Experience-sharing roundtable on feasibility of China's accession to UPOV '91

Main differences between UPOV '91 and UPOV '78

Peter Button
Vice Secretary-General, UPOV

Brussels
July 7, 2016

PREVIEW

Some key provisions of the 1991 Act:

1. **Breeder and Variety**
2. **Plant Genera and Species**
3. **Provisional Protection**
4. **Duration**
5. **Scope/Exceptions**

PREVIEW

Some key provisions of the 1991 Act:

1. **Breeder and Variety: DEFINITIONS**
2. Plant Genera and Species
3. Provisional Protection
4. Duration
5. Scope/Exceptions

DEVELOPMENT IS NECESSARY

VARIETY

- plant grouping- lowest known rank
- irrespective of whether conditions for the grant are met
- defined by the expression of the characteristics resulting from genotype(s)
- distinguished from other plant grouping
- unit suitable for being propagated unchanged

DISTINCTNESS

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

…anywhere in the World

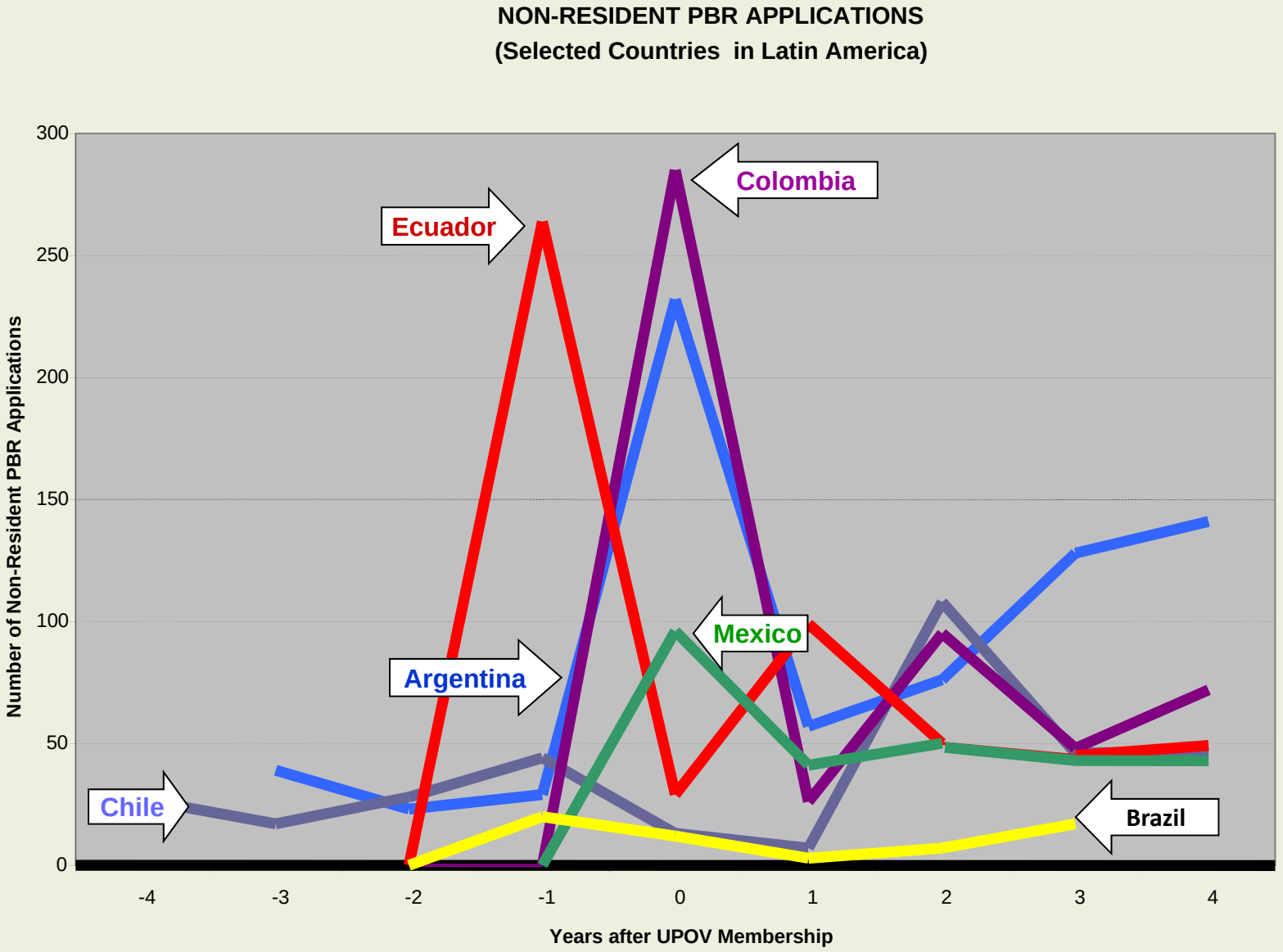
PREVIEW

Some key provisions of the 1991 Act:

