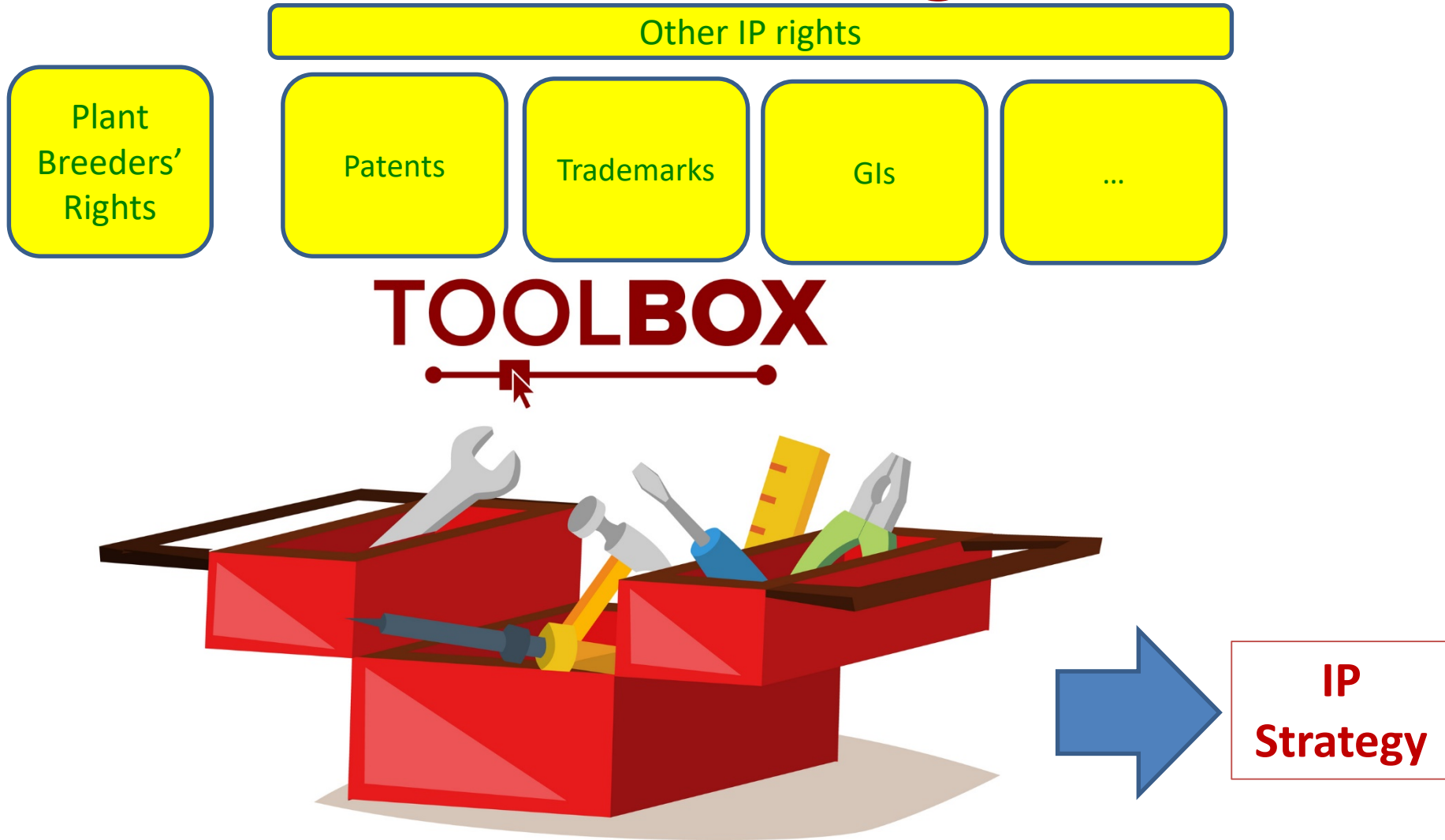
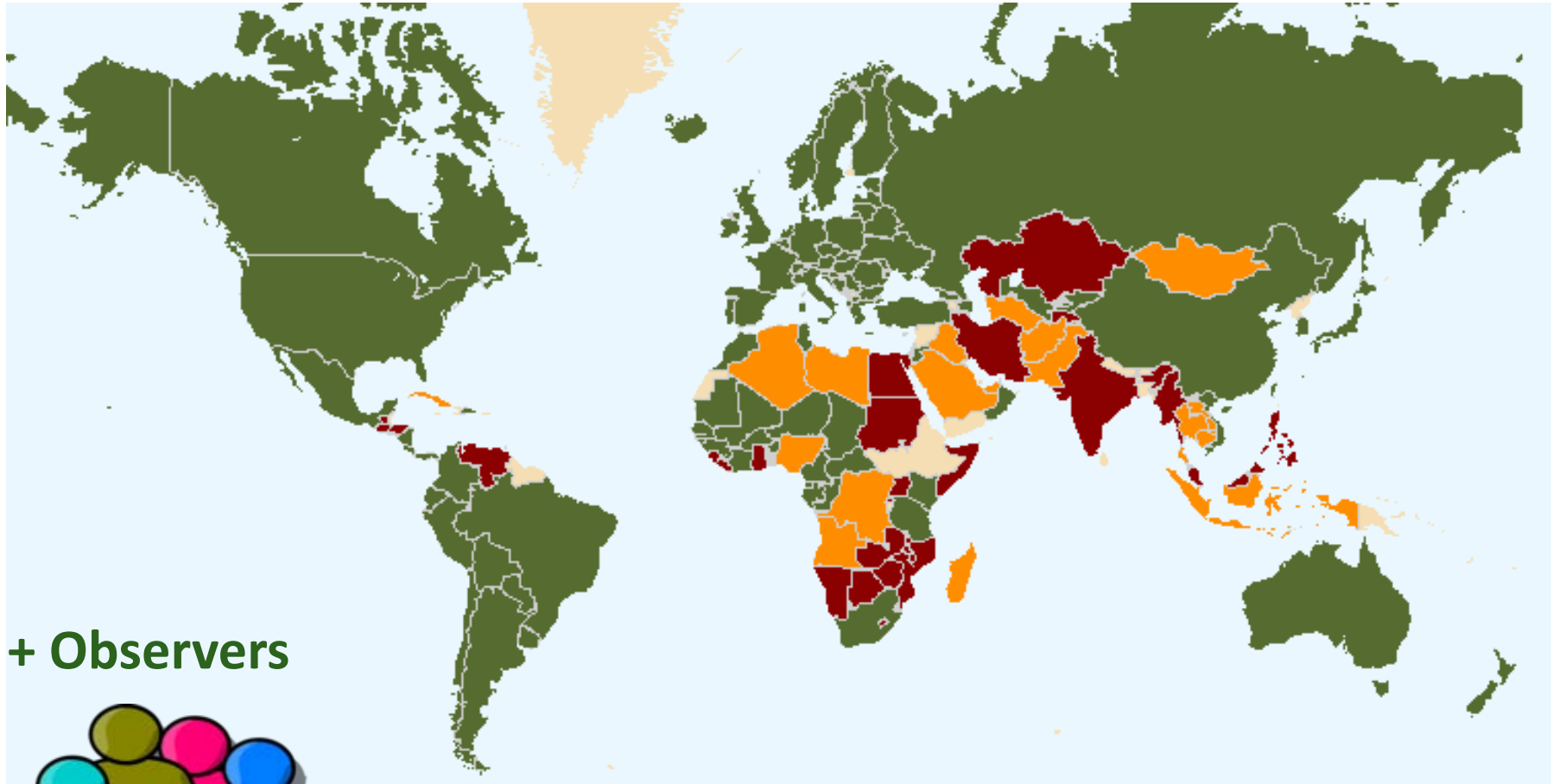


Photo: [istockphoto.com/pikepicture](https://www.istockphoto.com/pikepicture)

