

**Symposium on Plant Variety Protection**  
**Future Strategy**  
**for Enhancing the Effectiveness of the PVP System**

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

**Peter Button (Vice Secretary-General, UPOV)**

**Seoul, July 13, 2011**

# PREVIEW

- 1. Introduction to UPOV**
- 2. Varieties and Plant Variety Protection**
- 3. Impact of PVP and UPOV membership**

# UPOV



**UPOV: INDEPENDENT INTERGOVERNMENTAL  
ORGANIZATION**

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

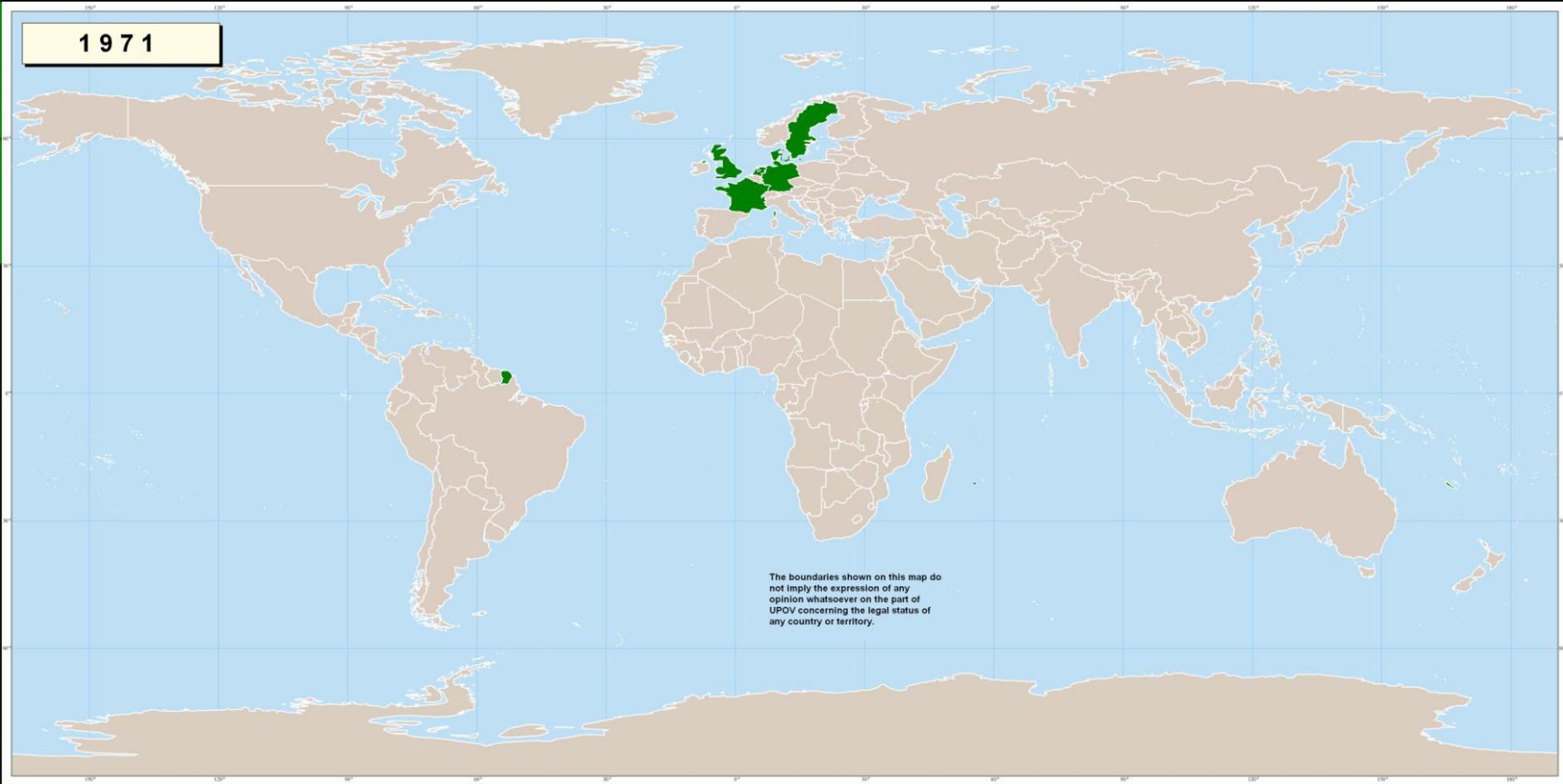
**established in 1961**

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

**Union internationale pour la  
protection des **ob**tentions **v**égétales**

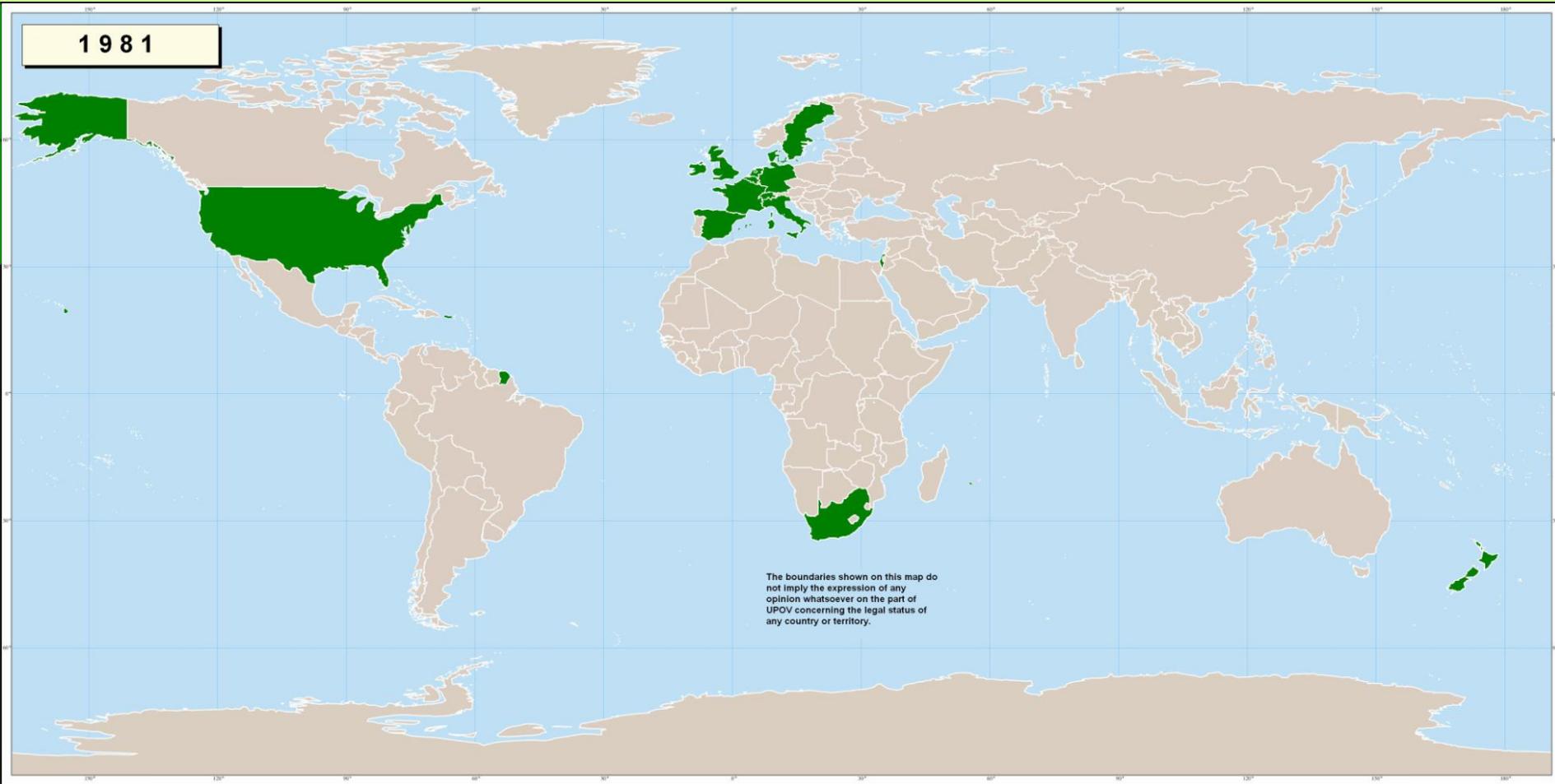
# 1971

1971



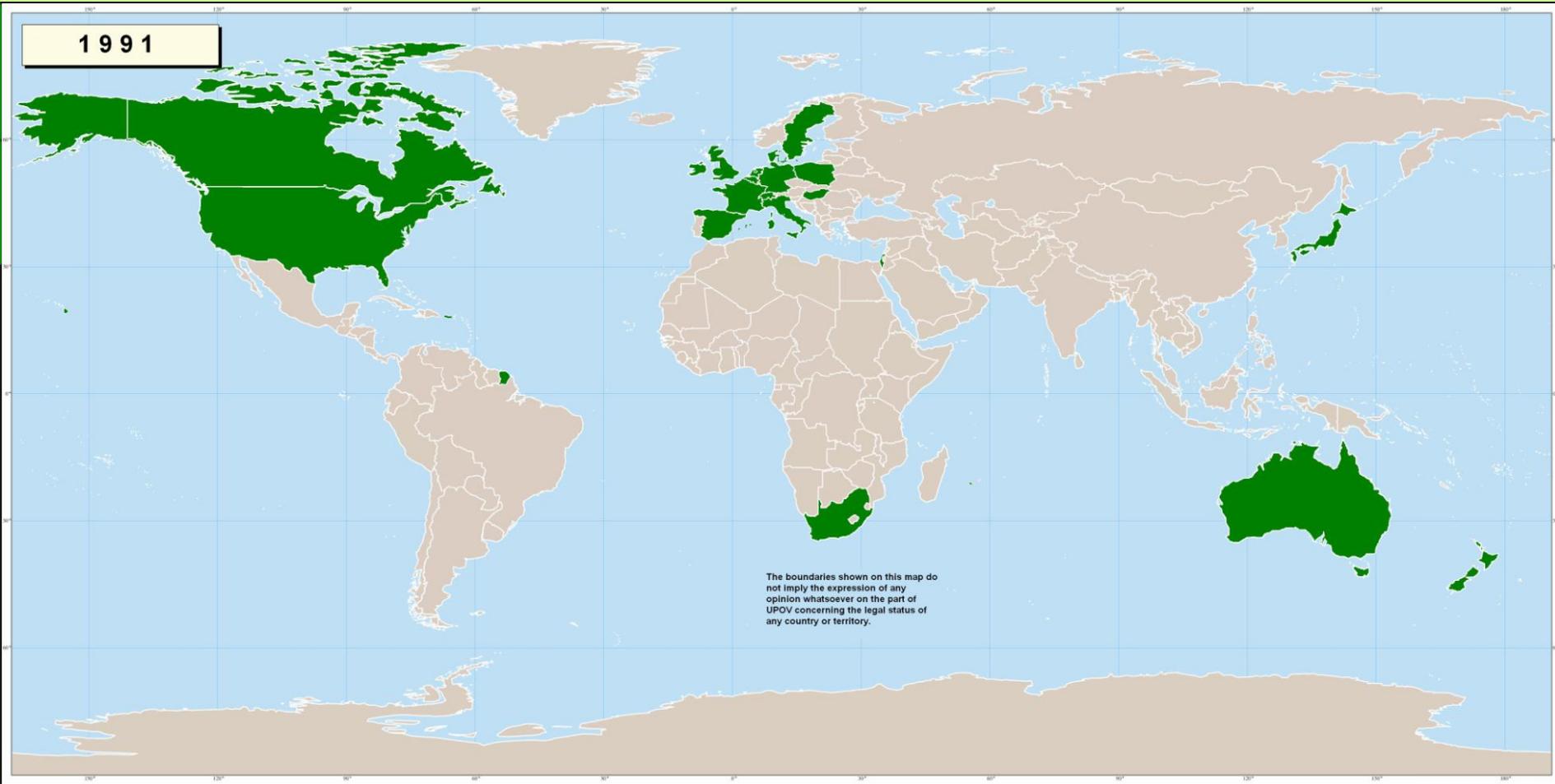
# 1981

1981



# 1991

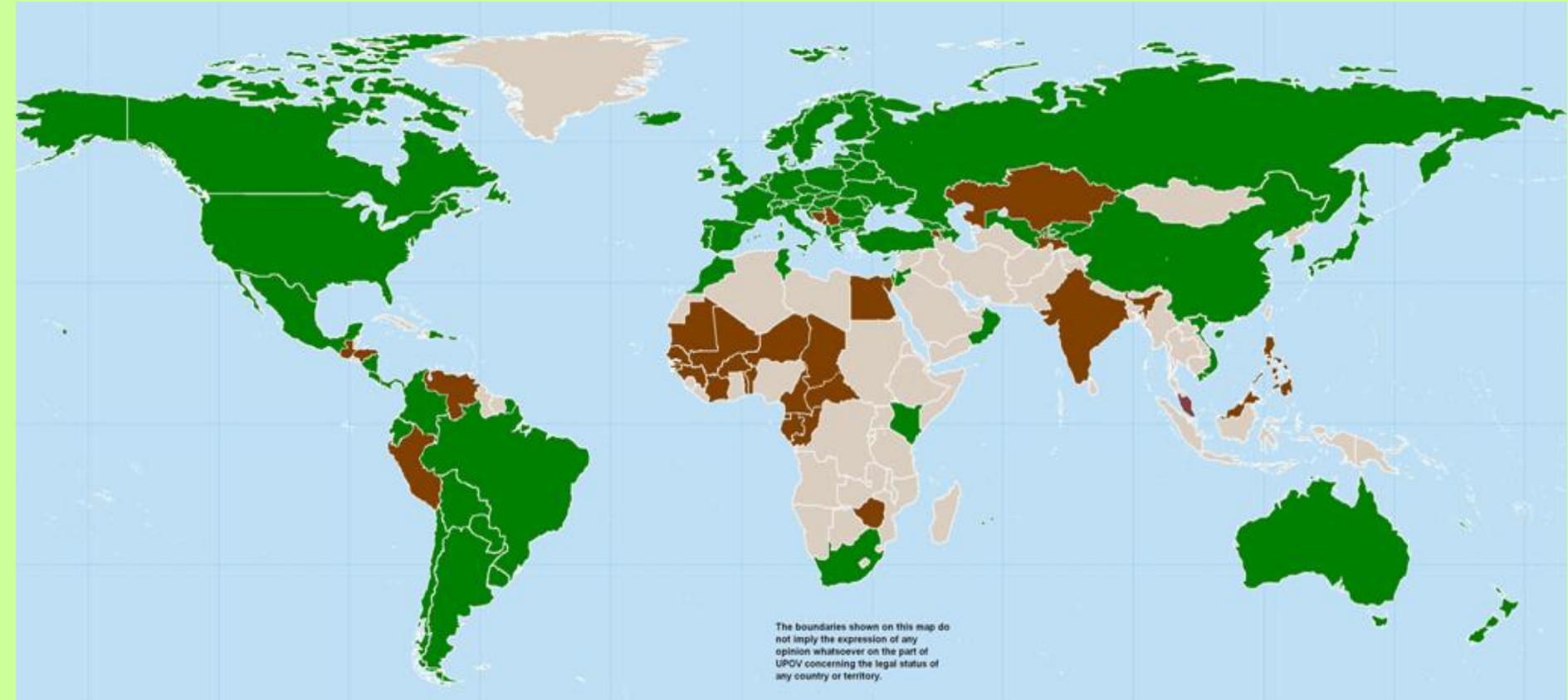
1991





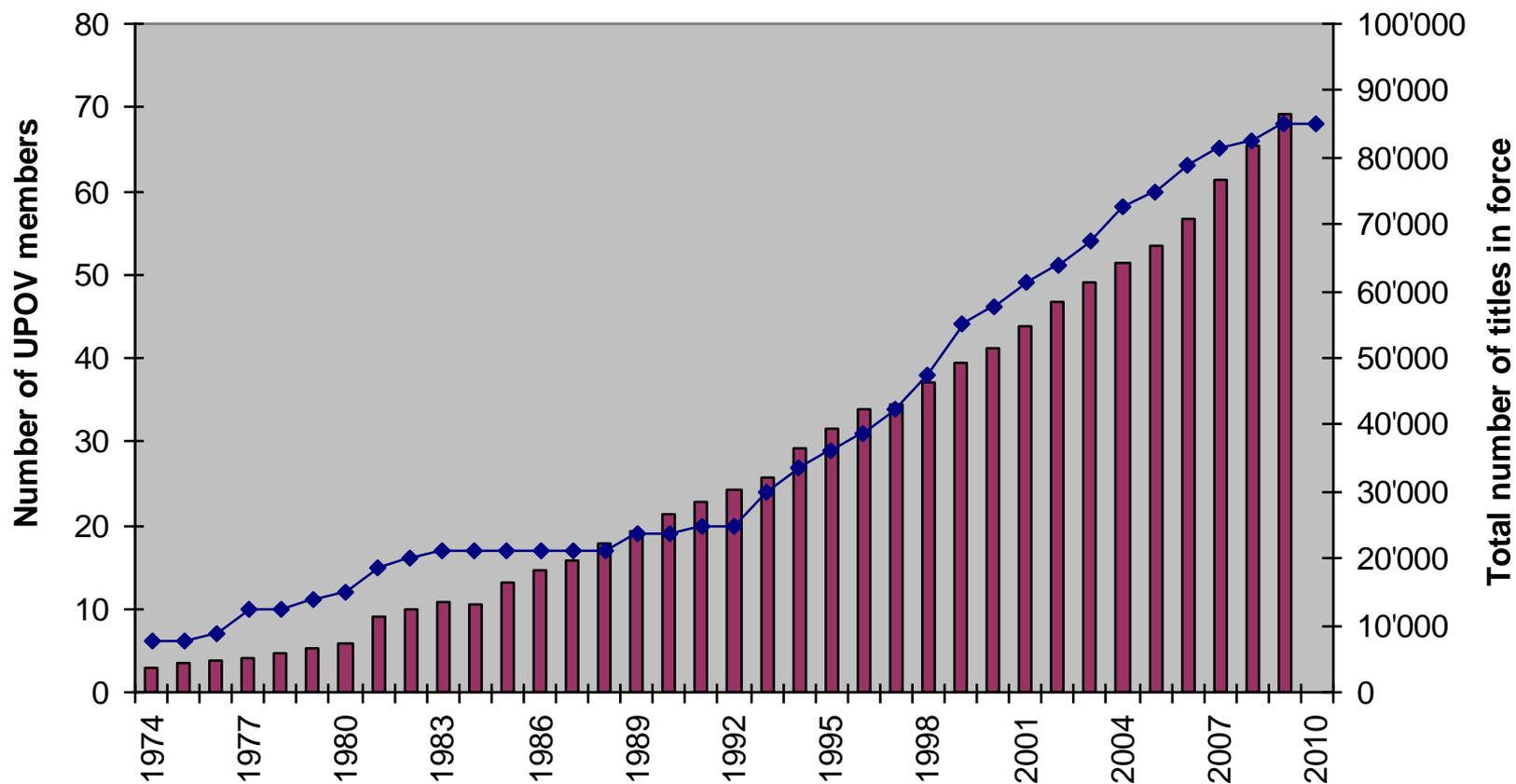
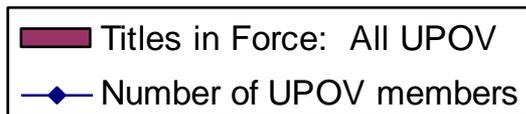


