

*WORKSHOP ON AWARENESS OF PLANT  
VARIETY PROTECTION  
UNDER THE UPOV CONVENTION*

**Basic Principles of  
Plant Variety Protection and  
Benefits of UPOV Membership**

*Peter Button*

*Vice Secretary-General, UPOV*

*Lao People's Democratic Republic  
December 7 and 8, 2015*

# PREVIEW

- Why do we need to encourage plant breeding?
- How does PVP support different types of breeders?
- Why is UPOV membership important?

# Who needs plant breeders?



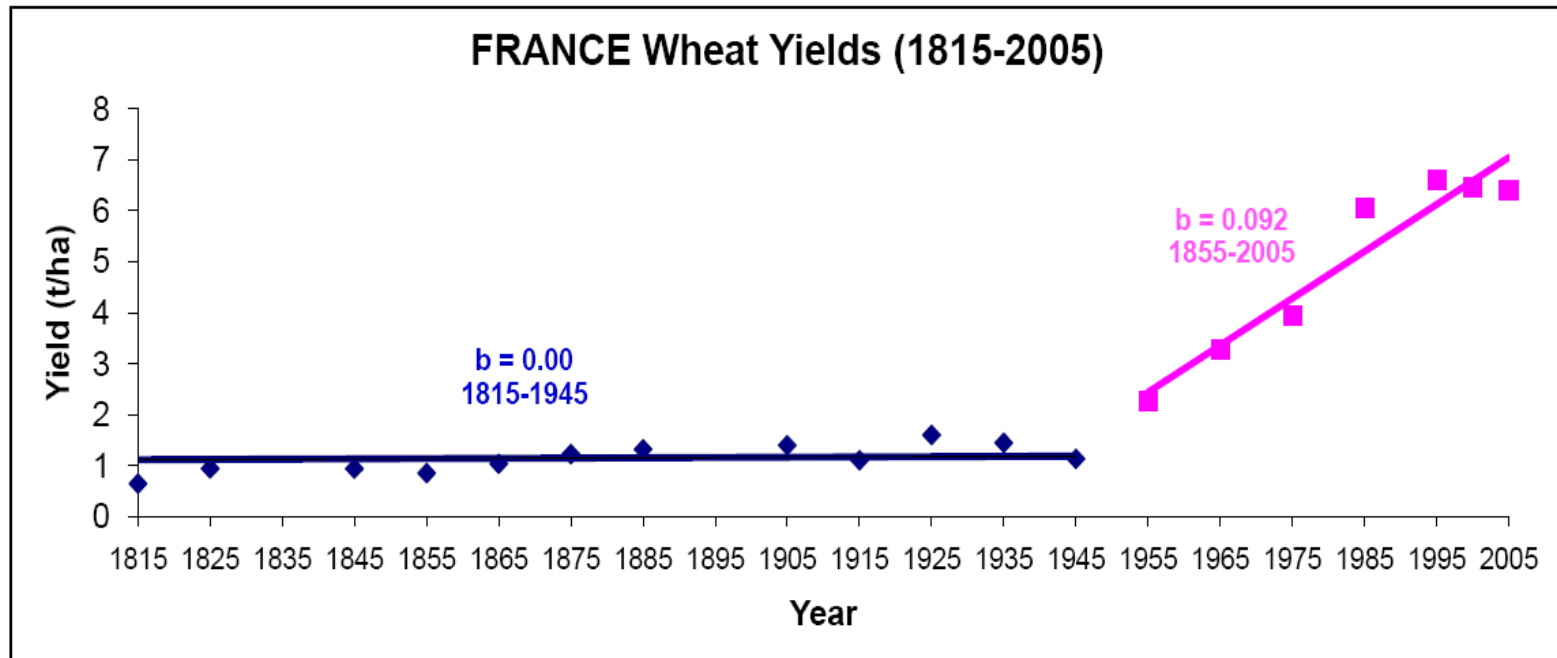
# WHEAT



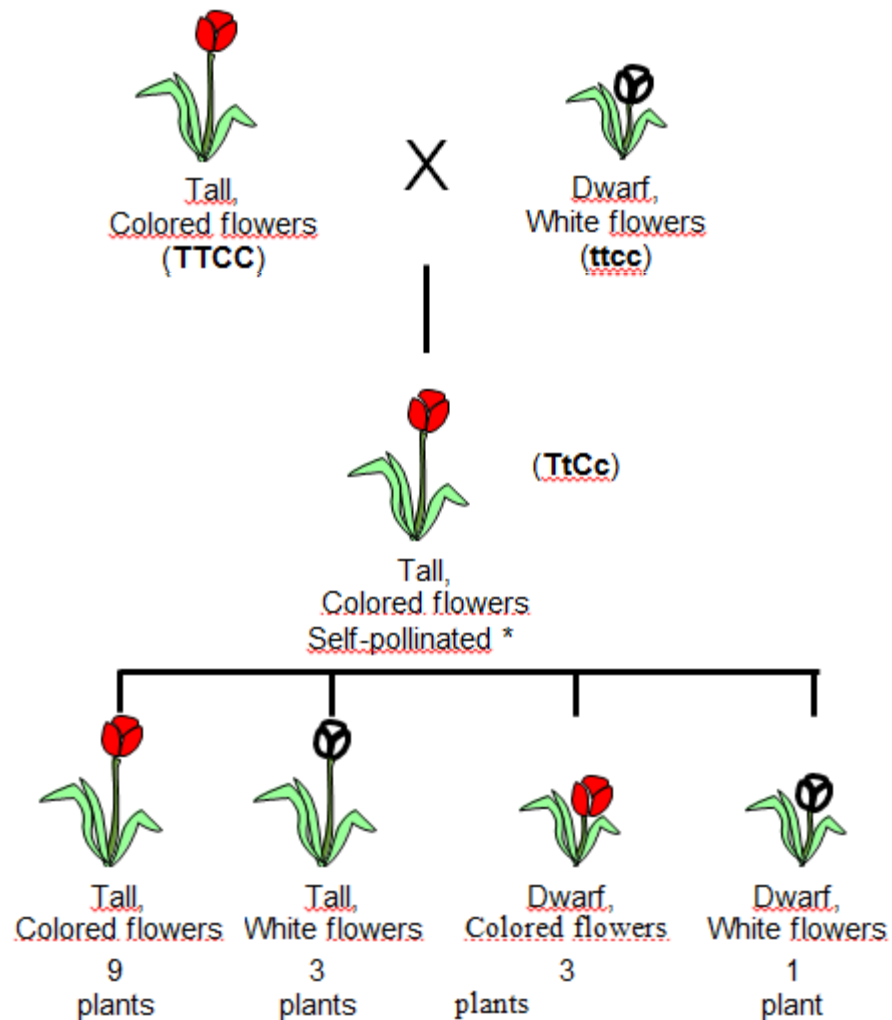




# Evolution of Wheat yield in France



*Phenotypic expression*



\* The plant pollinates itself, i.e., both the male and female gametes come from the same plant

# Lodging





Lodging  
Height  
Earliness



Lodging  
Height  
Earliness  
Resistance to sprouting

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



(IPhoto: iStockphoto.com/shellpreast)



(IPhoto: Agriculture and Horticulture Development Board)

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

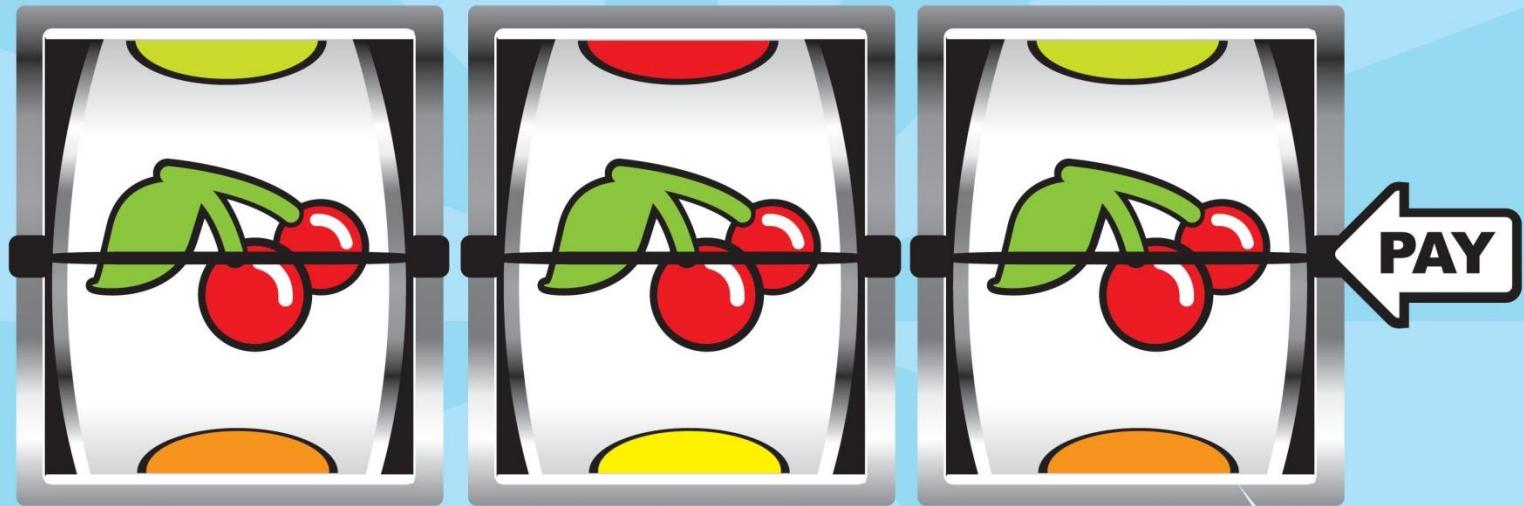
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Yield: treated/untreated  
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Breadmaking quality  
Biscuit making quality  
Feed quality







