

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

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

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Vice Secretary-General, UPOV*

*Brunei Darussalam
December 5, 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?

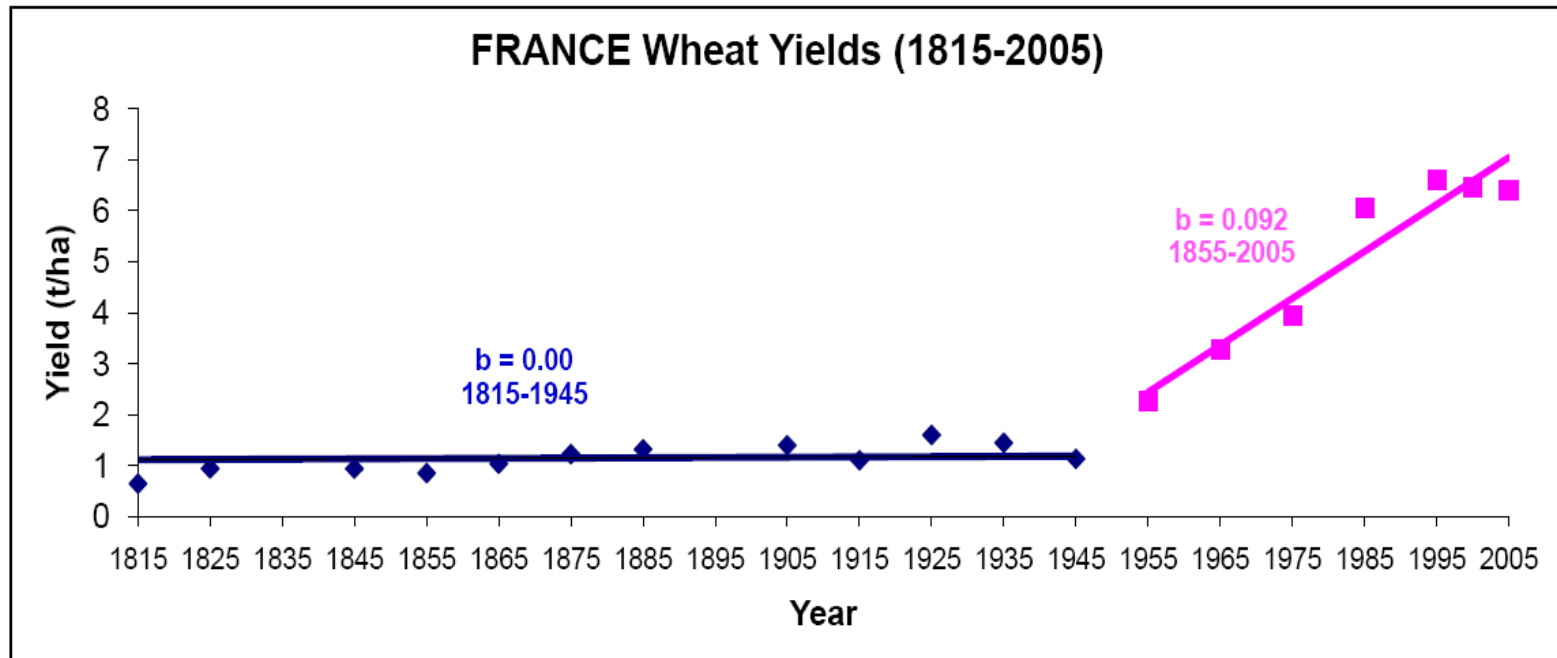


WHEAT

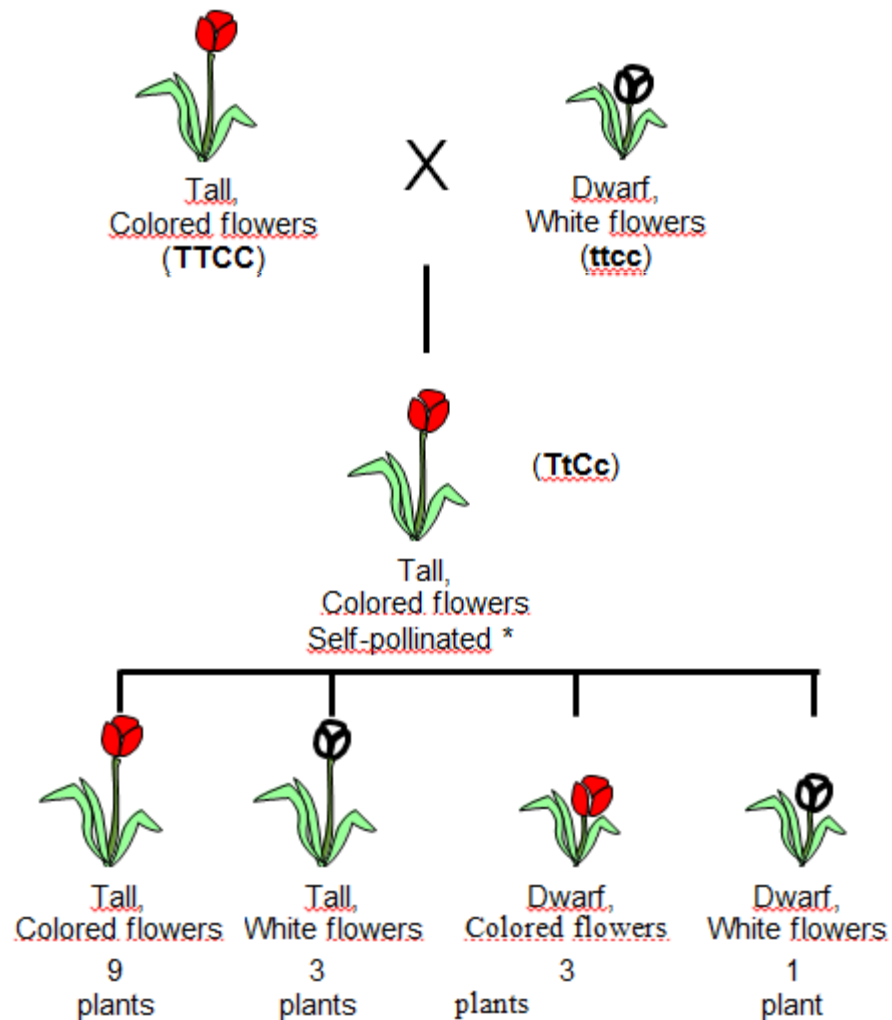




Evolution of Wheat yield in France



Phenotypic expression



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

Lodging



(Photo: iStockphoto.com/Ziva_K)

(Photo: BSPB)

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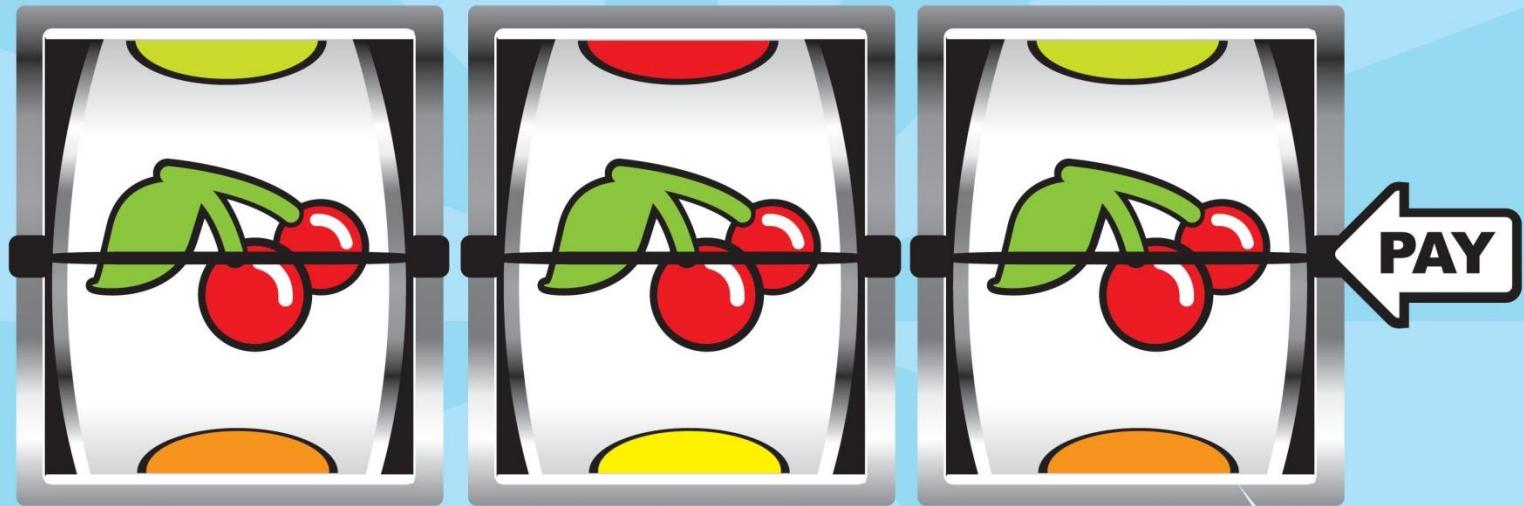
Yield: treated/untreated
Yield: early sown/late sown
Yield: light soil/heavy soil