UPOV STATUS




on June 14, 2018



+ Observers



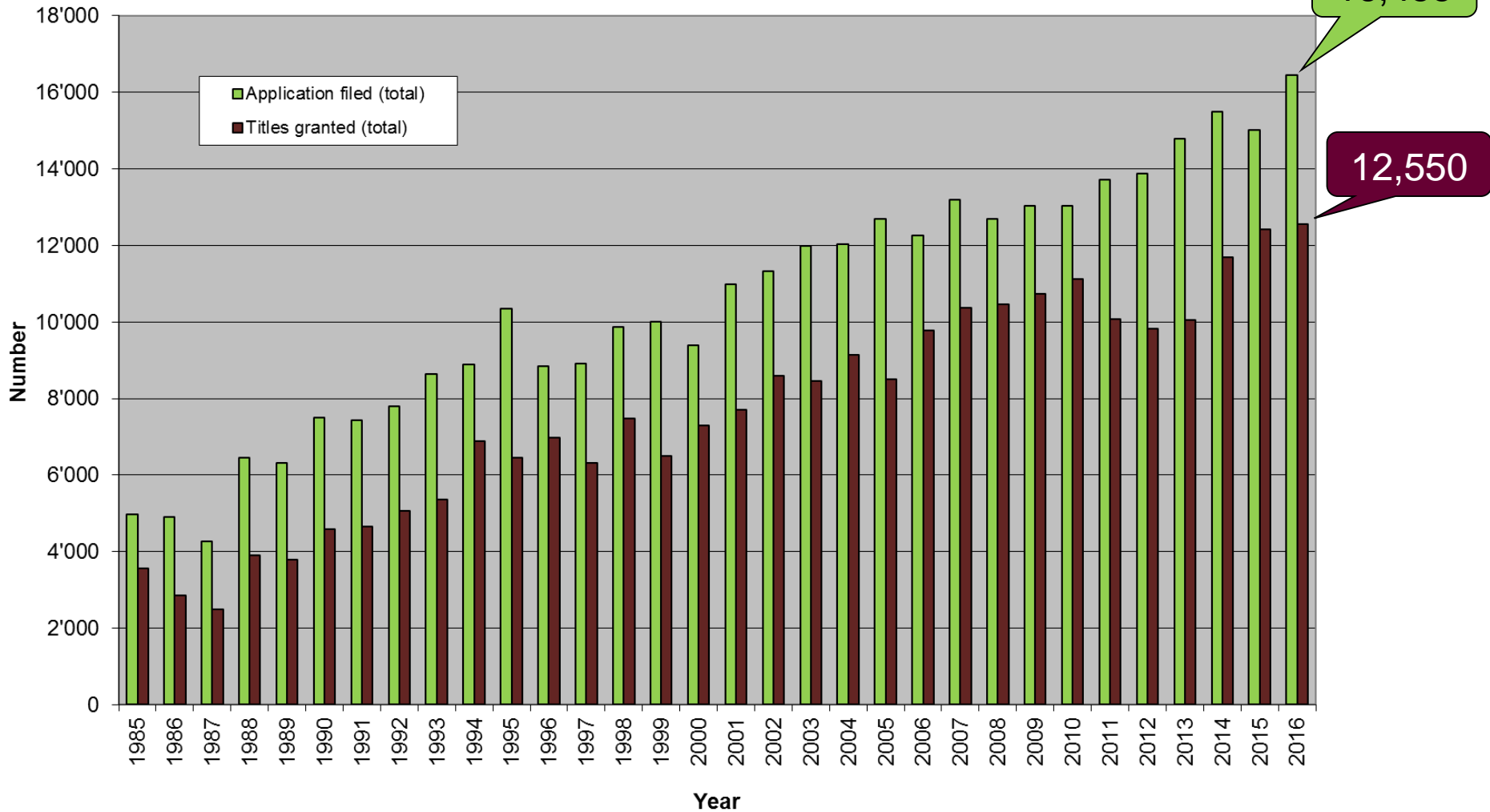
map do not imply the expression of any opinion whatsoever on the part of UPOV concerning the legal status of any country or territory

-  Members of UPOV (75 - covering 94 States)
-  Initiating States (16) and Organization (1)
-  States (26) and Organization (1) in contact with the UPOV Office

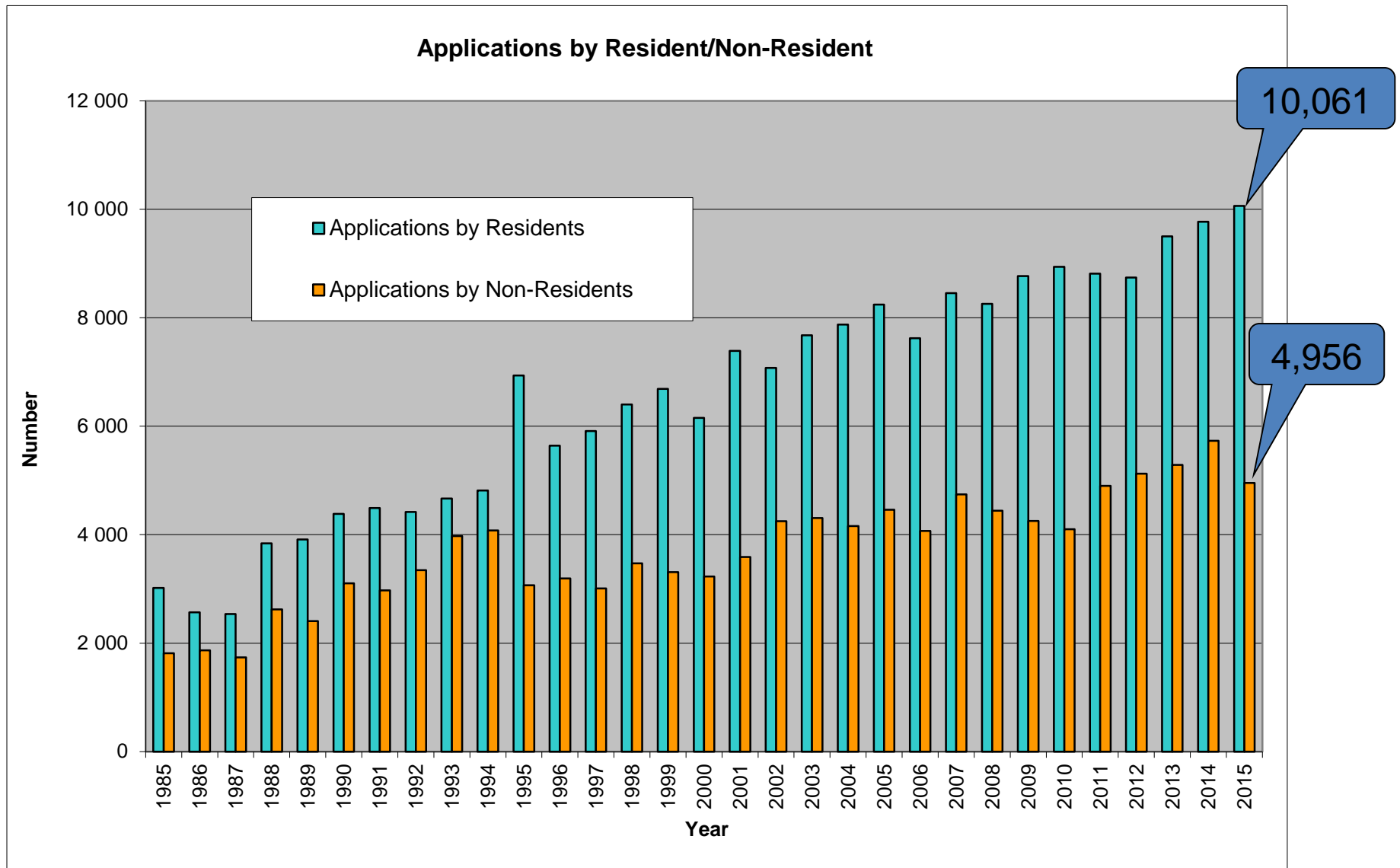
UPOV

Plant variety protection statistics (C/51/7)

Applications filed and Titles granted (total = Resident and Non-Resident)