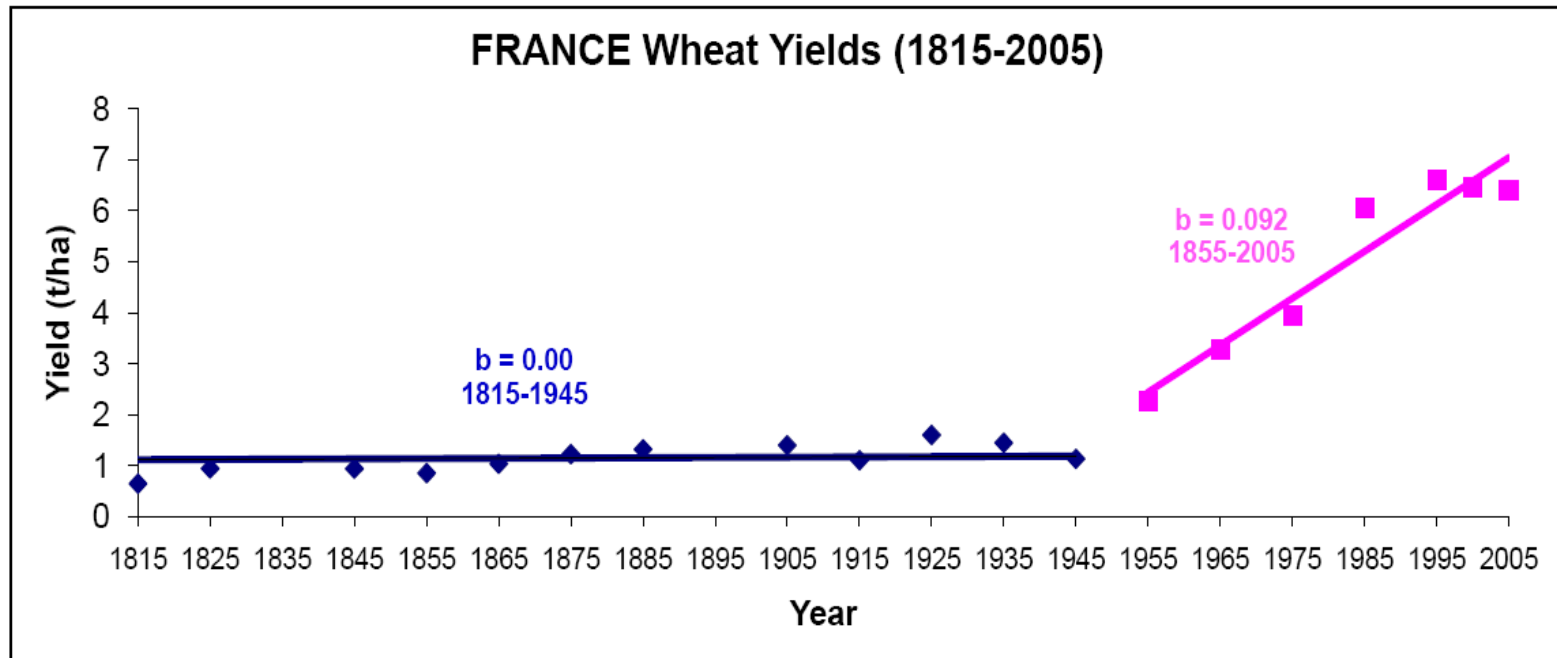
(Illustration: iStockphoto.com/jahachey)



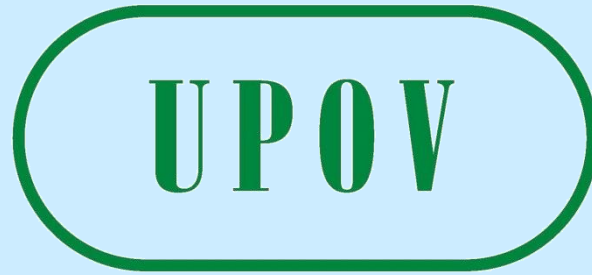
(Photo: iStockphoto.com/julos)



# Evolution of Wheat yield in France

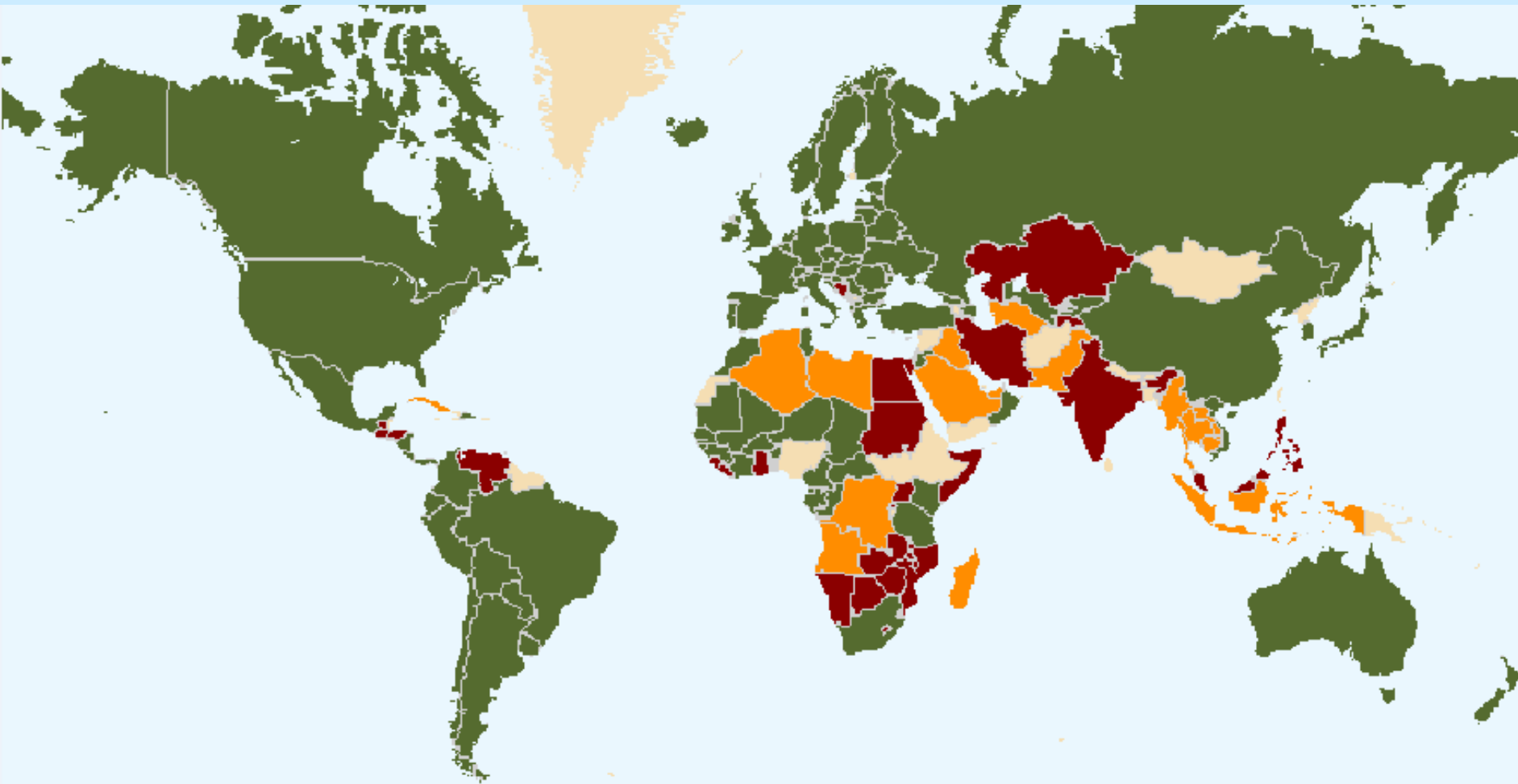






## **UPOV MISSION STATEMENT**

**“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”**



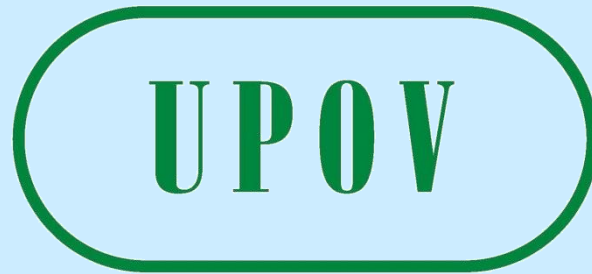
**Members of UPOV (74)**

**Initiating States (15) and Organization (1)**

**States (23) and Organization (1) in contact with the UPOV Office**

# PREVIEW

- Why do we need to encourage plant breeding?
- **How does PVP support different types of breeders?**
- Why is UPOV membership important?

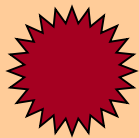


## UPOV MISSION STATEMENT

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



**Plant Breeder's Right (PBR)**

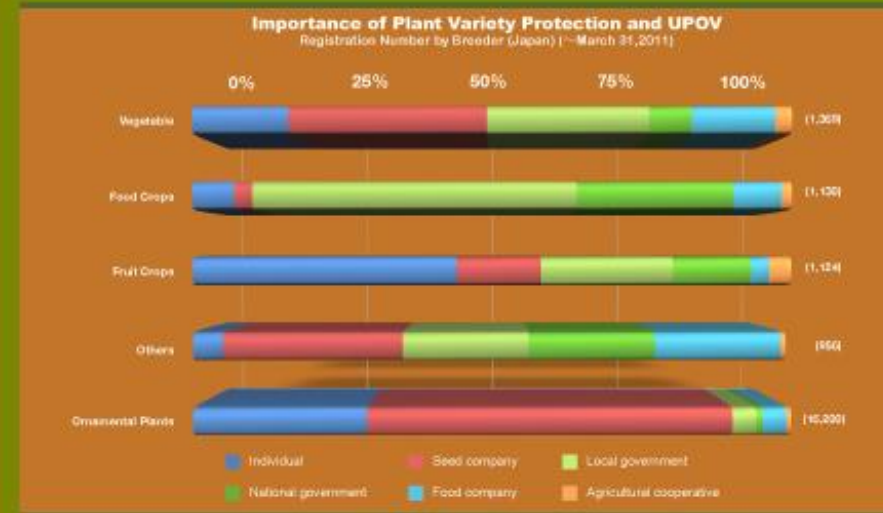




- Plant breeding is long and expensive
- BUT**
- Plant varieties can be easily and quickly reproduced
- Breeders need protection to recover investment

## Who can protect a plant variety?

There are no restrictions on who can be considered to be a breeder under the UPOV system: a breeder might be an individual, a farmer, a researcher, a public institute, a private company etc.