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

Breadmaking quality
Biscuit making quality
Feed quality





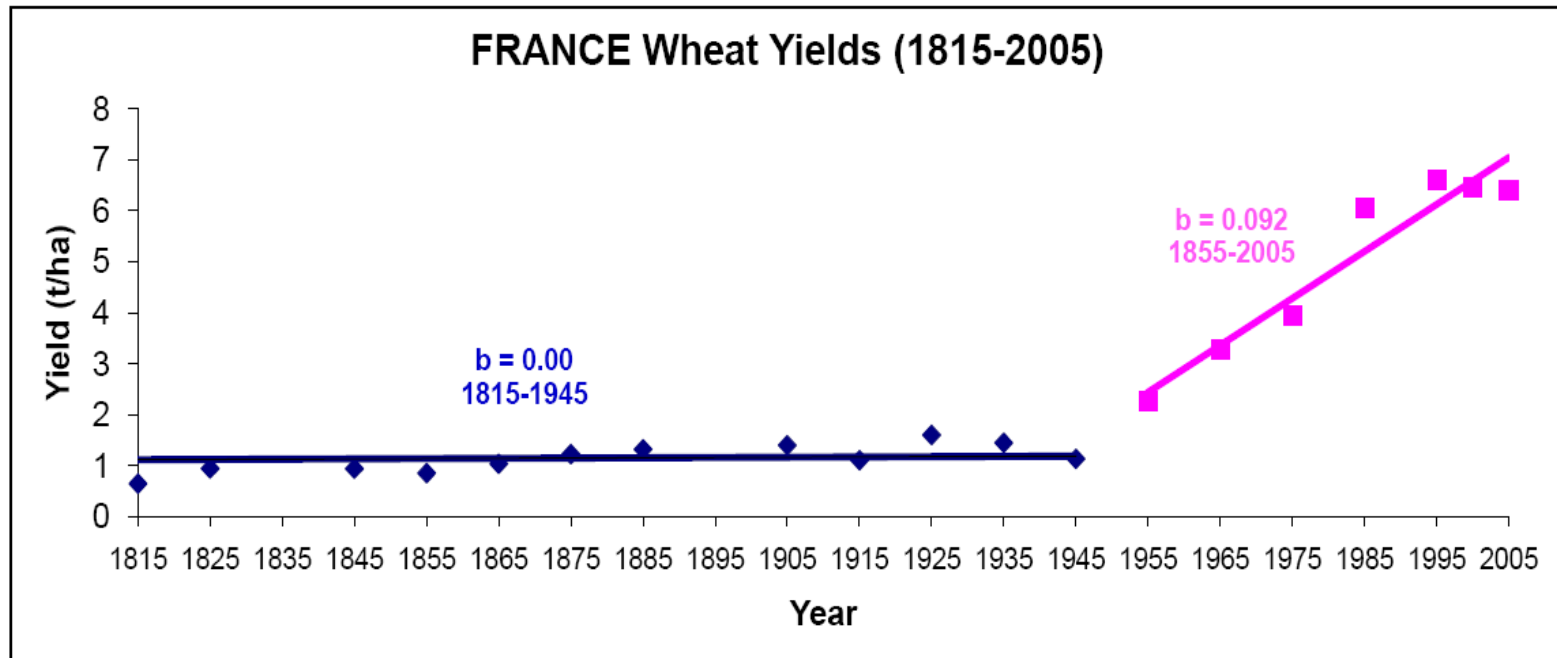
(Illustration: iStockphoto.com/jahachey)

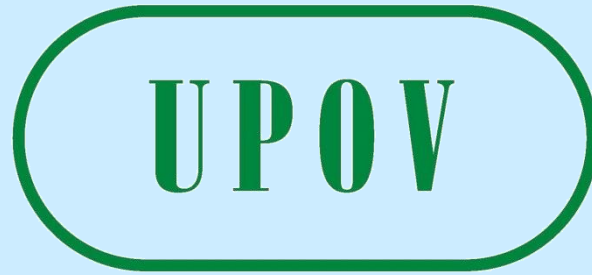


(Photo: iStockphoto.com/julos)



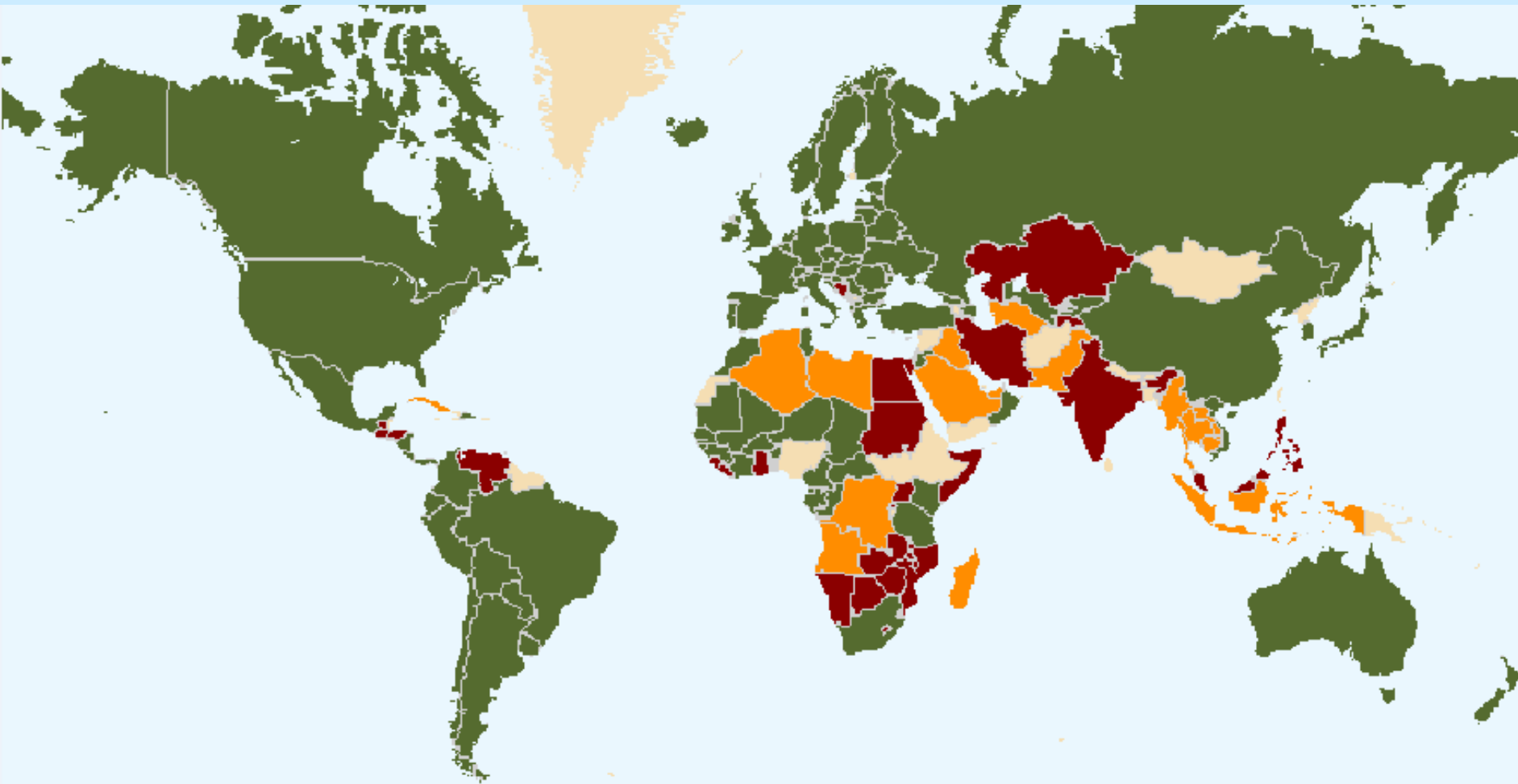
Evolution of Wheat yield in France





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”



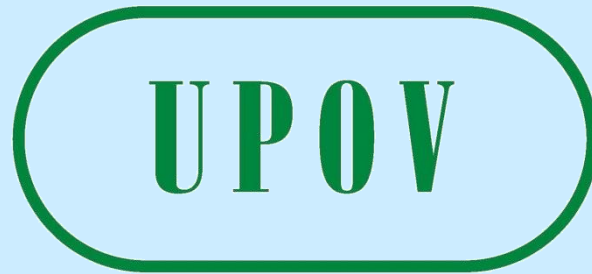
Members of UPOV (74)

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?

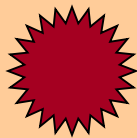


UPOV MISSION STATEMENT

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



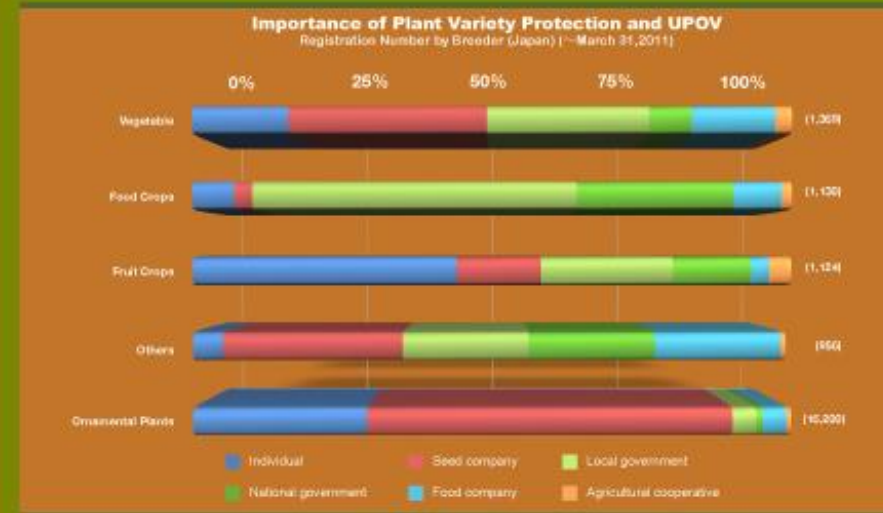
Plant Breeder's Right (PBR)



- 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

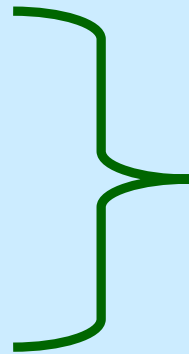
Criteria to be satisfied

- NOVELTY

- DISTINCTNESS

- UNIFORMITY

- STABILITY



“DUS”

...

