

# Workshop

**Proposed Amendment of the Law No  
Plant Breeders Right in accordance with  
the UPOV Convention and the Benefits of  
UPOV Membership for National  
Development Goals**

Martin Ekvad, Director of Legal Affairs

Phnom Penh, Cambodia

February 10, 2025



# Overview

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## Topic 1

Overview of the UPOV Convention;

- Why was the UPOV Convention adopted
- Criteria for protection
- Scope of protection and exceptions
- Proceedings after grant
  - Cancellation, nullity
  - Enforcement



UPOV

## Topic 4

The importance of development legislation in accordance with the UPOV Convention



UPOV

## Topic 5

Benefits of UPOV membership and how can UPOV membership and plant variety protection contribute to achieving national development goals in the agriculture sector



UPOV

UPOV

# Topic 1

## Overview of the UPOV Convention;

- Why was the UPOV Convention adopted
- Criteria for protection
- Scope of protection and exceptions
- Proceedings after grant
  - Cancellation, nullity
  - Enforcement



# Plant Variety Protection under the UPOV Convention

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## Why a separate IP Right for Plant Varieties

- No discussion that plant breeding is an intellectual action
- In a number of countries National systems for awarding breeders compensation for their breeding work existed in the 1960:ies
- Nature is a perfect copying machine

# Plant Variety Protection under the UPOV Convention

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## Existing IP Rights not applicable?

Discussions amongst founding countries:

- Reluctant to 'Patent Life'
- Fear for blocking progress through Patents
- There should be room for continued improvement
- How to create a meaningful description of the 'invention'
- Patent criteria not suitable for plant varieties

# Plant Variety Protection under the UPOV Convention

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## Solutions in the 1961 Diplomatic Conference

- IP-Right with a Breeders' Exemption
- Official decision on the criteria to describe a variety after a field test before the right is granted
- The UPOV Convention was adopted in 1961 and has been updated in 1972, 1978 and 1991

# Plant Variety Protection under the UPOV Convention

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## 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 obtentions végétales

UPOV

- (a) Breeders and varieties**
- (b) National treatment
- (c) Conditions of protection
- (d) Breeder's right and exceptions
- (e) Matters after grant



# Breeders and varieties

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## Breeder

- The person entitled to protection

## Variety

- The subject matter of the protection

# Breeder

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The person that

- Bred, or
- Discovered and developed the variety

  
**Discovery or find**



**Development is  
necessary**

# Breeder

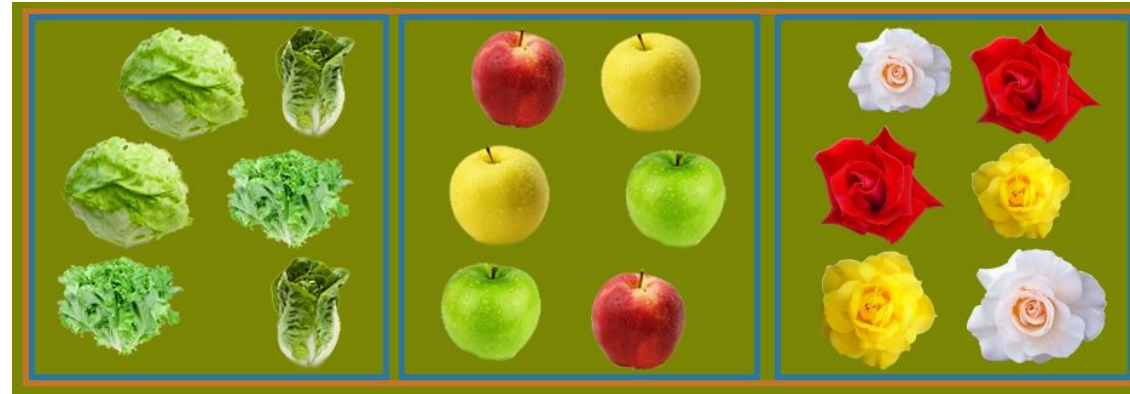
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- There are no restrictions on who can be considered to be a breeder under the UPOV system:
  - A breeder might be:
    - an individual
    - a farmer
    - a researcher
    - a public institute
    - a private company etc.

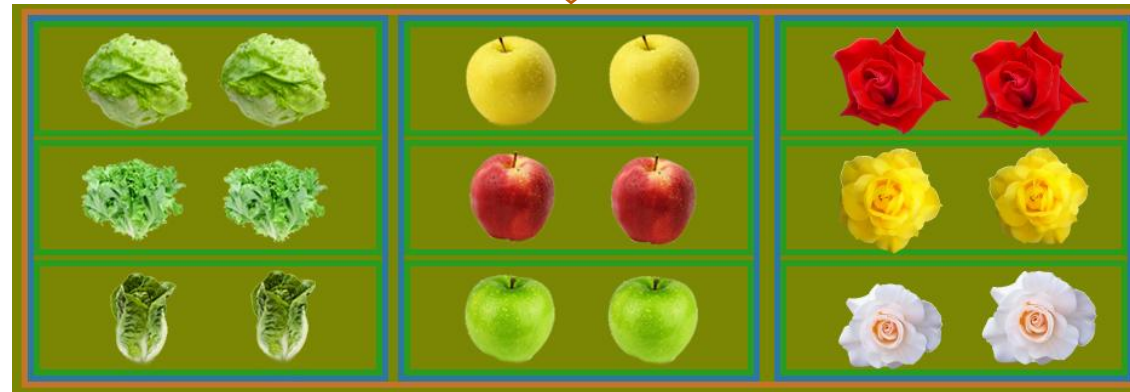
**PLANT**

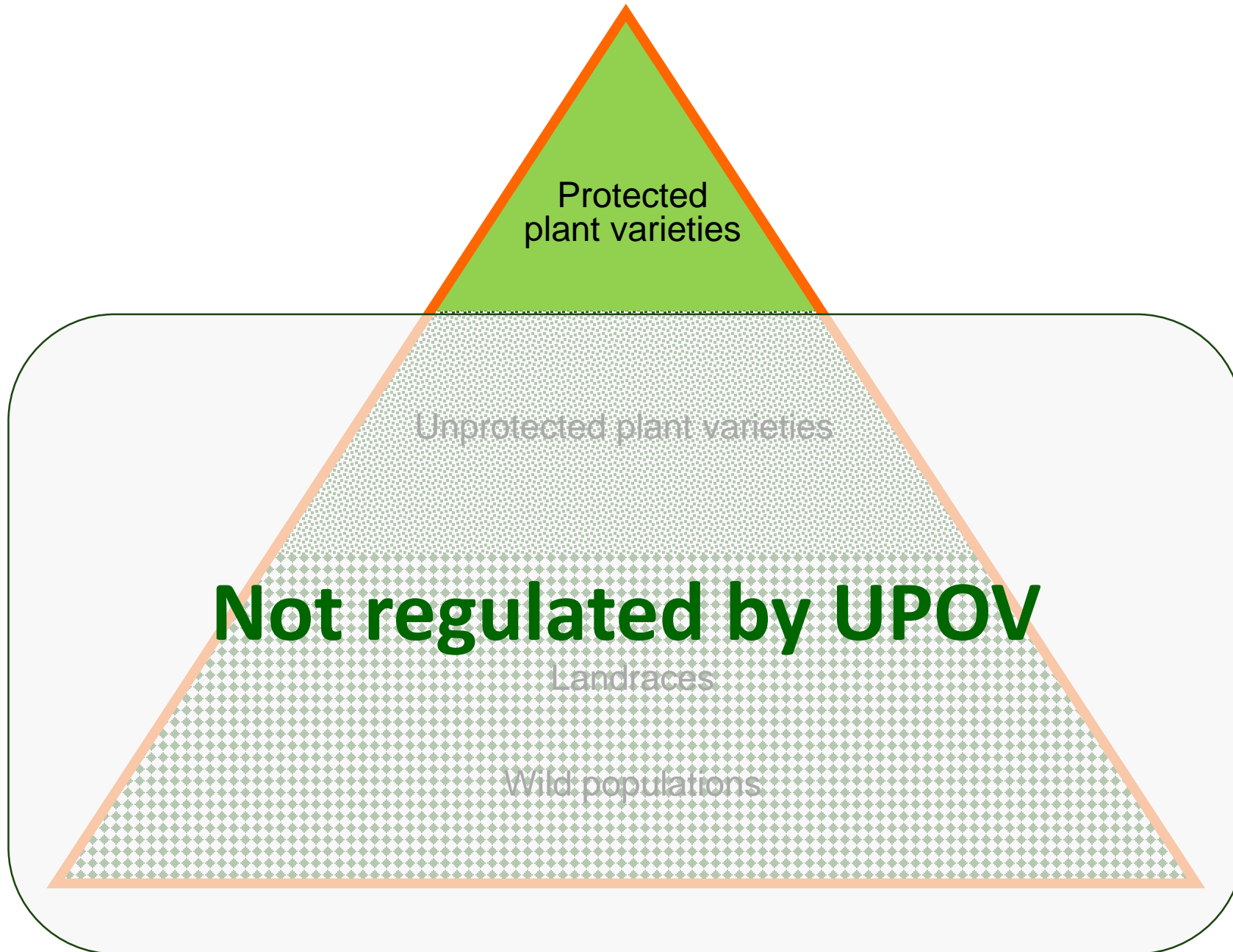


**SPECIES**



**VARIETIES**





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

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- (a) Breeders and varieties
- (b) National treatment**
- (c) Conditions of protection
- (d) Breeder's right and exceptions
- (e) Matters after grant

# National treatment

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National treatment, within the territory of a member of the Union, for nationals and residents of any other members of the Union

Enjoy the same treatment as nationals of a UPOV member insofar as the grant and protection of breeders' rights are concerned

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

---

- (a) Breeders and varieties
- (b) National treatment
- (c) Conditions of protection**
- (d) Breeder's right and exceptions
- (e) Matters after grant



# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

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- novelty
- distinctness
- uniformity
- stability
- variety denomination
- formalities
- payment of fees

**NO OTHER CONDITIONS!**

UPOV

# CONDITIONS FOR GRANTING A BREEDER'S RIGHT

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## Novelty :

No sale or disposal earlier than

- 1 year - own territory
- 4 years - other territories (6 years - trees/vine) from the filing date
- Exception for varieties of recent creation (new members / extension of protection to additional genera or species)

# The “DUS Test” (field trial)

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# DISTINCTNESS

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## Apple: Fruit color



# DISTINCTNESS

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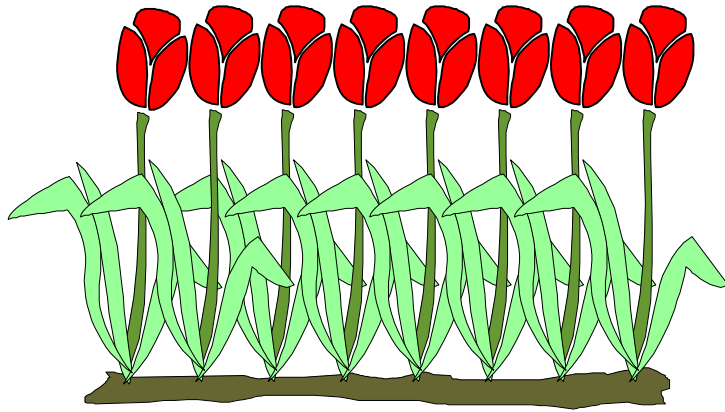
**Must be clearly distinguishable from** any other variety (whether protected or not) whose existence is a matter of common knowledge