### Japan Registration Case Study

(click to see full view)



# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

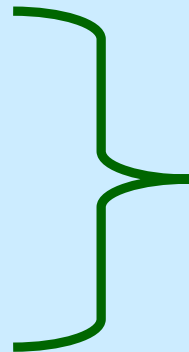
## *Criteria to be satisfied*

- NOVELTY

- DISTINCTNESS

- UNIFORMITY

- STABILITY



“DUS”

...

# **CONDITIONS FOR GRANTING A BREEDER'S RIGHT**

... Other requirements

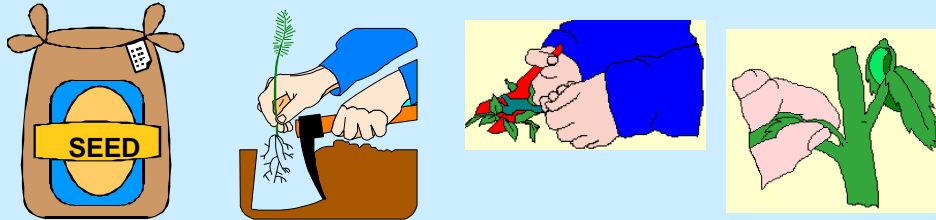
- **VARIETY DENOMINATION**
- **FORMALITIES**
- **PAYMENT OF FEES**

**NO OTHER CONDITIONS!**

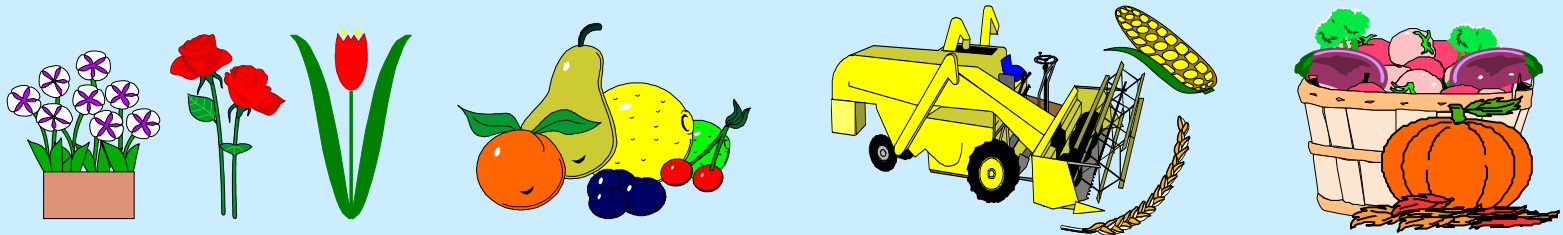


# For protected varieties, authorization of breeder required for:

- acts with respect to propagating material



- and under certain conditions, in respect of the harvested material



# EXCEPTIONS TO THE BREEDER'S RIGHT

## Compulsory

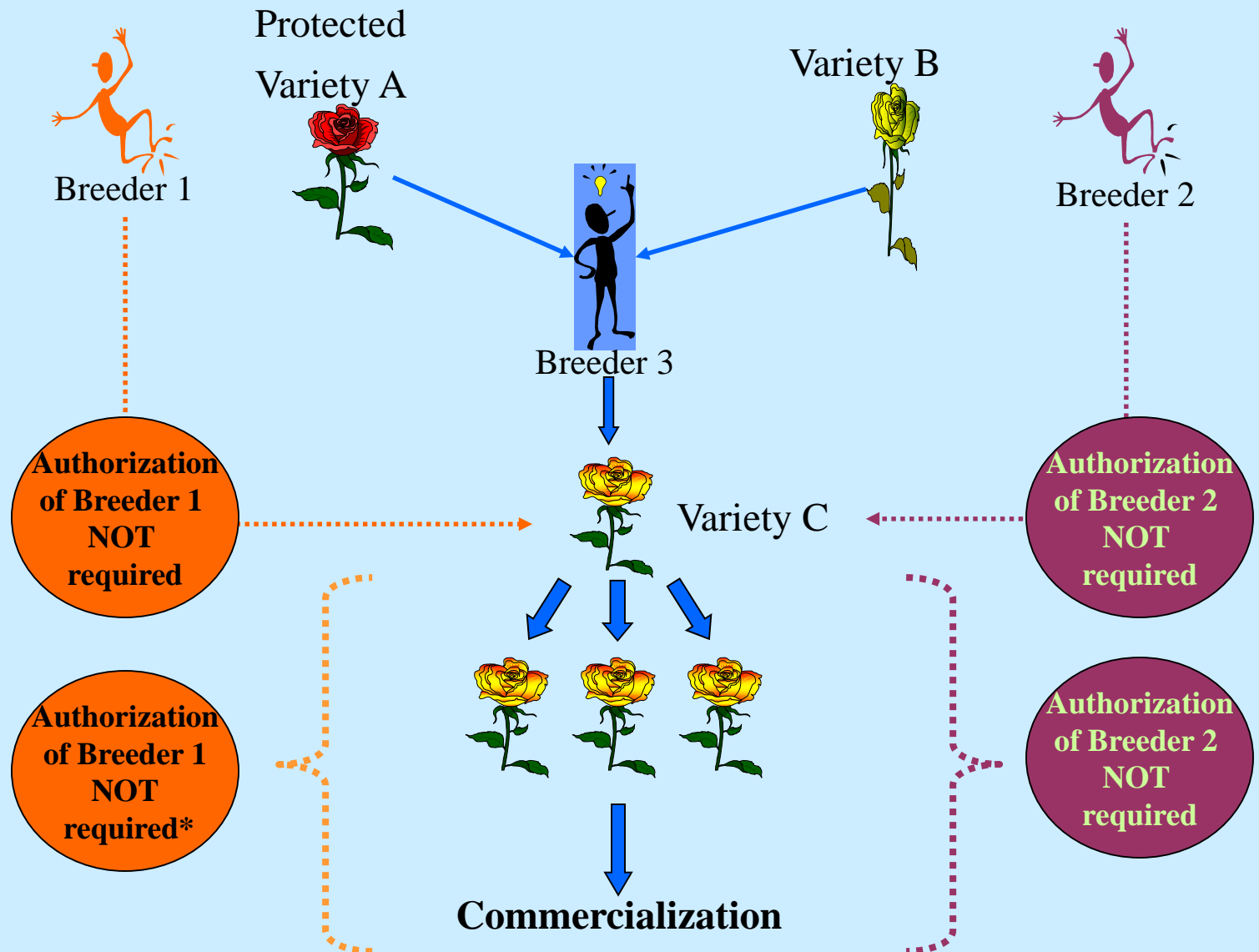
Acts done:

- privately and for non-commercial purposes
- for experimental purposes
- breeding other varieties  
("breeder's exemption")

## Optional

Farm-saved seed

# THE BREEDER'S EXEMPTION: *Example*



\* Except for:

- (i) varieties which are essentially derived from the protected variety, where the protected variety is not itself an essentially derived variety,
- (ii) varieties which are not clearly distinguishable in accordance with Article 7 from the protected variety and
- (iii) varieties whose production requires the repeated use of the protected variety.

# EXCEPTIONS TO THE BREEDER'S RIGHT

- Compulsory

(i) Acts done privately **and** for non-commercial purposes

- propagation of a variety by a **farmer exclusively** for the production of a **food crop to be consumed entirely by that farmer and the dependents of the farmer** living on that holding

**therefore**

**“subsistence farming”** where these constitute acts done privately and for non-commercial purposes, may be considered by a UPOV member to be excluded from the scope of the breeder's right

Acts Possibly falling within the scope of the exception



# EXCEPTIONS TO THE BREEDER'S RIGHT

## Compulsory

Acts done:

- privately and for non-commercial purposes
- for experimental purposes
- breeding other varieties (“breeder’s exemption”)