CONDITIONS FOR GRANTING A BREEDER'S RIGHT

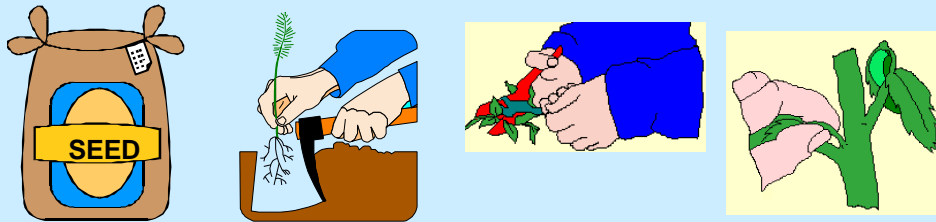
... Other requirements

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

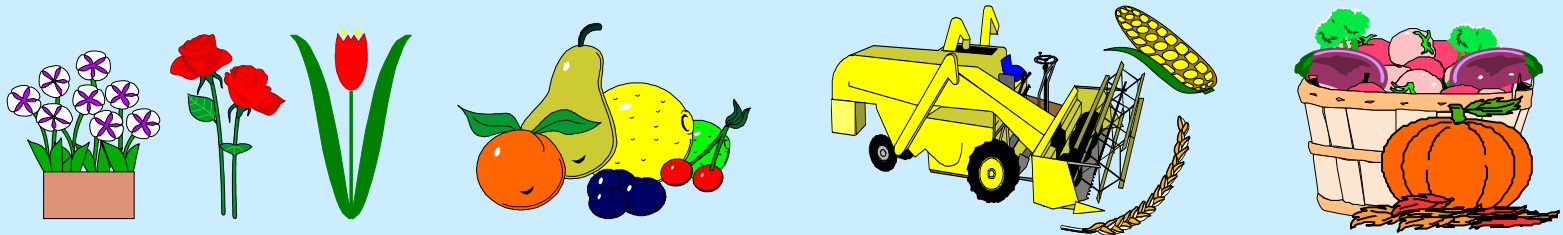
NO OTHER CONDITIONS!

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

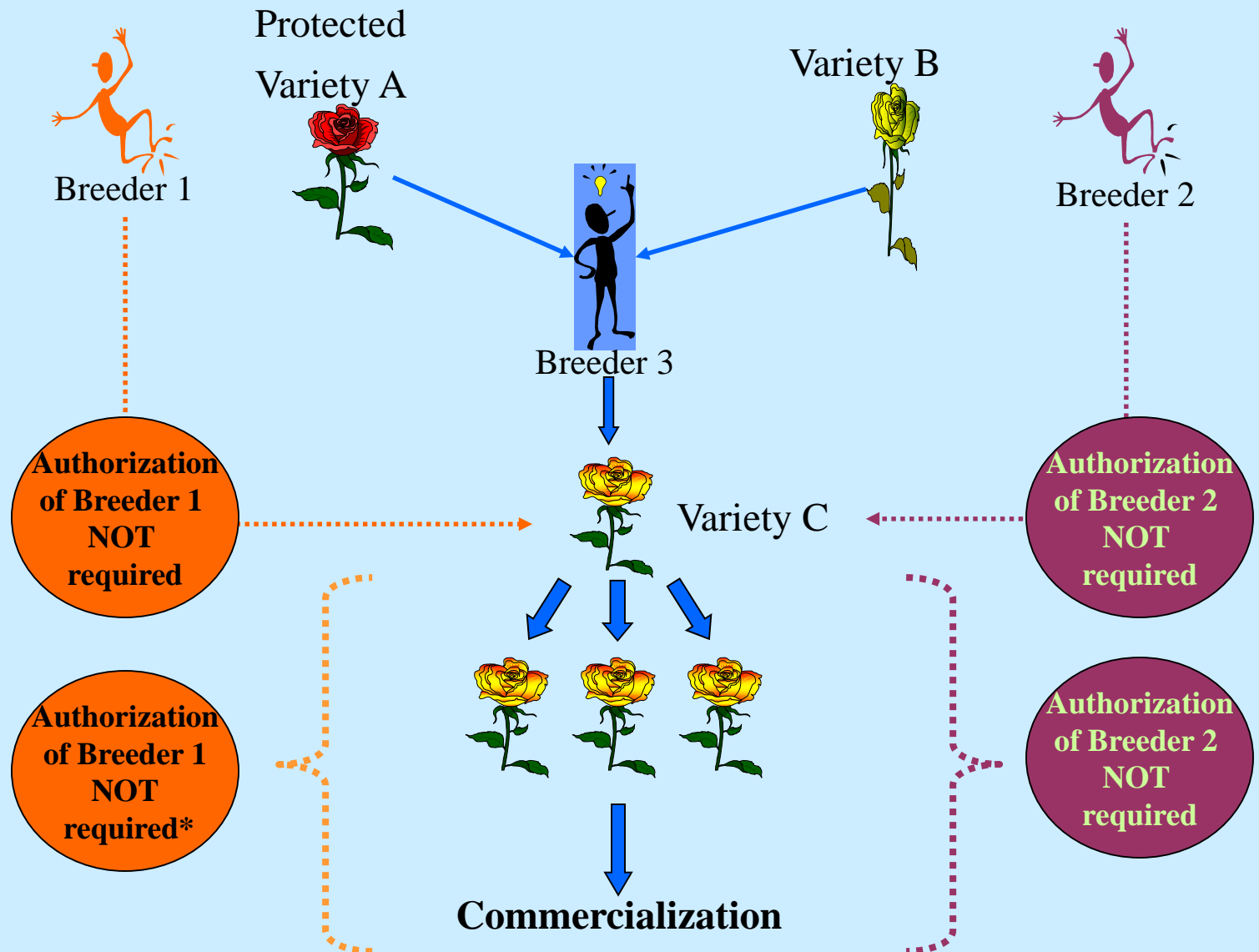
Acts done:

- 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
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Optional