# 69 Members of UPOV (green) Initiating States & organizations (brown)

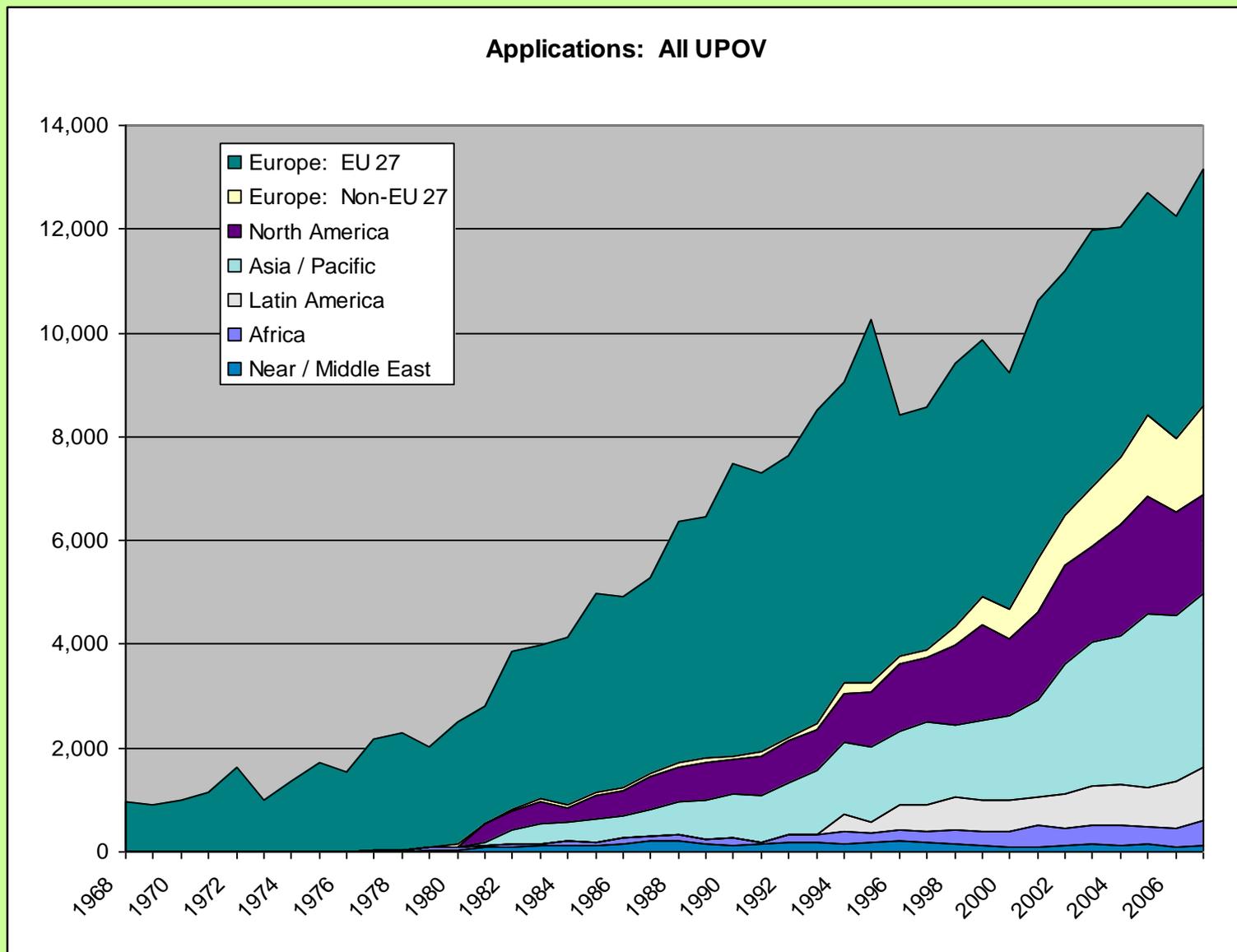


# Development of Plant Variety Protection

## PBR Titles in Force: All UPOV



# Development of Plant Variety Protection





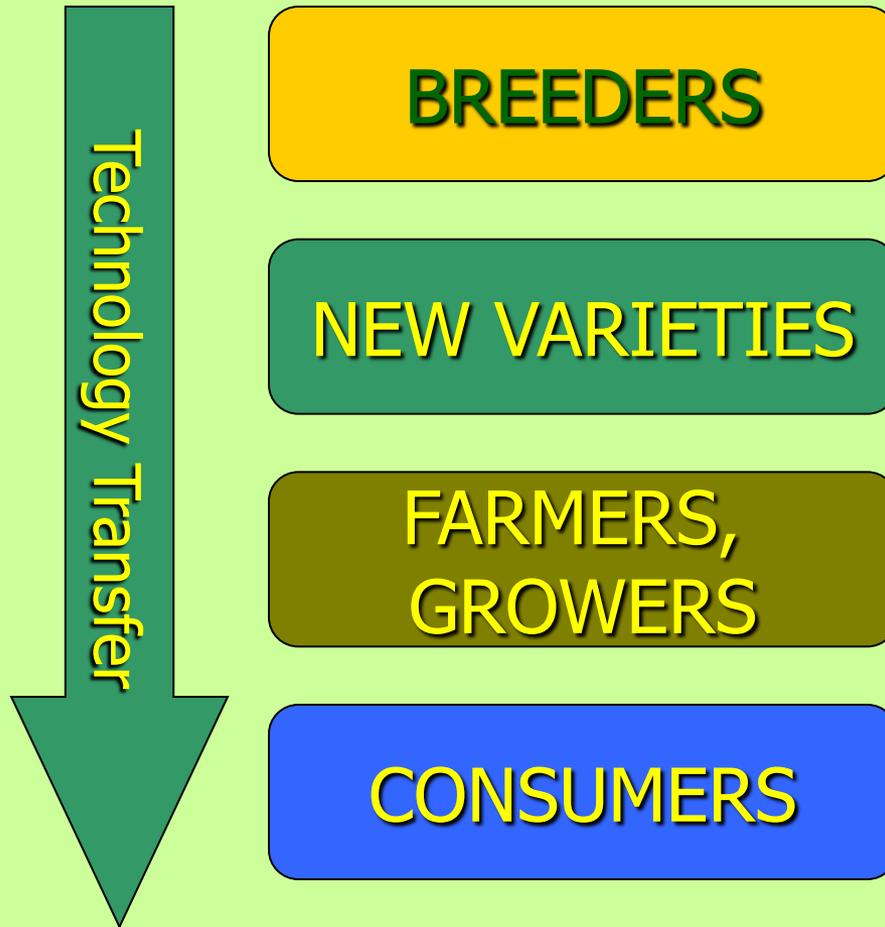
## UPOV MISSION STATEMENT

**“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**”**

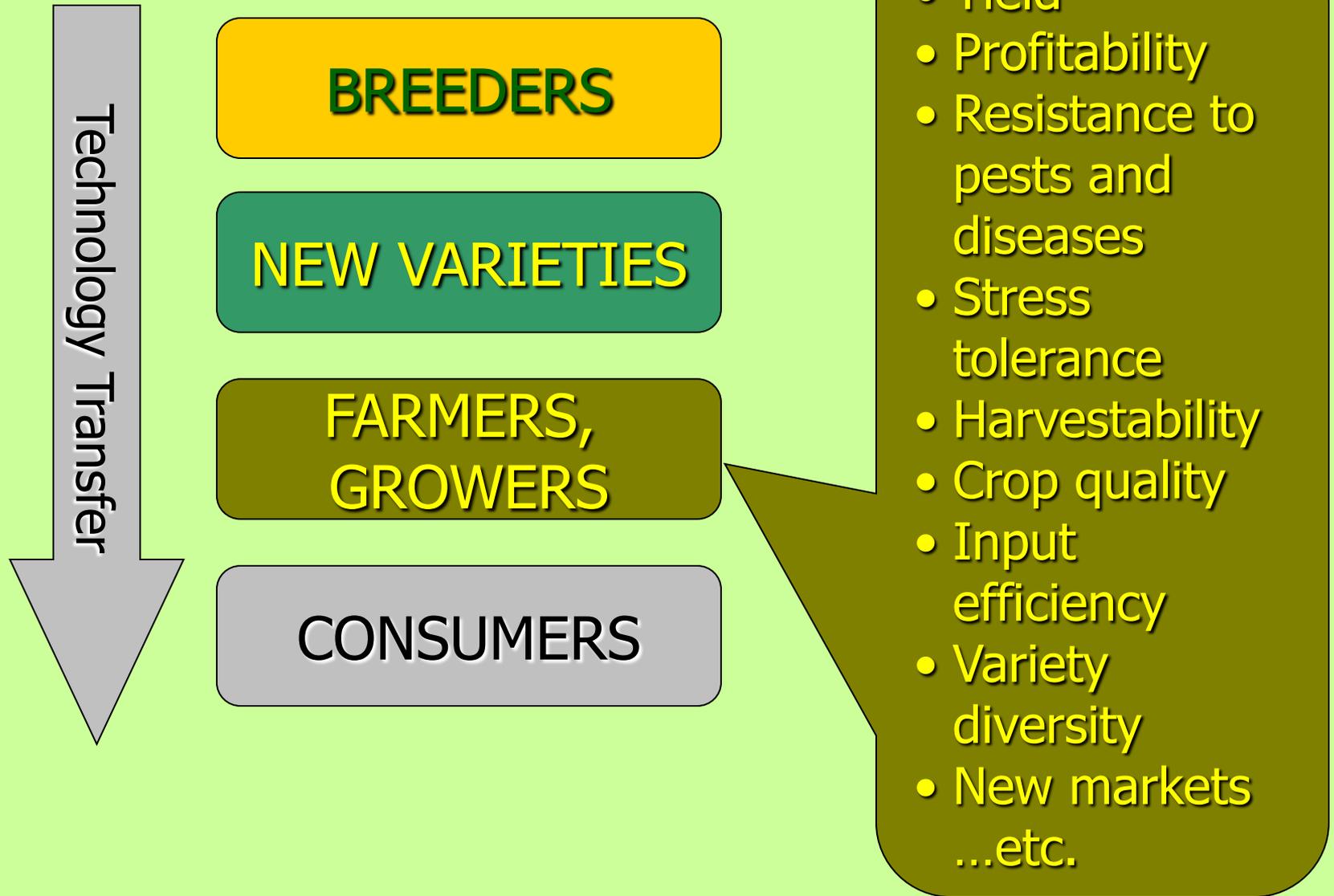
# PREVIEW

- 1. Introduction to UPOV**
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- 3. Impact of PVP and UPOV membership**