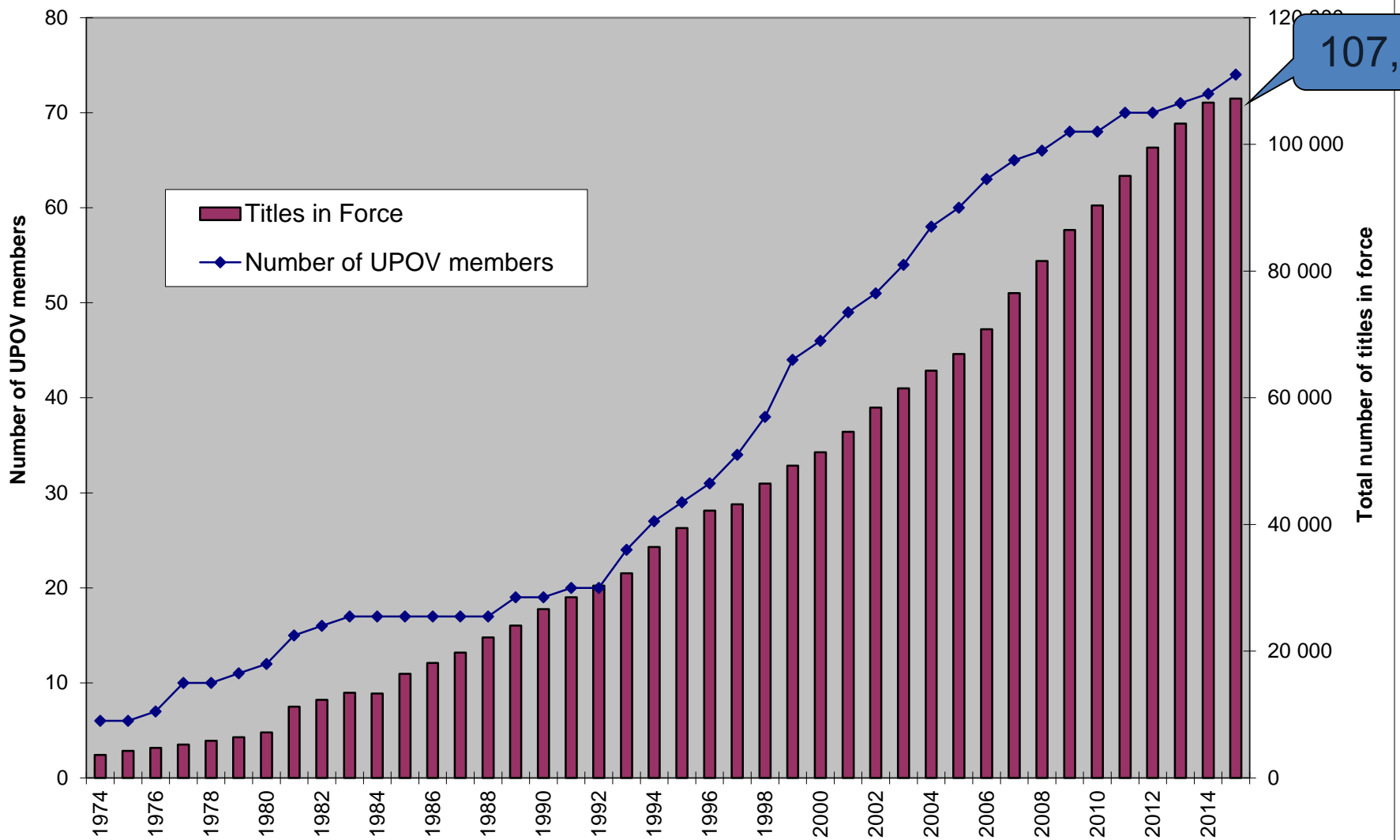


Plant variety protection statistics

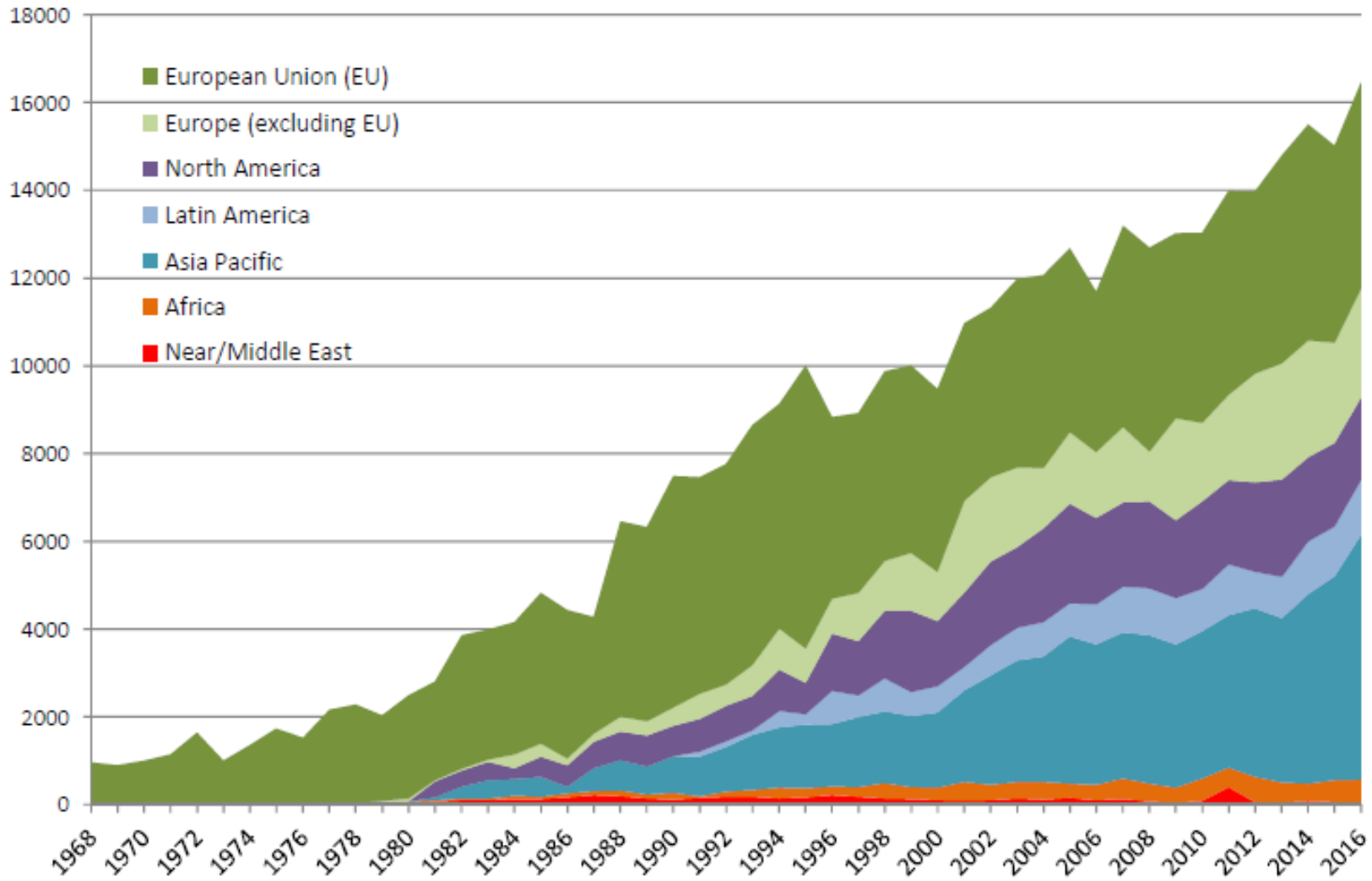


Plant variety protection statistics

PBR Titles in Force: All UPOV



Applications for Plant Breeders' Rights

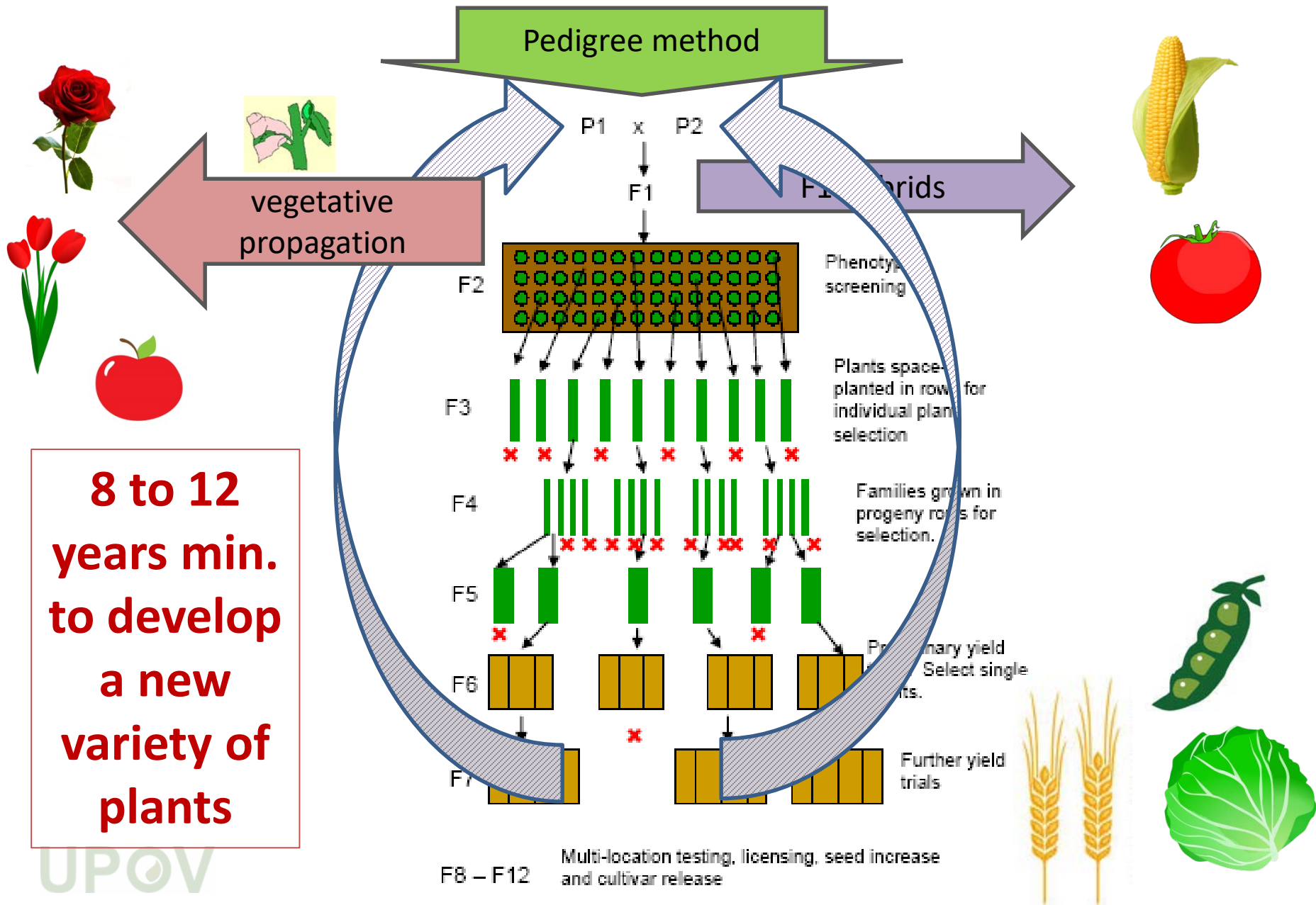


Purpose of the presentation

- Why is it important to encourage plant breeding (innovation in agriculture) ?
- Why IP is relevant to protect assets ?

Plant breeding – a lengthy process

Plant breeding – a lengthy process



Breeding traits



Lodging
Height
Earliness
Resistance to sprouting

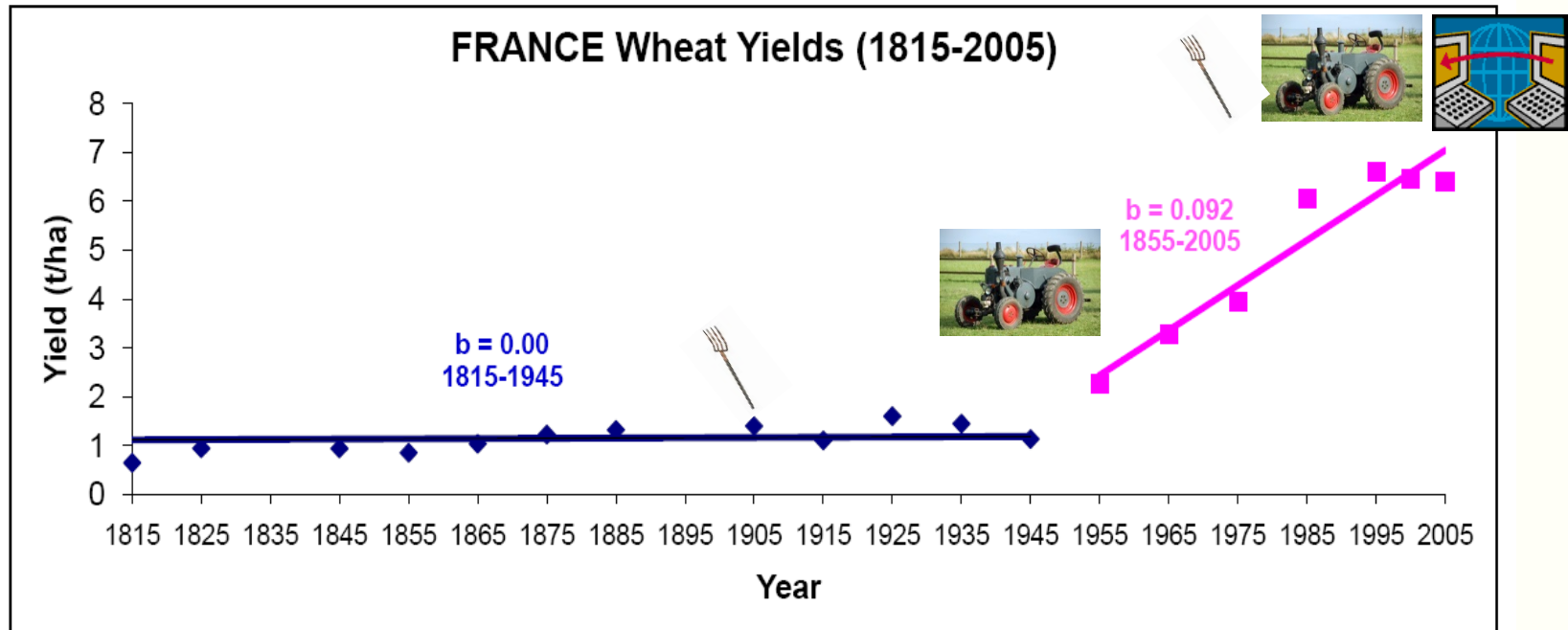
Mildew
Yellow rust
Brown rust
Septoria nodorum
Septoria tritici
Eyespot
Fusarium ear blight
Orange wheat blossom midge

**Disease
resistances**

Yield: treated/untreated
Yield: early sown/late sown
Yield: light soil/heavy soil

Breadmaking quality
Biscuit making quality
Feed quality