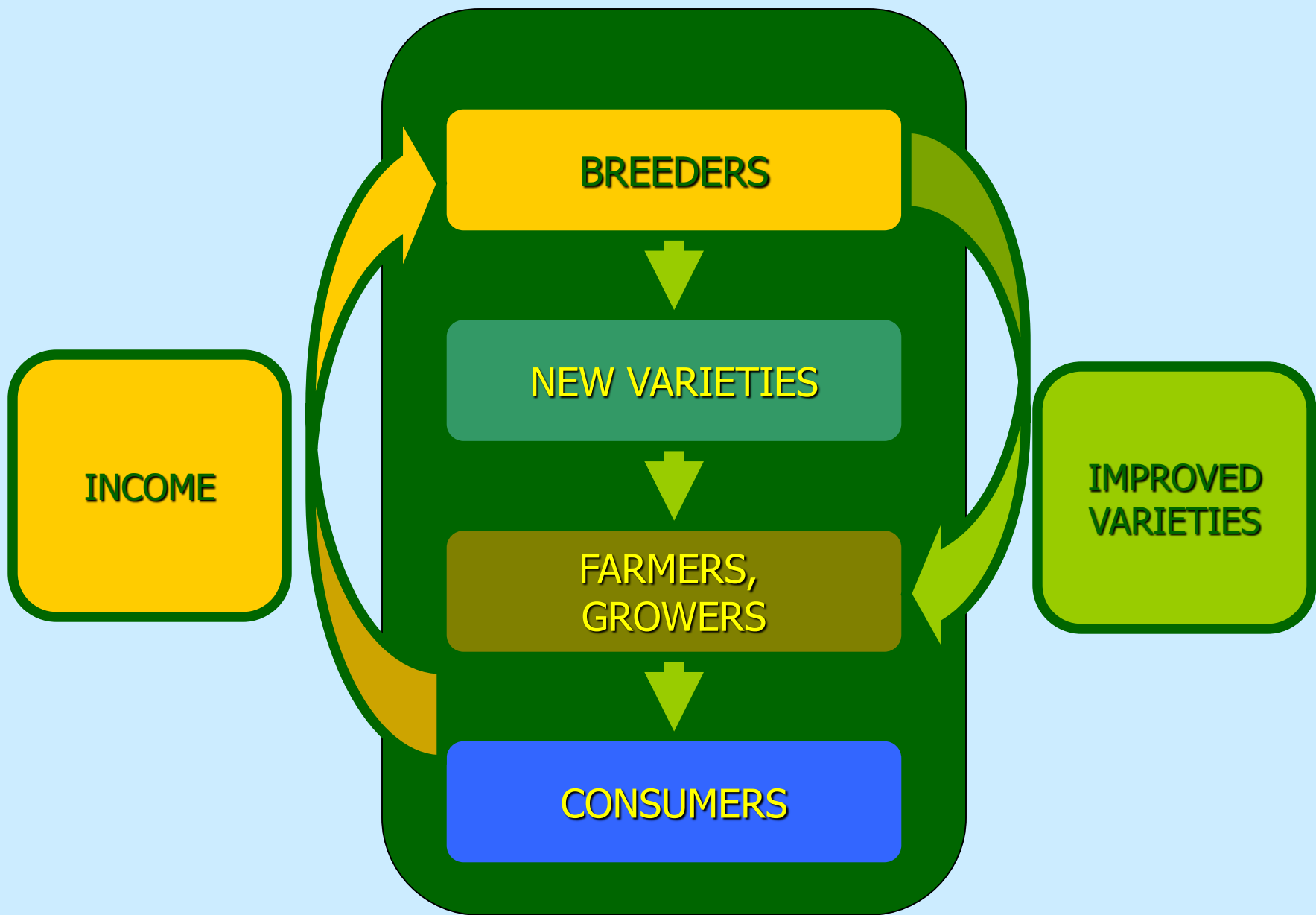
Farm-saved seed

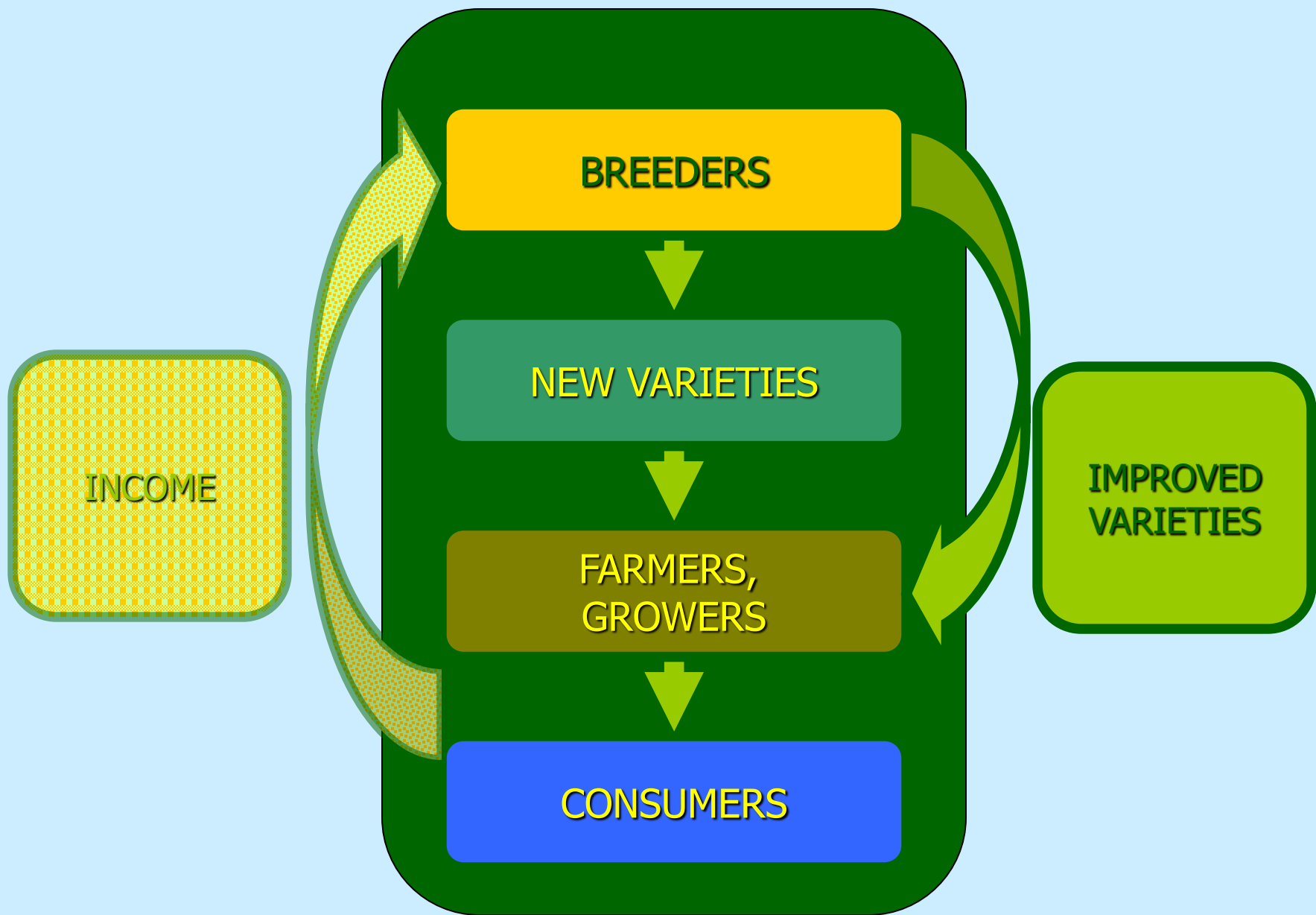
EXCEPTIONS TO THE BREEDER'S RIGHT

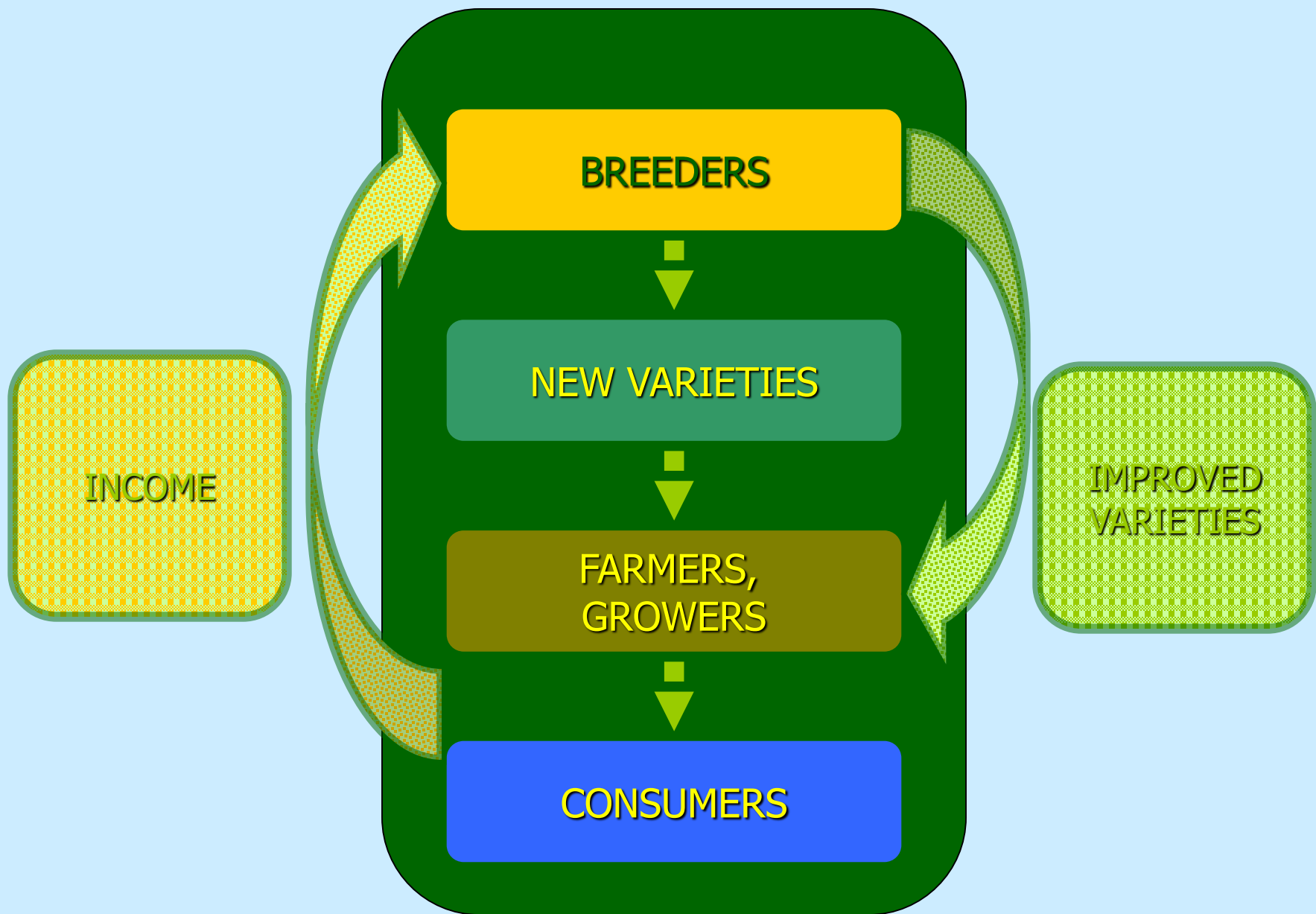
A Contracting Party may restrict breeder's rights in order **to permit farmers to use:**

- 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

- ***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



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*Business Development and
Intellectual Property Manager*

UC Davis InnovationAccess

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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