...anywhere in the World

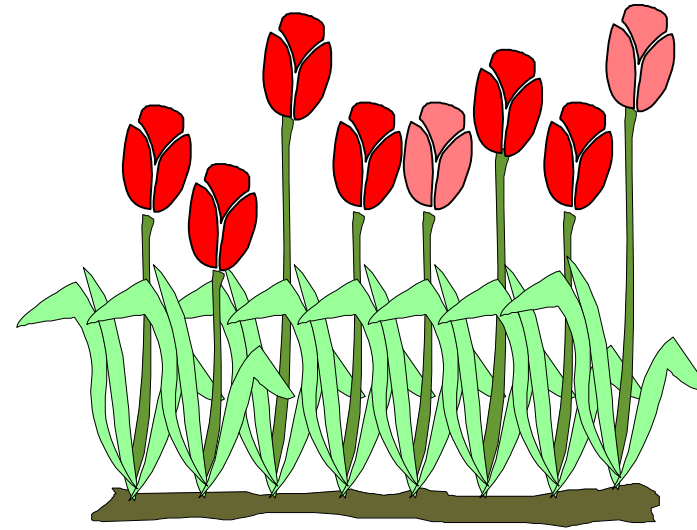


# UNIFORMITY

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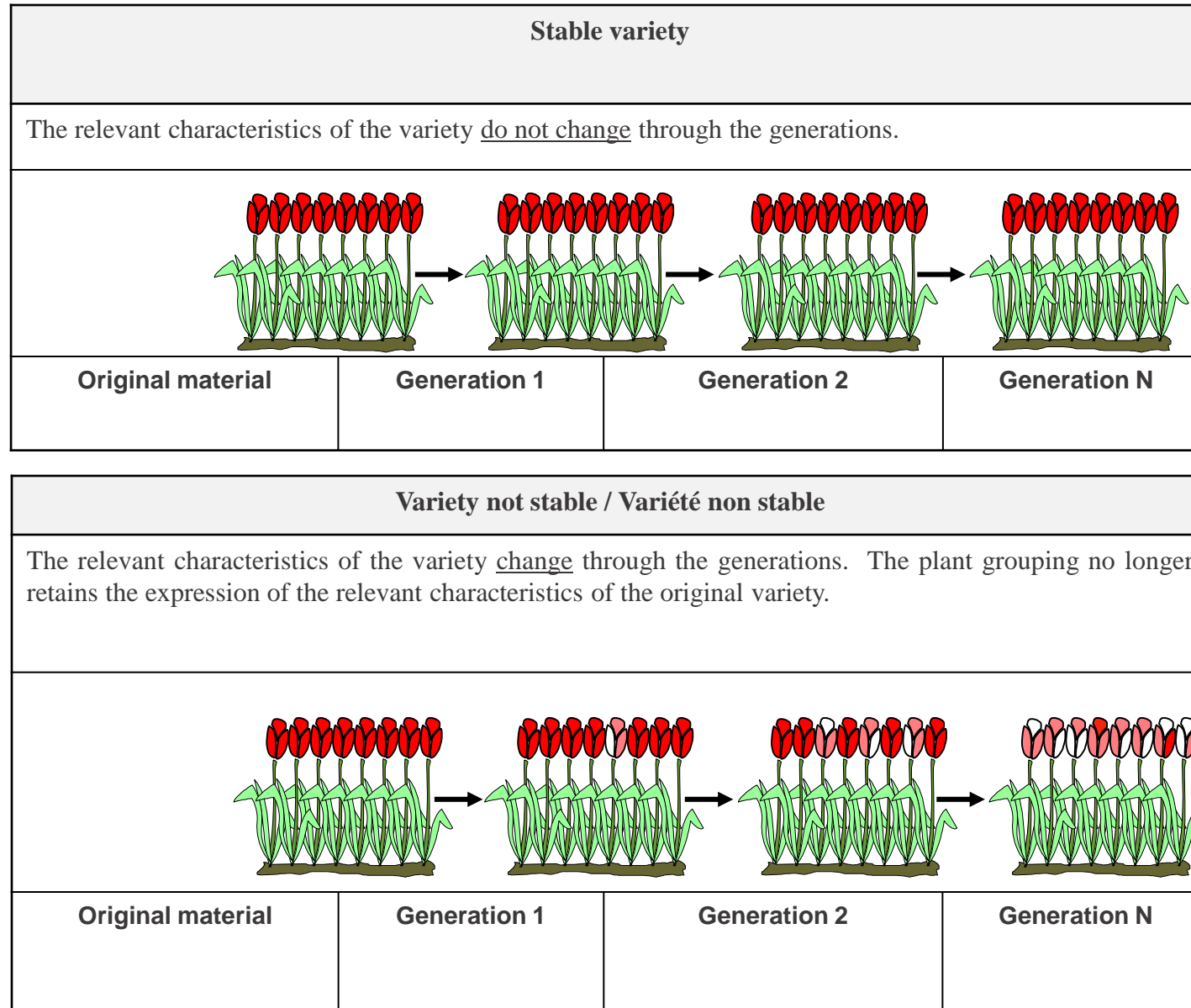


A uniform variety



A variety lacking uniformity

# STABILITY



# COOPERATION

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**Cooperation between UPOV members  
is a key benefit of UPOV membership**



*Practical DUS experience  
offered for >3,733 genera  
and species*

*Number of genera and species for  
which varieties protected by  
members of the Union: > 4,470*

*(14.860 titles granted in 2022)*

*Agreements for cooperation  
between members of the Union:  
> 1,799*

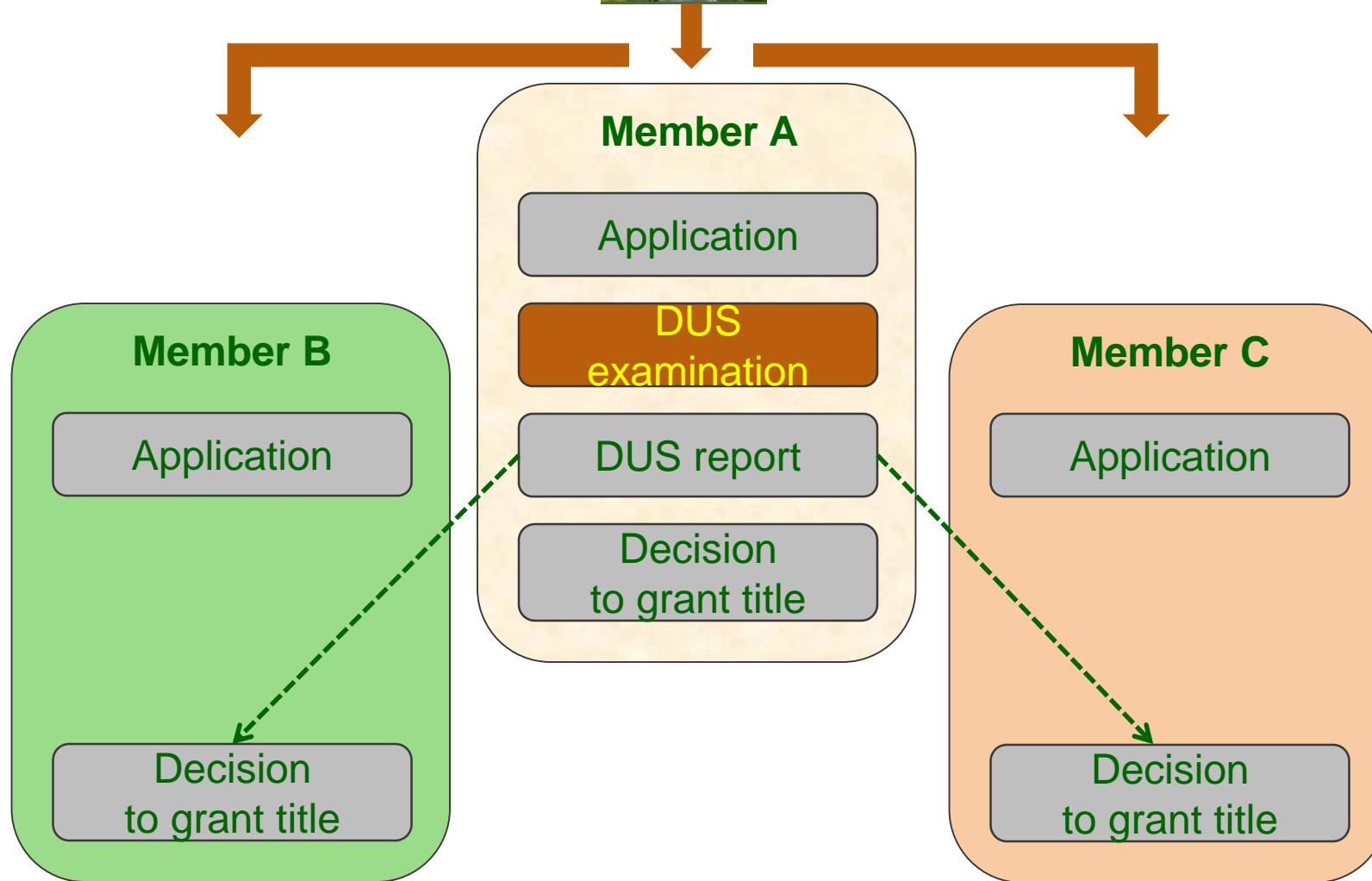


# Cooperation between Authorities

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Cooperation between Authorities can involve:

- use of existing DUS Test Reports from other Authorities
- bilateral arrangements to remove the need for duplication of DUS Tests
- centralized DUS testing at regional or global level



**UPOV Model administrative agreement (TGP/5): 350 CHF (prior application)**

# UPOV guidance on Article 20 of the 1991 Act:

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**“Explanatory Notes on Variety Denominations under the  
UPOV Convention”  
(document UPOV/EXN/DEN)**

# Article 20

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(1) [*Designation of varieties by denominations; use of the denomination*]

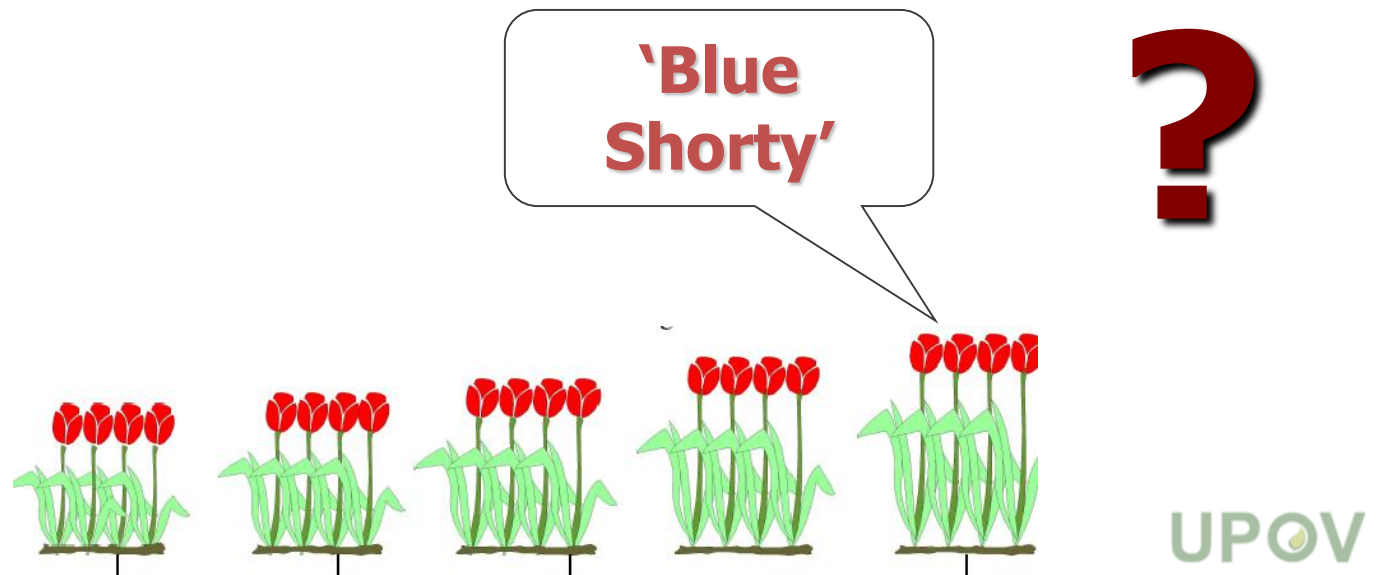
(2) (a) The variety shall be designated by a **denomination which will be its generic designation**