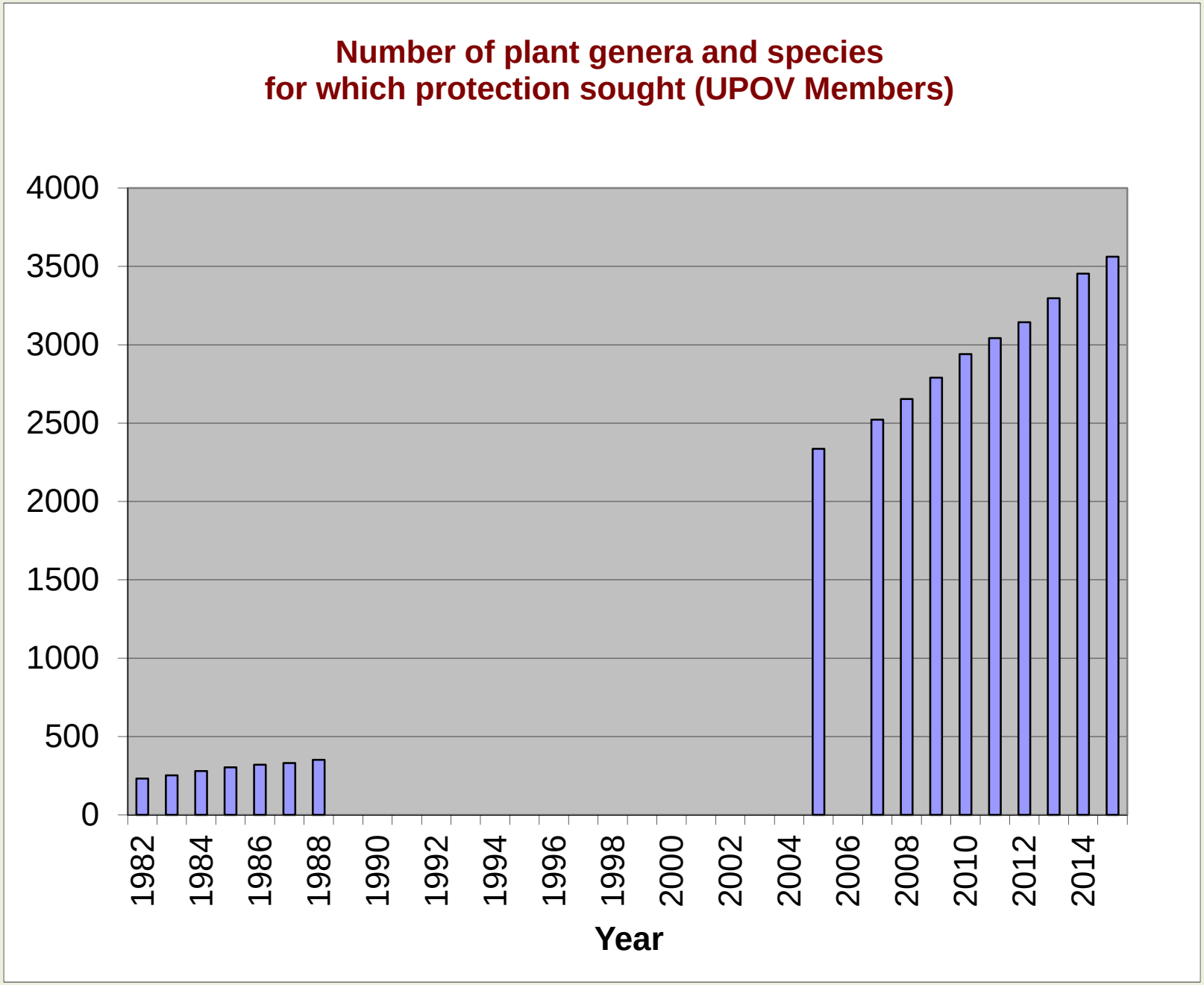
1. Breeder and Variety
2. **Plant Genera and Species: the DUS challenge**
3. Provisional Protection
4. Duration
5. Scope/Exceptions