- » 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

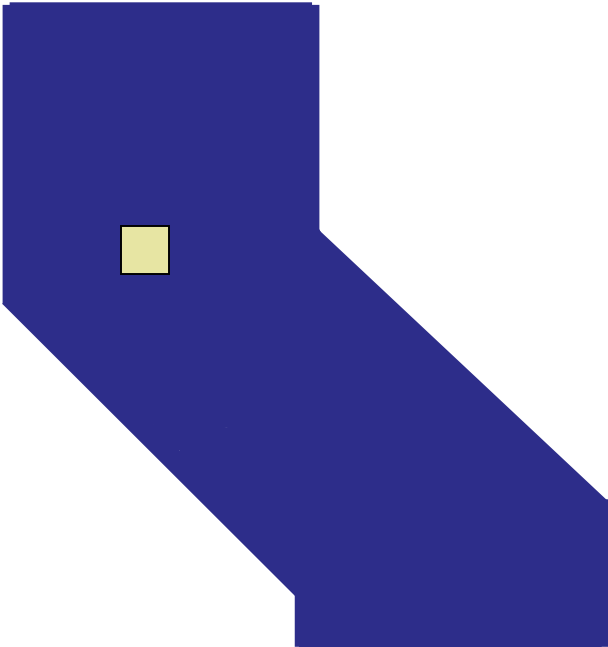
\$16.50/1000 plants royalty¹

United States

\$9.00/1000 plants royalty

California

\$8.00/1000 plants royalty



¹royalty 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



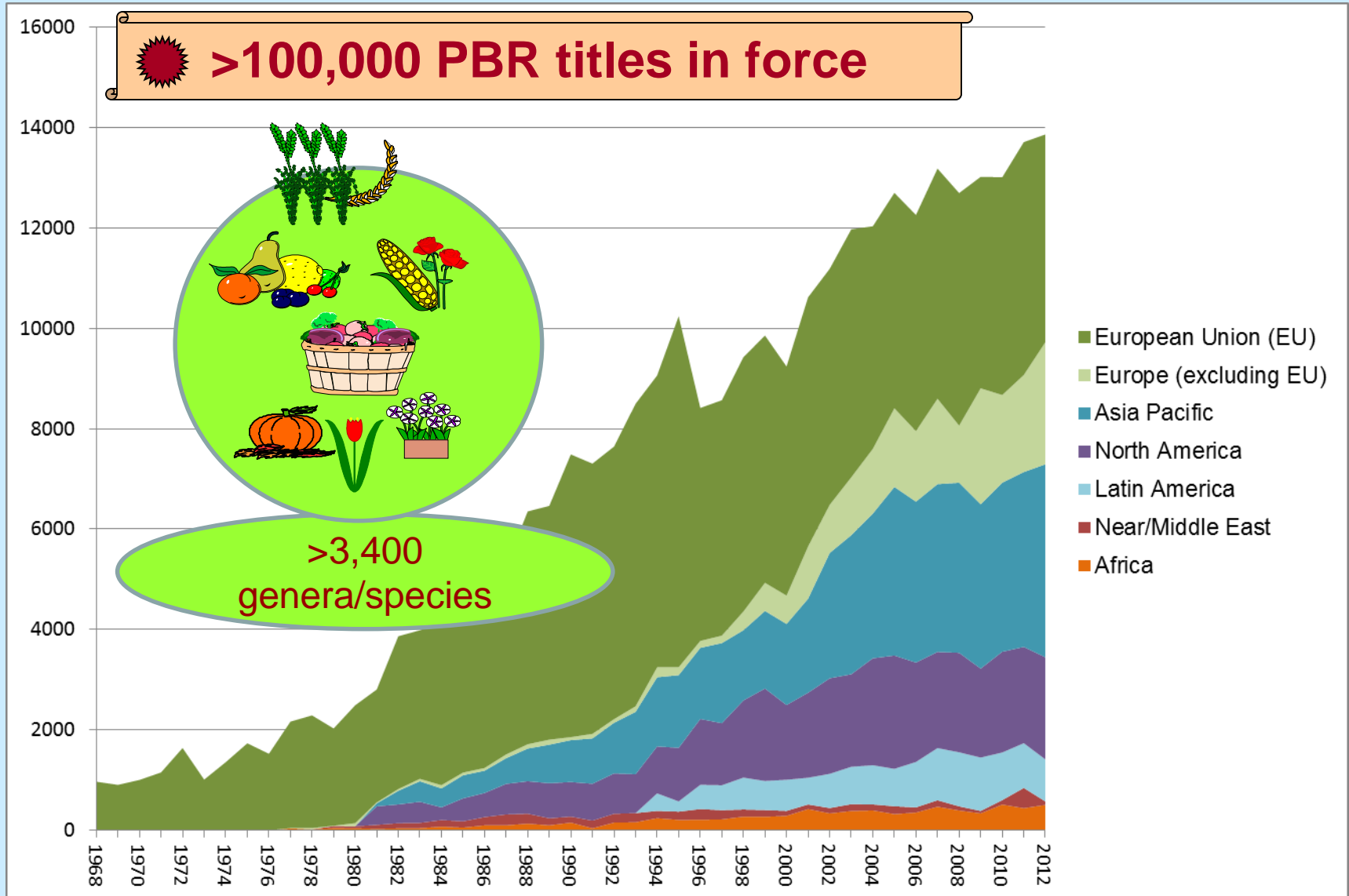
Final Evaluation



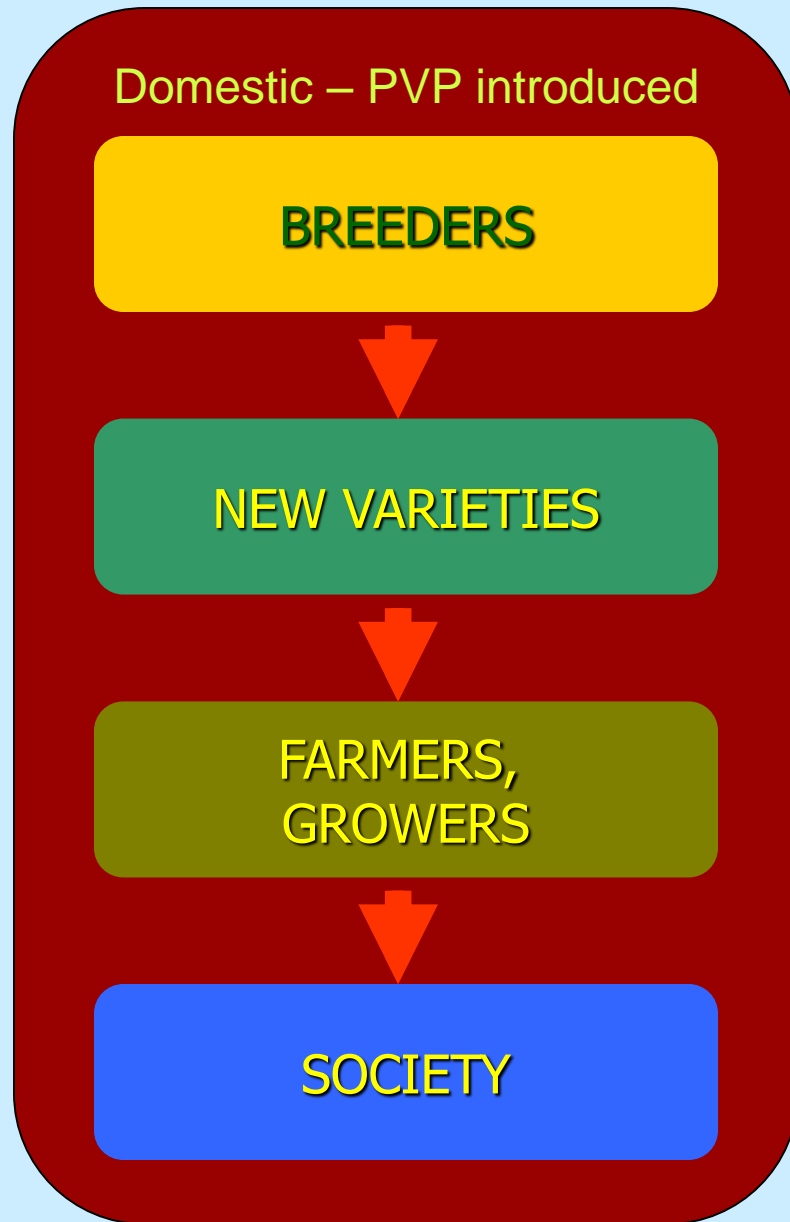
Maintenance breeding,
Basic seed production,
PVR protection,
Variety representation in
Switzerland, in Europe and
worldwide