# Article 20

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(2) [*Characteristics of the denomination*]

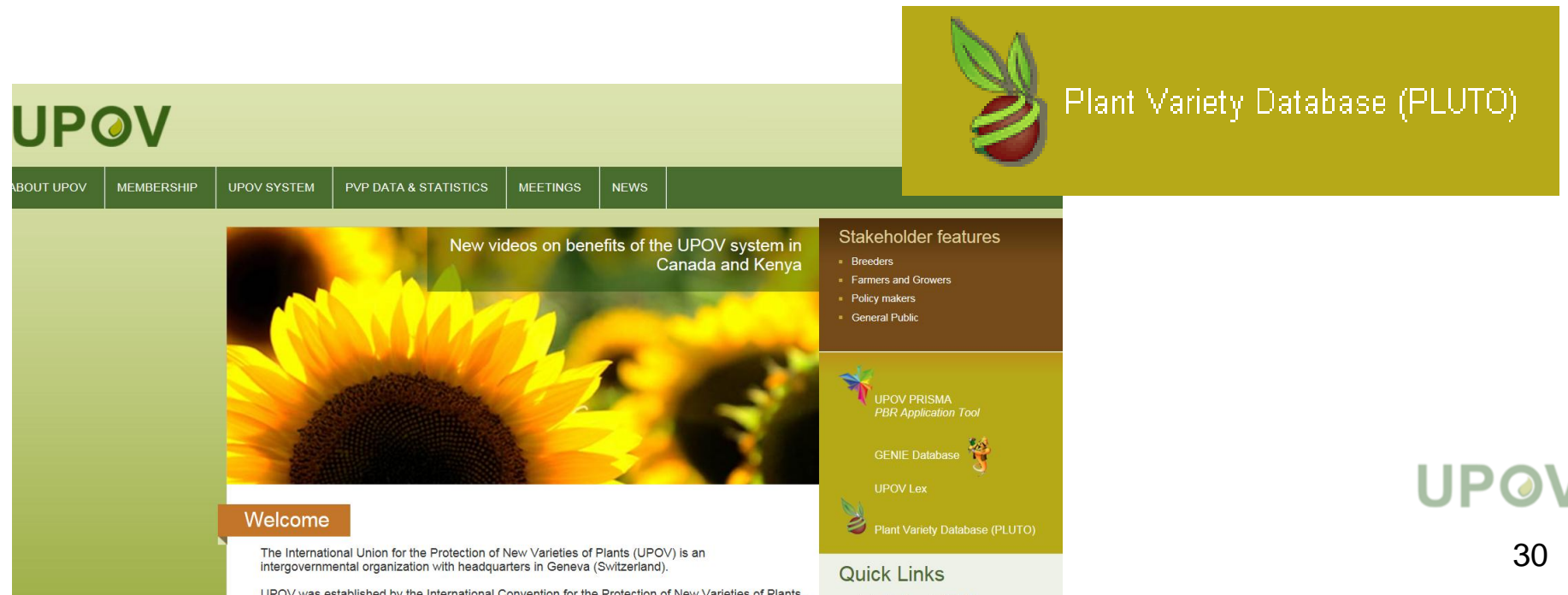
It **must not be liable to mislead or to cause confusion** concerning the characteristics, value or identity of the variety or the identity of the breeder.



# Article 20

## (2) [*Characteristics of the denomination*]

In particular, it **must be different from every denomination** which designates, in the territory of any Contracting Party, **an existing variety** of the same plant species or of a closely related species.



The image shows a screenshot of the UPOV website. The main header features the UPOV logo and a navigation menu with links for ABOUT UPOV, MEMBERSHIP, UPOV SYSTEM, PVP DATA & STATISTICS, MEETINGS, and NEWS. A prominent banner on the right side of the page is titled "Plant Variety Database (PLUTO)" and includes a logo of a stylized plant. Below the navigation menu, there is a section titled "New videos on benefits of the UPOV system in Canada and Kenya" with a background image of sunflowers. A "Welcome" message is displayed, stating: "The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization with headquarters in Geneva (Switzerland). UPOV was established by the International Convention for the Protection of New Varieties of Plants." To the right of the main content, there is a "Stakeholder features" section with a list of links: Breeders, Farmers and Growers, Policy makers, and General Public. Below this, there are links to UPOV PRISMA PBR Application Tool, GENIE Database, UPOV Lex, and Plant Variety Database (PLUTO). A "Quick Links" section is also visible at the bottom right. The UPOV logo is repeated in the bottom right corner of the page.

## Denomination search

Term search Denomination search

1

2

3

4

Enter UPOV code/botanical name/common name

Upov code Botanical name Common name Breeder's reference Denomination

Please enter here

ORYZA Oryza

tsuyahime

Search options

Exact match  Extend to upper level  Extend to lower levels  Denomination class

Contains  Starts  Phonetics  Similarity Factor

Fuzzy  Ends

Search Reset

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

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- (a) Breeders and varieties
- (b) National treatment
- (c) Conditions of protection
- (d) Breeder's right and exceptions**
- (e) Matters after grant



# MINIMUM DURATION OF PROTECTION

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**TREES and VINES**

**25** years

**OTHER PLANTS**

**20** years

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



# Breeder's right and exceptions

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## Scope of breeders' rights

- a) Acts covered
- b) Material covered
- c) Varieties covered

## Exceptions to the breeders' rights

# SCOPE – Acts covered

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## 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*

# SCOPE – Material covered

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## All propagating material



# SCOPE – Material covered

- **Harvested material**

If obtained through unauthorized use of propagating material unless, reasonable opportunity for breeder to exercise his right in relation to the propagating material



## Certain products (optional)

- if obtained through unauthorized use of harvested material unless, reasonable opportunity for breeder to exercise his right in relation to the harvested material

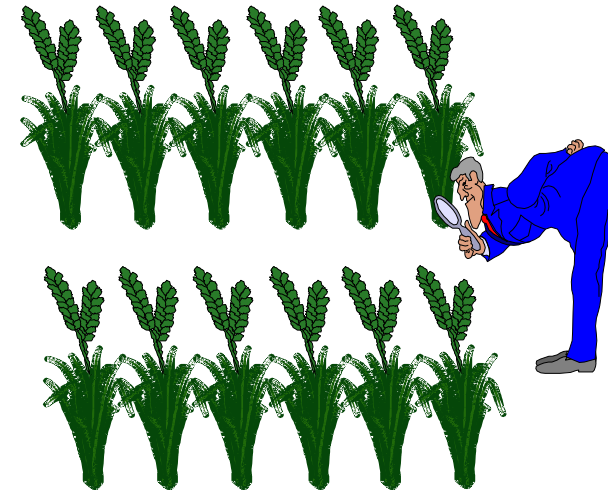


# SCOPE – Varieties covered

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In addition to the protected variety itself...

- **Essentially derived varieties**
- Varieties **not clearly distinguishable** from the protected variety
- Varieties whose production requires the repeated use of the protected varieties



# Essentially Derived Varieties

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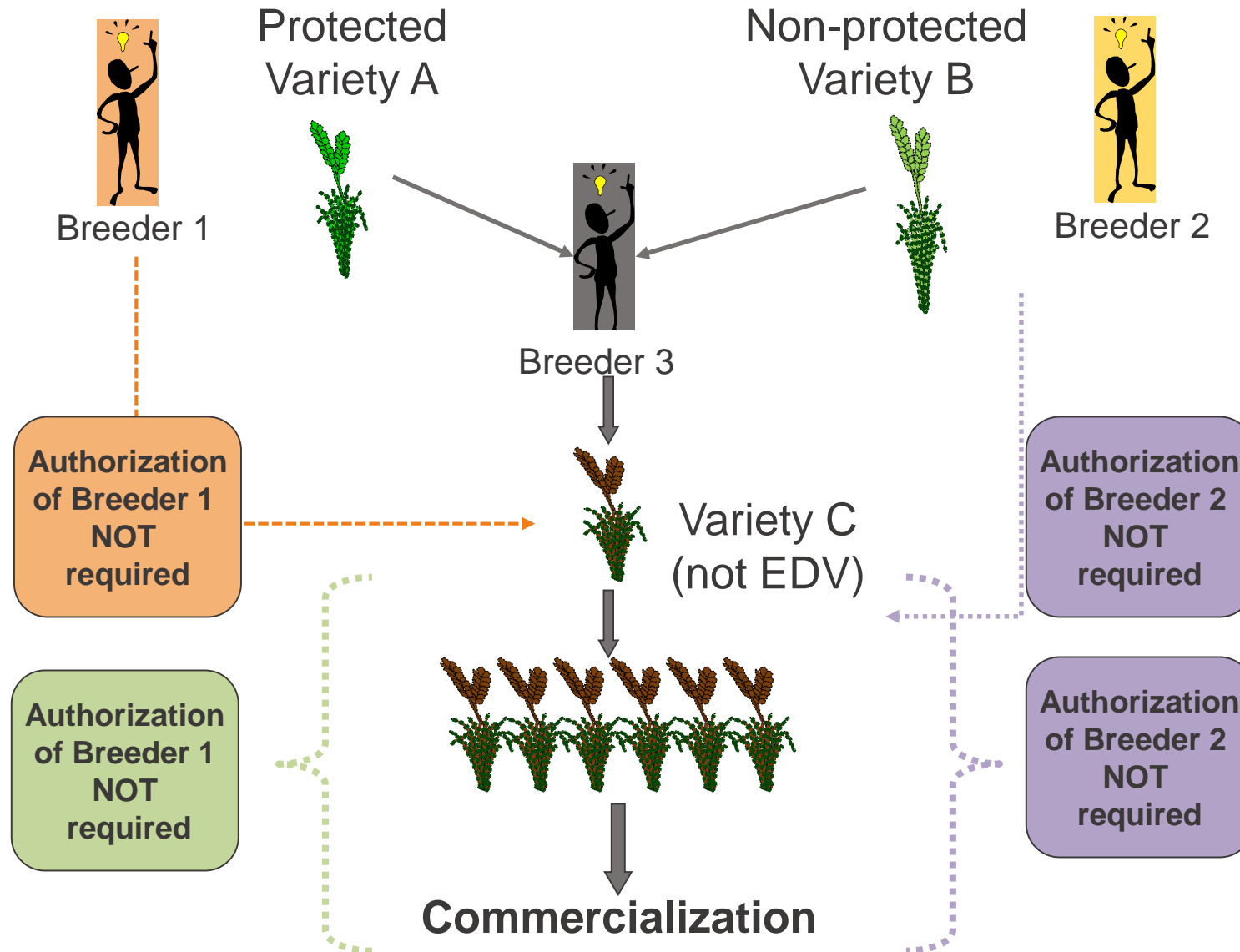
Article 14(5):

(a) The provisions of paragraphs (1) to (4) on the scope of protection shall also apply in relation to