MINIMUM GENERA AND SPECIES TO BE PROTECTED

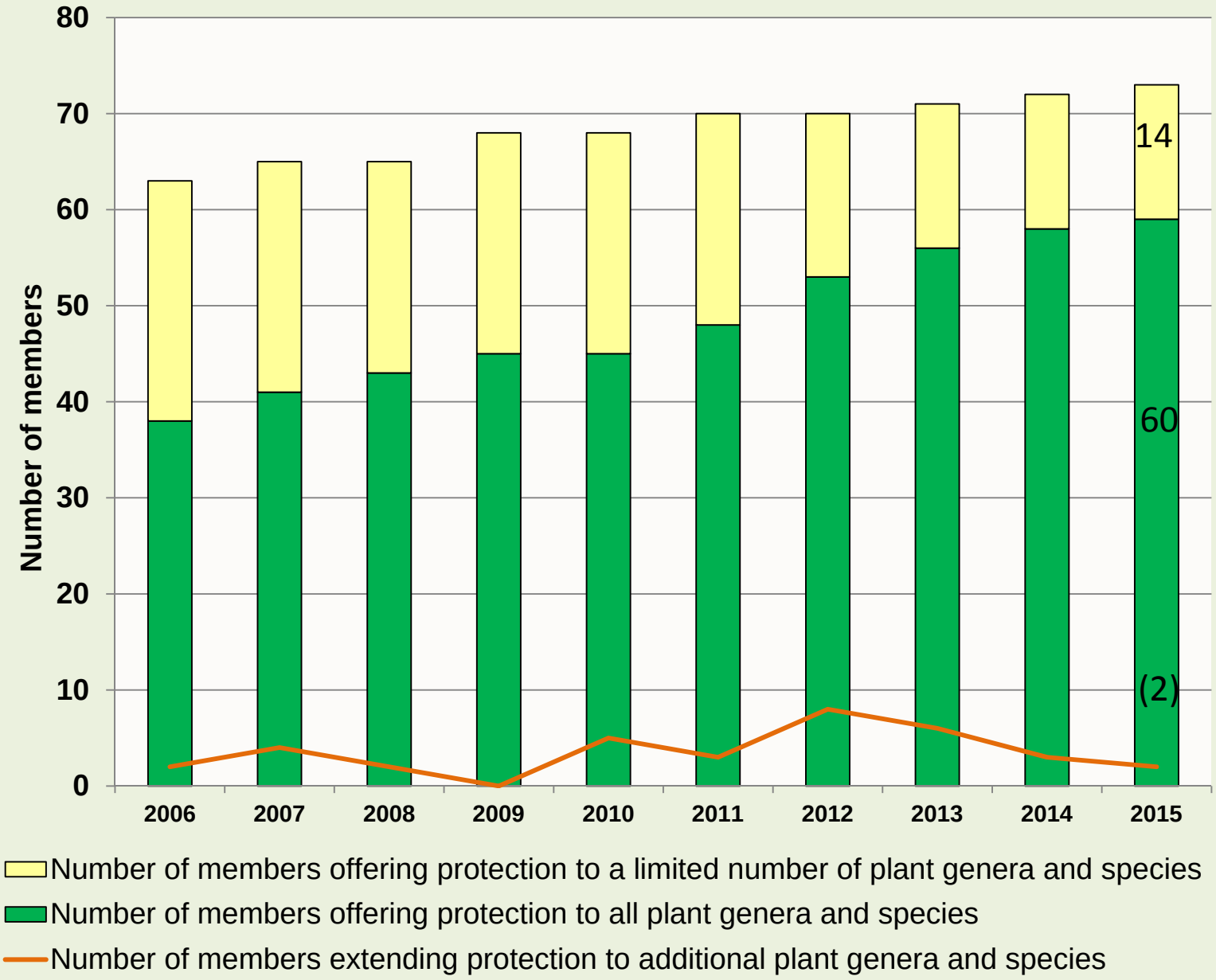
	1978 Act	1991 Act
On joining UPOV	5 genera or species	15 genera or species
Thereafter	24 genera or species (within 8 years)	ALL genera and species within: •10 years (new members) •5 years (existing members)