# Importance of Plant Breeding

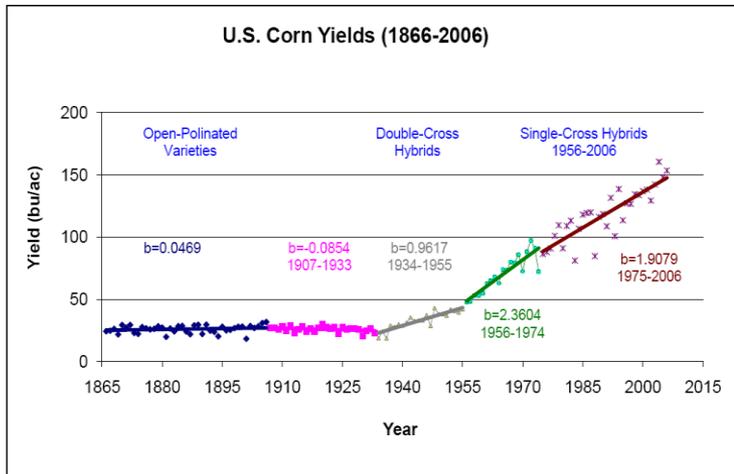


# Importance of Plant Breeding

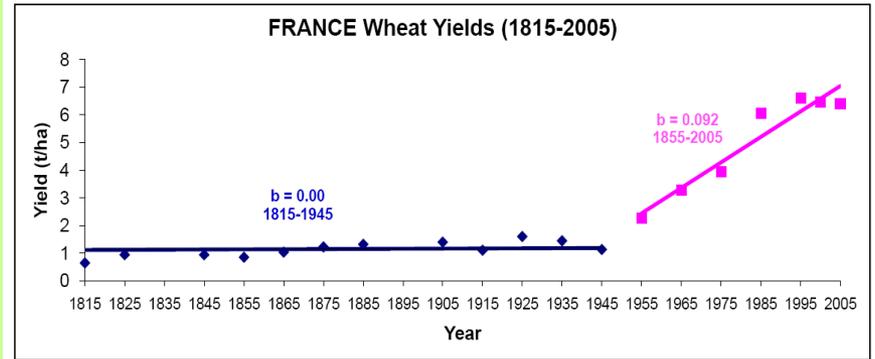


# Importance of Plant Breeding

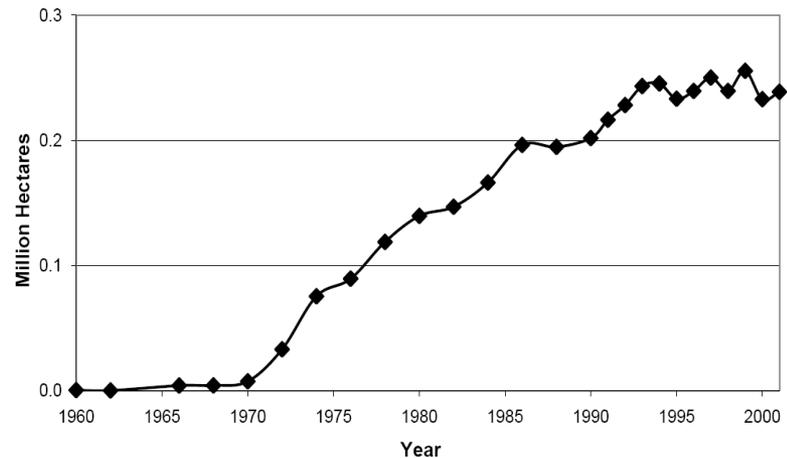
## Evolution of Maize Yield in USA



## Evolution of Wheat yield in France

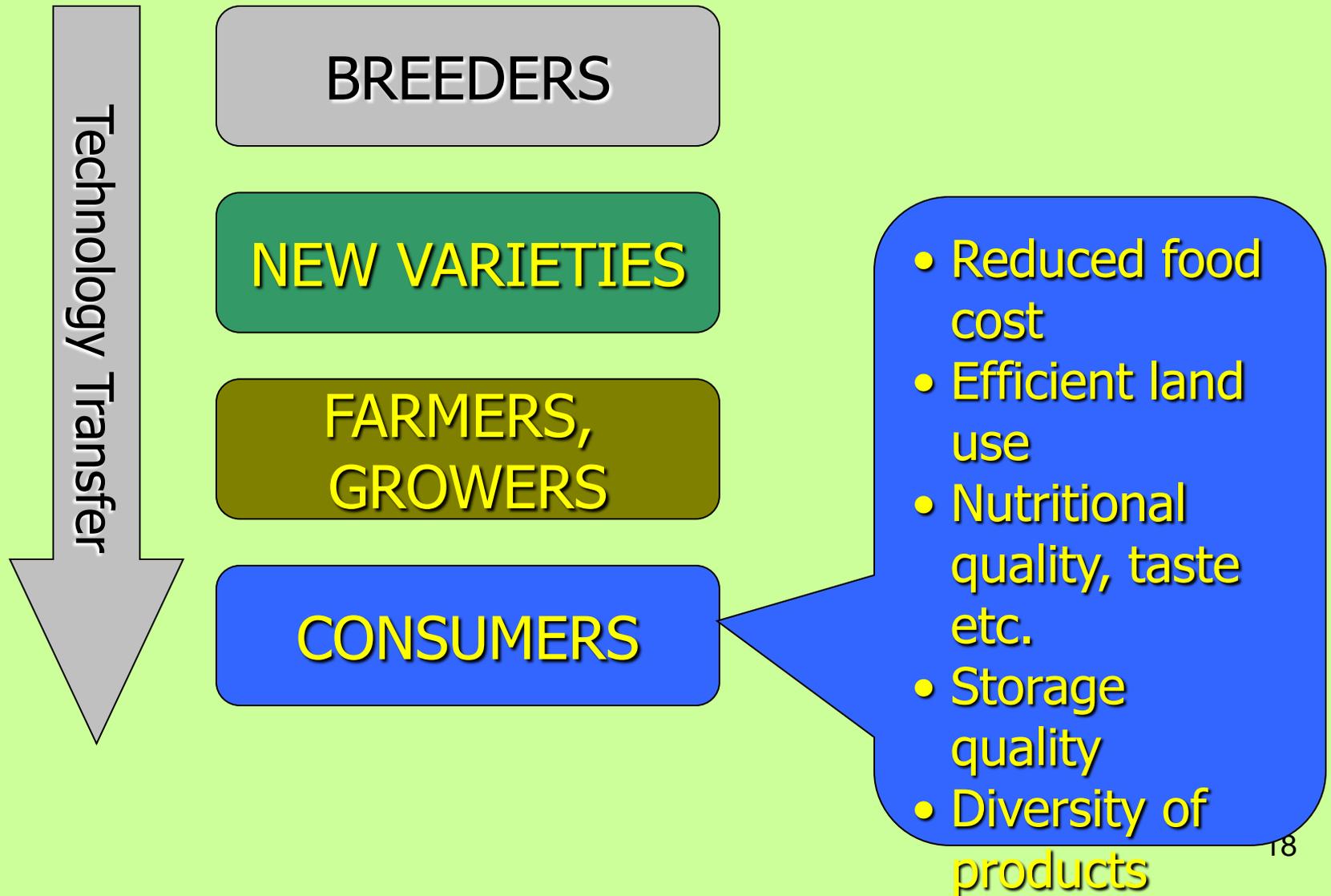


## Adaptation of Maize to Temperate Climate: the case of the Netherlands



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

# Importance of Plant Breeding



## Glucosinolate content

from 100  $\mu$ moles ('Jetneuf') to 12  $\mu$ moles ('Samourai')

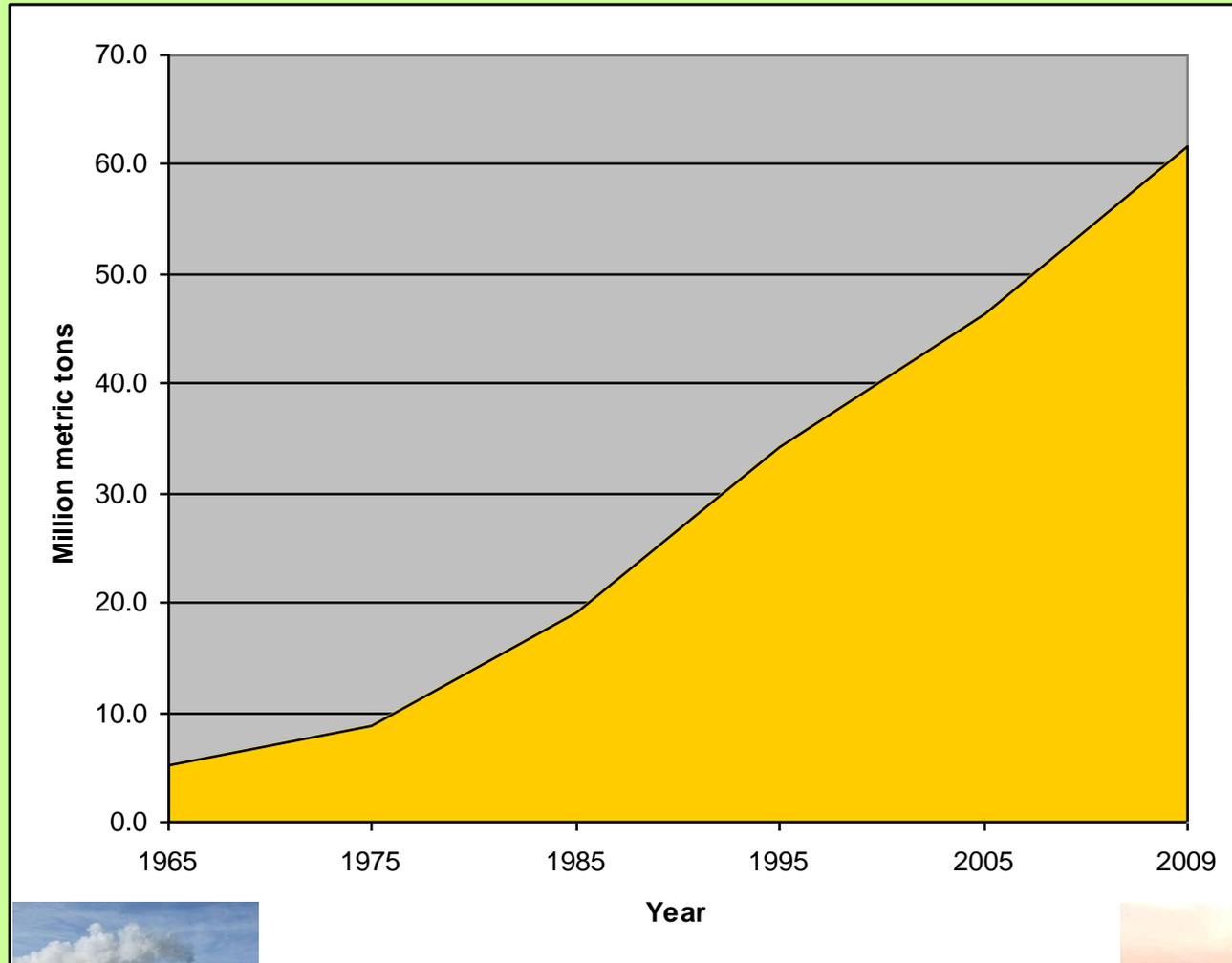
LEAR: Low Erucic Acid



HOLLI: High Oleic and Low Linolenic



# World Total Rapeseed Production



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

# **SOME KEY PROVISIONS OF THE UPOV CONVENTION (1991 Act)**

- (a) Breeders and varieties
- (b) Conditions of protection
- (c) Breeder's right and exceptions