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

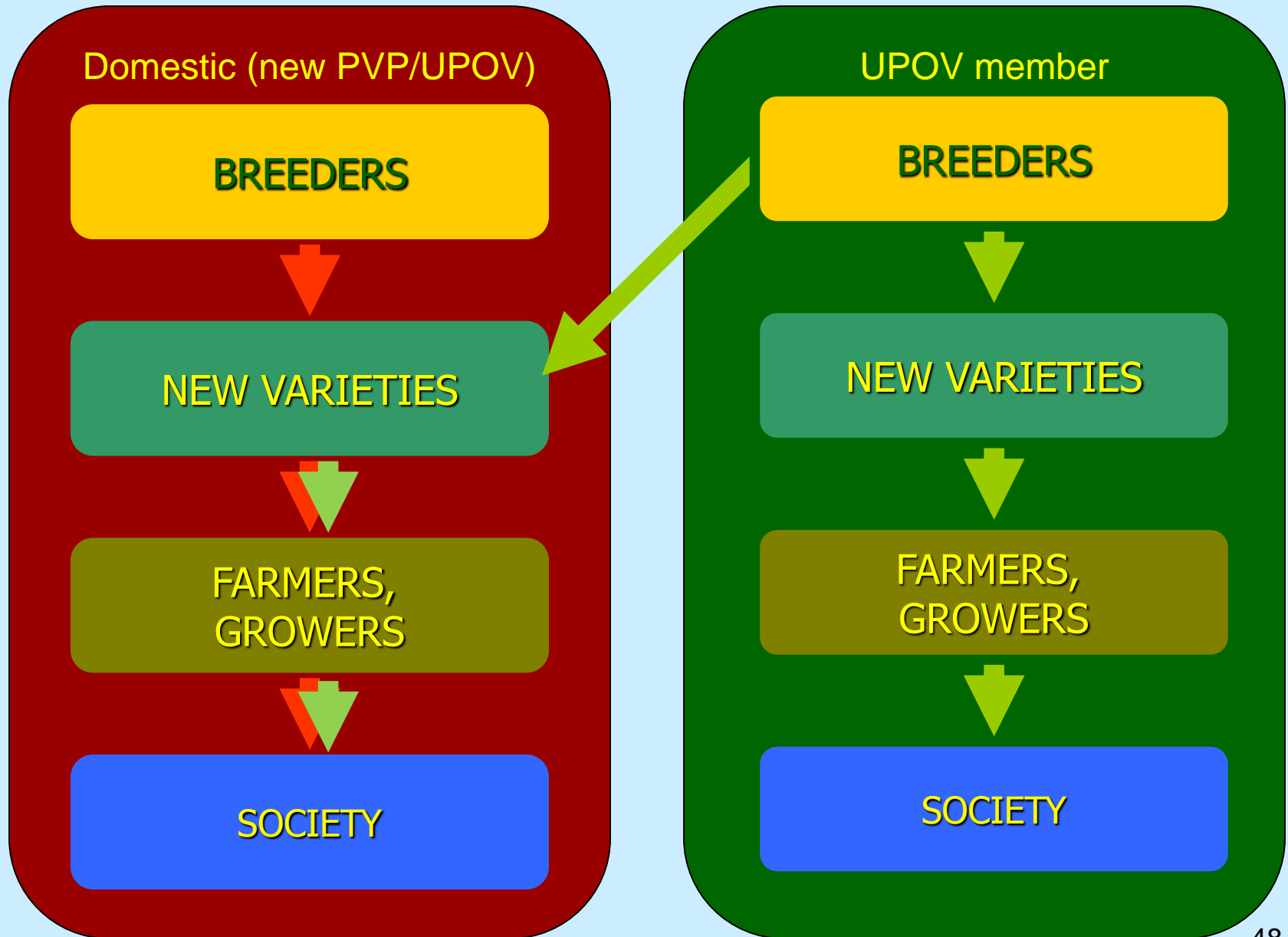
Applications for Plant Breeders' Rights



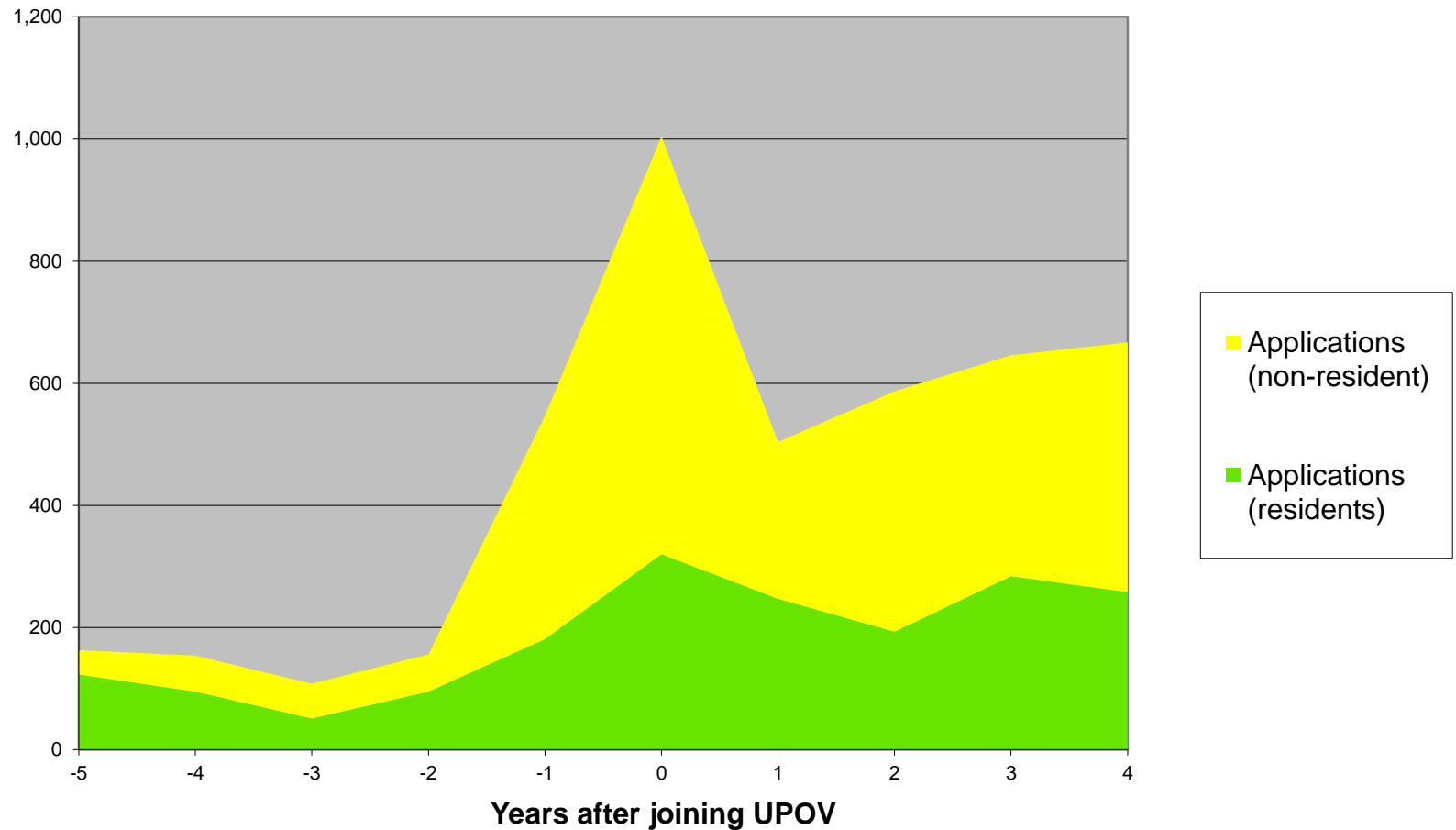
Benefits of UPOV: the International Dimension



Benefits of UPOV



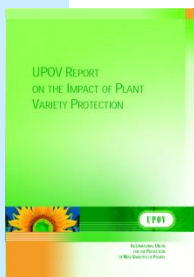
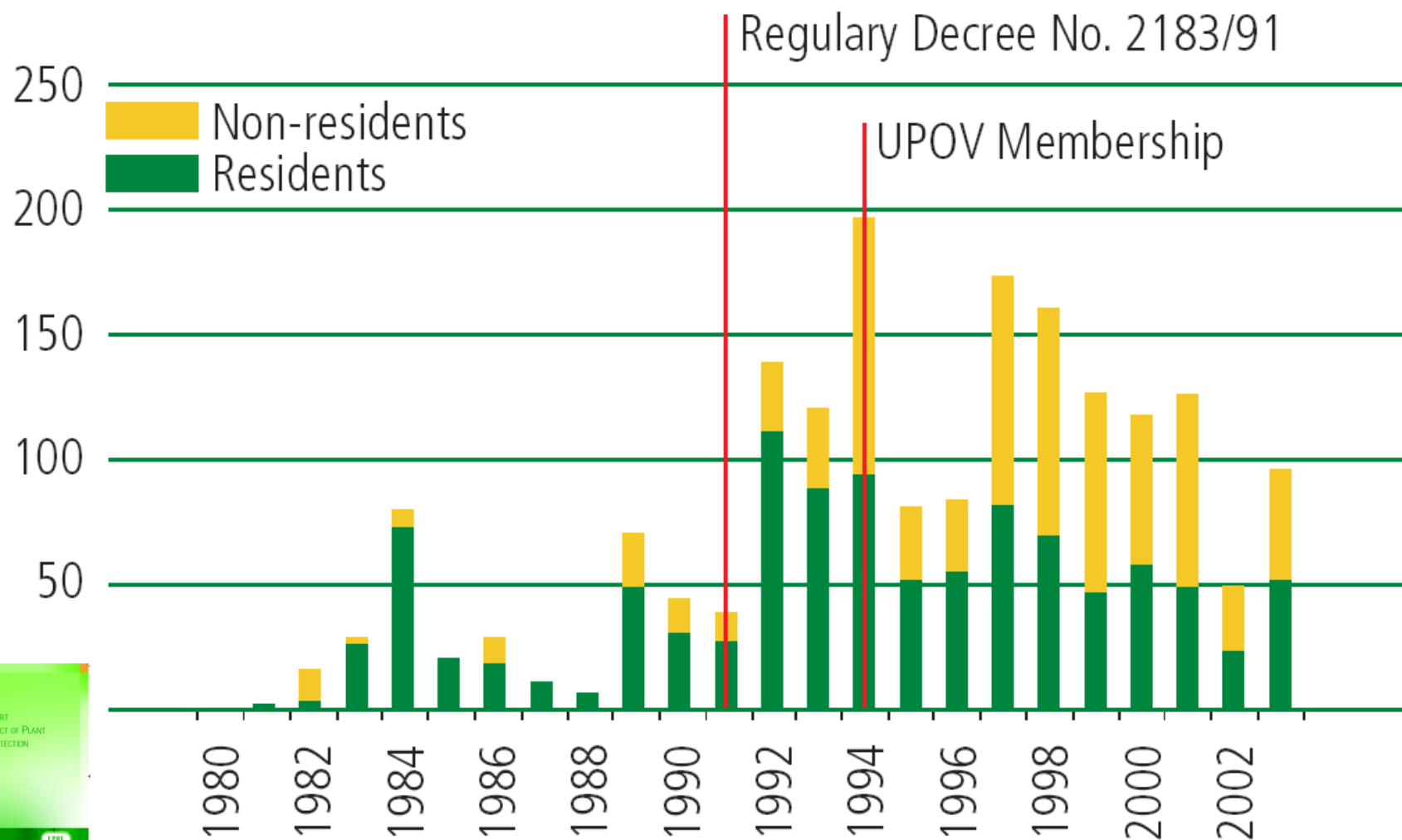
Latin America Countries acceding to UPOV between 1994 & 2000