Evolution of Wheat yield in France



Bernard Le Buanec,
Second World Seed Conference (Rome, September 2009)

More than half of the yield gain due to new plant varieties

ABOUT UPOV

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Benefits of the UPOV S

VIDEOS



Canadian cherry growers benefit from government policy

See how the Government of Canada uses PVP to improve the livelihood of Canadian cherry growers

[\(Long version\)](#)



Rose ind

Discover h... enabled K... \$500 millio... employs 5...



HFFA Research GmbH

The socio-economic benefits of UPOV membership in Viet Nam:

An ex-post assessment on plant breeding and agricultural productivity after ten years

Corresponding author: Steffen Noleppa

STUDY in VIET NAM

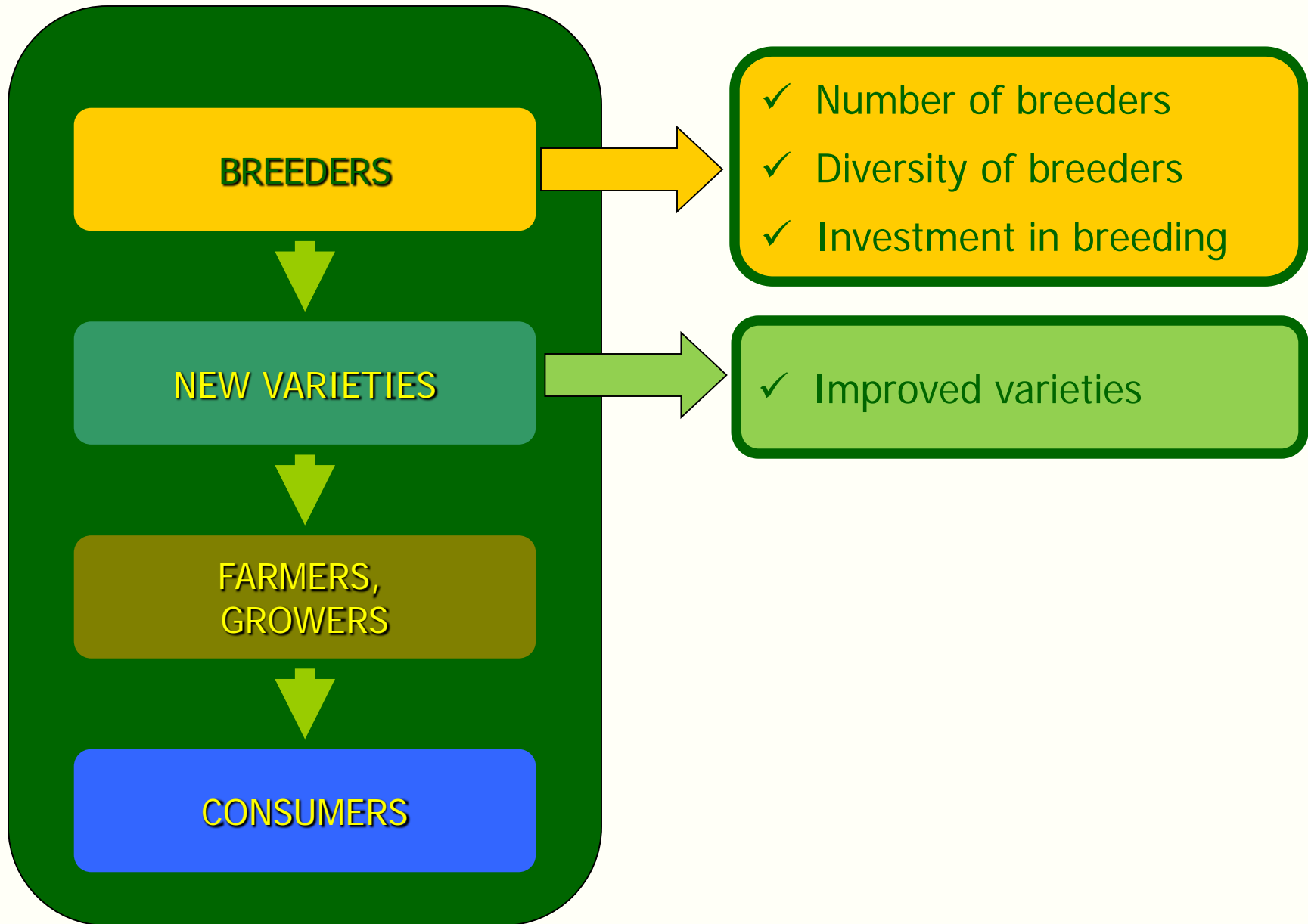
Annual land productivity developments since Viet Nam joined UPOV in 2006 in Rice, Corn (maize) and Sweet Potatoes