**BREEDER**



**THE ONE ENTITLED  
TO PROTECTION**

**VARIETY**

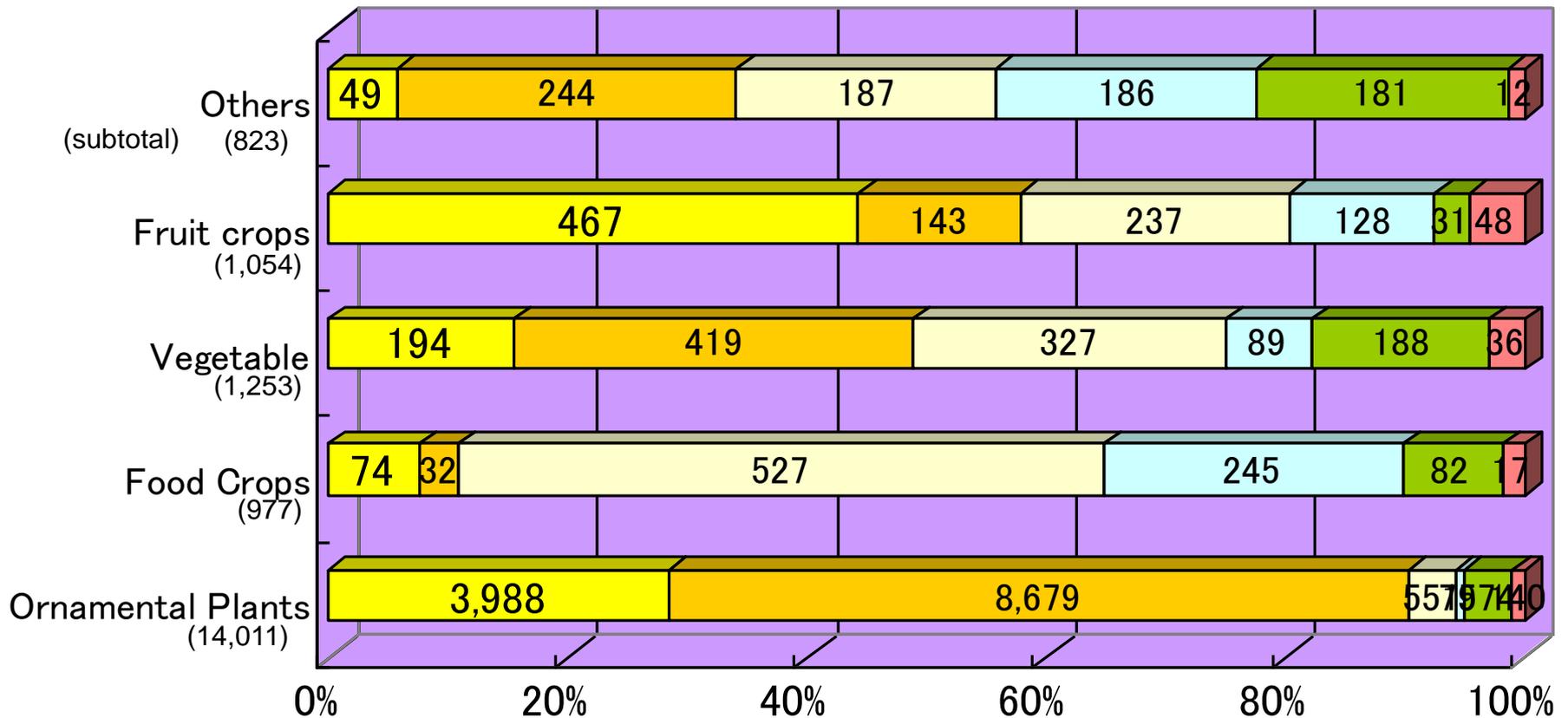


**THE SUBJECT  
MATTER OF  
PROTECTION**



# Importance of Plant Variety Protection and UPOV

Registration Number by Breeder (Japan) (~March 31, 2009)



Yasunori Ebihara, International Symposium (Seoul, August 2009)

# **SOME KEY PROVISIONS OF THE UPOV CONVENTION (1991 Act)**

- (a) Breeders and varieties
- (b) Conditions of protection**
- (c) Breeder's right and exceptions

# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

## *Criteria to be satisfied*

- **NOVELTY**



# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

- **Novelty** : No sale or disposal within
  - 1 year - own territory
  - 4 years - other territory (6 years - trees/vine)
  - Exception for varieties of recent creation (new members / extension of protection)

# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

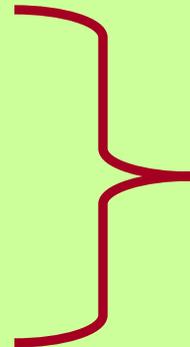
## *Criteria to be satisfied*

- NOVELTY

- **DISTINCTNESS**

- **UNIFORMITY**

- **STABILITY**



**“DUS”**



# DISTINCTNESS

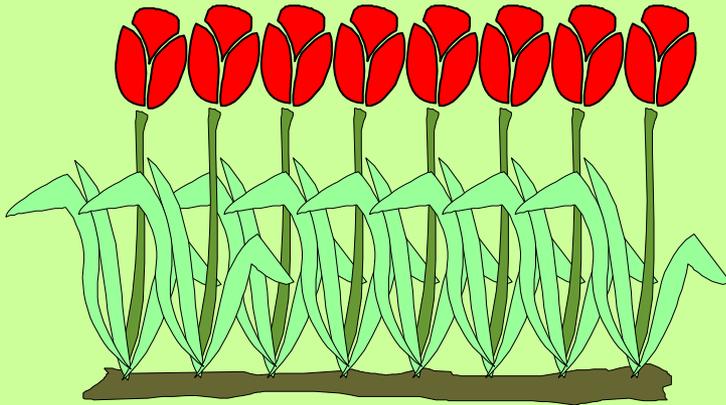
Apple: Fruit color



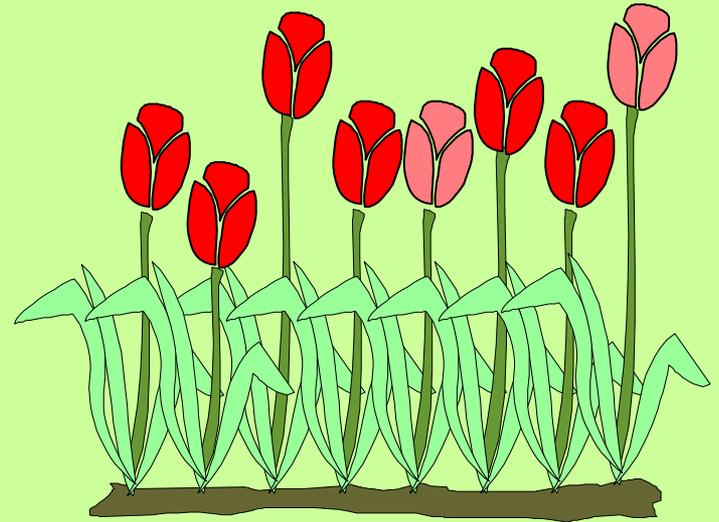
Apple: Flower bud color



# UNIFORMITY



A uniform variety

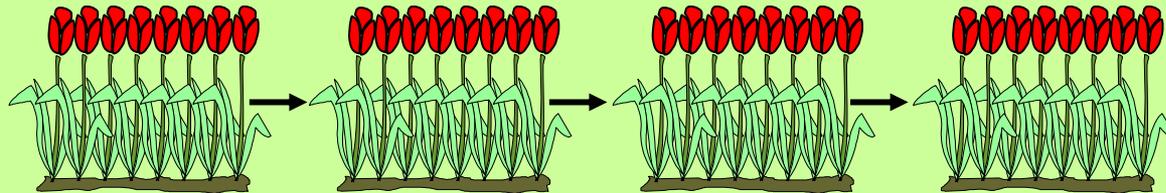


A variety lacking uniformity

# STABILITY

## Stable variety

The relevant characteristics of the variety do not change through the generations.



Original material

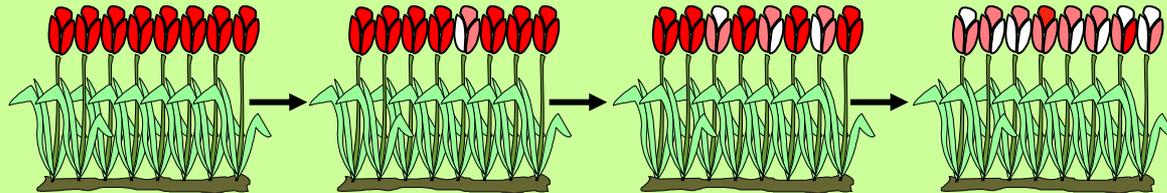
Generation 1

Generation 2

Generation N

## Variety not stable / Variété non stable

The relevant characteristics of the variety change through the generations. The plant grouping no longer retains the expression of the relevant characteristics of the original variety.



Original material

Generation 1

Generation 2

Generation N

# Nature of the DUS Examination

## The “DUS Test” (field trial)



# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

## ... Other requirements

- **VARIETY DENOMINATION**

# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

- **Denomination** [Article 20 and UPOV/INF/12/1]
  - No rights on the designation must hamper free use as the variety denomination
  - Breeder must submit variety under same denomination in all members of the Union

# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

## ... Other requirements

- VARIETY DENOMINATION
- FORMALITIES
- PAYMENT OF FEES

**NO OTHER CONDITIONS!**

# **SOME KEY PROVISIONS OF THE UPOV CONVENTION (1991 Act)**

- (a) Breeders and varieties
- (b) Conditions of protection
- (c) Breeder's right and exceptions**

# MINIMUM DURATION OF PROTECTION

**TREES and VINES**                      **25** years

**OTHER PLANTS**                      **20** years

**To be counted from the date of grant**

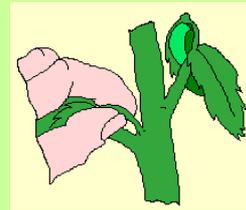
# Authorization of breeder required for:

- Production or reproduction (multiplication)
- Conditioning for the purpose of propagation
- Offering for sale
- Selling or marketing
- Exporting
- Importing
- Stocking for any of the above purposes

*.... for any protected variety*

# MATERIAL COVERED

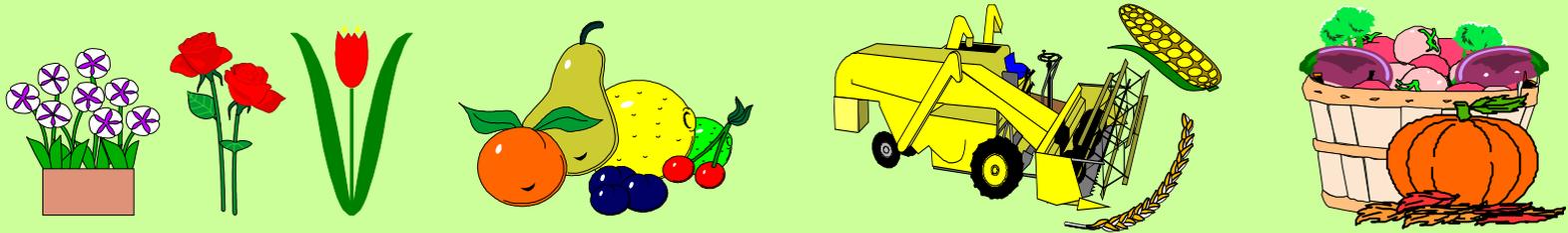
- All propagating material



- Harvested material under certain conditions
- Certain products (optional)

# MATERIAL COVERED

- All propagating material
- Harvested material



if obtained through **unauthorized use** of propagating material **unless**, reasonable **opportunity** for breeder to **exercise his right**

- **Certain products (optional)**

# VARIETIES COVERED

In addition to the protected variety itself,

## VARIETIES:

- **not clearly distinguishable** from the protected variety



- whose production **requires the repeated use** of the protected variety  
*e.g. hybrids*