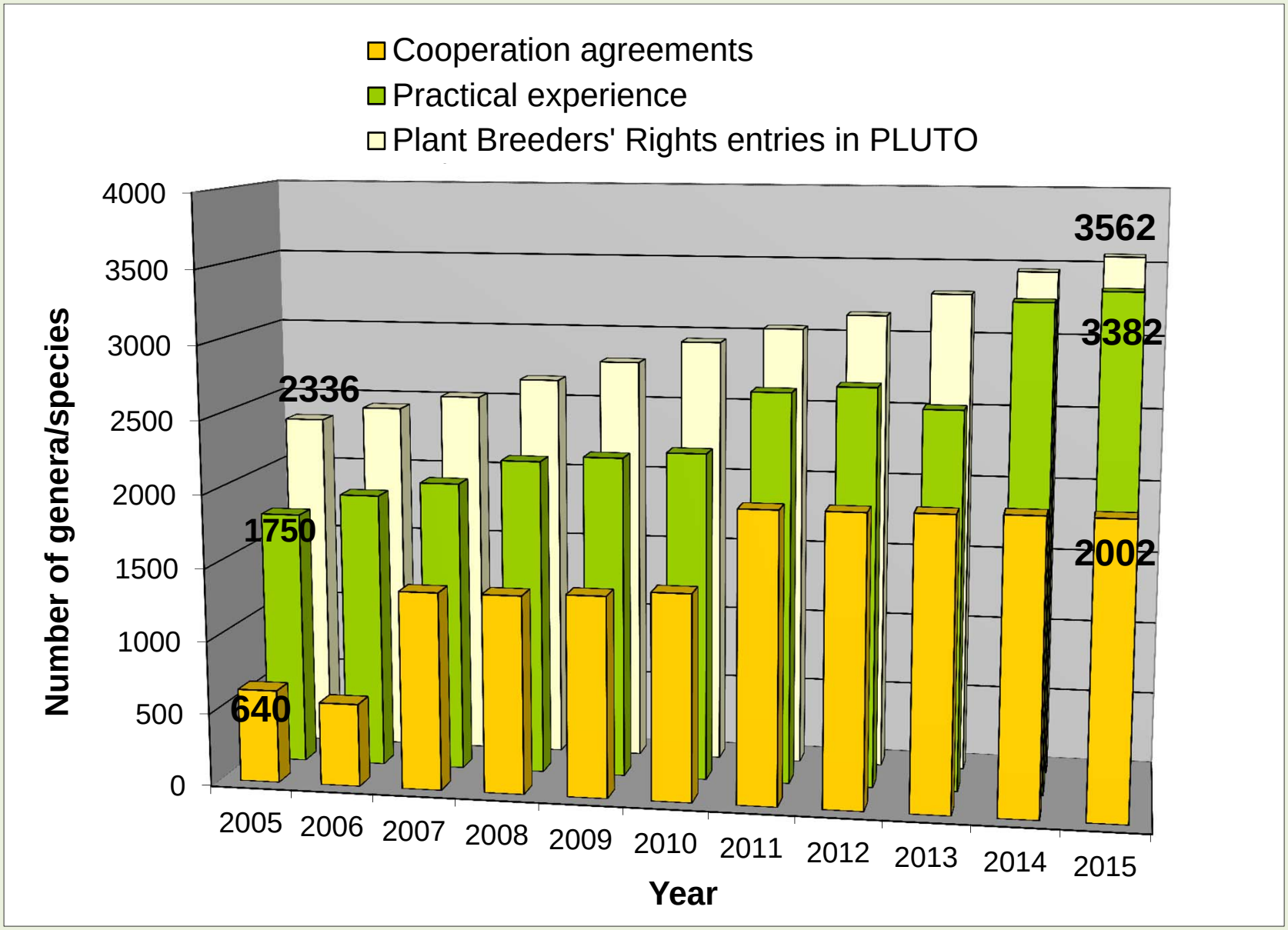
Argentina, Chile, Colombia, Ecuador and Mexico provide protection for all genera and species of the plant kingdom.


Number of plant genera and species
for which protection sought (UPOV Members)
4000
3500
3000
2500
2000
1500
1000
500
0
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
Year

Taxa protected by the members of the Union (C/49/6)



Cooperation in examination (C/49/5)



GENIE Database

(Genus / species)

UPOV

INTERNATIONAL UNION FOR
THE PROTECTION OF NEW VARIETIES OF PLANTS

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GENIE DATABASE

- GENIE Database
- List of Crop / Species
- List of Authorities
- Standard Reports
- UPOV Code Reports and Changes
- UPOV Code System
- Plant Variety Database

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Triticum aestivum L. (TRITI_AES)