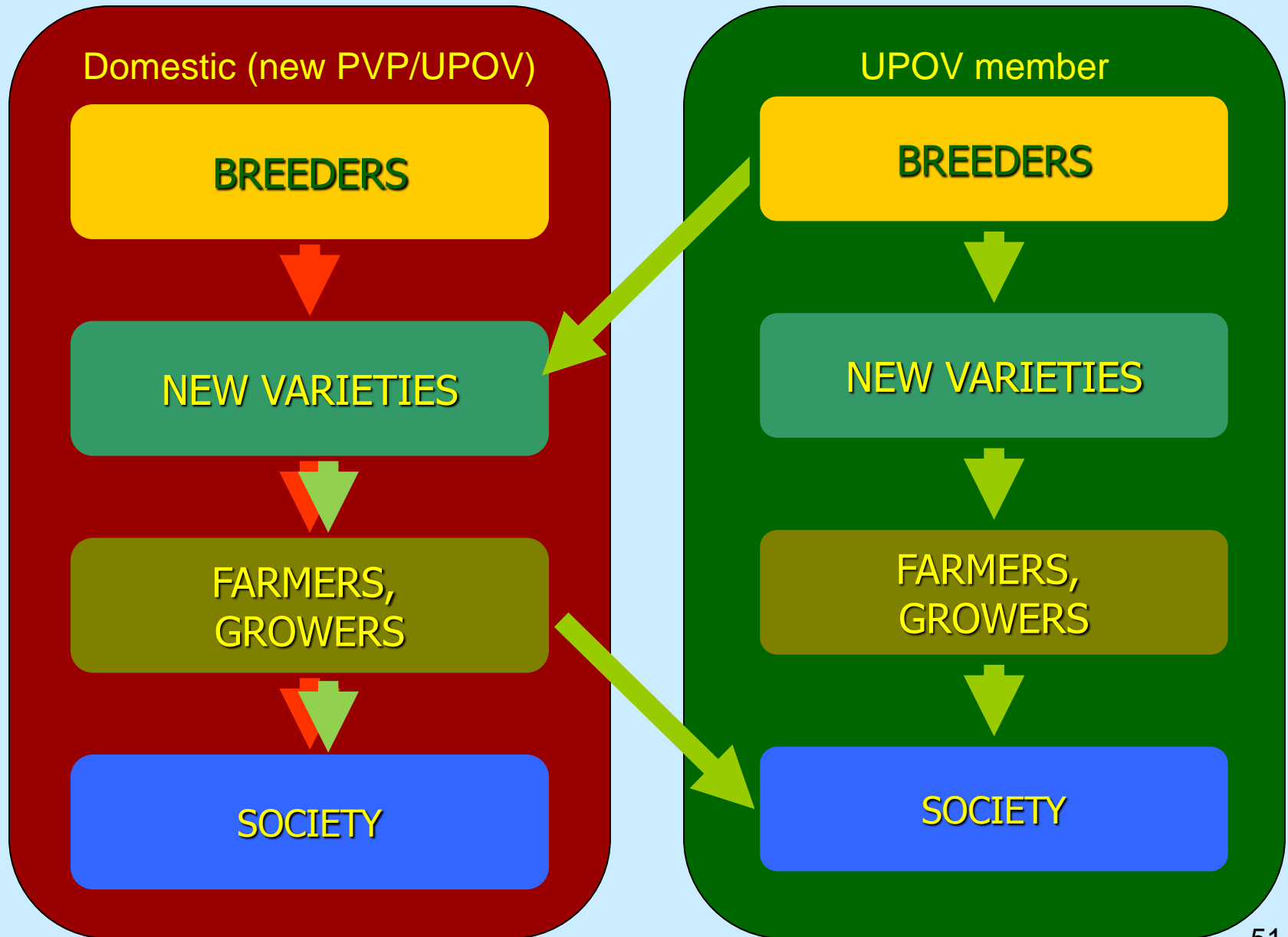
Foreign New Varieties



Figure 13. Argentina: Number of Titles Granted

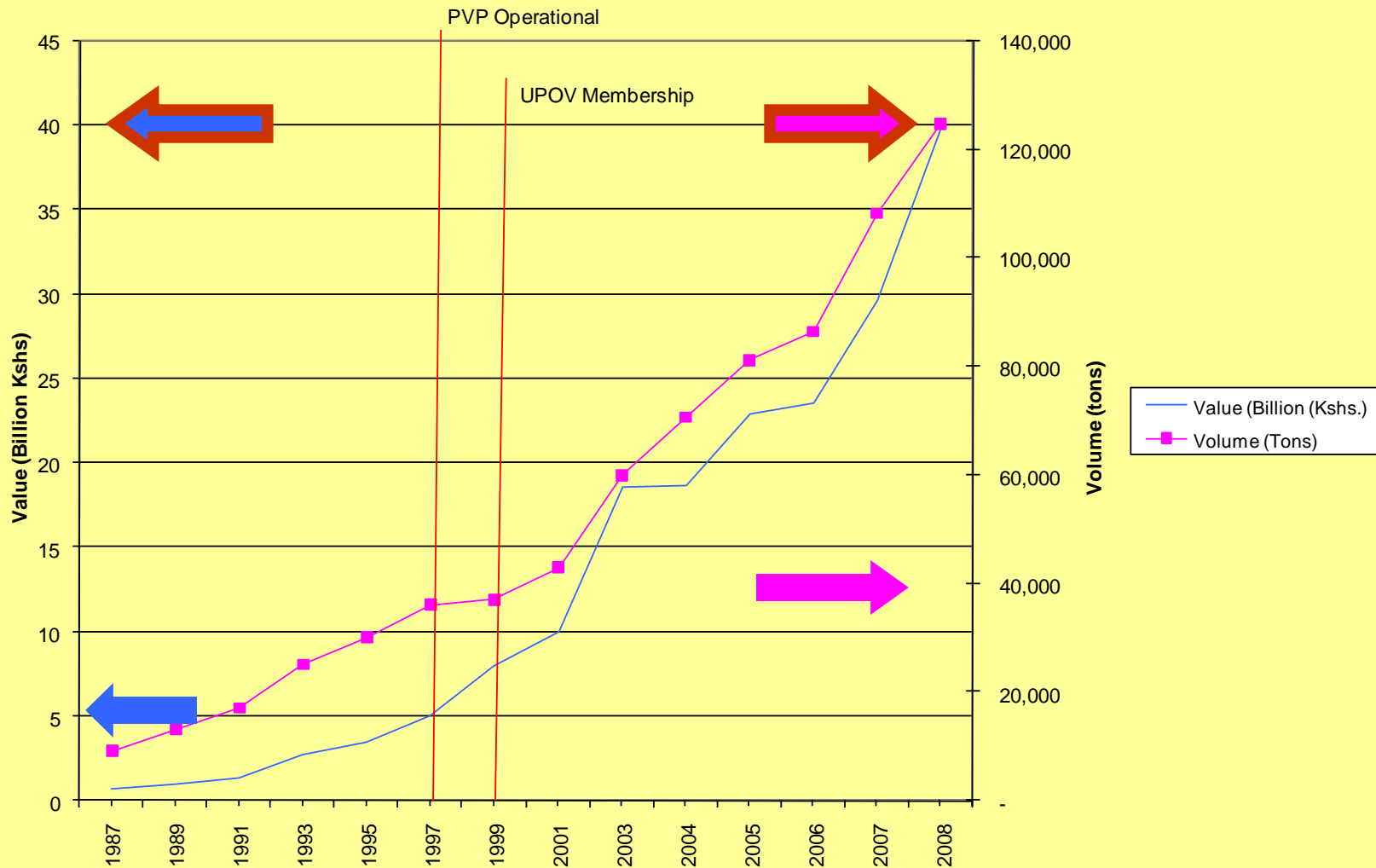


Benefits of UPOV



International Market Development

Export of Kenyan Cut Flowers



Improved Varieties

10 Year Report (Canada)

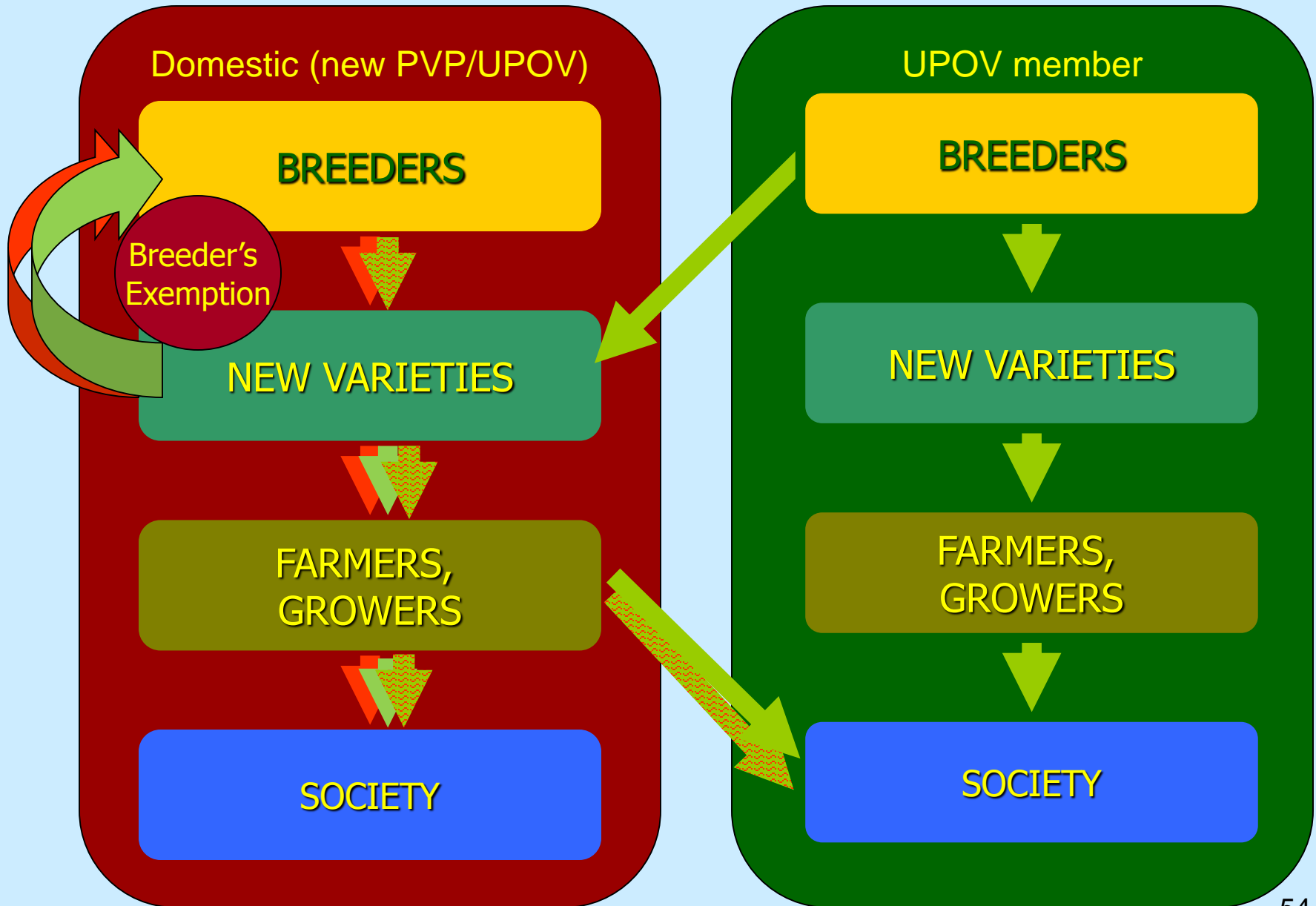
Increased Access to Foreign Varieties

Potato Industry

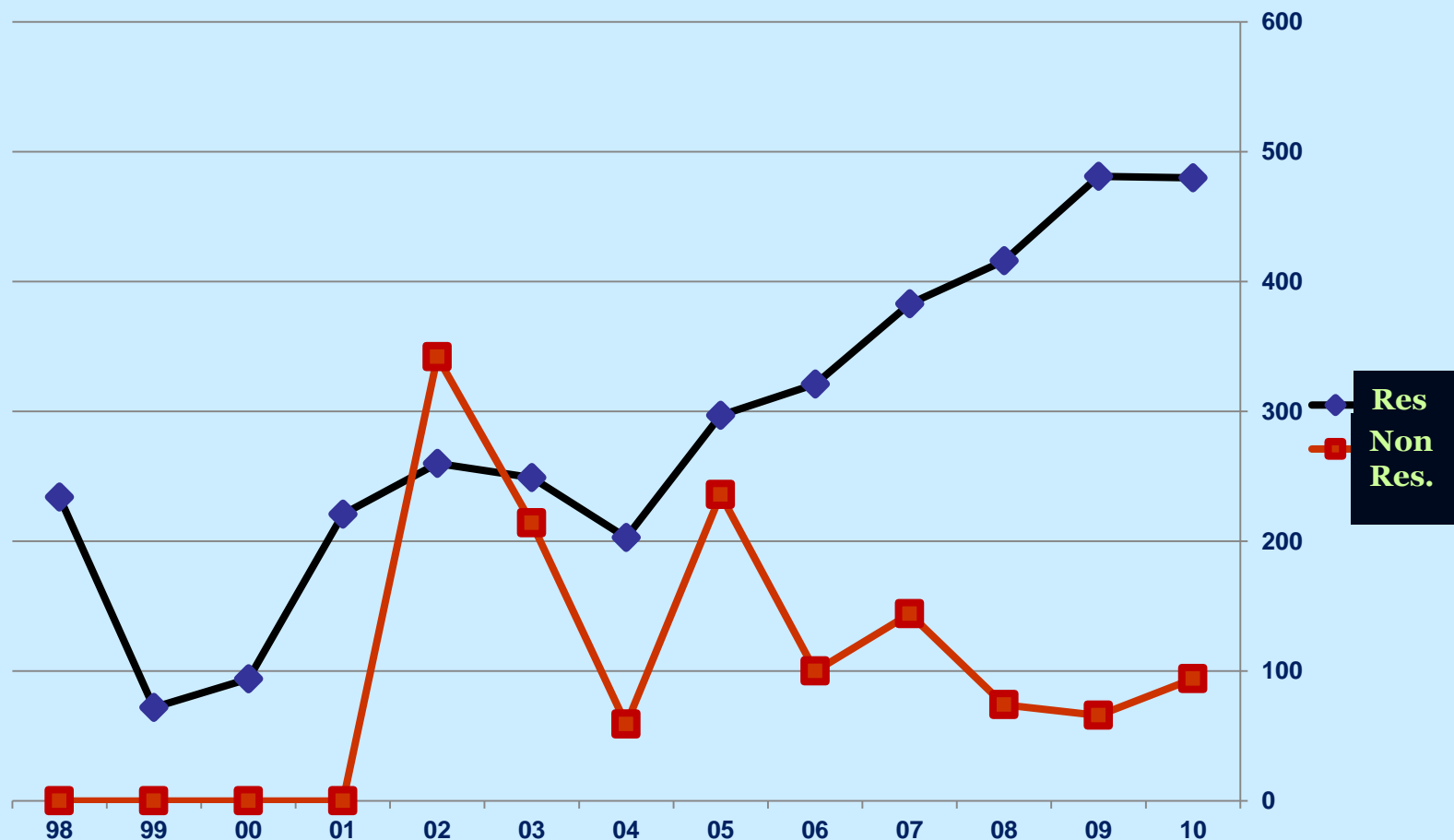
- Potato producers unable to access to many foreign varieties before PBR Act
- In the first year 97% of potato applications originated from foreign breeders