- which are **essentially derived** from the protected variety

# **EXCEPTIONS TO THE BREEDER'S RIGHT**

# 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

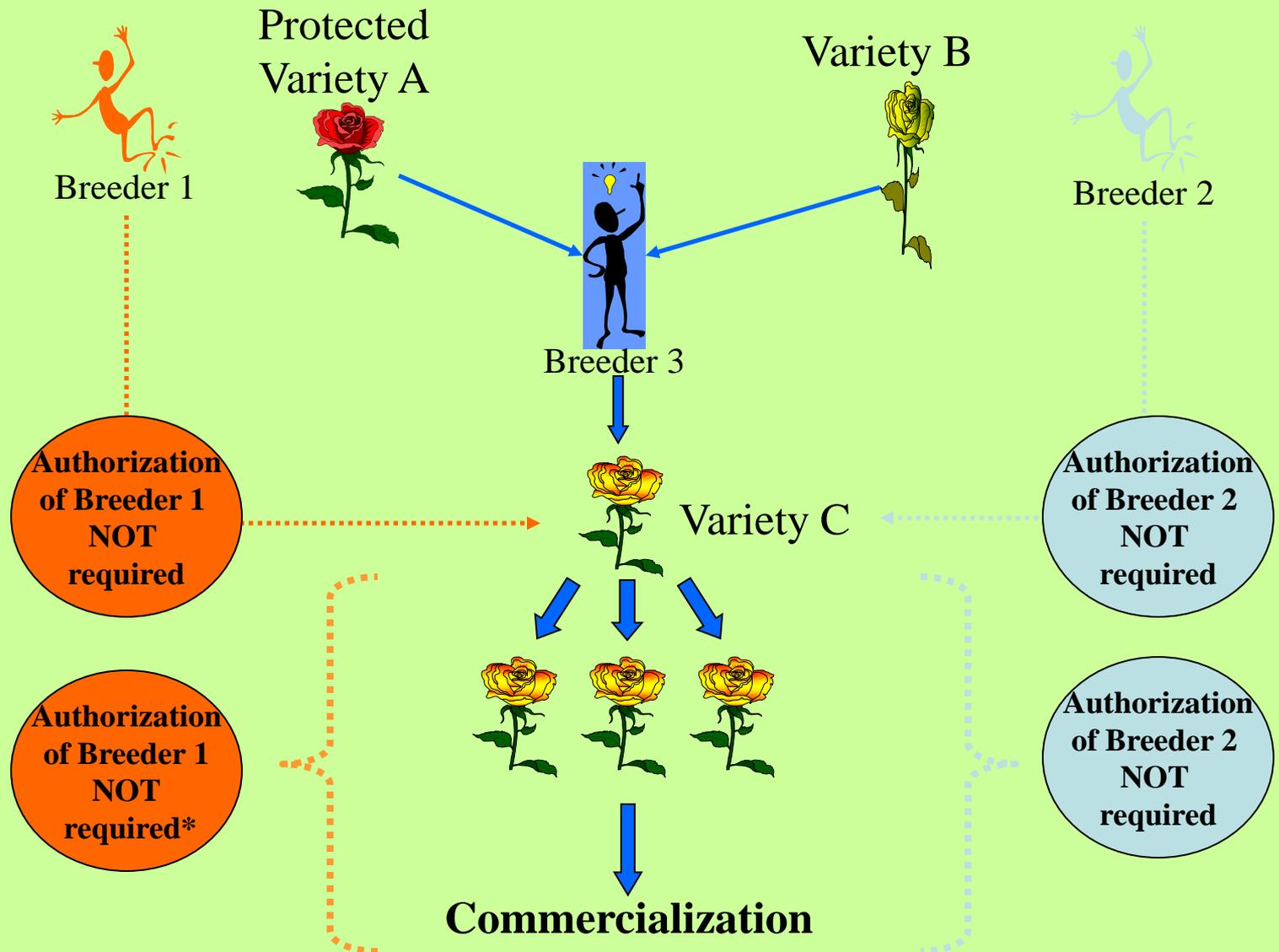
# EXCEPTIONS TO THE BREEDER'S RIGHT

## Compulsory

Acts done:

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

# 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.

# ADVANTAGES OF THE BREEDER'S EXEMPTION

- **Germplasm** sources remain **accessible** to the community of breeders
- **Genetic basis** for plant improvement is **broadened** and is actively conserved
- Variety **improvement** is enhanced
- Opportunity for all **breeders to share** in benefits of breeding activities

# EXCEPTIONS TO THE BREEDER'S RIGHT

## Compulsory

Acts done:

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

# EXCEPTIONS TO THE BREEDER'S RIGHT

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

- **amateur gardener**

**Acts Possibly falling within the scope of the exception**

# 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:**

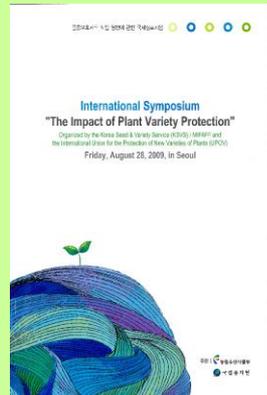
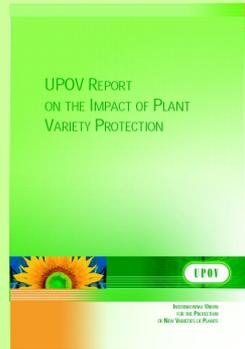
- for propagating purposes **on their own holdings**  
**the product of the harvest**
- **obtained on their own holdings**  
from the protected variety
- **within reasonable limits**
- subject to **safeguarding legitimate interests of**  
**the breeder**

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

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# UPOV Impact Study



International Symposium  
(Seoul, KR)

Canada: 10 Year Review

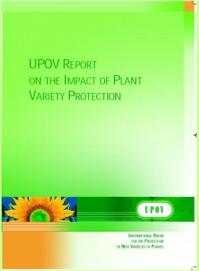
Second World Seed Conference  
(FAO, Rome)

UPOV REPORT  
ON THE IMPACT OF PLANT  
VARIETY PROTECTION



UPOV

INTERNATIONAL UNION  
FOR THE PROTECTION  
OF NEW VARIETIES OF PLANTS



## SECTION III

# Reports on Studies Conducted in Individual Countries:

Argentina

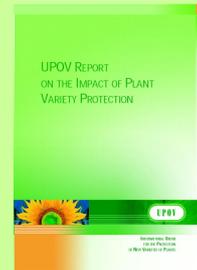
China

Kenya

Poland

Republic of Korea

# FINDINGS: SUMMARY



Introduction of  
UPOV system

UPOV

Accession to  
UPOV

- Investment in breeding
- More breeders and increased diversity of breeders
- More and better varieties for farmers and growers
- Increased income for farmers
- Rural development
- Development of international markets

# Importance of Plant Variety Protection and UPOV

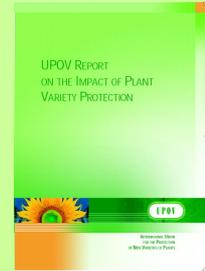
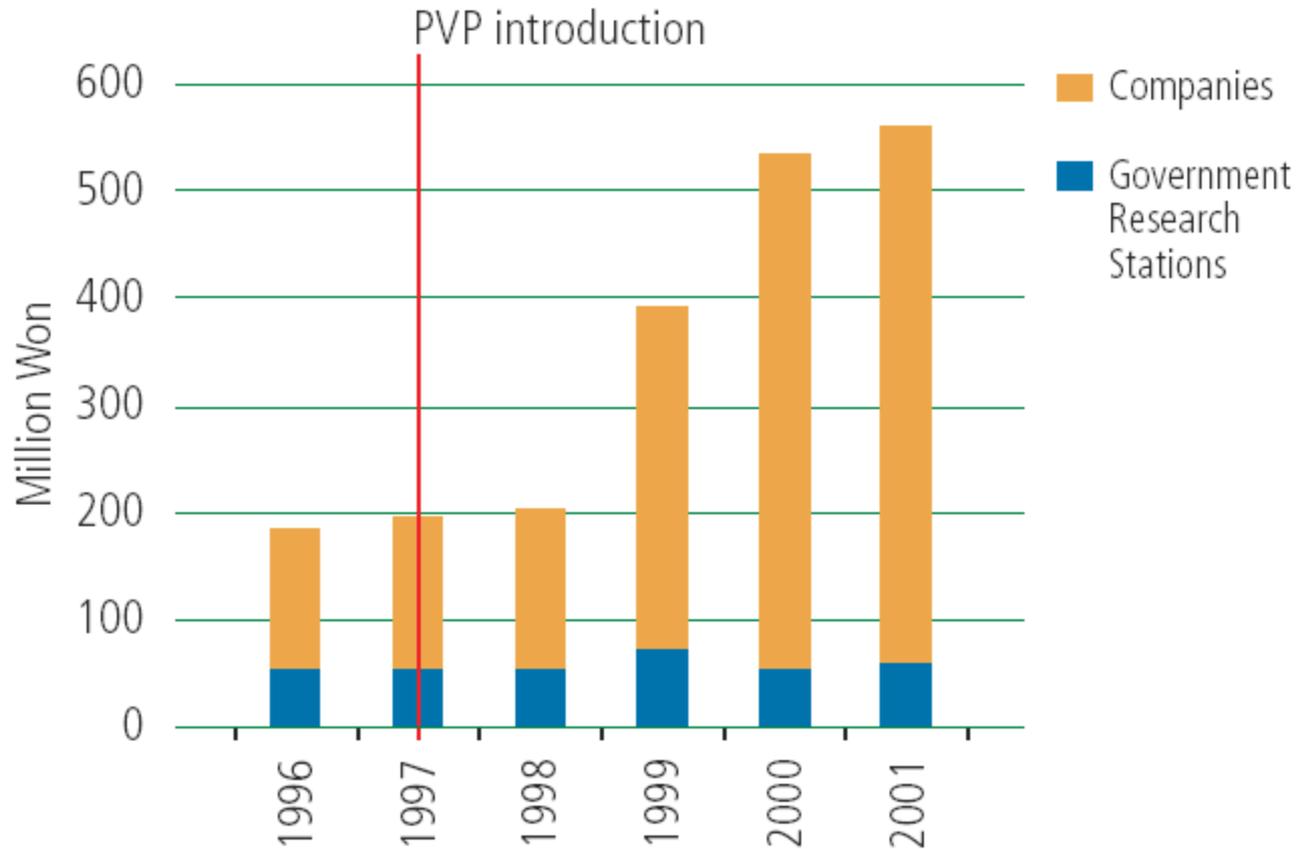