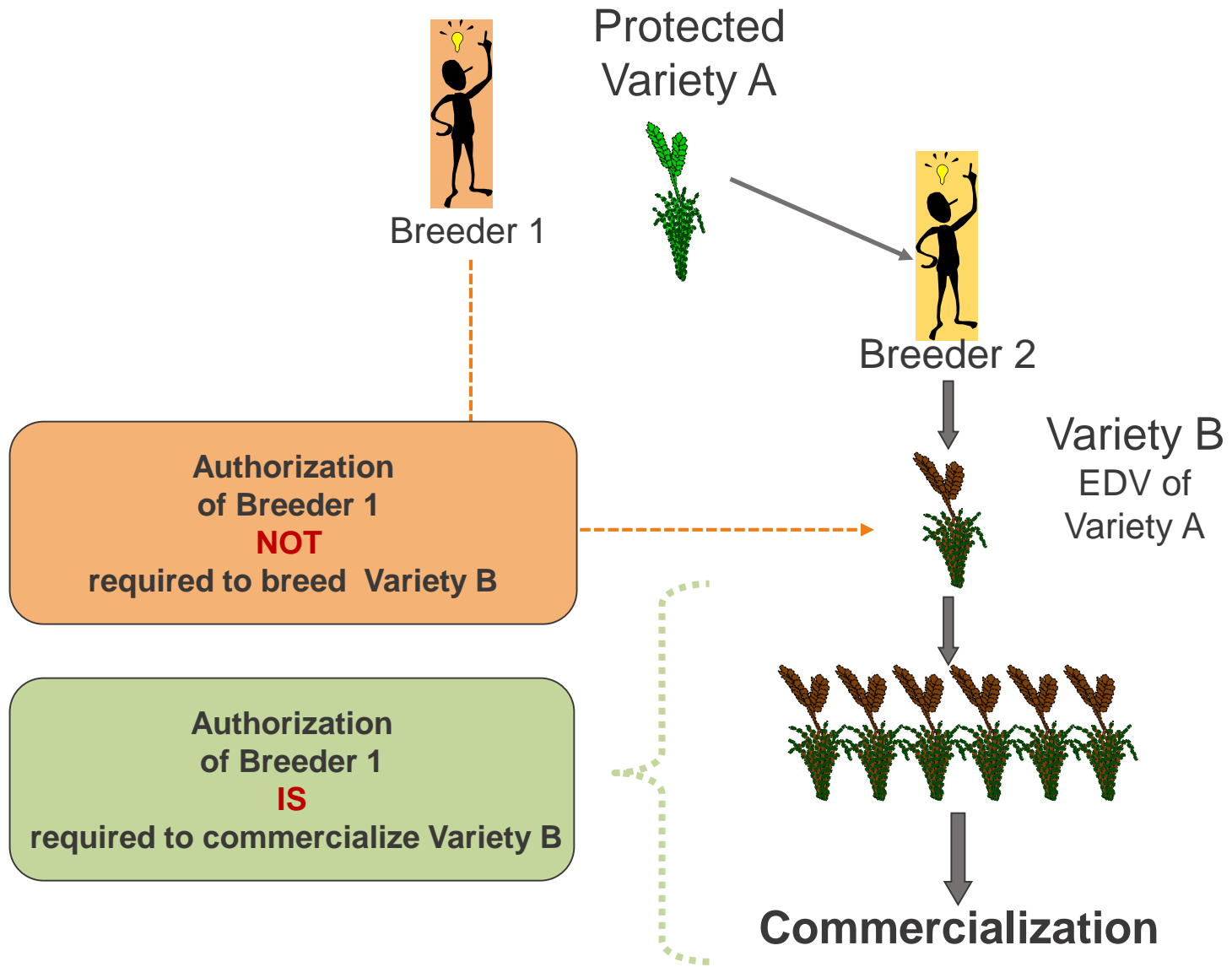
(i) **varieties which are essentially derived** from the protected variety, where the protected variety **is not itself** an essentially derived variety,



# The Breeder's Exemption



# The Breeder's Exemption and EDVs



# Essentially Derived Varieties

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A variety shall be deemed to be essentially derived from another variety (“the **initial variety**”) .....

However, if the initial variety is not protected, the breeder of a protected EDV of that initial variety does **not need the authorization** to commercialize the EDV

# Guidance

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- On 27 October 2023 the UPOV Council adopted new explanatory notes, EXN/EDV/3

available at [https://www.upov.int/explanatory\\_notes/en/](https://www.upov.int/explanatory_notes/en/)

# Essentially Derived Varieties

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A variety shall be deemed to be essentially derived from another variety (“the initial variety”) when

- (i) it is **predominantly derived** from the initial variety, or from a variety that is itself predominantly derived from the initial variety, while retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety,
- (ii) it is **clearly distinguishable** from the initial variety and
- (iii) except for the differences which result from the act of derivation, it **conforms to the initial variety in the expression of the essential characteristics** that result from the genotype or combination of genotypes of the initial variety.

# Essentially Derived Varieties

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*May be obtained for example by (Article 14(5)(c):*

- **selection** of a natural or induced **mutant**
- **selection** of a **somaclonal variant**
- **selection** of a **variant individual** from plants of the initial variety
- **back-crossing**
- transformation by **genetic engineering**



# Exceptions to the breeder's right

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## 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

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## Explanatory Notes



**E**  
UPOV/EXN/EXC/1  
ORIGINAL: English  
DATE: October 22, 2009

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS  
GENEVA

EXPLANATORY NOTES ON  
EXCEPTIONS TO THE BREEDER'S RIGHT  
UNDER THE 1991 ACT OF THE UPOV CONVENTION

[https://www.upov.int/edocs/expndocs/en/upov\\_exn\\_exc.pdf](https://www.upov.int/edocs/expndocs/en/upov_exn_exc.pdf)

UPOV



# Exceptions to the breeder's right

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## Compulsory

Acts done:

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# Exceptions to the breeder's right – Explanatory Notes

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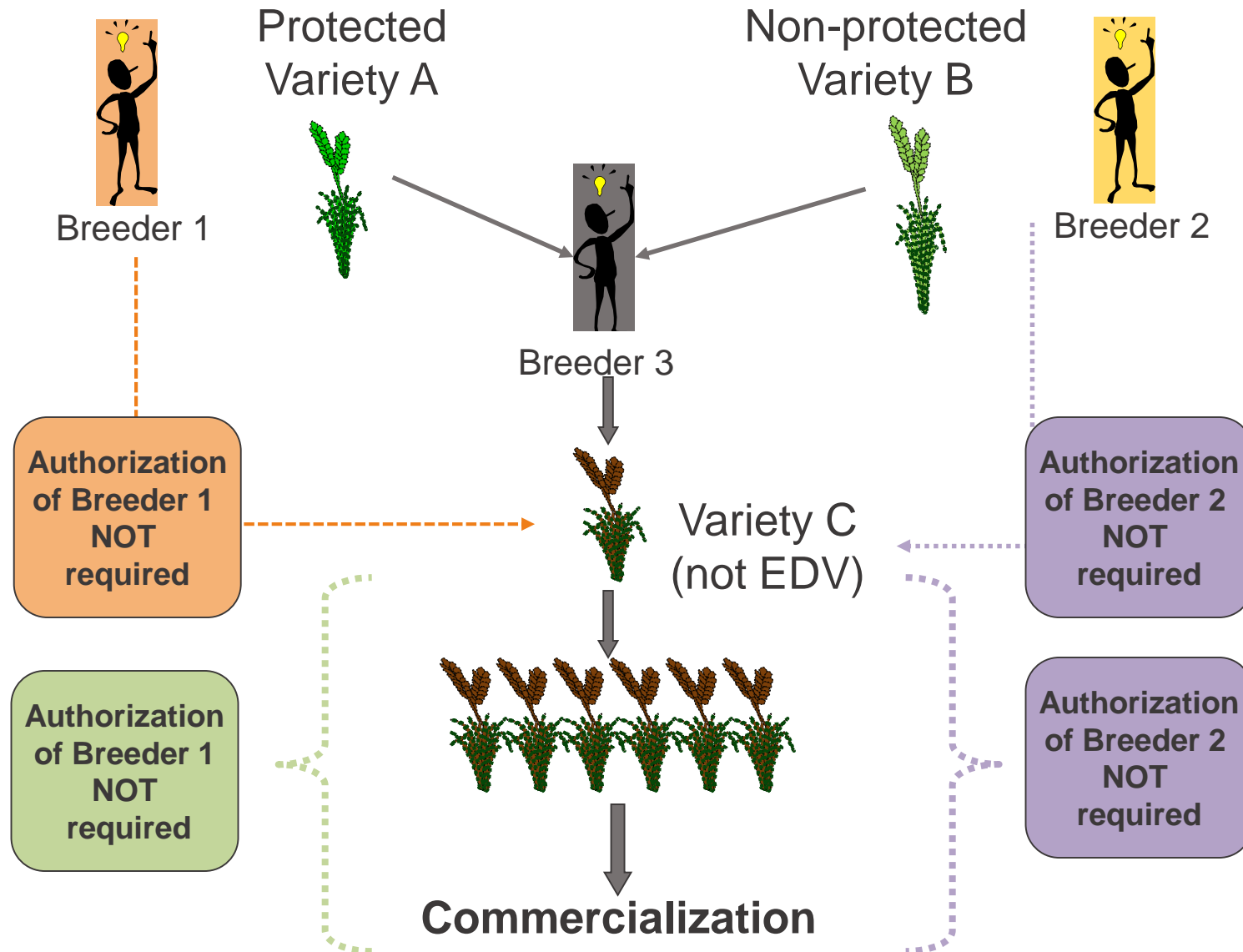
## Acts done privately and for non-commercial purposes;

- the propagation of a variety by an **amateur gardener** for exclusive use in his own garden
- the 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,





# The Breeder's Exemption



# Advantages of the breeder's exemption

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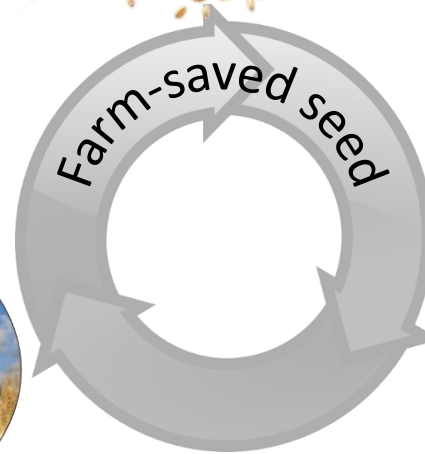
- **Germplasm** sources remain **accessible** to the community of breeders
- **Genetic basis** for plant improvement is **broadened** and is actively conserved
- Variety **improvement** is enhanced
- Opportunity for all **breeders to share** in benefits of breeding activities

# Exceptions to the breeder's right (1991 Act)

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Optional

Farm-saved seed



## Optional Exception To The Breeder's Right - Farm-saved seed – Article 15(2)

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

- for propagating purposes on their own holding 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

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



# Optional exception to the breeder's right

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## Reasonable limits and safeguarding the legitimate interest of the breeder

Possible factors:

- Type of variety
- Size of holding/crop area/crop value
- Proportion/amount of harvested material
- Remuneration to the breeder

Review over time

# Should all species be covered by the exception ?

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Fruits



Vegetables



Ornamental



Agriculture

## Optional Exception To The Breeder's Right Farm-saved seed – Article 15(2)

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### *Recommendation of the Diplomatic Conference on Article 15(2)*

12. Article 15 (2) is an “optional” provision as clarified by the wording “ ... each contracting Party may ... ”. Thus, it is a matter for each member to decide whether it would be appropriate to incorporate the option provided in Article 15 (2). The purpose of the following paragraphs is to provide guidance to those members of the Union which decide to incorporate the optional exception into their legislation.

14. The Diplomatic Conference recommendation indicates that the optional exception was aimed at those crops where, for the member of the Union concerned, there was a common practice of farmers saving harvested material for further propagation.

[https://www.upov.int/edocs/expndocs/en/upov\\_exn\\_exc.pdf](https://www.upov.int/edocs/expndocs/en/upov_exn_exc.pdf)

# Should all sizes of farms be covered by the exception ?

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# Should the crop value determine if a farm is covered by the exception ?

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# Should the farmer pay a remuneration/royalty to the holder ?