## Optional

**Farm-saved seed**

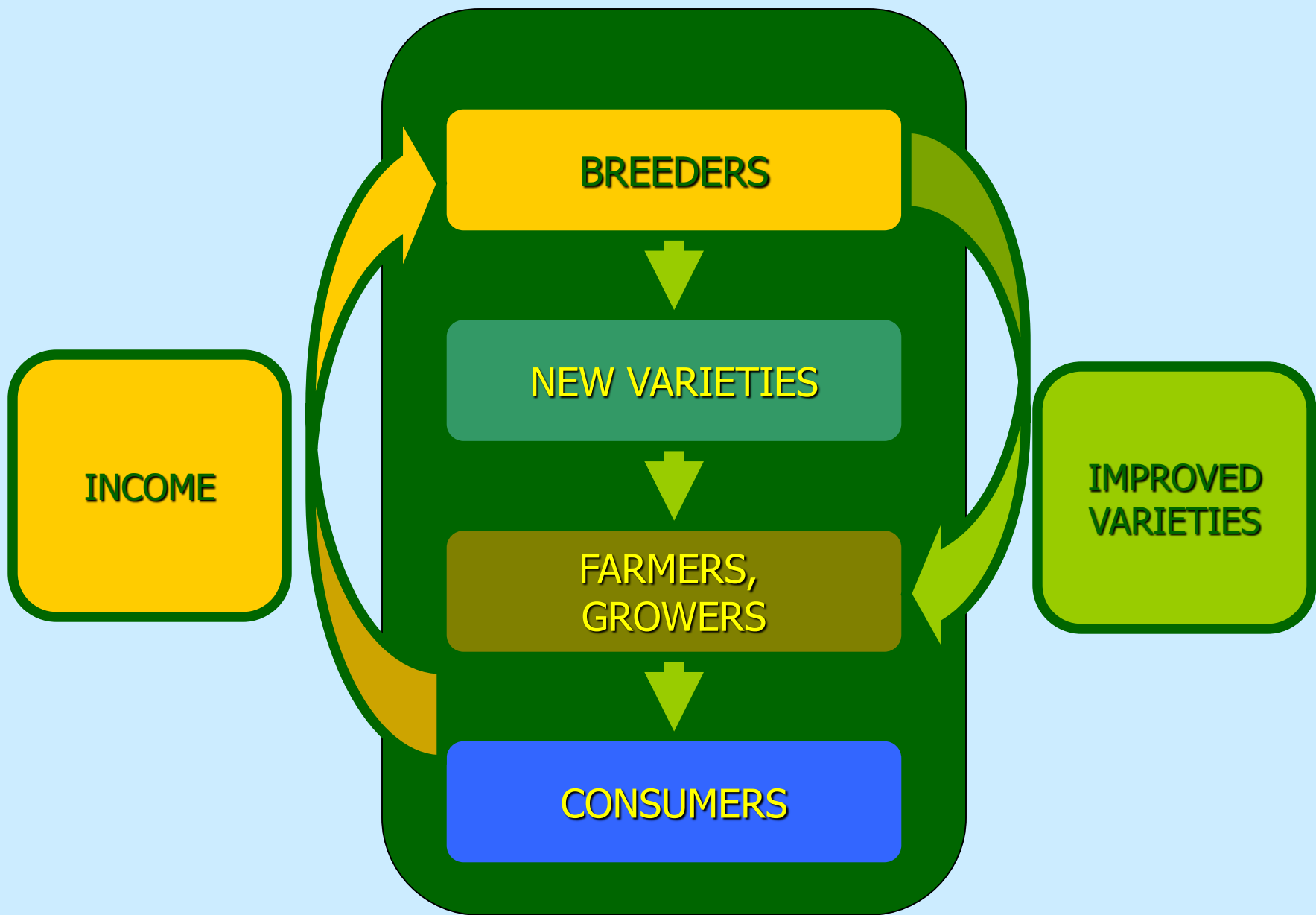
# EXCEPTIONS TO THE BREEDER'S RIGHT

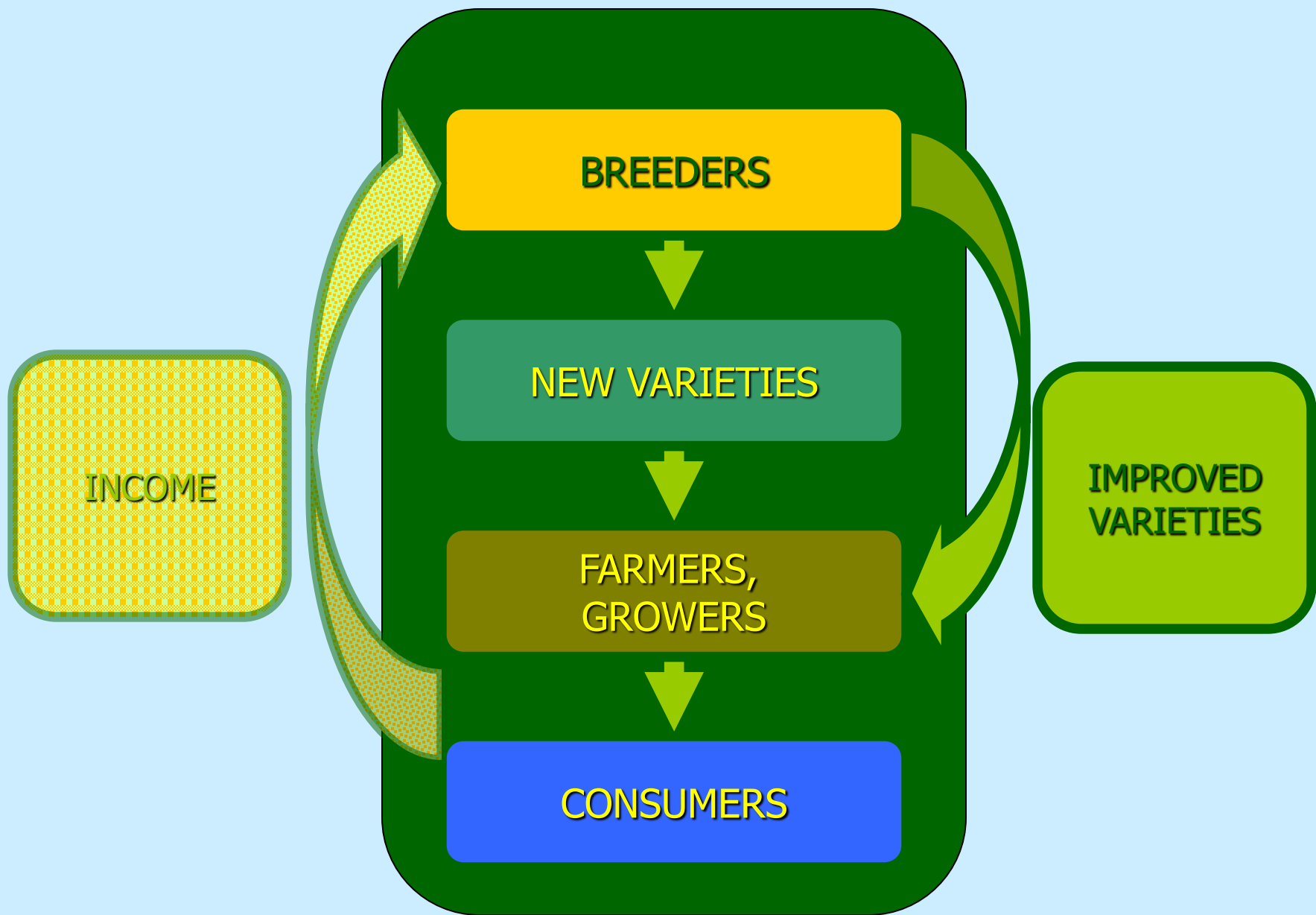
A Contracting Party may restrict breeder's rights in order **to permit farmers to use:**

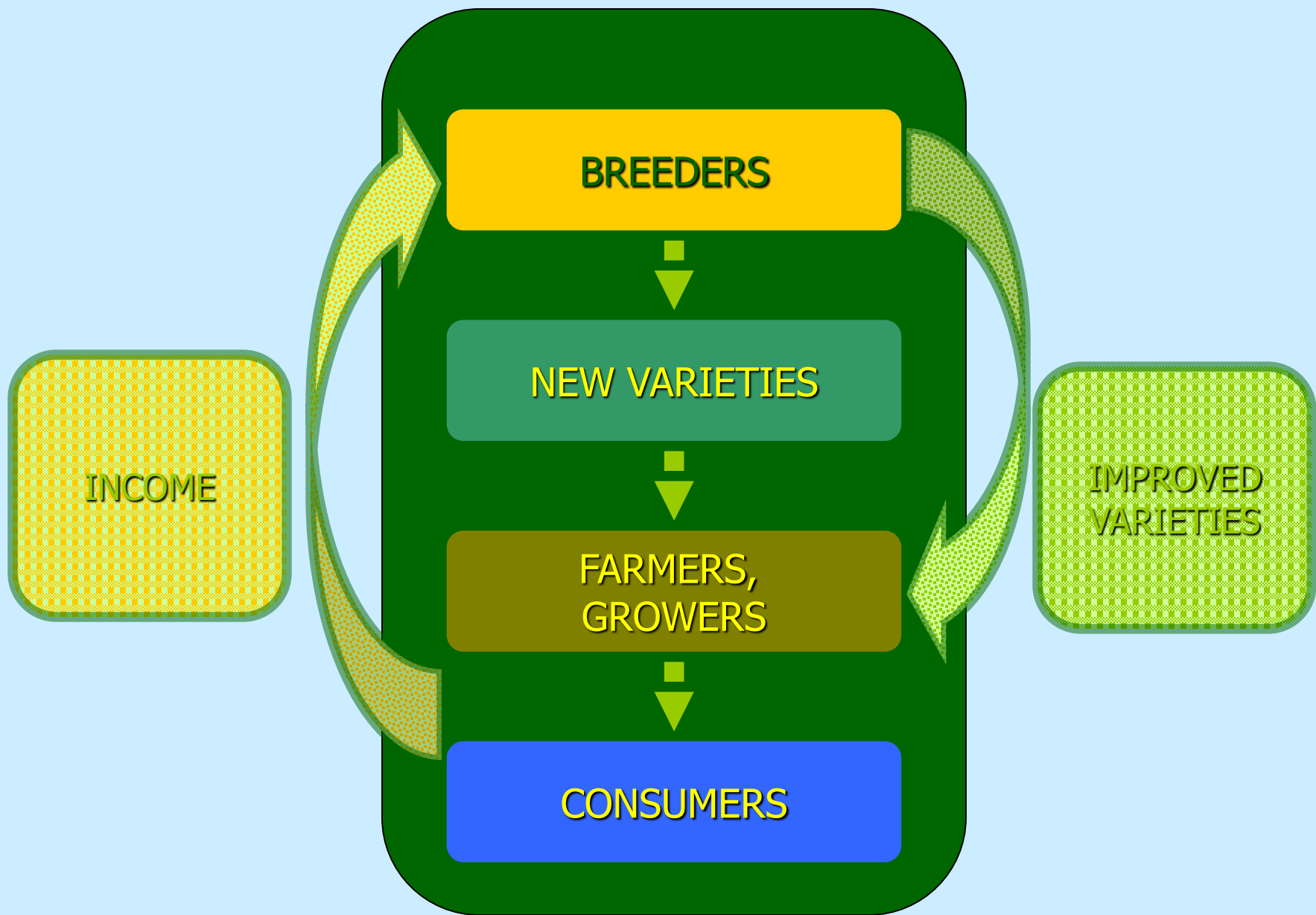
- for propagating purposes **on their own holdings**  
**the product of the harvest**
- **obtained on their own holdings**  
from the protected variety
- **within reasonable limits**
- subject to **safeguarding legitimate interests of the breeder**

[Article 15(2) and Recommendation of the Diplomatic Conference]