Figure 55. Republic of Korea: Breeding Investment-  
Chinese Cabbage



# Importance of Plant Variety Protection and UPOV

Figure 29. China:  
Number of Breeders in  
Henan Province  
**(Maize)**

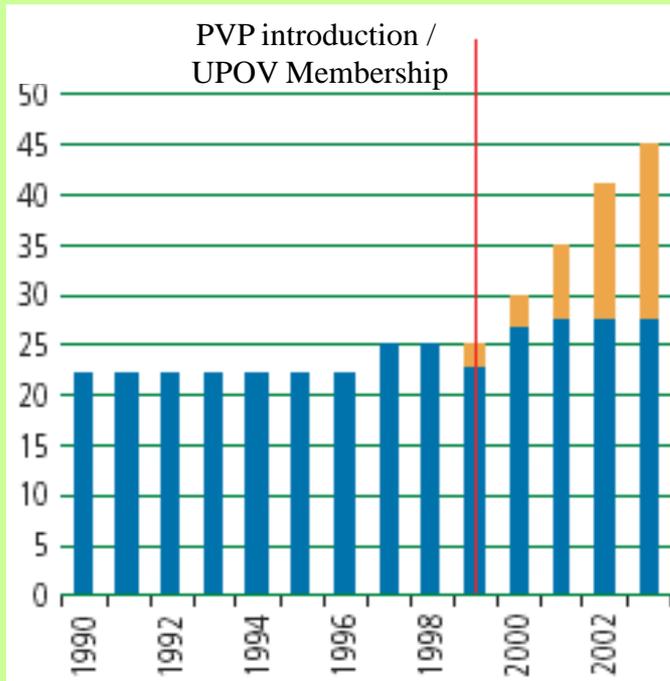
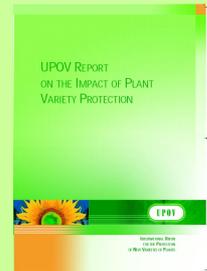
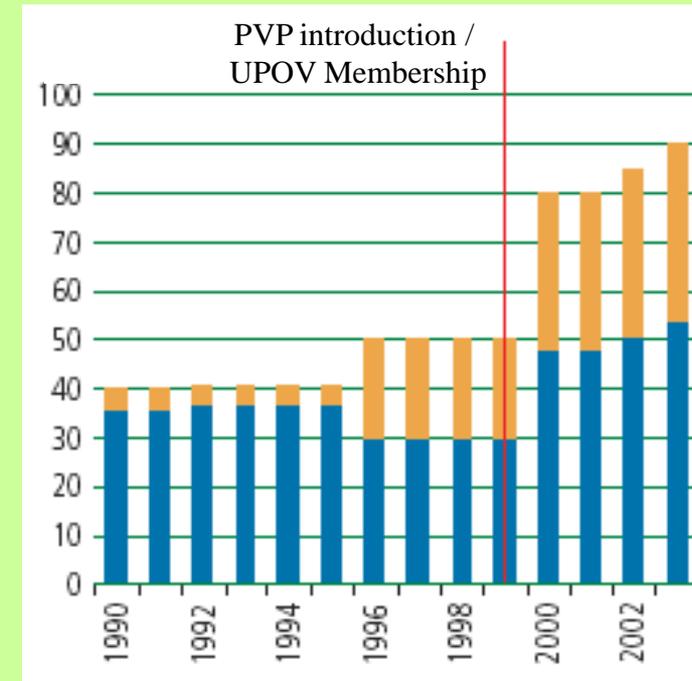


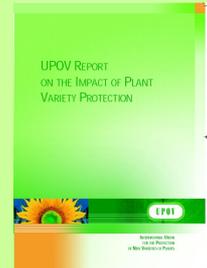
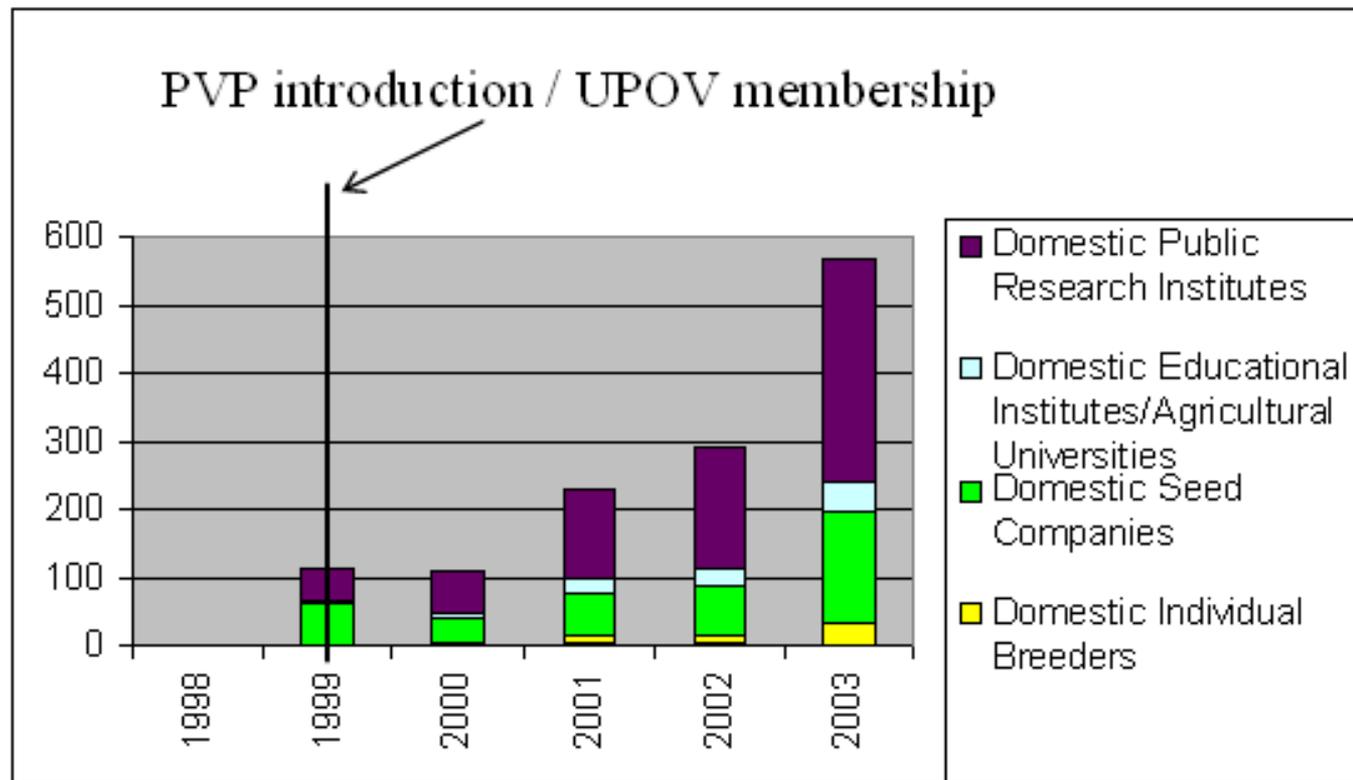
Figure 30. China:  
Number of Breeders in  
Henan Province  
**(Wheat)**



■ Number of breeders at the Provincial Research Institute  
■ Number of other breeders

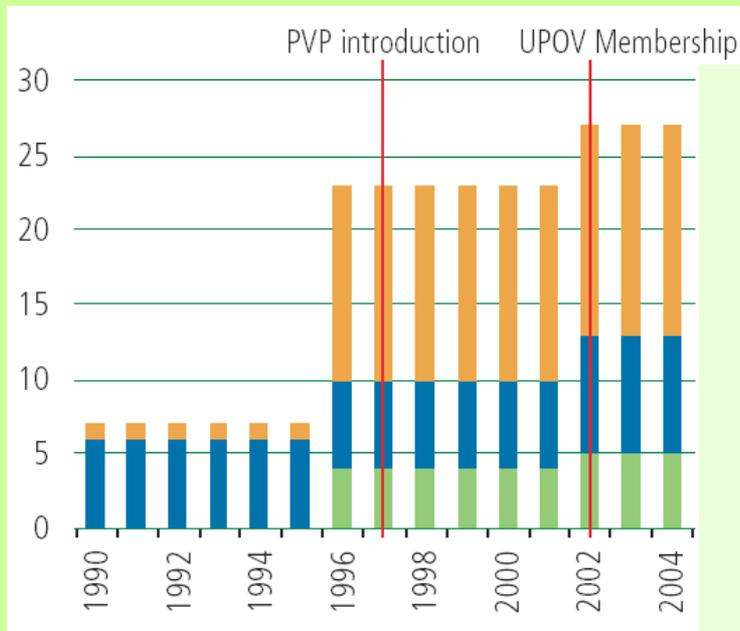
# Importance of Plant Variety Protection and UPOV

Figure 33. China: Number of Applications by Categories of Applications (Agriculture)



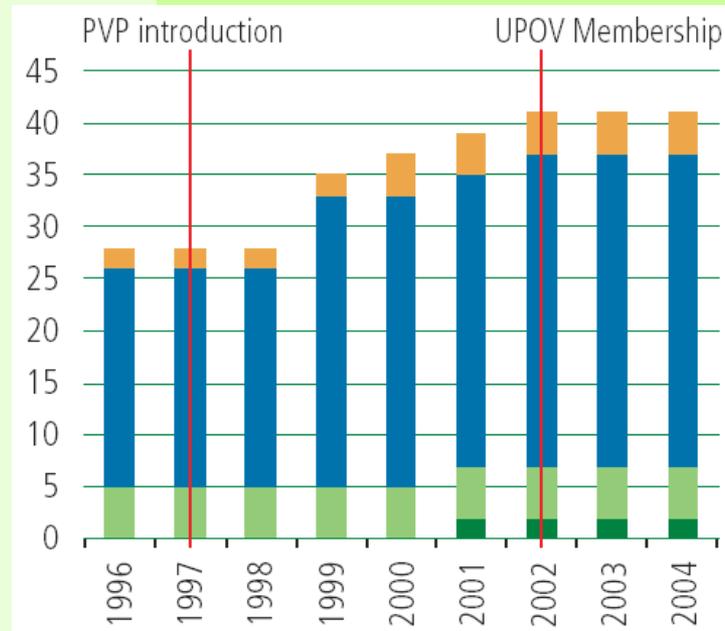
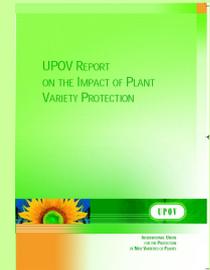
# Importance of Plant Variety Protection and UPOV

Figure 52. Republic of Korea: Number of Rose Breeders



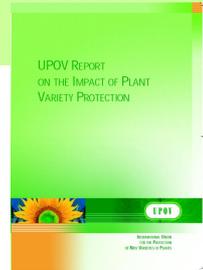
Companies  
Government Research Stations