- **1995-2005**: increase in yield mainly through increased level of inputs – no detectable increase due to plant breeding

- Without plant breeding since 2006, **current annual yields** in Viet Nam would be lower by:

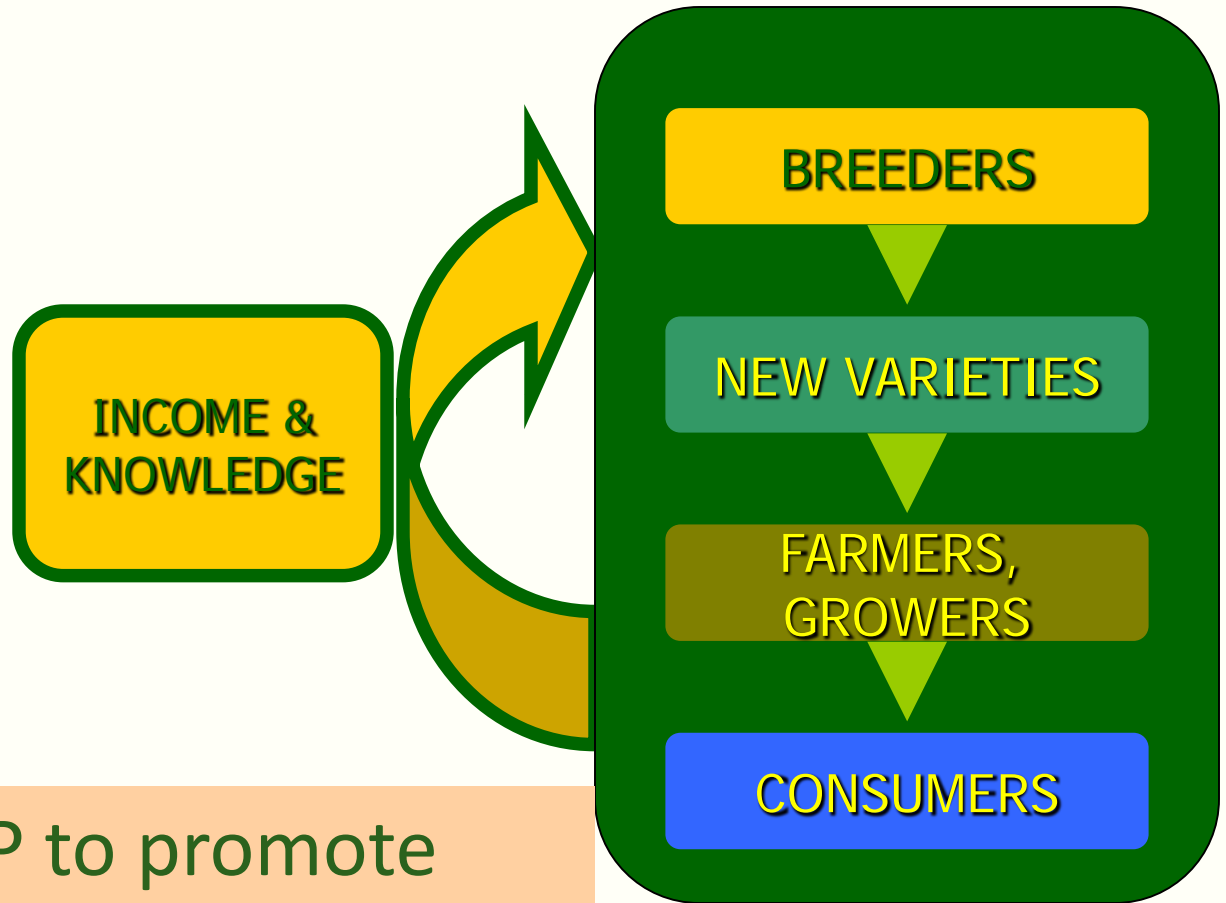
- | | |
|------------------|-------------|
| – Rice | 16 % |
| – Corn | 19 % |
| – Sweet potatoes | 27 % |

Impact of Plant Variety Protection



AGRICULTURE: Economic development; rural development; climate change...

TECHNOLOGY TRANSFER



The role of PVP to promote development of new varieties

Changing Licensing Models of Public Breeding Institutes: panel discussion

CIOPORA AGM Week –
Toronto – April 27, 2017

Plant Variety Licensing at UC Davis

Michael D. Carriere, Ph.D.

UC Davis InnovationAccess
*Business Development and
Intellectual Property Manager*

mdcarriere@ucdavis.edu





Plant variety licensing at UC Davis

- » **Fair value for public asset**
- » **California advantage**
 - 1st access to new varieties
 - Preferential royalty rates
 - Preferential (broader) sales territories
- » **Transfer of know-how**
- » **Licensing - reactive to breeding outcomes**

UC DAVIS STRAWBERRY LICENSING PROGRAM - LEADER IN CALIFORNIA & WORLD

- **Strawberry Industry in California: \$2.2 B**
 - Represent 75% California production
- **Leader, position #1, global level**
- **In 25 years, Spanish Strawberry Industry grew up to \$1B**
 - Transfer of varieties & know-how
 - **70-90% UC Davis varieties**



Representative PBR filings for UC Davis strawberry varieties

Argentina	PBR
Australia	PBR
Belarus	PBR
Brazil	PBR
Canada	PBR
Chile	PBR
China	PBR
Colombia	PBR
Ecuador	PBR
EU	PBR
Israel	PBR
Japan	PBR
Jordan	PBR
Mexico	PBR
Morocco	PBR
New Zealand	PBR
Peru	PBR
Republic of Korea	PBR
South Africa	PBR
Switzerland	PBR
Tunisia	PBR
Turkey	PBR
Uruguay	PBR

The World

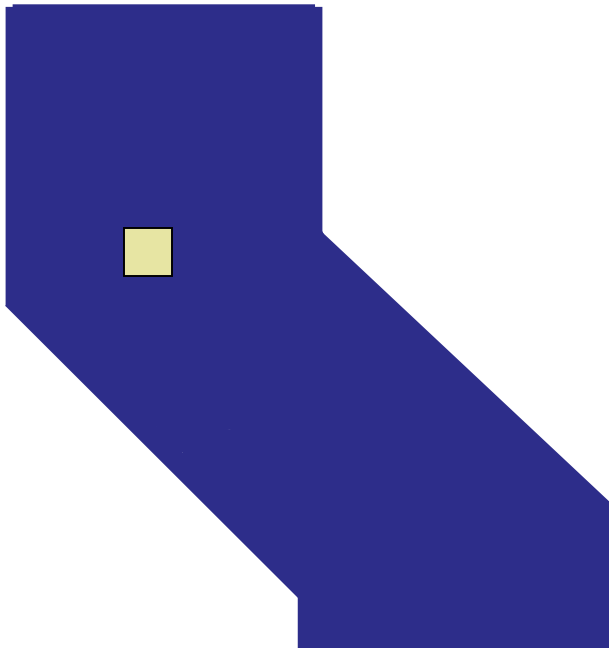
\$16.50/1000 plants royalty¹

United States

\$9.00/1000 plants royalty

California

\$8.00/1000 plants royalty



¹royalty shared between UC and master licensees

PUBLIC SECTOR

PRIVATE SECTOR

BREEDERS

International Breeding (Institute)