(Photo: iStockphoto.com/VladTeodor)



(Photo: iStockphoto.com/luoman)











# Breeder Performance Test Trials



(Photo: Dupont/Pioneer)





**ARC • LNR**

*Excellence in Research and Development*

# **AGRICULTURAL RESEARCH COUNCIL IN PLANT VARIETY PROTECTION AND TECHNOLOGY TRANSFER IN SOUTH AFRICA**

**DR. S. R. Moephuli, Ms. M. A. Moselakgomo  
& Dr. V. Phehane**



# USE OF PVP FOR BENEFIT – SHARING

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- ***As a public entity ARC utilizes PVP to enhance benefit sharing:***
  - ***Effective technology transfer – mainly for agriculture development and growth***
  - ***Enable competitiveness of the agriculture sector***
  - ***Contribute cultivars that are important for food security***
  - ***Incentivise innovation through:***
    - ***Further investments into Research and Development***
    - ***Providing a share of the revenue generated to inventor***
    - ***Stimulate enterprise development***
    - ***Facilitate access to poor farmers for development***



## Vuyisile Phehane



• Delivering high performance varieties to subsistence/smallholder farmers

- Local licensing agreement with a South African company
  - for the commercialization of some of the ARC's citrus varieties.
  - A condition of the license: ensure the participation of smallholder citrus producers in the commercialization value-chain.
- Facilitated partnership with the Citrus Growers' Association to access ARC





Michael D. Carriere, Ph.D.  
*Business Development and  
Intellectual Property Manager*

*UC Davis InnovationAccess*


*mdcarriere@ucdavis.edu*



# UC Davis - international agriculture - UPOV PBR - strawberry variety licensing

- » UPOV PBR-protected UC Davis strawberry varieties are foundational for master licensees
- » Master licensees are conduit of horticultural know-how and newest varieties from UC Davis
- » Horticultural know-how leads to improved production, higher value, and improved rural economics
- » In the context of strawberry horticulture, UPOV PBR is foundational to UC Davis' ability to improve agriculture internationally





# UC Davis - international agriculture - UPOV PBR - strawberry variety licensing - value added examples

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- » California industry value - \$2.5 B (70% UC Davis)
- » Spanish industry from zero to \$1B in 25 years – UC Davis strawberry varieties and know-how
- » Other examples;
  - Chile, Mexico, Morocco, South Africa, Turkey

## The World

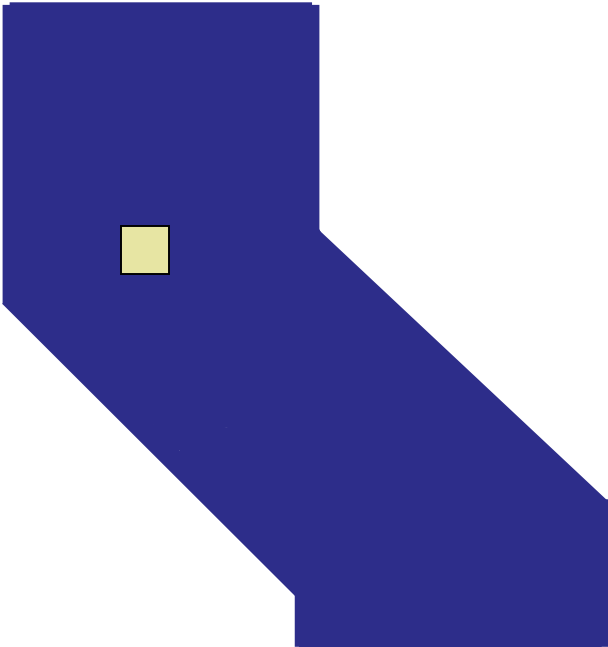
\$16.50/1000 plants royalty<sup>1</sup>

## United States

\$9.00/1000 plants royalty

## California

\$8.00/1000 plants royalty



<sup>1</sup>royalty shared between UC and master licensees

## Task sharing and part of public and private funding of the Swiss wheat breeding program

### Public funding (Agroscope)

Variety development



Final Evaluation



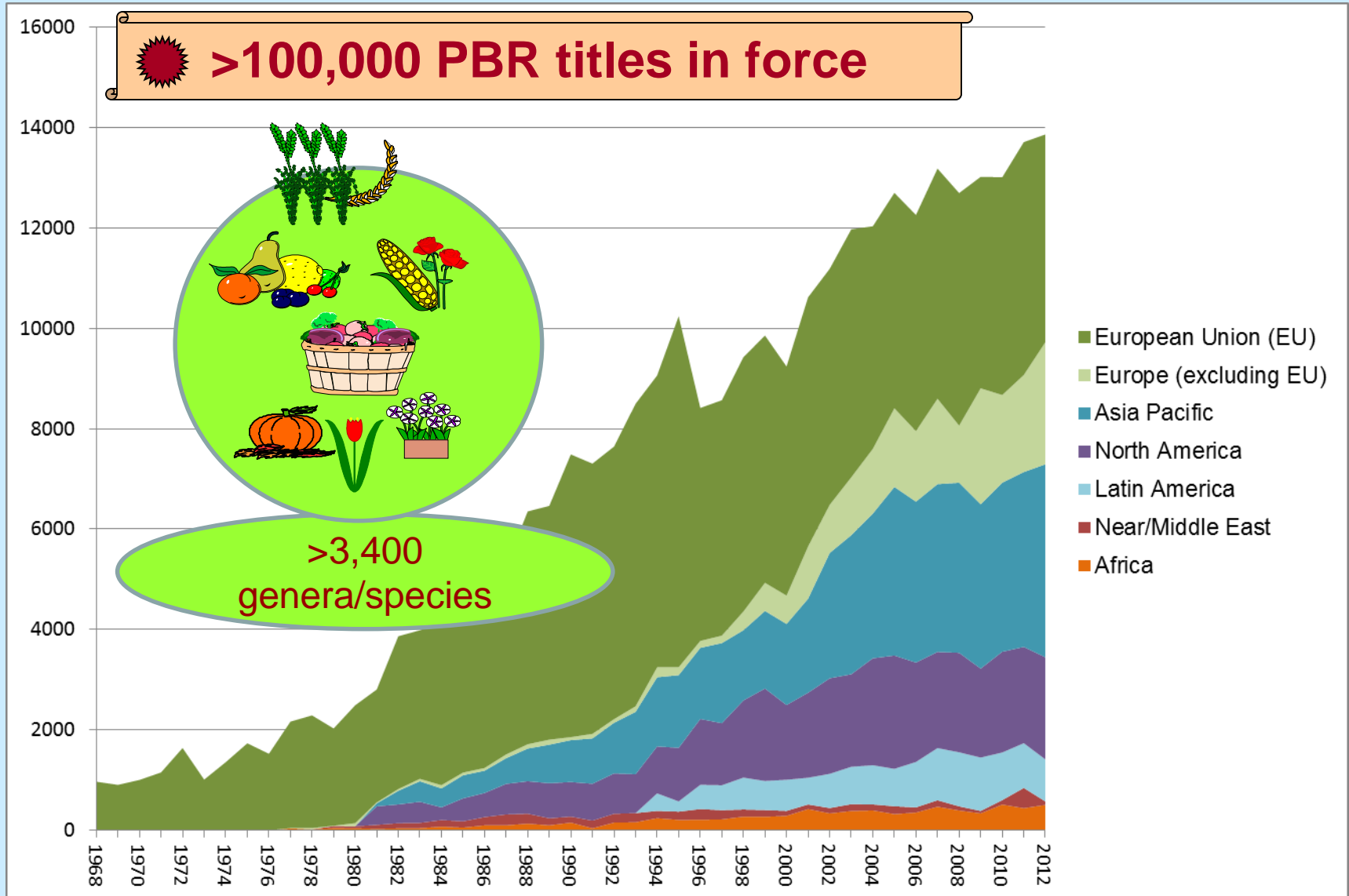
Final Evaluation



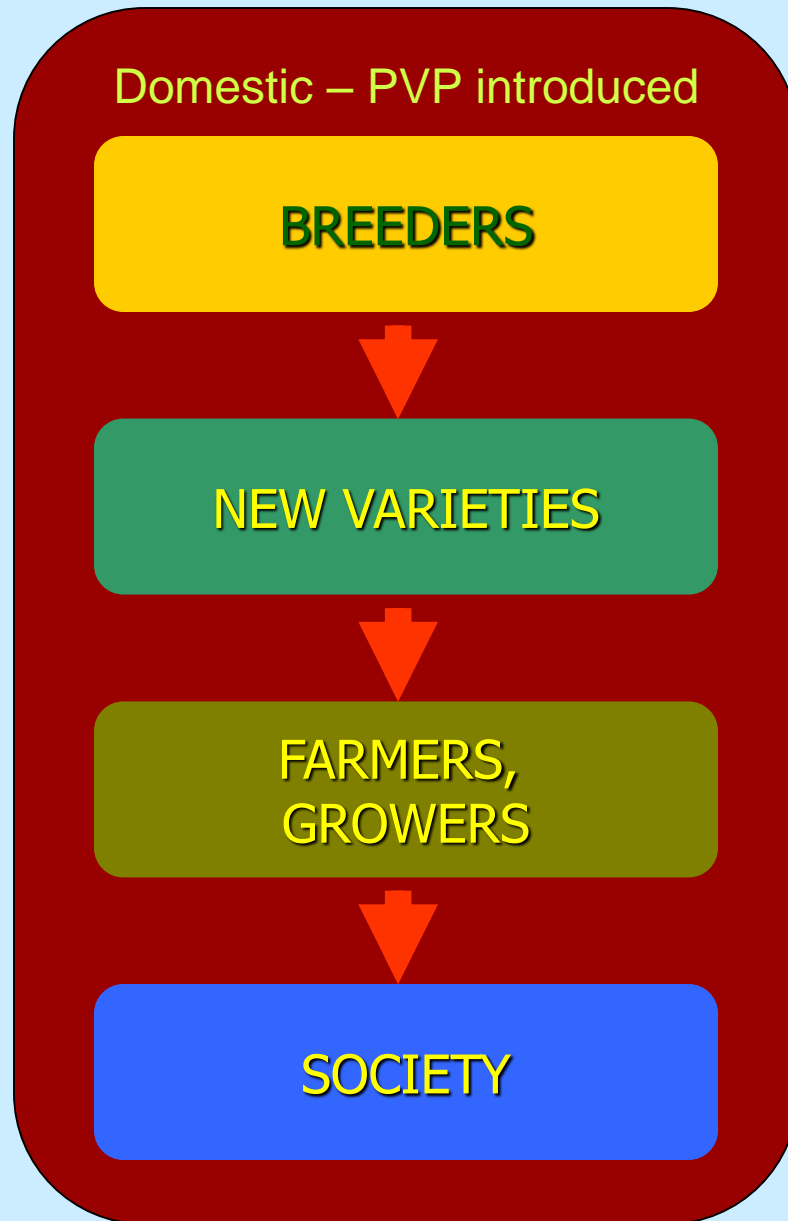
Maintenance breeding,  
Basic seed production,  
PVR protection,  
Variety representation in  
Switzerland, in Europe and  
worldwide