Names & Denomination Class

Names & Denomination Class | Protection | DUS Guidance and Cooperation

UPOV Principal Botanical Name:	**Triticum aestivum L.**	UPOV Code:	**TRITI_AES**
Other Botanical Names:	**Triticum aestivum L. emend. Fiori et Paol.**	UPOV Variety Denomination Class:	**CLASS 201**
English Common Names:	**Wheat**		List of Classes *(UPOV/INF/12/3)*
French Common Names:	**Blé**		
German Common Names:	**Weizen**	Family	**Poaceae**
Spanish Common Names:	**Trigo**		

- GENIE Database
- List of Crop / Species
- List of Authorities
- Standard Reports
- UPOV Code Reports and Changes
- UPOV Code System
- Plant Variety Database

Triticum aestivum L. (TRITI_AES)

DUS Guidance and Cooperation

Name & Denomination Class | Protection | DUS Guidance and Cooperation

UPOV Principal Botanical Name:	**Triticum aestivum L.**	UPOV Code:	**TRITI_AES**
Other Botanical Names:	**Triticum aestivum L. emend. Fiori et Paol.**		
English Common Names:	**Wheat**		
UPOV Test Guidelines	TG/3/11 + Corr.	Drafting Authority	None

Entries between ^ ^ indicate Test Guidelines that cover a lower botanical rank (for example in the case of a genus: there are Test

Cooperation in DUS Examination (key to abbreviations)

- Authorities with Practical Experience
- Agreements for Cooperation in DUS Examination
- Utilization of Existing DUS Reports

Entries in parenthesis indicate experience at the level of a higher botanical rank to which it belongs).

Entries between ^ ^ indicate experience at the level of a lower botanical rank (for example in the case of a genus: there is experience at the level of one the species in the genus).

AUTHORITY	NOTES
Albania	
(Argentina)	
Austria	
Azerbaijan	
Belgium	
Bolivia (Plurinational State of)	

<> in the receiving column indicates that the authority specified in the offering

( ): Genus or species covered by agreement for a taxon of a higher rank to which it belongs (e.g. in the case of a species: the genus or family is covered by an agreement).

OFFERING AUTHORITY / EXAMINATION OFFICE	AUTHORITIES RECEIVING EXAMINATION REPORTS	NOTES
(<>)	(Switzerland)	(Switzerland): DUS tests are not conducted in Switzerland. In cases where a DUS test report is not available

Cooperation between Authorities

Cooperation between Authorities can involve:

- **purchase of 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

Cooperation between Authorities

Cooperation between Authorities is important for:

- **minimizing** the **time** for DUS examination
- **minimizing** the **cost** of DUS examination
- **optimizing examination of Distinctness** in growing trials
- **offering protection for all plant genera and species**