National Breeding Institutes (incl. Universities)

Large enterprises (e.g. companies, cooperatives)

SME's

Individuals (e.g. farmers)

SEED PRODUCERS / PLANT PROPAGATORS

DISTRIBUTORS

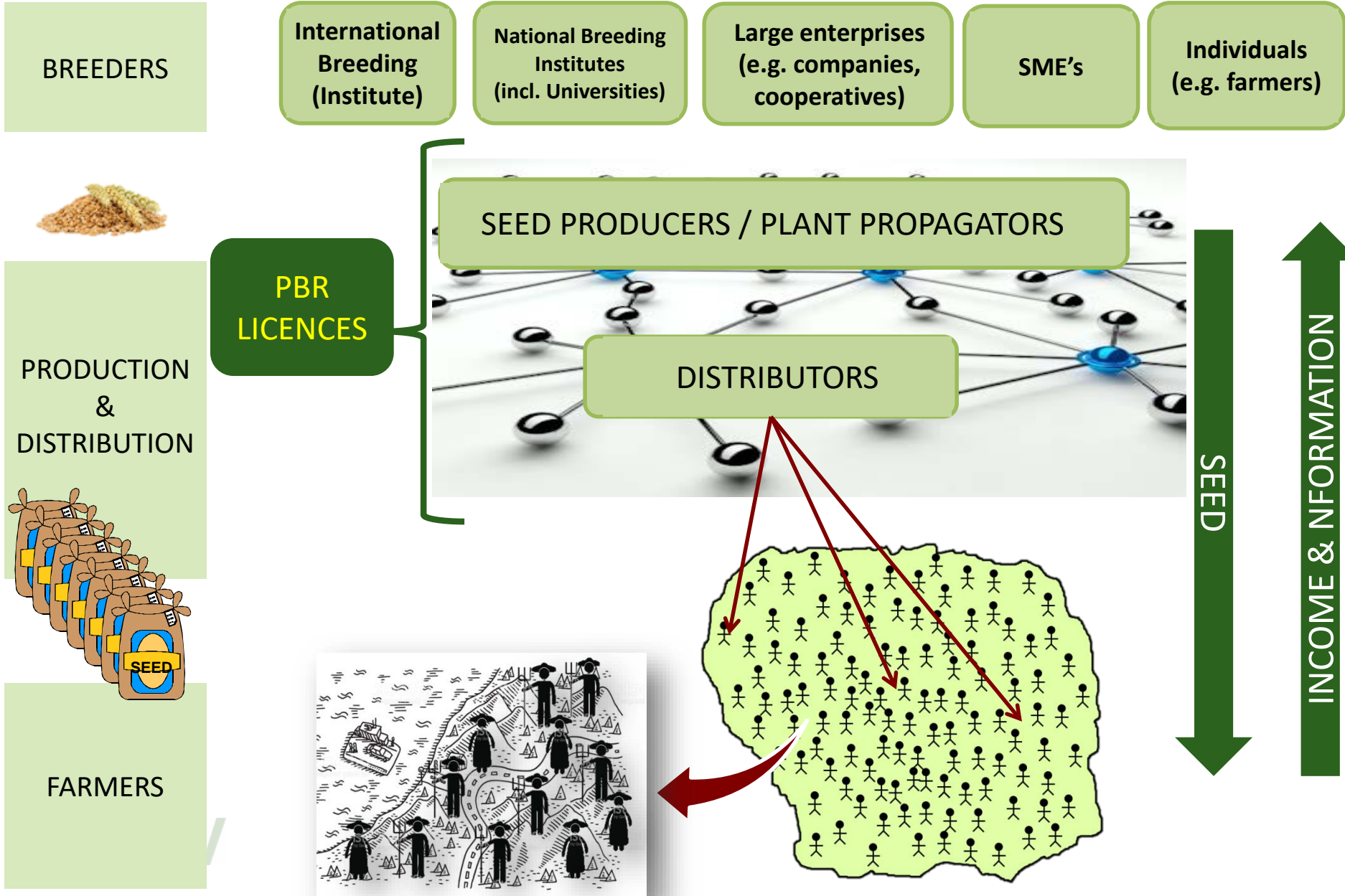
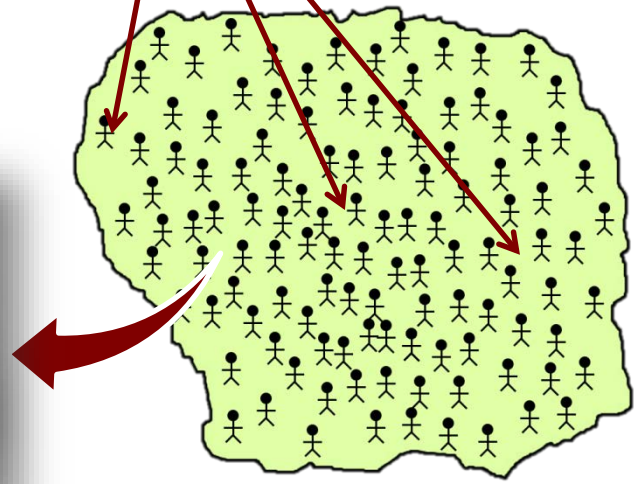
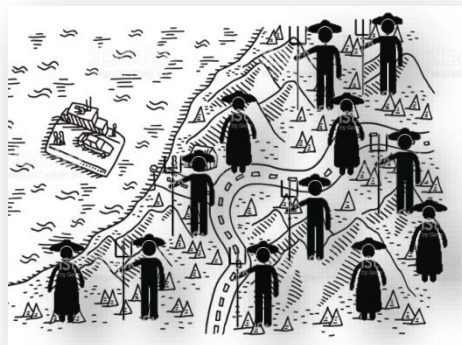
PBR LICENCES

PRODUCTION & DISTRIBUTION

SEED

INCOME & INFORMATION

FARMERS



**Plant Variety Protection and Technology Transfer:
The benefits of public-private partnership**

Perspectives of the CGIAR Consortium of International Agricultural Research Centers

*Lloyd Le Page, CEO
Consortium Office, Montpellier, France.*

Observations

- **Open access ≠ widespread dissemination or use**
- Many new varieties developed, but varying degrees of uptake by farmers and companies
- Ensuring more reliable supply of seed requires multiple types of seed supply, especially in remote areas
 - private sector and formal systems
 - farmer/community based, informal seed systems
- **PVP provides incentives** for breeders, local seed entrepreneurs and producers

Using the UPOV System to benefit custodians of native wild germplasm in Argentina



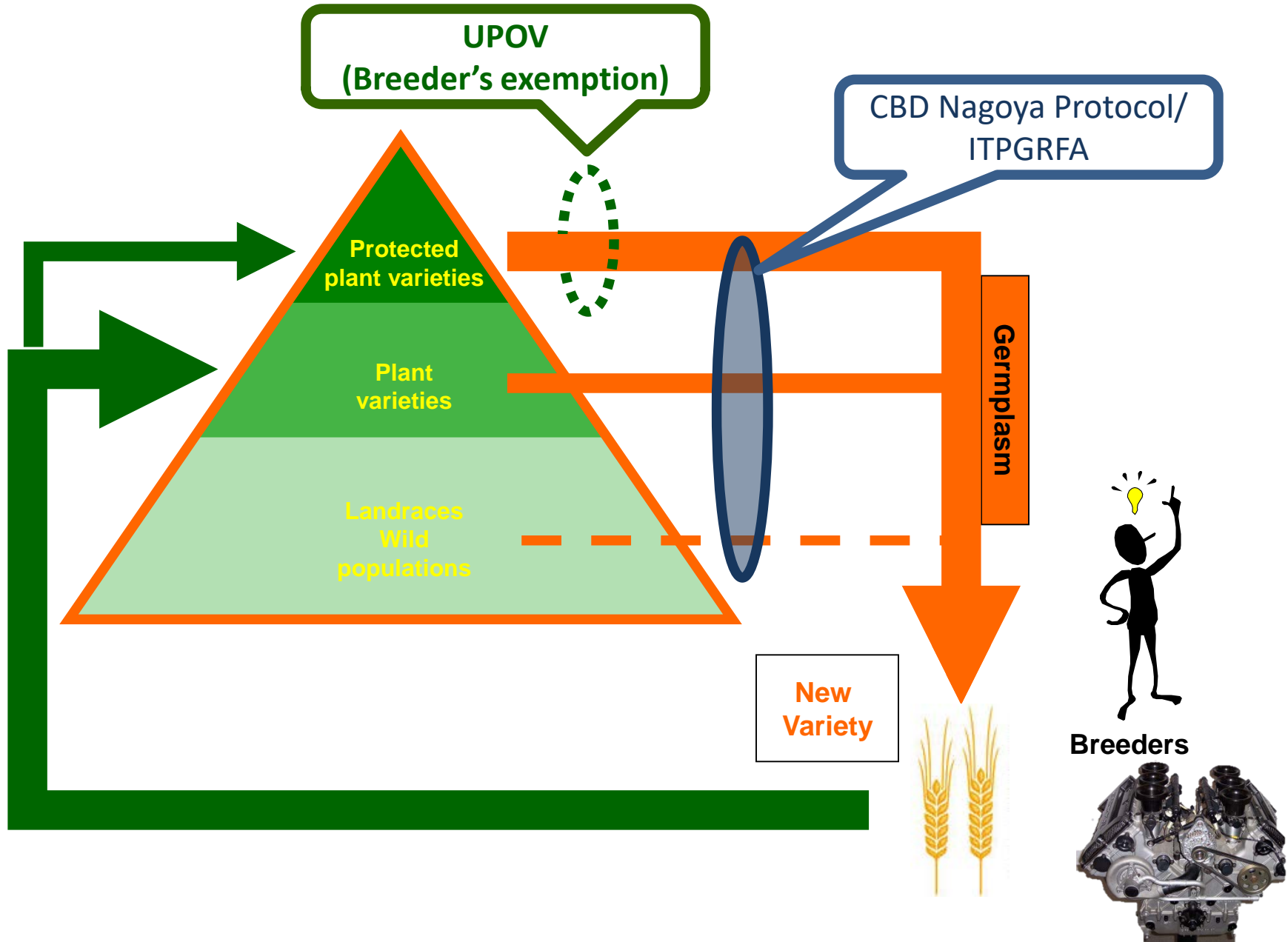
“The royalties derived from commercialization of the variety are shared between the breeder and the provinces that contributed the native plant genetic resource.”