Private funding (DSP Ltd), source: Royalty fees from  
protected varieties

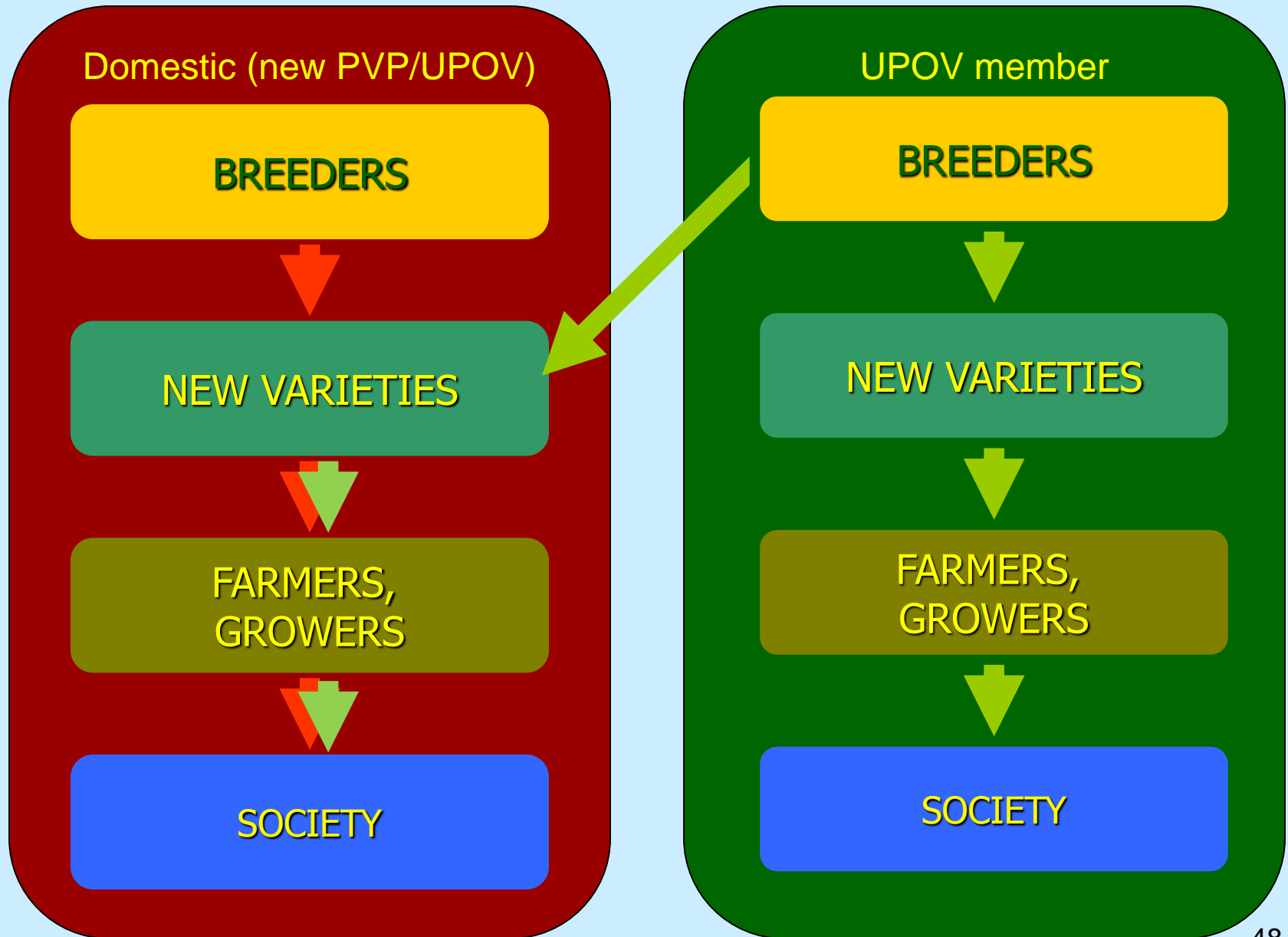
# Applications for Plant Breeders' Rights