- Processed potato net exports increased from \$213 million in 1992 to \$440 million in 1999 and \$714 million in 2007 (1992 \$)
- Increase in foreign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



Benefits of UPOV

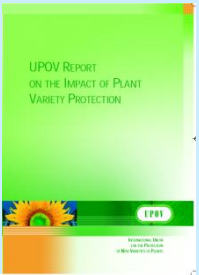


Application Ratio of Residents/Non Res.



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)

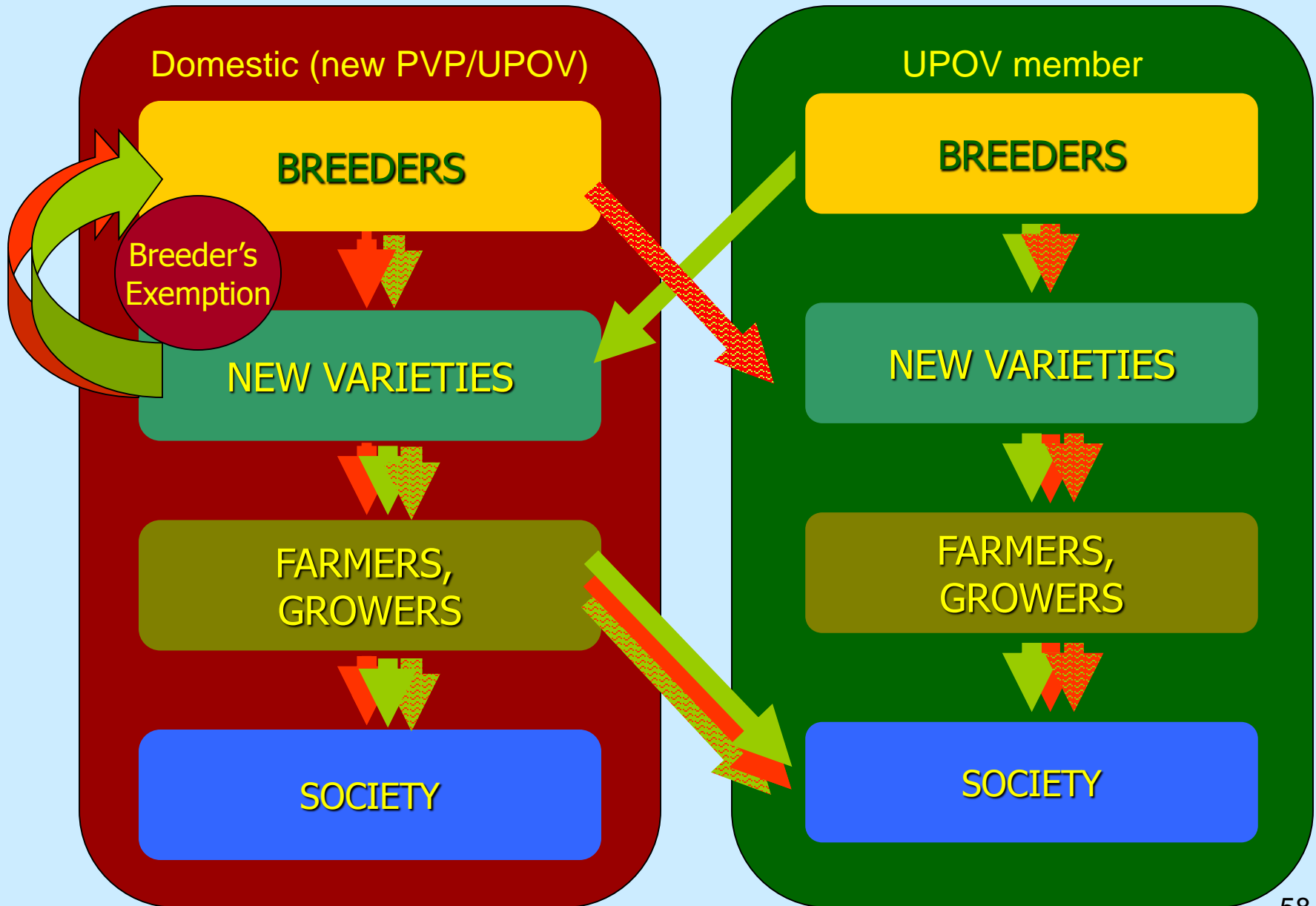
Korean Rose Breeding Converts a Royalty Payer into a Receiver

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





(Photo: iStockphoto.com/LawrenceKarn)