“A large part of the profits, basically, 50 per cent, that are generated from the commercialization return to those provinces.”

“the erosion/loss from their natural habitat is reduced and this is therefore our own contribution, working together with INTA, for the conservation of our native natural resources.”



Access to Plant Genetic Resources for Breeding



Benefits of the UPOV System

VIDEOS



Canadian cherry growers benefit from government policy

See how the Government of Canada uses PVP to improve the livelihood of Canadian cherry growers



Rose industry blooming in Kenya

Discover how the UPOV system enabled Kenya to develop a \$500 million cut-flower industry that employs 500,000 Kenyans

[\(Long version\)](#)



Argentina

Using the UPOV system to benefit custodians of native wild germplasm in Argentina



Ecuador

The role of PVP in the development of a new blackberry variety that improves farmers' working conditions.



Uruguay

How PVP enabled a public breeder to ensure a supply of high quality onion seed to farmers



Ashiro Rindo (Japan)

The story of a group of smallholder rice farmers that used PVP to develop an international flower business

Uruguay

Universidad de la República Facultad de Agronomía



When the Faculty of Agronomy released Pantanosos del Sauce...

**How PVP
enabled a
public
breeders to
ensure a
supply of
high quality
onion seed to
farmers**



The Faculty of Agronomy
of the Universidad de la República.

Ing. Agrónomo Sebastián Peluffo,
Faculty of Agronomy

ABOUT UPOV

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⌘ Overview

⌘ Organigram

⌘ Office of UPOV

⌘ Officers

⌘ UPOV Convention

⌘ Benefits of UPOV System

⌘ Key Issues

⌘ FAQs

⌘ Publications

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Benefits of the UPOV System

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Argentina



Rose industry blooming in Kenya

Discover how the UPOV system enabled Kenya to develop a \$500 million cut-flower industry that employs 500,000 Kenyans

Way forward

- How can we work together ?
 - Raise awareness
 - Build capacity
 - And protect your assets

UPOV



REGIONAL UNIVERSITIES
FORUM FOR CAPACITY
BUILDING IN AGRICULTURE

- **Module on IP/PBR Portfolio management**
- **UPOV Distance Learning Courses**
- **UPOV lectures**

UPOV Distance Learning Courses **DL-205**

“Introduction to the UPOV System of Plant Variety Protection under the UPOV Convention”

ABOUT UPOV | MEMBERSHIP | **UPOV SYSTEM** | PVP DATA & STATISTICS | MEETINGS

UPOV SYSTEM

- UPOV Convention
- UPOV Collection
- Information Documents
- Explanatory Notes
- DUS Guidance
- Legal Resources
- Training**

HOME » UPOV SYSTEM »

UPOV Training

UPOV Distance Learning Courses

Code	Course	Session
DL-205	Introduction to the UPOV System of Plant Variety Protection under the UPOV Convention	Session 1 Session 2
DL-305A	Administration of Plant Breeders' Rights (Part A of DL-305 course: Examination of applications for plant breeders' rights)	Session 1 Session 2

<http://www.upov.int/resource/en/training.html>



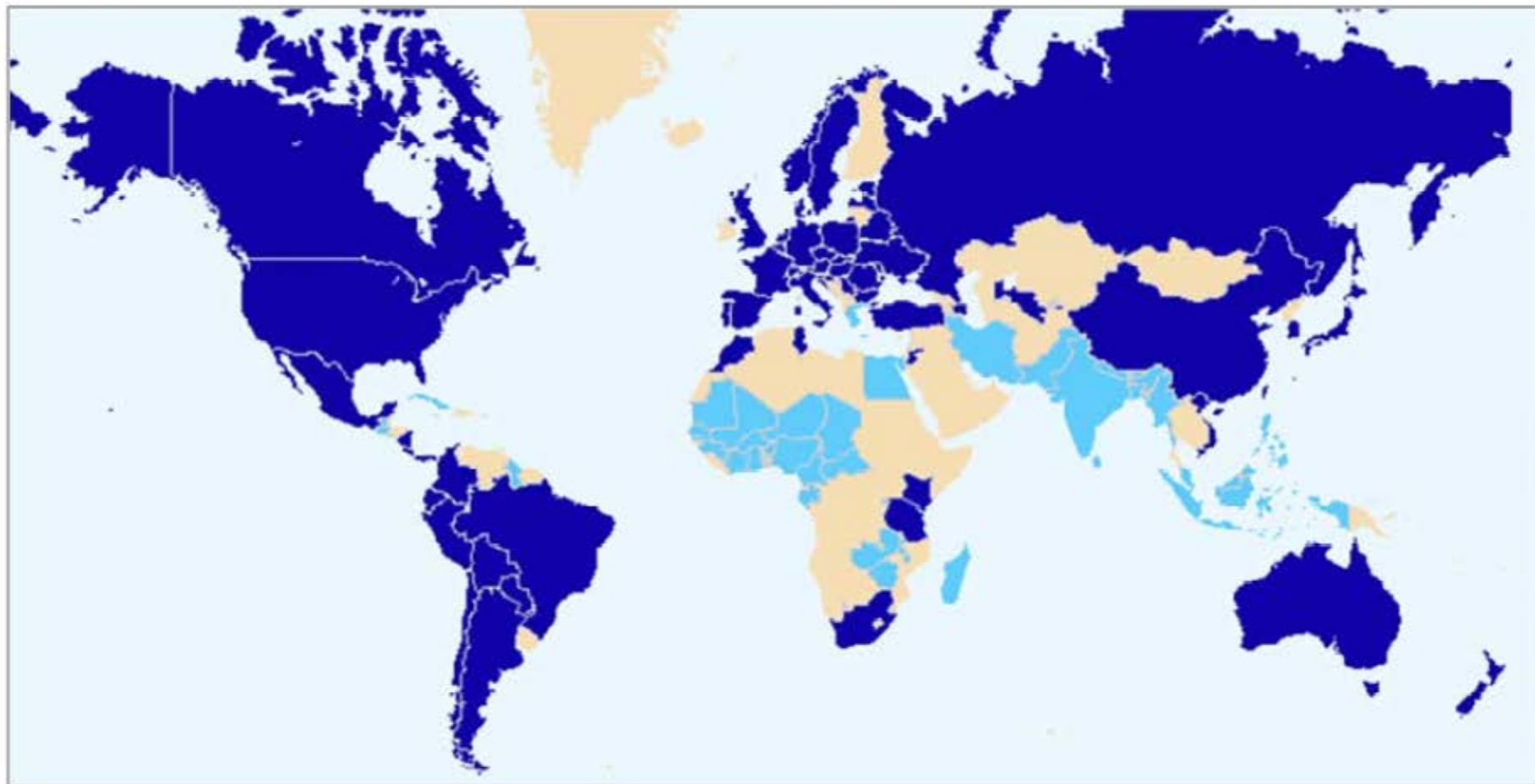
Number of participants in main sessions of UPOV distance learning courses in 2016 and 2017
by category

Category	Number of students				
	DL-205	DL-305	DL-305A	DL-305B	Total
Category 1: Government officials of members of the Union	490	217	168	155	1,030
Category 2: Officials of observer States / intergovernmental organizations	73	19	19	9	120
Category 3: Others (Fee: CHF1,000)	22	4	1	1	28
Category 4: Discretionary waiving of fee for selected students	14	39	4	5	62
Total:	599	279	192	170	1,240

Total number of participants by category in regular DL-205 sessions since 2006

Category	Number of students
Category 1: Government officials of members of the Union nominated by the relevant representative to the UPOV Council	3,415
Category 2: Officials of observer States / intergovernmental organizations nominated by the relevant representative to the UPOV Council	267
Category 3: Others	229
Category 4: Discretionary waiving of fee for selected students	87
Total:	3,998

*Figure 34. UPOV DL-205, DL-305, DL-305A and DL-305B Courses:
2016 and 2017 participation*



The boundaries shown on this map do not imply the expression of any opinion whatsoever on the part of UPOV concerning the legal status of any country or territory.