# Benefits of UPOV: the International Dimension

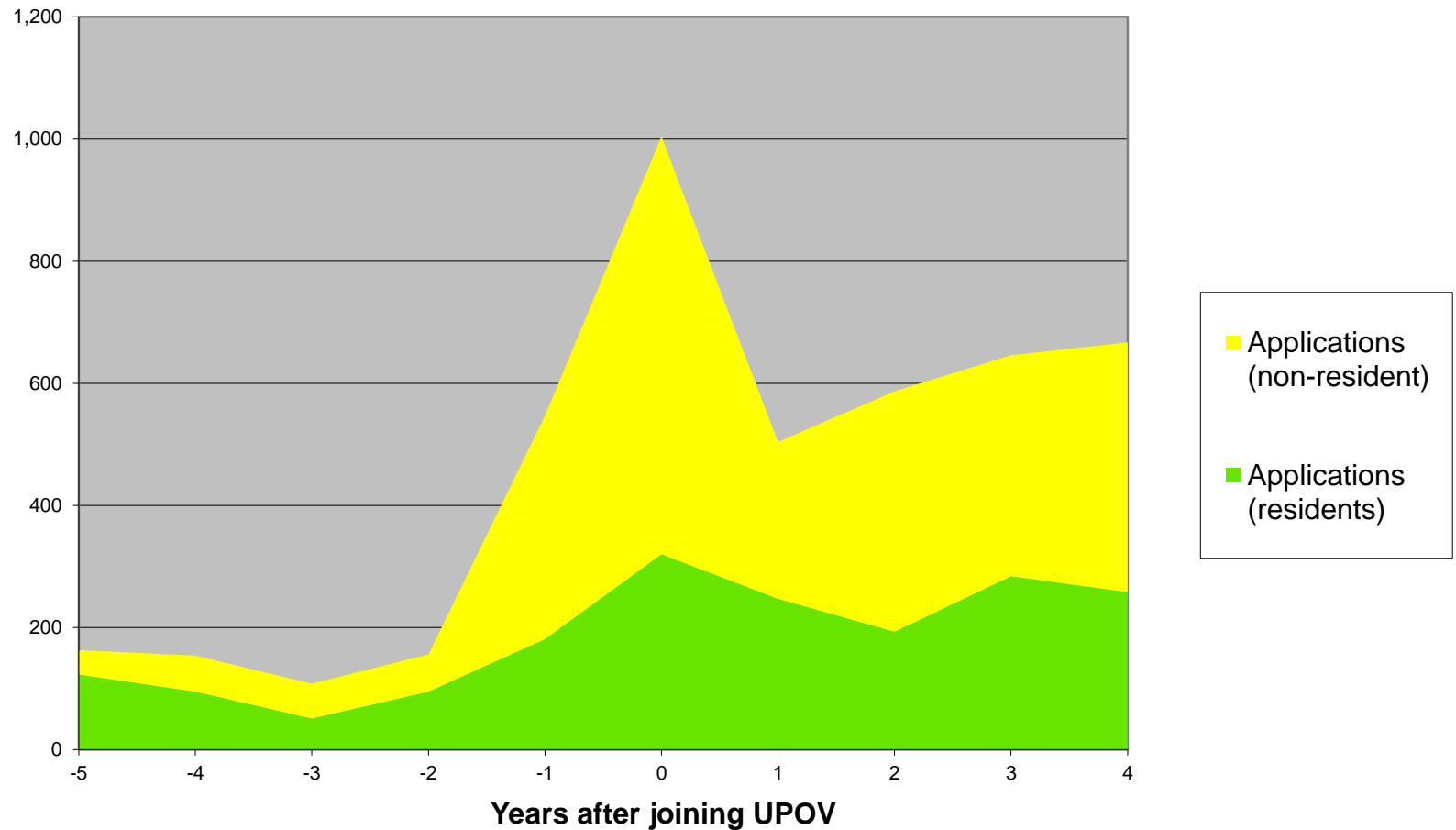


# Benefits of UPOV





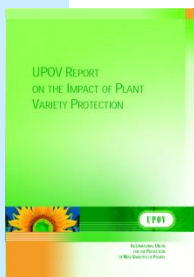
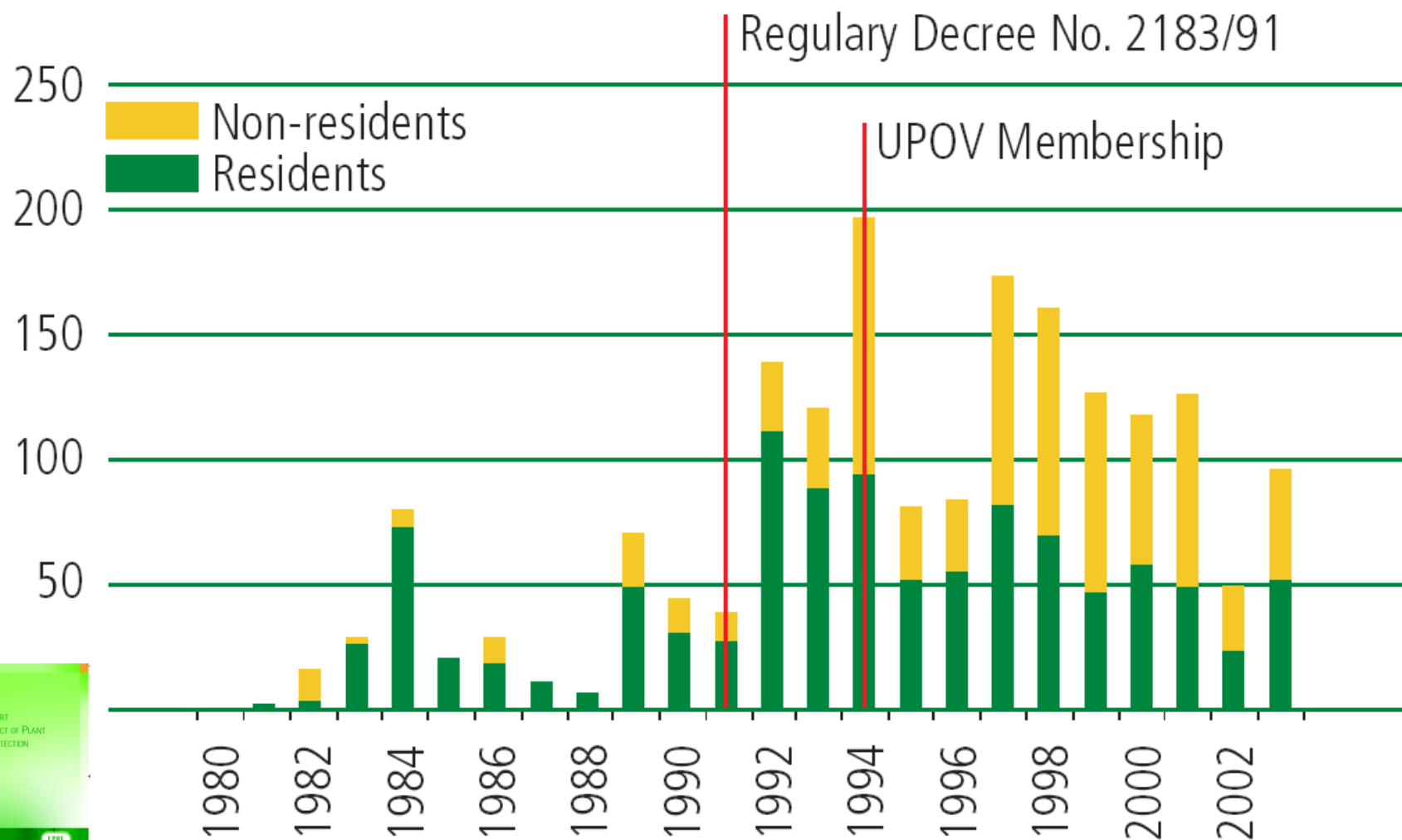
## Latin America Countries acceding to UPOV between 1994 & 2000