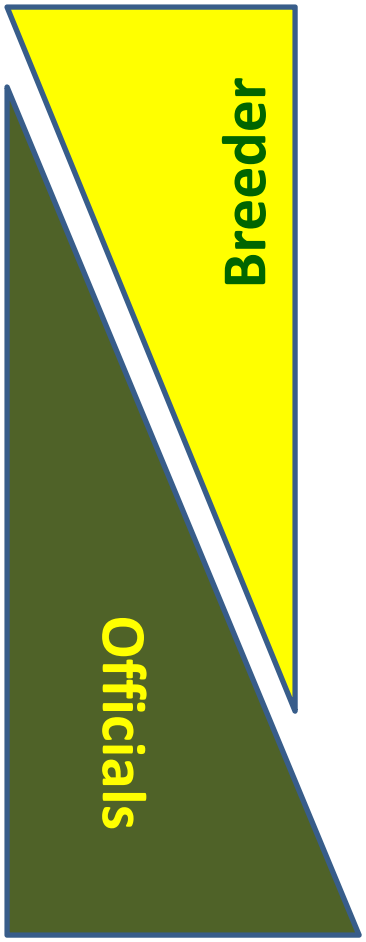
Cooperation with Breeders

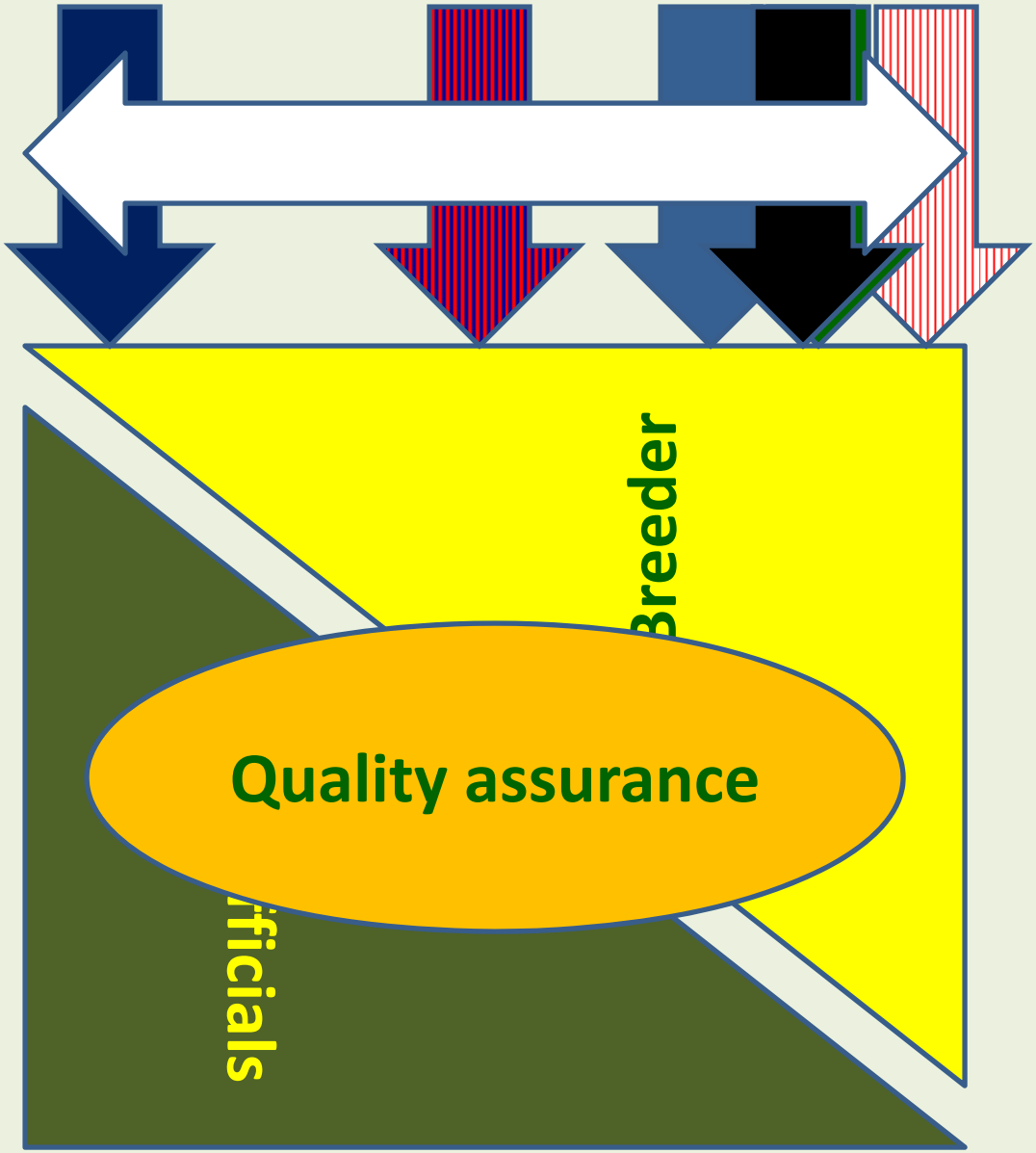
DUS Testing in Cooperation with Breeders

- is always under the **control of the Authority**
- can involve the applicant in all aspects of conducting the DUS Test but will always result in a **decision being taken by the Authority**

Assuming that no purchase of DUS report

	Breeder (or agency on behalf of breeder)	Authority (or agency on behalf of Authority)
Prior to DUS trial (Technical Questionnaire)		
Variety description	**X**	
Identification of similar varieties	(x)	(x)
DUS Trial		
Provision of trial site facilities	(x)	(x)
Planting of varieties	(x)	(x)
Plant husbandry	(x)	(x)
Choice of location	(x)	(x)
Selection of varieties for DUS trial	(x)	(x)
Organization of DUS trial	(x)	(x)
Recording characteristics	(x)	(x)
Data analysis	(x)	(x)
Monitoring of trial		**X**
Verification of analysis		**X**
Decision		
		X




Breeder
Quality assurance
fficials

PREVIEW

Some key provisions of the 1991 Act:

1. Breeder and Variety
2. Plant Genera and Species
3. **Provisional Protection**
4. Duration
5. Scope/Exceptions

PROVISIONAL PROTECTION

- Period
  - from the [filing] or [publication] of the application
  - **until the grant of the Breeder's Right**
- Measures
  - at least **equitable remuneration**
  - other measures
- Requirement
  - **if the right is granted**
    (if the right is not granted, provisional protection is not applicable)