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- There is considerable scope for relevant crops to **exempt small commercial farmers from paying remuneration on FSS** without significantly impacting the income to breeders
- It is important that **farmers that pay remuneration on FSS** have confidence in the benefits that will result for them in the form of new, improved varieties.
- Arrangements for **collecting remuneration** on FSS need to suit the particular situation of each country

## Matters after the grant





# Termination of the breeder's right

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- **Expiration of duration**
- **Renunciation or surrender**
  - A unilateral decision of the holder of the breeder's right that is not linked to compliance with any obligation under the UPOV Convention
  - The competent authority publishes the termination of the breeder's right.
- **Nullity**
- **Cancellation**

A decorative graphic on the right side of the slide features several overlapping white shapes (teardrop and circular) containing images of tulips with yellow and red stripes, set against a blue sky with light clouds.

## Topic 4

The importance of development  
legislation in accordance with the  
UPOV Convention

# 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

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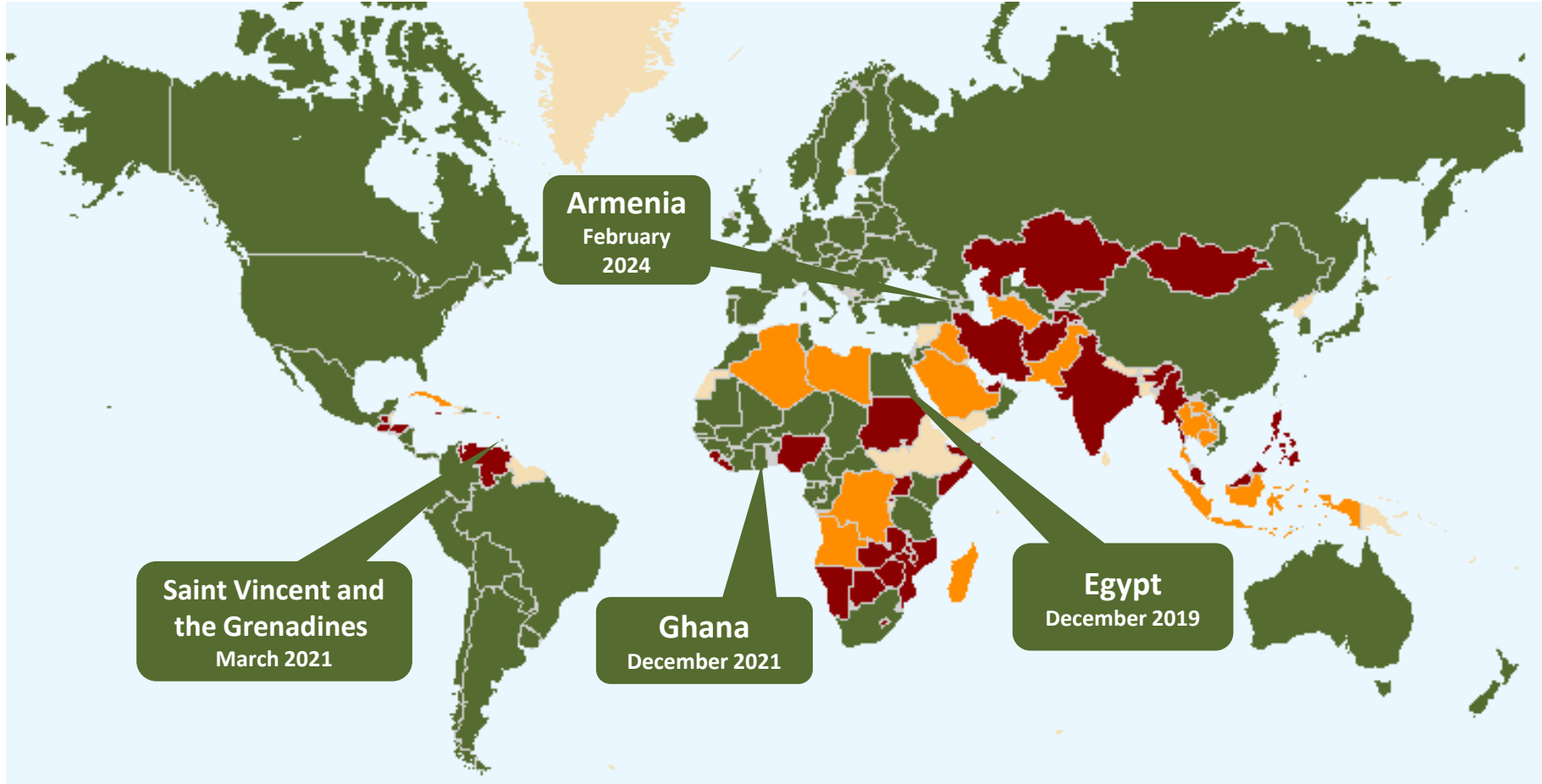
79 members of UPOV (covering 98 states )

- 77 countries
- 2 intergovernmental organisations
  - Organisation Africaine de la Propriété Intellectuelle (OAPI)
  - European Union (EU)

# UPOV STATUS

February 2, 2024

## Recent UPOV members Egypt, Ghana, Saint Vincent and the Grenadines and Armenia



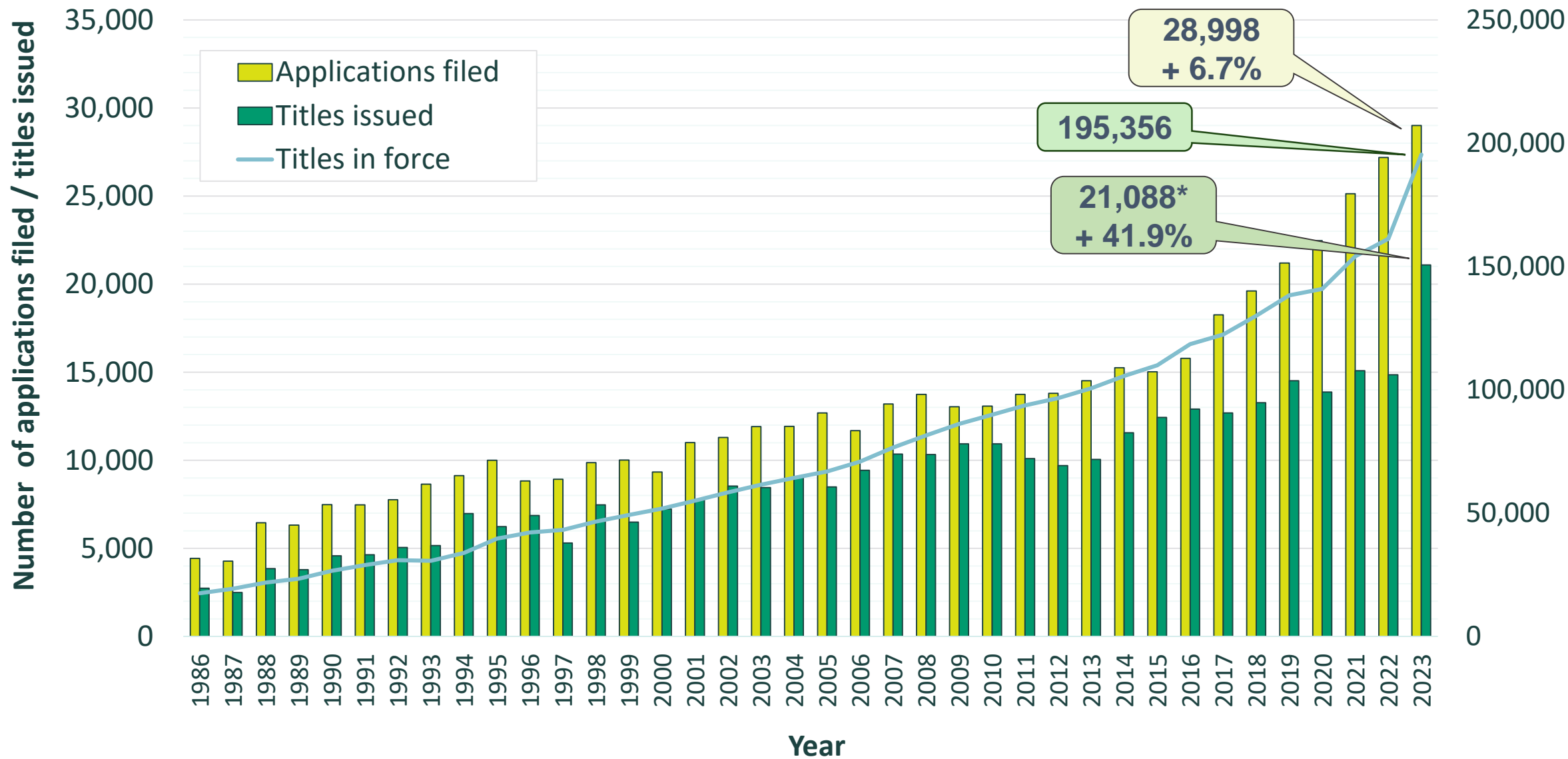
*The boundaries shown on this map do not imply the expression of any opinion whatsoever on the part of UPOV concerning the legal status of any country or territory*

- Members of UPOV (79) (covering 98 States)
- Initiating States (18) and Organization (1)
- States (24) and Organization (1) in contact with the UPOV Office

**Accession of Ghana to  
the UPOV Convention  
on December 3, 2021**



## Total applications filed, titles issued and titles in force



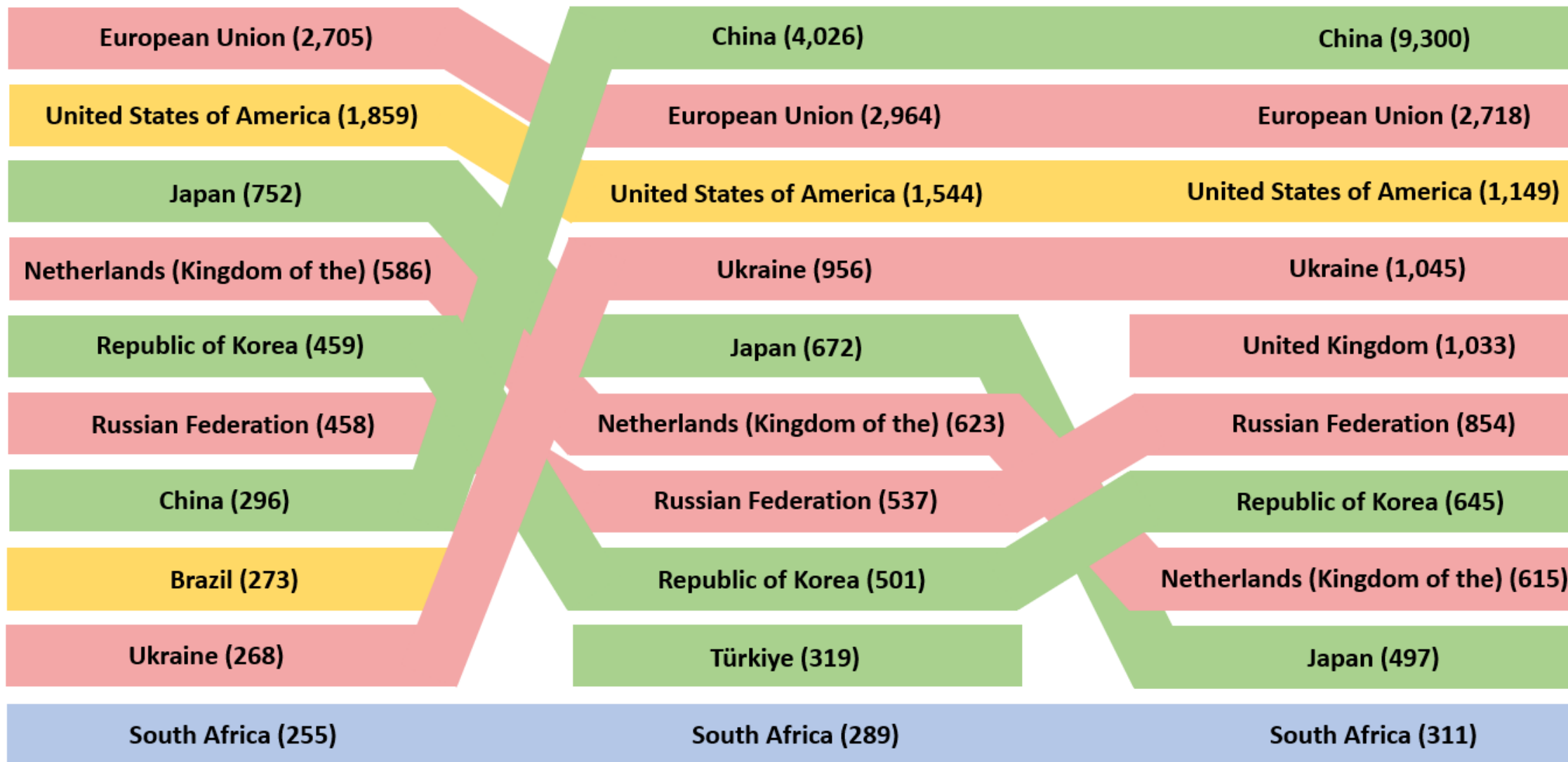
\*GB also issued another 21,805 plant variety titles in 2023 related to plant variety rights transferred from the EU, as part of the withdrawal agreement.