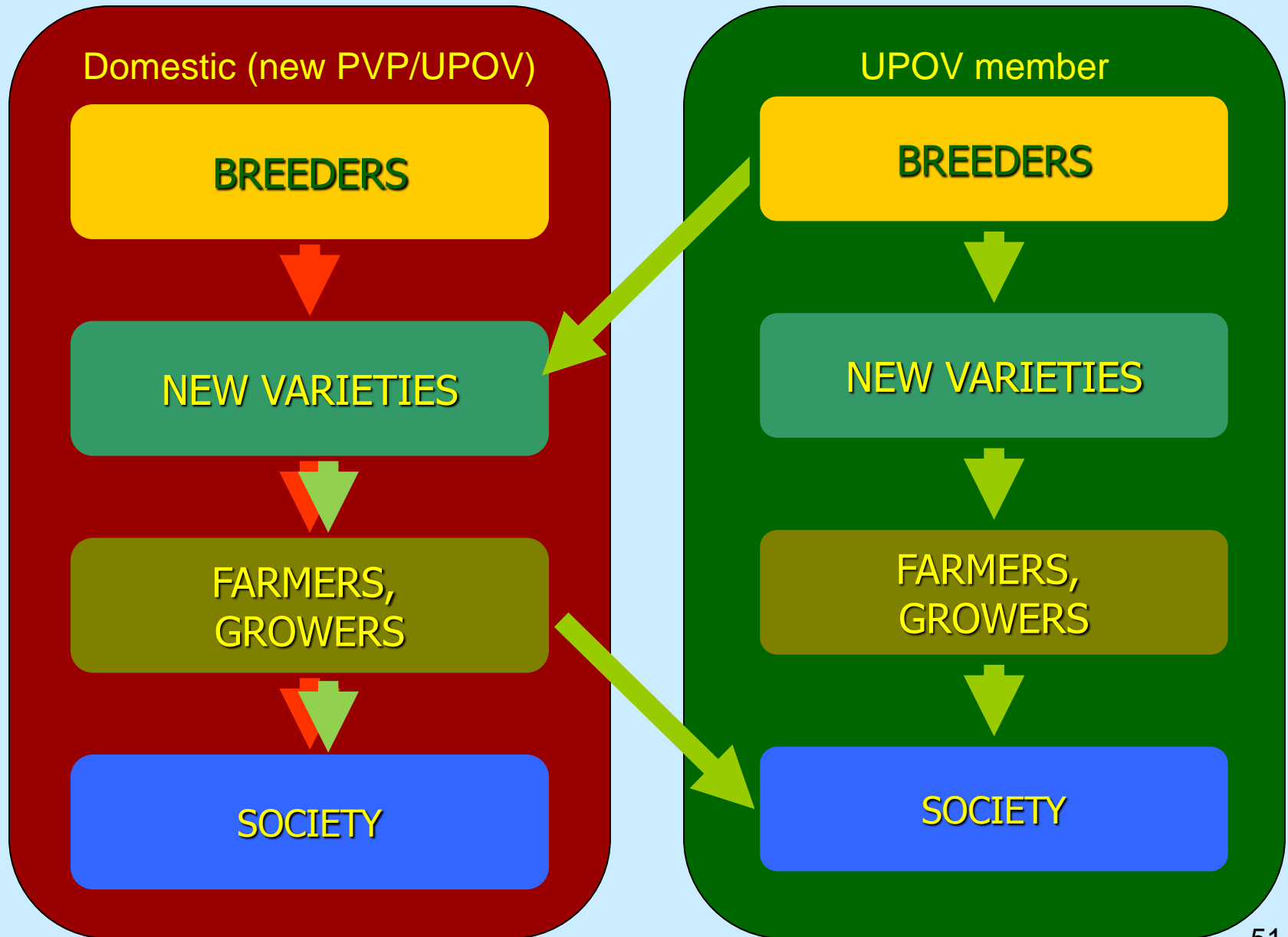
# Foreign New Varieties



Figure 13. Argentina: Number of Titles Granted

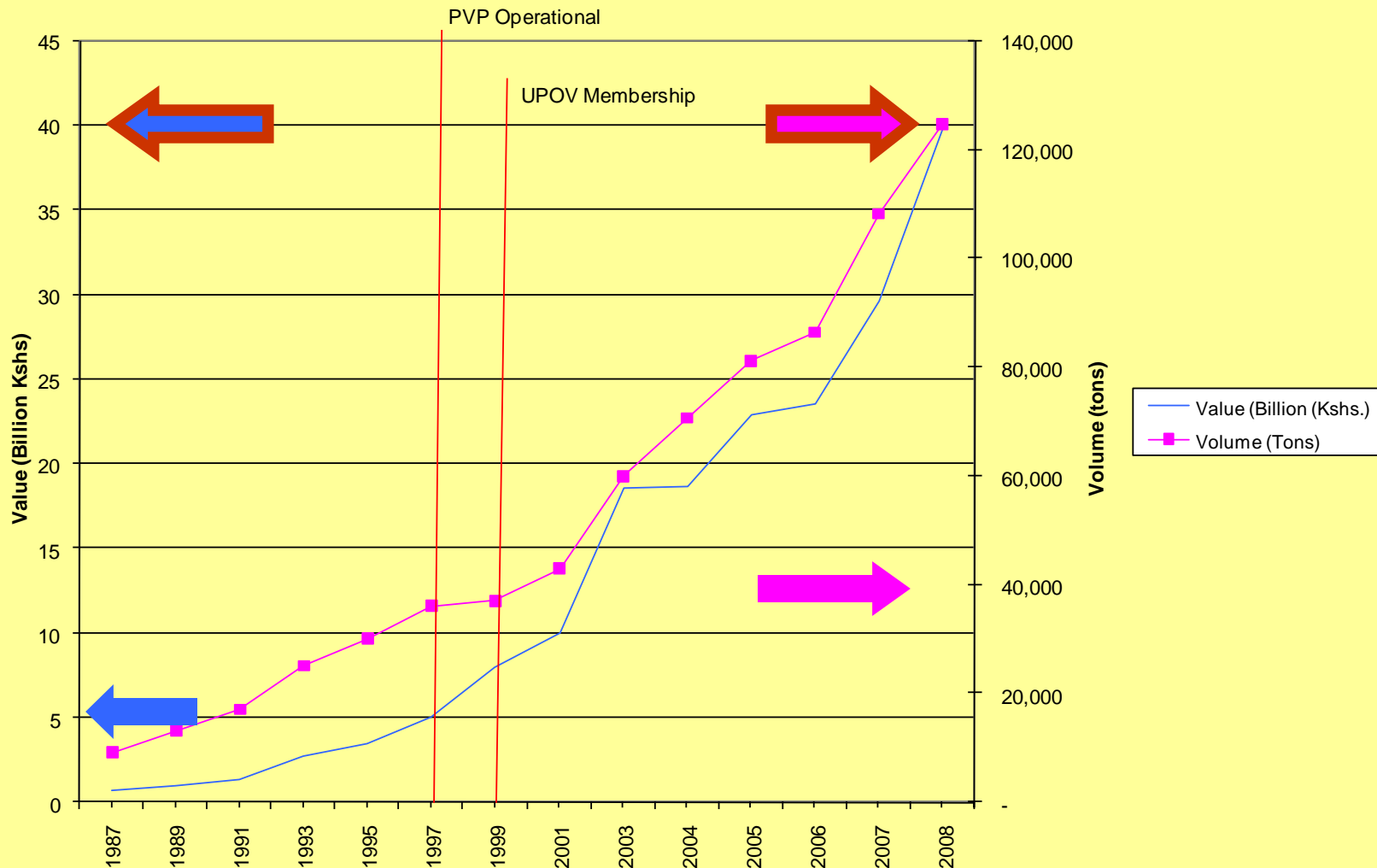


# Benefits of UPOV



# International Market Development

## Export of Kenyan Cut Flowers



# Improved Varieties

## 10 Year Report (Canada)

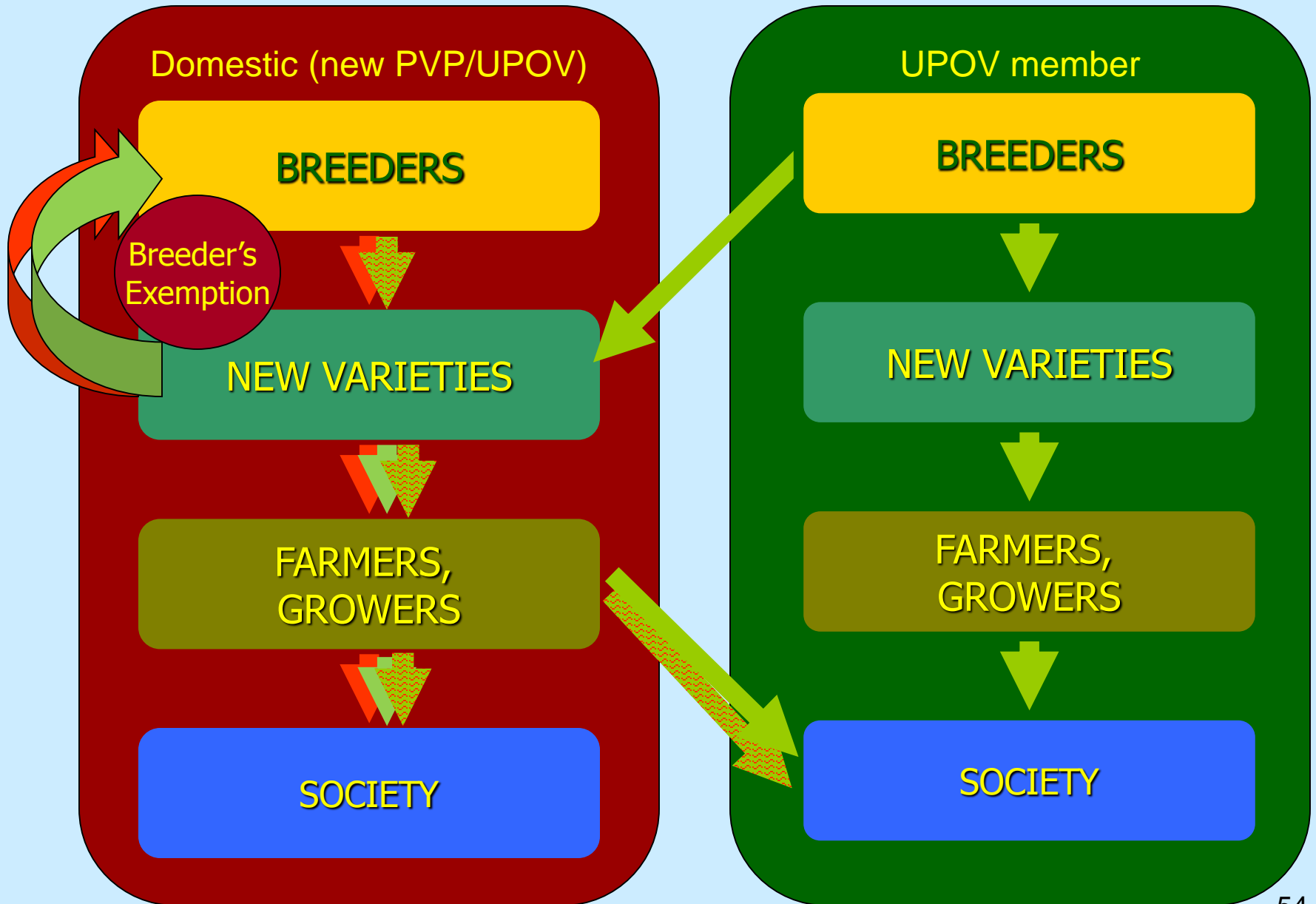
### Increased Access to Foreign Varieties

#### Potato Industry

- Potato producers unable to access to many foreign varieties before PBR Act
- In the first year 97% of potato applications originated from foreign breeders
- Processed potato net exports increased from \$213 million in 1992 to \$440 million in 1999 and \$714 million in 2007 (1992 \$)
- Increase in foreign collaborations & partnerships in potato industry

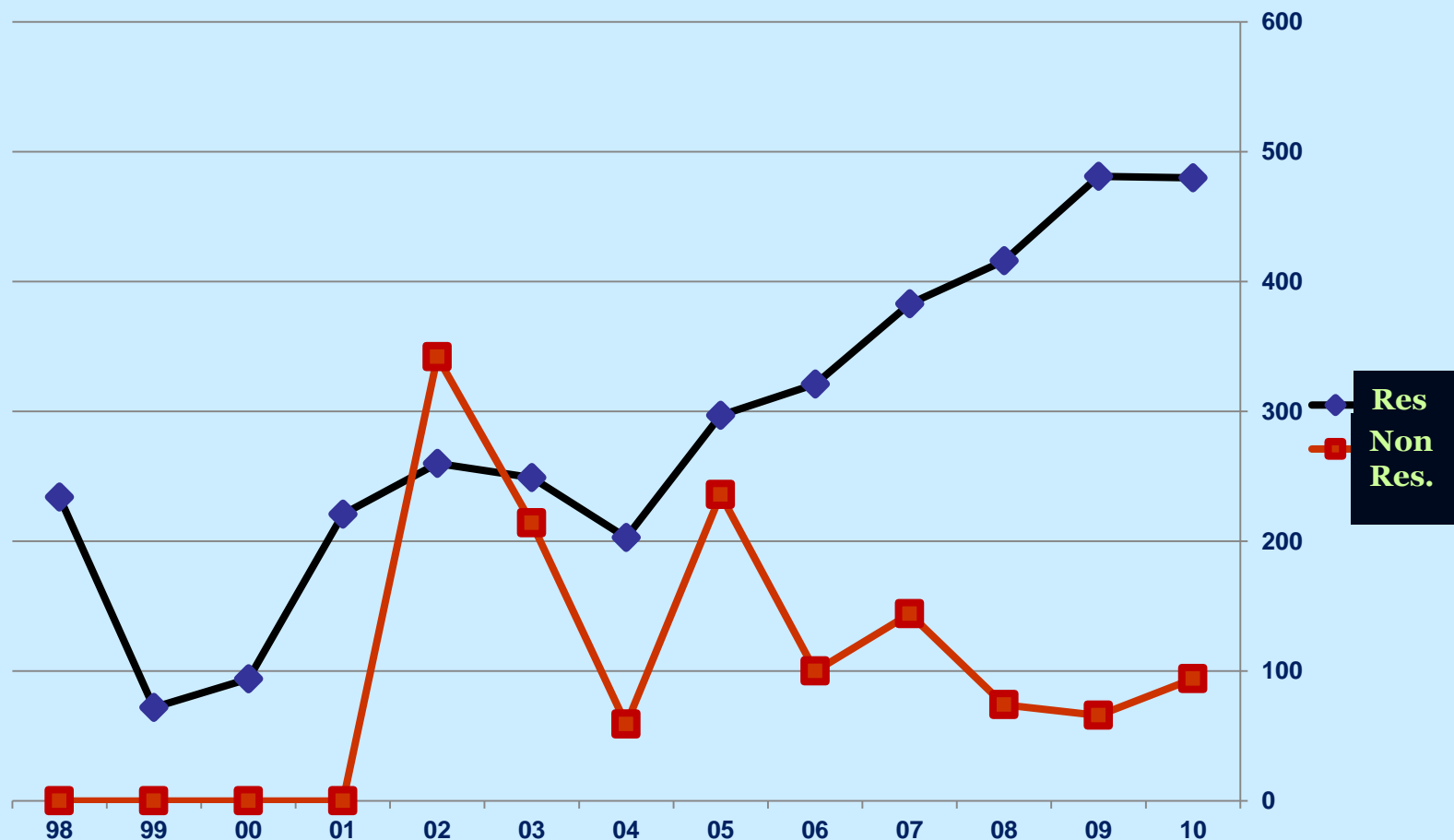


# Benefits of UPOV



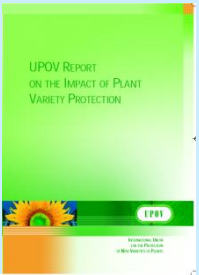


## Application Ratio of Residents/Non Res.



# Breeder's Exemption

## Republic of Korea



### Box 29

Korean rose variety "Red Angel", granted protection in 2003, was bred using the protected variety "Little Marble", developed in the Netherlands



Little Marble (Red variety)  
Developed in the Netherlands



Red Angel (Dark red variety)  
Developed at the Kyunggi Provincial Rural Development  
Administration  
Crossing of: Princess×Little Marble

# KSVS Symposium on Plant Variety Protection Seoul, Republic of Korea (September 3, 2015)

## Korean Rose Breeding Converts a Royalty Payer into a Receiver

Charlie Jeong/wonwoo trading

## Becoming Royalty Receiver

1. Korean pay rose royalty abroad about 1,040,000 plants in year 2014
2. GARES rose varieties are sold about million in year 2014
3. Korea change from royalty payer to royalty receiver

# Benefits of UPOV