Members of the Union



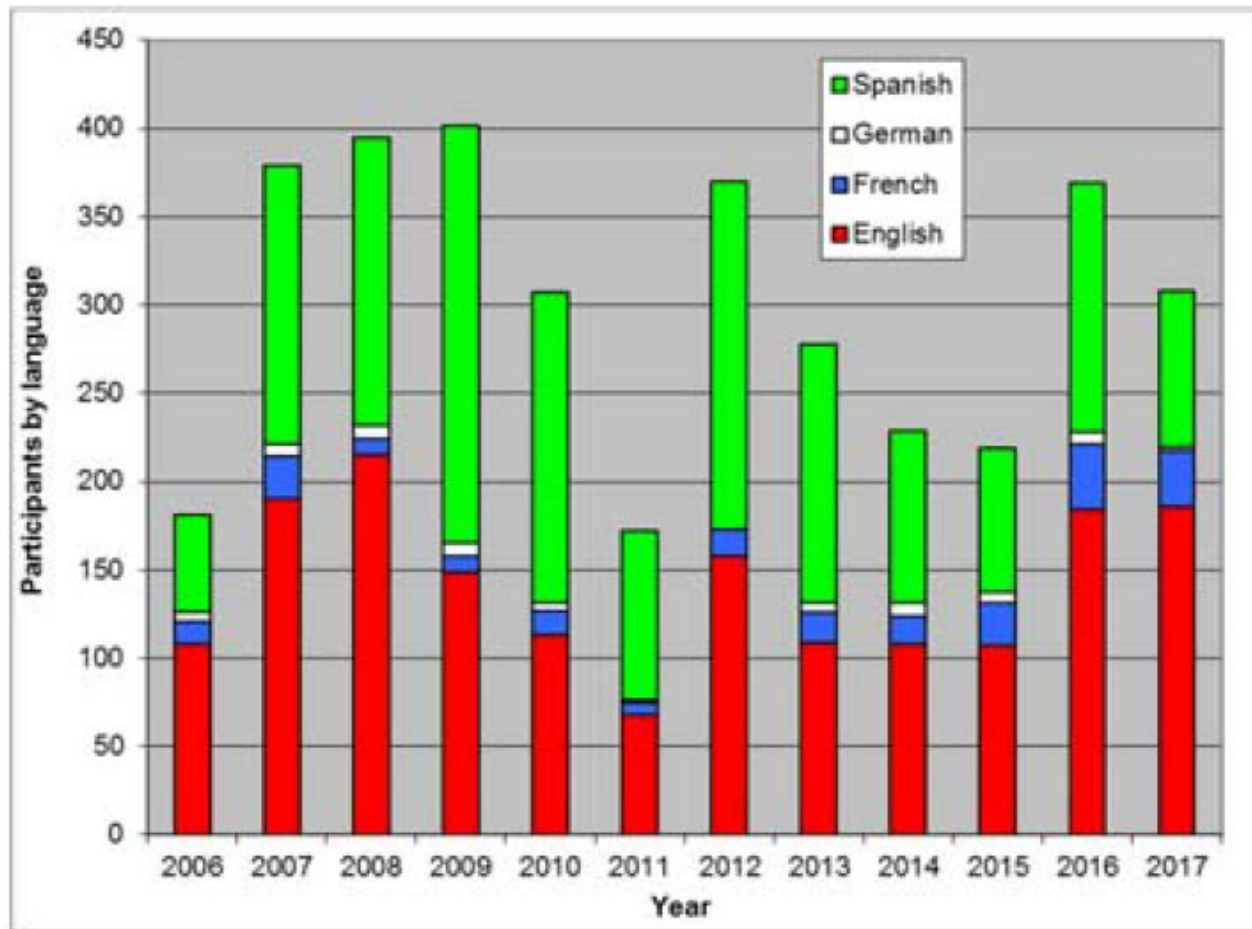
Non-members of the Union

Source: http://www.upov.int/edocs/mdocs/upov/en/c_52/c_52_16.pdf

UPOV Distance Learning Courses DL-205

2 sessions per year, available in English, French, German and Spanish

Figure 36. Participants in the main sessions of the DL-205 Course by language



Source: http://www.upov.int/edocs/mdocs/upov/en/c_52/c_52_16.pdf

UPOV Collaboration with Universities

(g) Academic courses featuring the UPOV system of plant variety protection

- WIPO-WTO Advanced Course on Intellectual Property for Government Officials, Geneva, Switzerland (March 2016)
- UPOV lecture at Institut Polytechnique LaSalle, Beauvais, France (April 2016)
- OAPI Programme Master II en Propriété Intellectuelle, Yaoundé, Cameroon (May 2016)
- WIPO-WTO Colloquium for Teachers of Intellectual Property, Geneva, Switzerland (June 2016)
- WIPO-UNIGE Summer School on Intellectual Property, Geneva, Switzerland (July 2016)
- Master of IP Law, Queensland University of Technology, Brisbane, Australia (July 2016)
- Master of Laws (LL.M.) in Intellectual Property (WIPO/University of Turin/ITC-ILO), Geneva, Switzerland (October 2016)
- UPOV lecture at Institut Polytechnique LaSalle, Beauvais, France (October 2016)
- III Plant Variety Rights Intensive Module on Plant Variety Protection, Master of Intellectual Property (Magister Lvcentinvs) of the University of Alicante, Alicante, Spain (November 2016)
- WIPO-WTO Advanced Course on Intellectual Property for Government Officials, Geneva, Switzerland (March 2017)
- OAPI/WIPO IP Masters Program II, Yaoundé, Cameroon (May 2017)
- WIPO-WTO Colloquium for Teachers of Intellectual Property, Geneva, Switzerland (June 2017)
- WIPO-UNIGE Summer School on Intellectual Property, Geneva, Switzerland (June 2017)
- UPOV speaker at Master of IP Law, Queensland University of Technology, Brisbane, Australia (July 2017)
- WIPO/Tongji University Master Degree Program in Intellectual Property Law (MIP) with Specialization in Design, Shanghai, China (October 2017)
- Master of Laws (LL.M.) in Intellectual Property (WIPO/University of Turin/ITC-ILO), Geneva, Switzerland (October 2017)
- IV Plant Variety Rights Intensive Module on Plant Variety Protection, Master of Intellectual Property (Magister Lvcentinvs) of the University of Alicante, Spain (November 2017)

Source: http://www.upov.int/edocs/mdocs/upov/en/c_52/c_52_16.pdf



JAPAN PATENT OFFICE



REGIONAL UNIVERSITIES
FORUM FOR CAPACITY
BUILDING IN AGRICULTURE



NATIONAL INSTITUTE OF
INDUSTRIAL PROPERTY



AFRICAN REGIONAL
INTELLECTUAL PROPERTY
ORGANIZATION



REGIONAL FORUM

WIPO/IP/NBO/18
ORIGINAL: ENGLISH
DATE: OCTOBER 19, 2018

WIPO Forum on Strengthening IP Management in African Universities

Nairobi, Kenya, October 19 and 20, 2018

Aim of the Forum is to increase **awareness** and **knowledge** of University **leaders** on the IP System to strengthen knowledge creation, transfer and exploitation

How can PVP be used to achieve maximum "public good"?



(Photo: iStockphoto.com/monkeybusinessimages)

TOOLBOX



Photo: iStockphoto.com/pikepicture

UPOV

“To Encourage Plant Breeding”

Key stakeholders:

- *Breeders*
- *Farmers*
- *Policy Makers*
- *Consumers/ Society*