# Top 10 UPOV members by number of plant variety protection titles issued

**2013**

**2022**

**2023**



■ Africa 
 ■ Americas 
 ■ Asia 
 ■ Europe 
 ■ Oceania



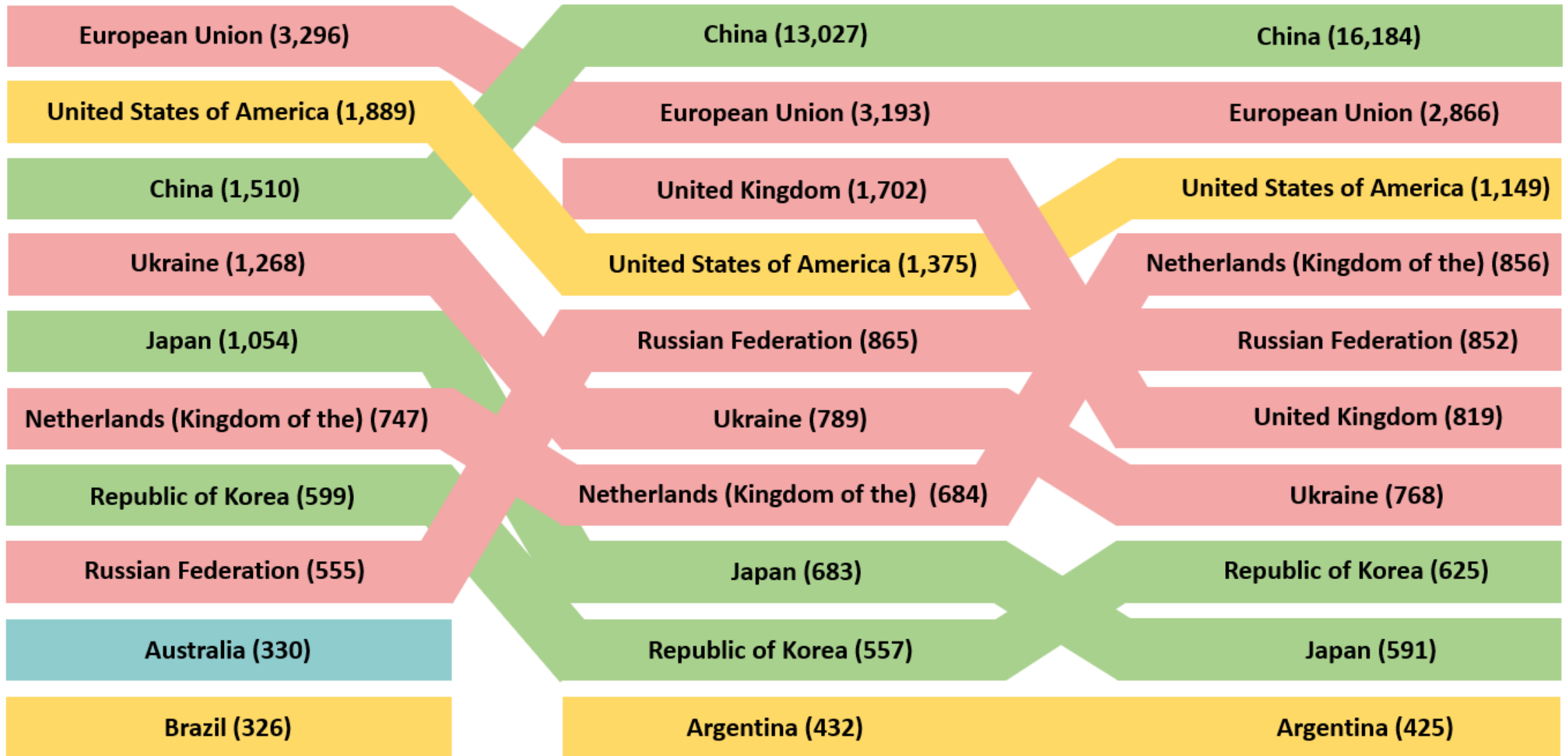


# Top 10: UPOV members by number of plant variety applications filed

2013

2022

2023



■ Africa 
 ■ Americas 
 ■ Asia 
 ■ Europe 
 ■ Oceania



# Becoming a UPOV member

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## Requirements

- Have a law which conforms with the UPOV Convention (1991 Act)
- Be a
  - State
  - Intergovernmental organization (under certain conditions)

# UPOV membership process

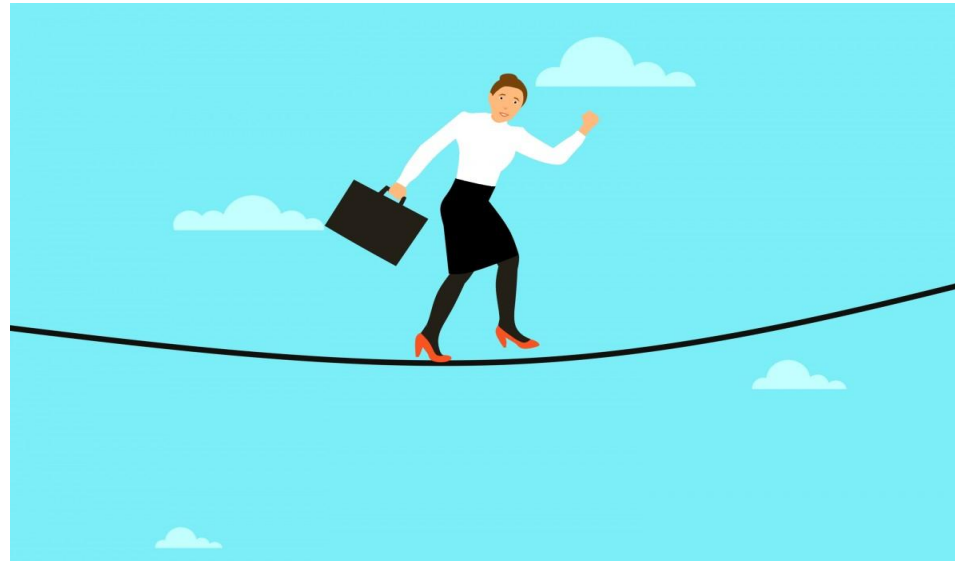
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- **Policy decision** to draft legislation in accordance with the 1991 Act of the UPOV Convention
- **Contact the Office of UPOV** for assistance provision of the Drafting Guidance Document INF/6 and consultations
- **Finalize the Draft Law** for its examination by the Council of UPOV
- **Ask advice** of the Council of UPOV
- If **advice positive** and **Law in force** deposit instrument of accession to become a UPOV member

# UPOV membership process

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- If **advice positive** and **Law in force** deposit instrument of accession to become a UPOV member
- If the wording of the law deviates from the UPOV Convention, there is **a risk** that the Council does not provide a positive advice.



# Becoming a UPOV Member – Process

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## Deposit the instrument of accession

Requirements for the deposit:

- A declaration to become member
- Copy of the Law in force
- Declaration of units of contributions
- Declaration of plant genera and species covered (all or list)

The Office of UPOV will provide assistance and guidance on models for the effective deposit of the instrument

# Becoming a UPOV Member – Process

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Becomes UPOV member one month after depositing the instrument of accession

## FINANCIAL ASPECTS

- Annual contribution
- Working Capital Fund (one time payment only)

## Topic 5

Benefits of UPOV membership and how can UPOV membership and plant variety protection contribute to achieving national development goals in the agriculture sector



# Plant Breeding and New Plant Varieties for Agricultural Value Chains







# Challenges

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- **World population**
  - 2025 around 8 billion
  - 2050 around 10 billion
- **The overwhelming part of food comes from agriculture /plants**
  - New eating habits in emerging economies
  - Climate changes
- Innovation and investments in technology are often mentioned as essential to find sustainable solutions

# Challenges

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- The cost of Breeding

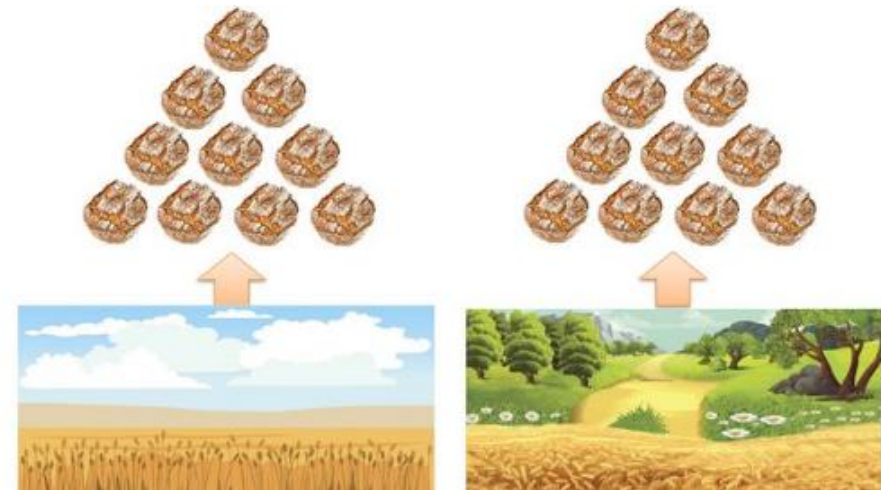
Development of lettuce or tomato variety:

|                                   |                |
|-----------------------------------|----------------|
| Duration of the breeding process: | ± 7 years      |
| Development Costs:                | ± 500.000 Euro |
| Life Span of a variety:           | 6 years        |



Producing more... with less

And in more challenging conditions



More than **8 in 10 farmers** surveyed by the World Farmers' Organization have identified improved plant varieties as an important tool in responding to climate change

- Plant breeding requires long time and resources
  - How can the time be shortened
  - How can breeding activities be financed?