Figure 53. Republic of Korea: Number of Rice Breeders

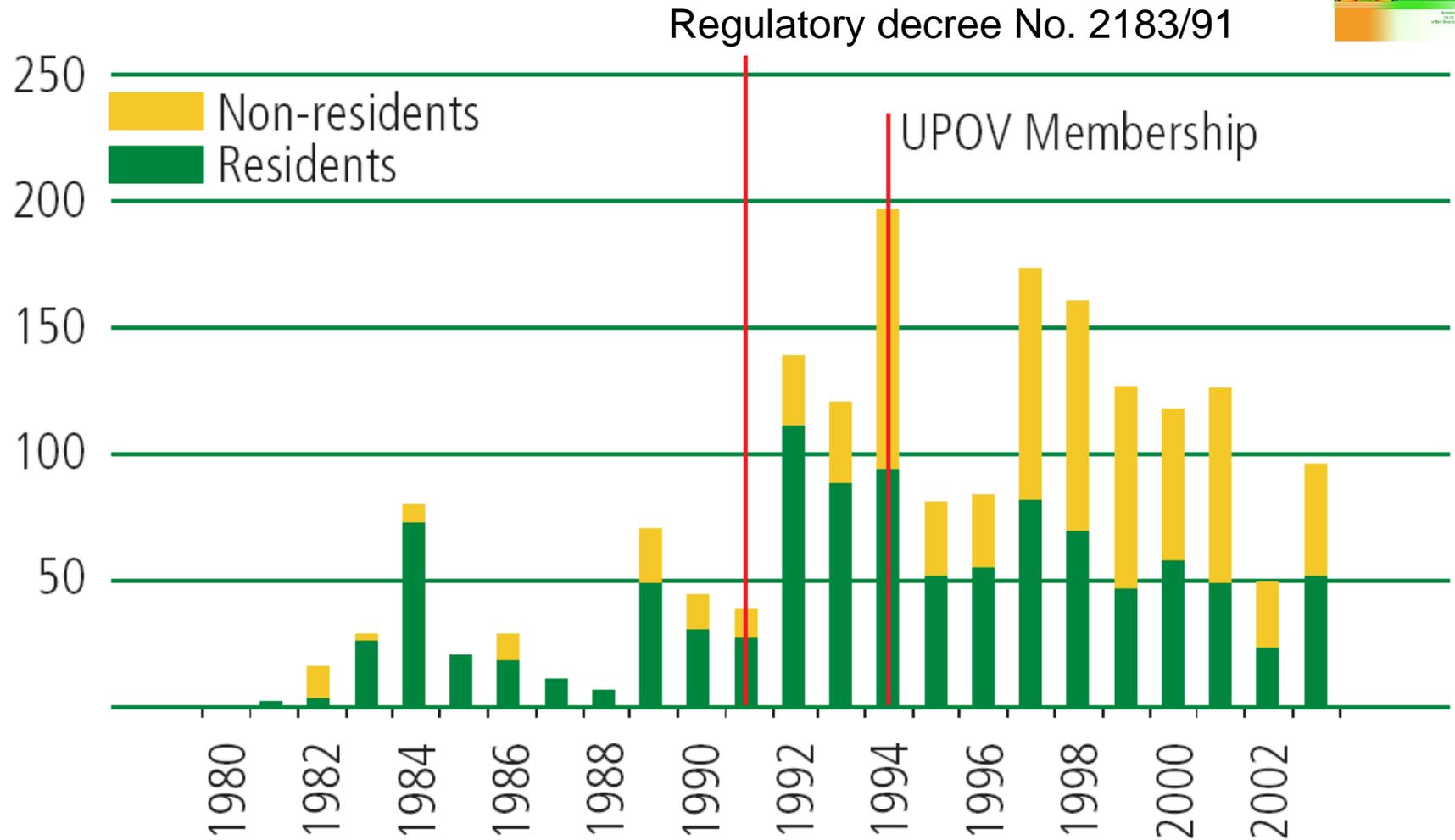


Individuals  
University Researchers

# Importance of Plant Variety Protection and UPOV



## Figure 13. Argentina: Number of Titles Granted



# Conference conclusions: [...]

Intellectual property protection is crucial for a sustainable contribution of plant breeding and seed supply. An effective system of plant variety protection is a key enabler for investment in breeding and the development of new varieties of plants. A country's membership of UPOV is an important global signal for breeders to have the confidence to introduce their new varieties in that country. [...]



DECLARATION FROM THE SECOND WORLD SEED CONFERENCE

**Responding to the challenges of a changing world:  
The role of new plant varieties  
and high quality seed in agriculture**

held at the FAO Headquarters in Rome, September 8-10, 2009

**World food security: urgent measures on seed needed**

Urgent government measures and increased public and private investment in the seed sector are required for the long term if agriculture is to meet the challenge of food security in the context of population growth and climate change.

Governments are strongly encouraged to implement a predictable, reliable, user friendly and affordable regulatory environment to ensure that farmers have access to high quality seed at a fair price. In particular, FAO member countries are urged to participate in the internationally harmonised systems of the Organization for Economic Cooperation and Development (OECD), the International Union for the Protection of New Varieties of Plants (UPOV), the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) and the International Seed Testing Association (ISTA). Participation in those systems will facilitate the availability of germplasm, new plant varieties and high quality seed for the benefit of their farmers, without which their ability to respond to the challenges ahead will be substantially impaired. The conference emphasized the important role of both the public and the private sectors to meet the challenges ahead and the benefits when the two work together. The Second World Seed Conference emphasized that agriculture needs to provide sustainable food security and economic development in the context of current and future global challenges. The Conference highlighted the critical role of new plant varieties and high quality seed in providing a dynamic and sustainable agriculture that can meet those challenges. It concluded that governments need to develop and maintain an enabling environment to encourage plant breeding and the production and distribution of high quality seeds. The global seed market has grown rapidly in recent years and is currently worth around US\$37 billion. Cross border seed trade was estimated to be worth around US\$6.4 billion in 2007. The Second World Seed Conference was held at FAO headquarters from September 8-10 and organized in collaboration with the OECD, UPOV, ITPGRFA, ISTA, ISF.

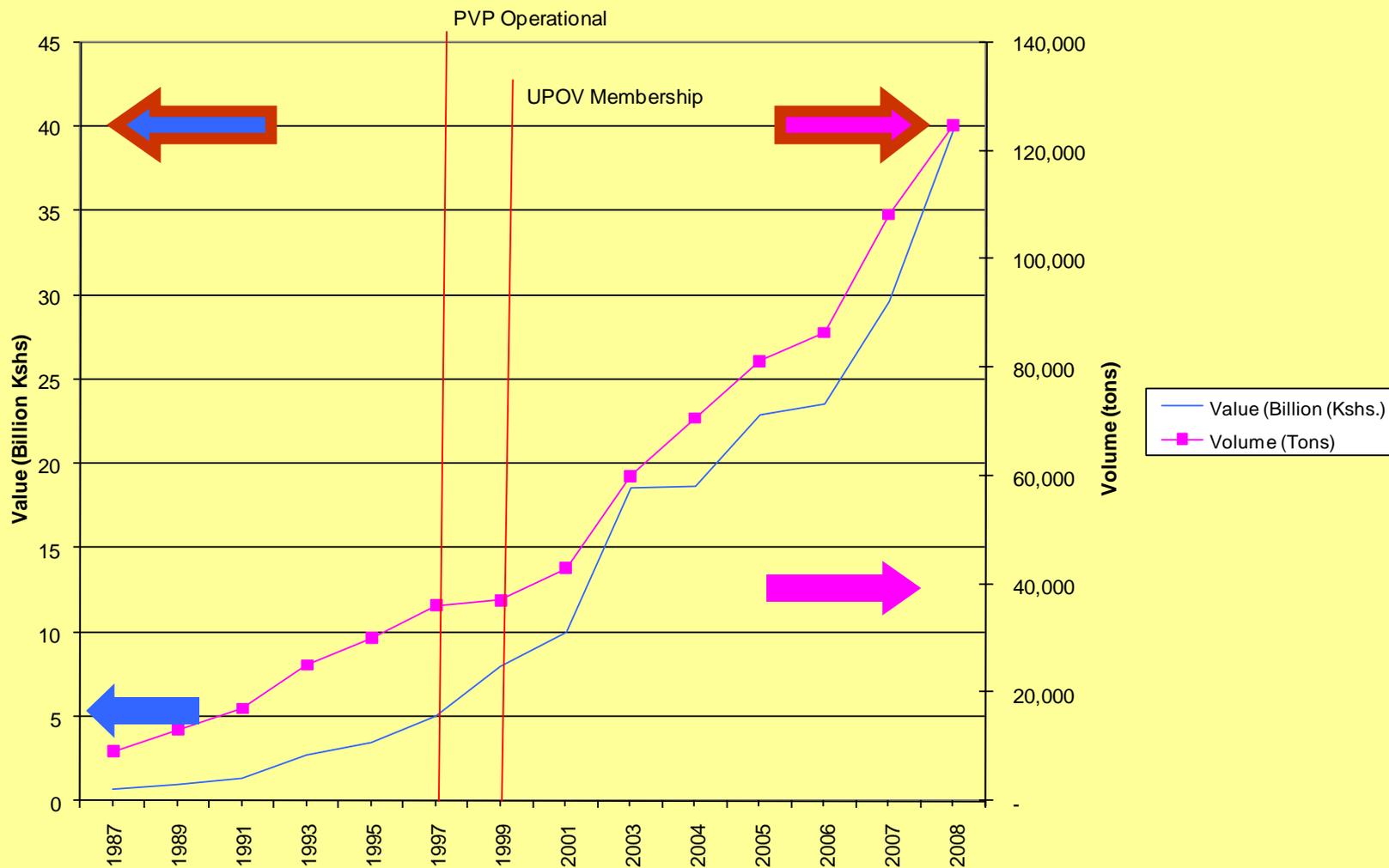
**Conference conclusions:**

- Plant breeding has significantly contributed and will continue to be a major contributor to increased food security whilst reducing input costs, greenhouse gas emissions and deforestation. With that, plant breeding significantly mitigates the effects of population growth, climate change and other social and physical challenges.
- ITPGRFA is an innovative instrument that aims at providing food security through conservation, as well as facilitated access to genetic resources under its multilateral system of access and benefit-sharing. The multilateral system represents a reservoir of genetic traits and therefore constitutes a central element for the achievement of global food security.
- Intellectual property protection is crucial for a sustainable contribution of plant breeding and seed supply. An effective system of plant variety protection is a key enabler for investment in breeding and the development of new varieties of plants. A country's membership of UPOV is an important global signal for breeders to have the confidence to introduce their new varieties in that country.
- Seed quality determination, as established by ISTA, on seed to be supplied to farmers is an important measure for achieving successful agricultural production. The establishment or maintenance of an appropriate infrastructure on the scientific as well as technical level in developed and developing countries is highly recommended.
- The development of reliable and internationally acceptable certificates, through close collaboration between all stakeholders along the supply chain for seed certification, phytosanitary measures and laboratory testing, contributes substantially to the strong growth in international trade and development of seed markets to the benefit of farmers.



# Importance of Plant Variety Protection and UPOV

## Export of Kenyan Cut Flowers



# CONCLUSIONS

# UPOV



Good shape

High value

Healthy growth

**THANK YOU**