# Plant Breeding and New Varieties of Plants

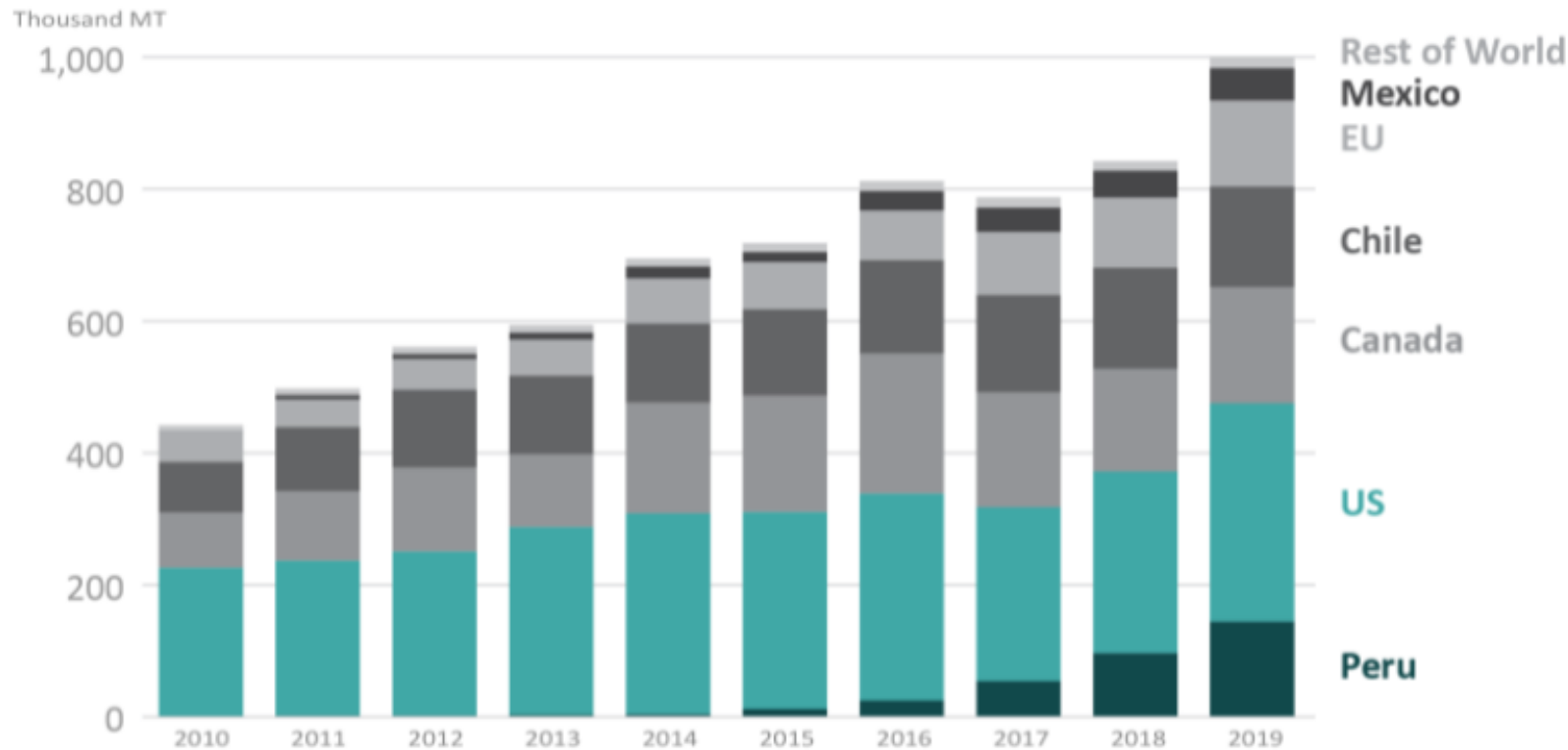


<https://www.bioeconomia.info/2020/07/20/peru-se-consolida-como-primer-exportador-de-arandanos/>

# High quality varieties are key for high value crops

Peru: More than sixty new varieties of blueberries protected since membership

Peru Accounts for Increasing Share of Rising Global Blueberry Production



Note: Chile data for 2011, 2013, 2015, 2017 are estimates

Source: USDA-Foreign Agricultural Service, Food and Agriculture Organization of the United Nations, International Blueberry Organization



Inicio Berries ▾ Proveedores Compro/Vendo ▾ Publicidad Recetas ▾ Videos AgroNegociosPerú

JUNIO 17, 2021 NORMA ROJAS MARROQUIN

## Perú exportó arándanos por US\$ 1,000 millones y fue el principal exportador del mundo por segunda vez





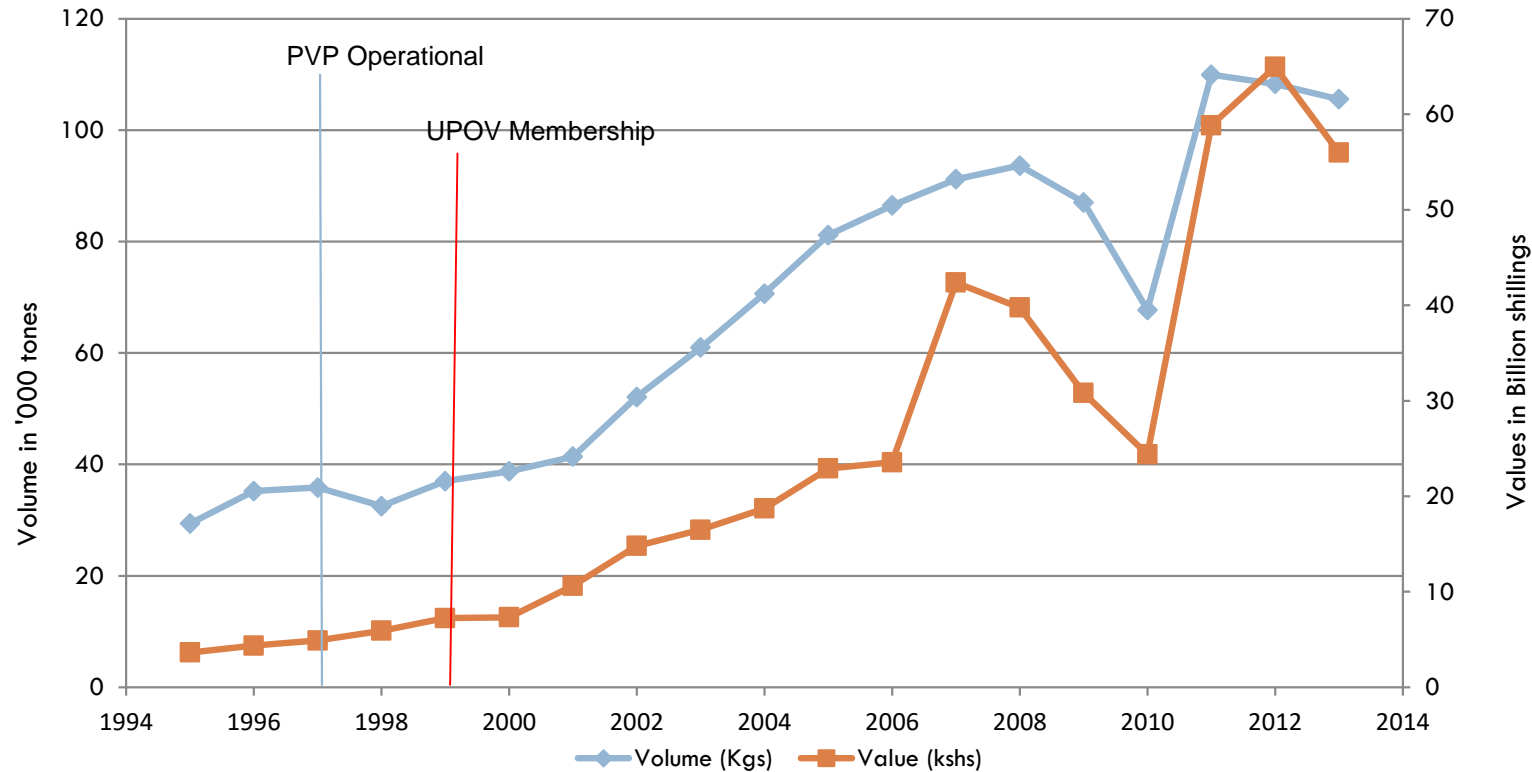
# Examples



## Delayed pinking of fresh cut lettuce ( **Leaf wound-induced discoloration** )

- Extended shelf life
- Less waste
- Suitable for Food Service
- Stronger against cracking
- Less sensitive for leaking seals

# Impact of Plant Variety Protection in Kenya



**CUT FLOWER EXPORTS 1995 - 2013**

Source: HCDA



# Kenya: the Floriculture Industry

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## Wealth Creation

- The Kenyan floriculture market was valued at **USD 861.6 million** in 2018, and;
- **USD 1.1 billion** in 2020



# Kenya: the Floriculture Industry

## Employment creation

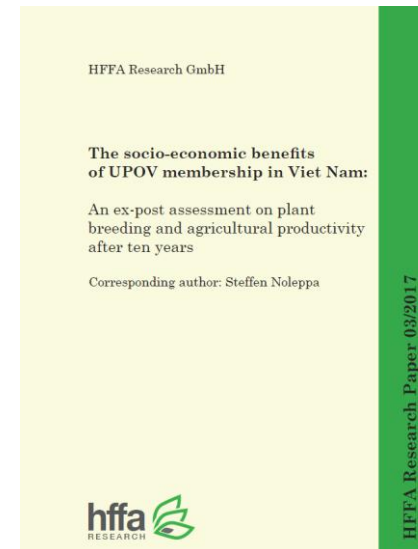
- It is estimated that the floriculture industry employs over **500,000** people and impacts more than **2 million** livelihoods indirectly.



# 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**
- **2006-2016:** annual land productivity increase due to plant breeding
  - **Rice** 1.7 %
  - **Corn** 2.1 %
  - **Sweet potatoes** 3.1 %



\* “The socio-economic benefits of UPOV membership in Viet Nam; An ex post assessment on plant breeding and agricultural productivity after 10 years” (Corresponding author: Steffen Noleppa) by HFFA Research GmbH

# Study in Viet Nam\*

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## Annual value added:

- Arable farming \$2.3 billion
- Horticulture \$1.0 billion
- Floriculture \$ 0.2 billion
  
- GDP added upstream/downstream (value chains)  
\$1.5 billion

**TOTAL ADDED: \$5 billion**  
**(> 2.5% GDP)**

## ➤ CPVO/EUIPO study 2022

- Without breeding the past 20 years,
  - the EU would have become net importer of all major agriculture species
  - The arable land would need to be increased by 21,5 million hectares in the EU
  
- Plant breeding contributes to save arable land by producing higher yields per hectare

# New plant varieties are key for sustainable production



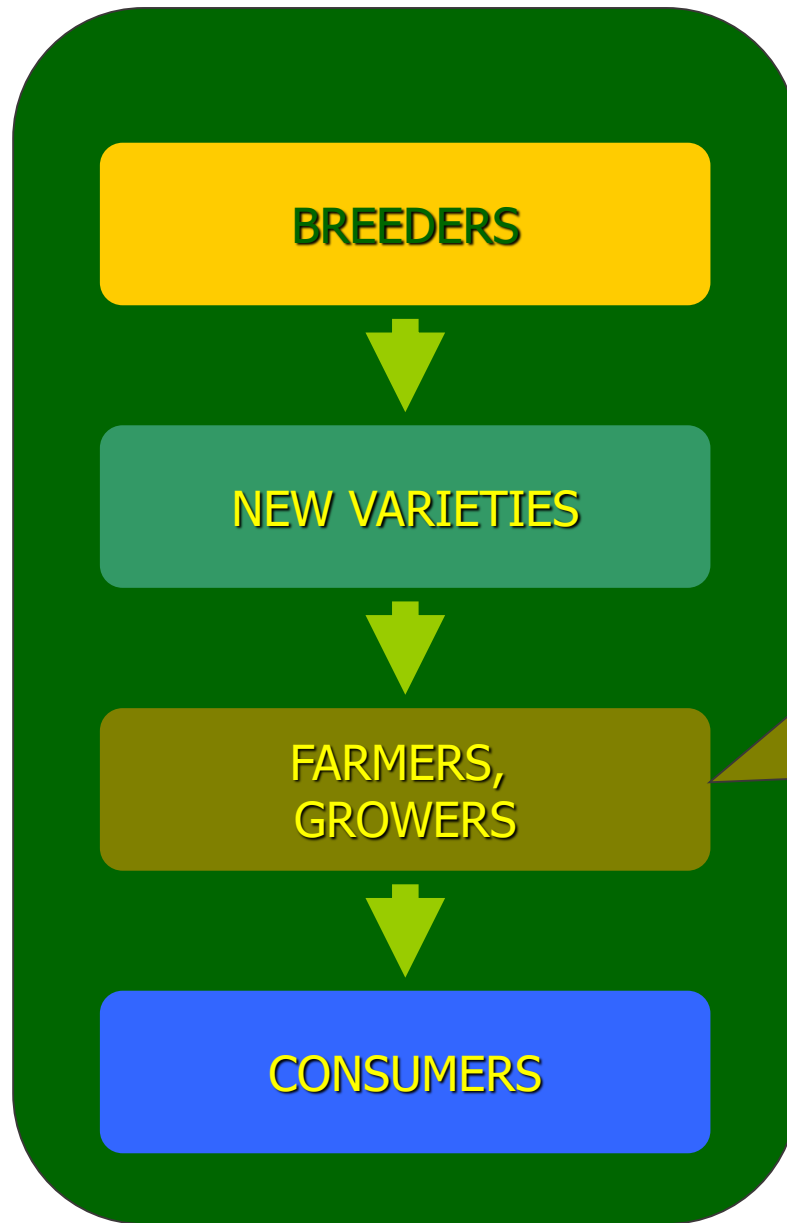


# BENEFITS OF PLANT VARIETY PROTECTION SYSTEM AND UPOV MEMBERSHIP

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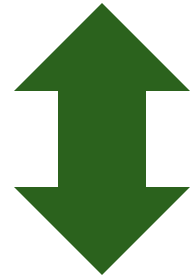
- Diversity and number of breeders
- Investment in breeding
- Delivering improved varieties to farmers, growers and consumers
- Development of business opportunities in foreign markets
- Access to foreign varieties and enhanced domestic programs



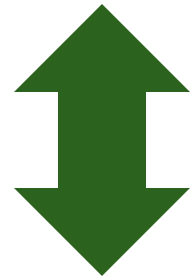


- Yield
- Profitability
- Resistance to pests and diseases
- Stress tolerance
- Harvestability
- Crop quality
- Input efficiency
- Variety diversity
- New markets ...etc.

BREEDERS' RIGHTS

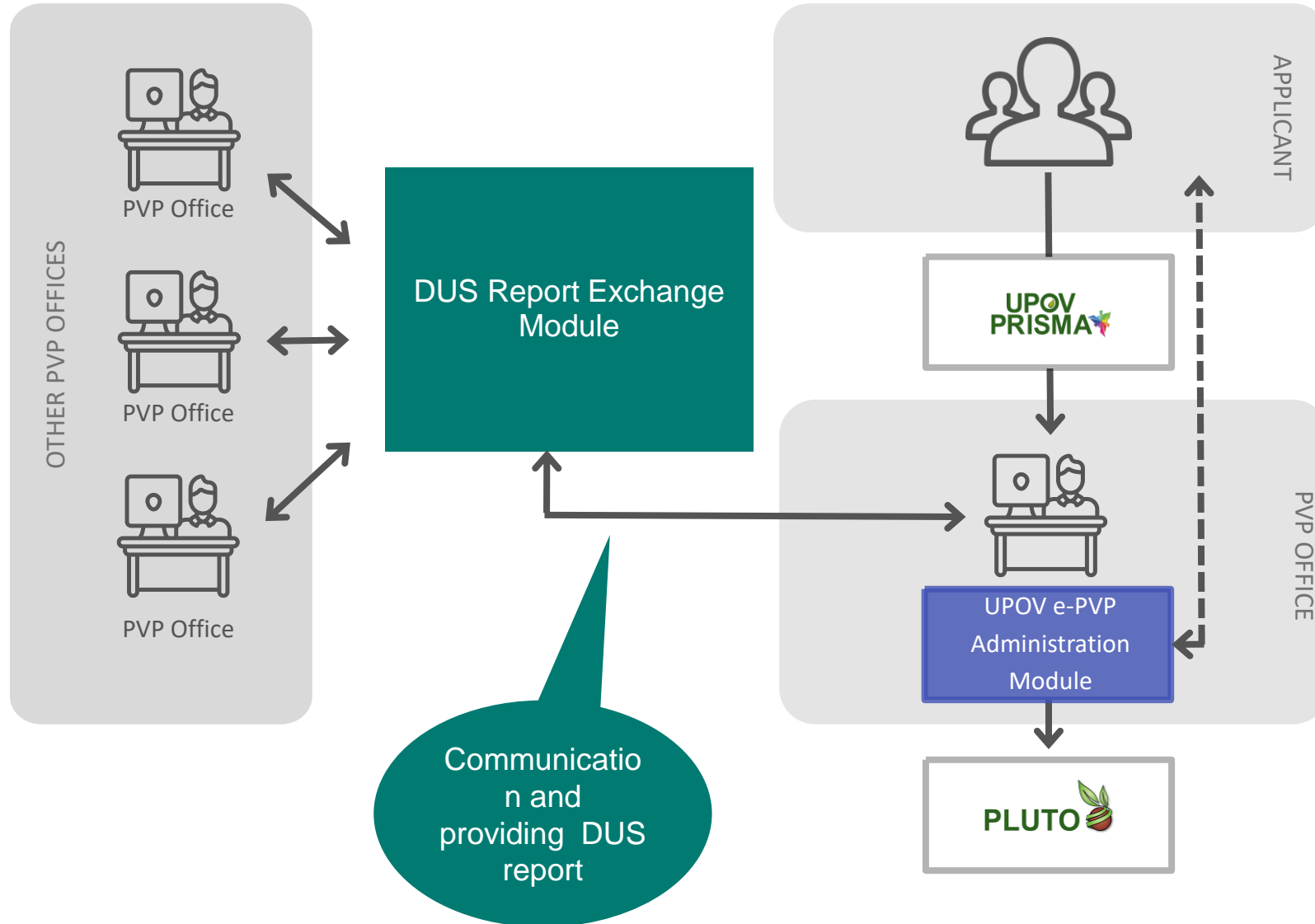


FARMERS' BENEFITS



NEEDS OF SOCIETY

# UPOV e-PVP

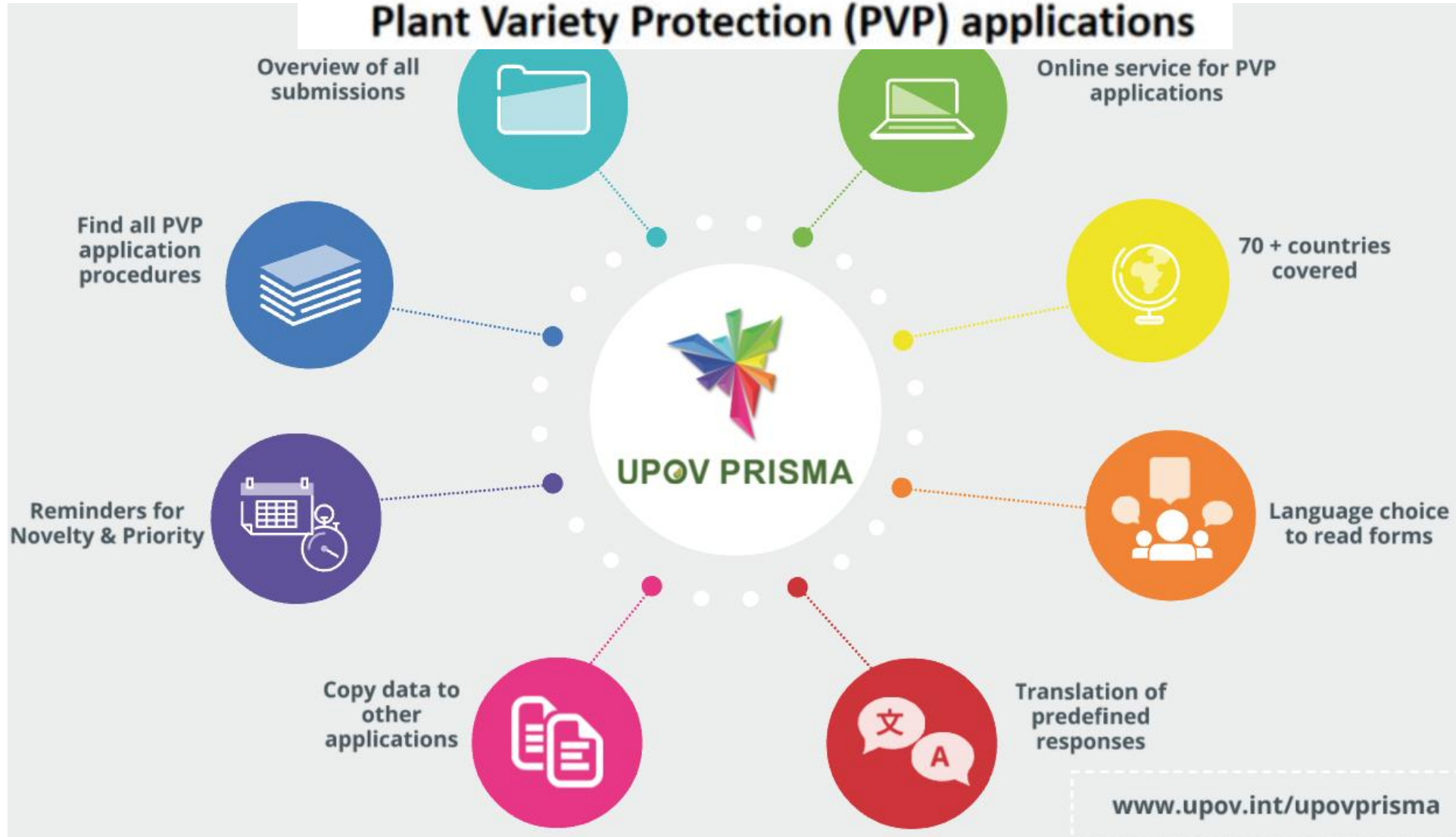


# A simple and harmonized application system

## UPOV PRISMA

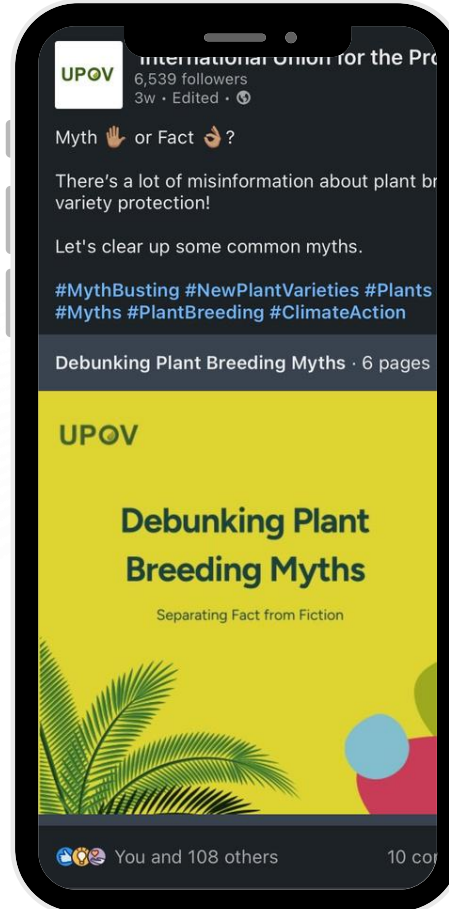
The on-line service for making

### Plant Variety Protection (PVP) applications





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# Thank you !

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