PREVIEW

Some key provisions of the 1991 Act:

1. Breeder and Variety
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PREVIEW

Some key provisions of the 1991 Act:

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5. **Scope/Exceptions**

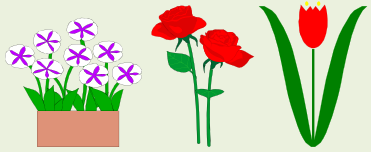
   - material

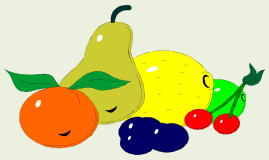
   - varieties

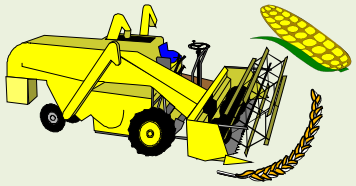
   - acts der's Right

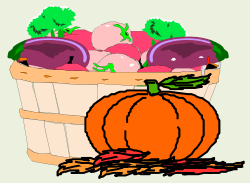
HARVESTED MATERIAL

1978 Act	1991 Act
OPTIONAL **(for certain genera or species)**	**COVERED** **where unauthorized use of propagating material** **unless breeder had reasonable opportunity to exercise right in propagating material**









PREVIEW

Some key provisions of the 1991 Act:

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5. **Scope/Exceptions**

   - material
   - **varieties**
   - acts er's Right

Workshop on Essentially Derived Varieties

The Concept of Essentially Derived Varieties under the 1991 Act of the UPOV Convention

Peter Button
Vice Secretary-General, UPOV

Shanghai, China
June 12, 2016

ESSENTIALLY DERIVED VARIETIES

PURPOSE:

to ensure sustainable plant breeding development by:

- providing effective protection for the breeder and
- encouraging cooperation between breeders and developers of new technologies such as genetic modification

ESSENTIALLY DERIVED VARIETIES

...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

Essentially Derived Varieties

*May be obtained **for example** by:*

- **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**

MEETINGS

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Seminar on essentially derived varieties (EDVs) (UPOV/SEM/GE/13)

October 22, 2013 (*Geneva, Switzerland*)

Meetings by Topic » Training » Workshops and Seminars

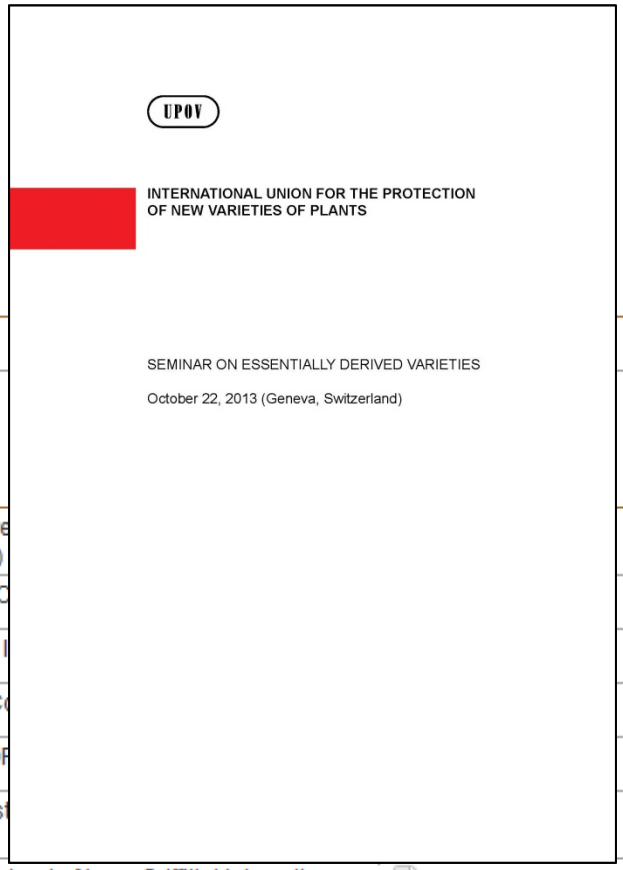
Webcasting: EN

Meeting Documents

CODE	TITLE(S)
UPOV/SEM/GE/13/1 REV.	Revised Draft Program

Biographies

CODE	TITLE(S)	
	Ms. Mia Buma, Secretary, Committee for Nove Association of Horticultural Producers (AIPH)	
	Mr. Peter Button, Vice Secretary-General, UPC	
	Mr. Arnan Gabrieli, Seligsohn Gabrieli & Co., I	
	Mr. Joël Guiard, Chairman of the Technical Co	
	Mr. Edgar Krieger, Secretary General, CIOPOR	
	Mr. Raimundo Lavignolle, Plant Variety Regist (INASE), Argentina	
	Mr. Charles Lawson, Associate Professor, School of Law, Griffith University, Nathan Queensland, Australia	EN



UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

SEMINAR ON ESSENTIALLY DERIVED VARIETIES

October 22, 2013 (Geneva, Switzerland)

ESSENTIALLY DERIVED VARIETIES

- **Implementation**
  - With regard to establishing whether a variety is an essentially derived variety, a common view expressed by members of the UPOV is that the existence of a relationship of essential derivation between protected varieties is a matter for the holders of plant breeders' rights in the varieties concerned.

UPOV

UPOV/E DV/2 Draft 7
ORIGINA glish
DATE: Ma

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF

Geneva

DRAFT
(REVISION)

EXPLANATORY NOTES ON

ESSENTIALLY DERIVED VARIETIES

UNDER THE 1991 ACT OF THE UPOV CONVENTION

ESSENTIALLY DERIVED VARIETIES

...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.

UPOV/EXN/EDV/2 **Draft 7**

Predominantly derived from the initial variety

(Article 14(5)(b)(i))

- A derived variety could not, in practice, retain the expression of the essential characteristics of the variety from which it is derived unless it is almost entirely derived from that initial variety

UPOV/EXN/EDV/2 **Draft 7**

Predominantly derived from the initial variety

The following might be considered in relation to the notion of **“essential characteristics”:**

(i) essential characteristics […] means **heritable traits […] that contribute to the principal features, performance or value of the variety**;

(ii) characteristics that are **important from the perspective of the producer, seller, supplier, buyer, recipient, or user**;

(iii) characteristics that are **essential for the variety as a whole, including, for example, morphological, physiological, agronomic, industrial and biochemical characteristics**

UPOV/EXN/EDV/2 **Draft 7**

(iv) essential characteristics **may or may not be phenotypic characteristics used for the examination of distinctness, uniformity and stability (DUS)**;

(v) essential characteristics are **not restricted to those characteristics that relate only to high performance or value** (for instance, disease resistance may be considered as an essential characteristic when the variety has susceptibility to disease);

(vi) essential characteristics **may be different in different crops/species**.

ESSENTIALLY DERIVED VARIETIES

...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.

UPOV/EXN/EDV/2 **Draft 7**

Conformity with the initial variety in the expression of the essential characteristics (Article 14(5)(b)(iii)

The words "**except for the differences which result from the act of derivation**" **do <u>not</u> set a limit** to the amount of difference which may exist where a variety is considered to be essentially derived.

A limit is, however, **set by Article 14(5)(b)(i) and (iii).** The differences must not be such that the variety fails "to **retain the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety**".

UPOV/EXN/EDV/2 **Draft 7**

Conformity with the initial variety in the expression of the essential characteristics (Article 14(5)(b)(iii)

The examples given in Article 14(5)(c) make clear that the **differences which result from the act of derivation should be one or very few**. **However, if there are only one or few differences that does not necessarily mean that a variety is essentially derived.** The variety would also be required to fulfil the definition stated in Article 14(5)(b).

UPOV/EXN/EDV/2 **Draft 7**

Conformity with the initial variety in the expression of the essential characteristics (Article 14(5)(b)(iii)

The derived variety **must retain almost the totality of the genotype of the initial variety and be different from that variety by a very limited number of characteristics**.

UPOV/EXN/EDV/2 **Draft 7**

Method of breeding

- There is a need to **consider** the situation in **different crops and species and the method of breeding** in the determination of essentially derived varieties.
- **Whether a mutation is naturally or artificially induced is irrelevant**. For instance, the genetic change **may result in a mutant that no longer retains the expression of the essential characteristics** that result from the genotype of the initial variety.

PREVIEW

Some key provisions of the 1991 Act:

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5. **Scope/Exceptions**

   - material
   - varieties
   - **acts covered** Right

ACTS COVERED

1978 Act	1991 Act
Production for the purposes of commercial marketing of the reproductive or vegetative propagating material, as such, of the variety […]	**Production or reproduction** […]

EXCEPTIONS TO THE BREEDER'S RIGHT (1991 Act)

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
  - (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 <u>Possibly falling</u> within the scope of the exception

EXCEPTIONS TO THE BREEDER'S RIGHT (1991 Act)

Compulsory

Acts done:

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

Optional

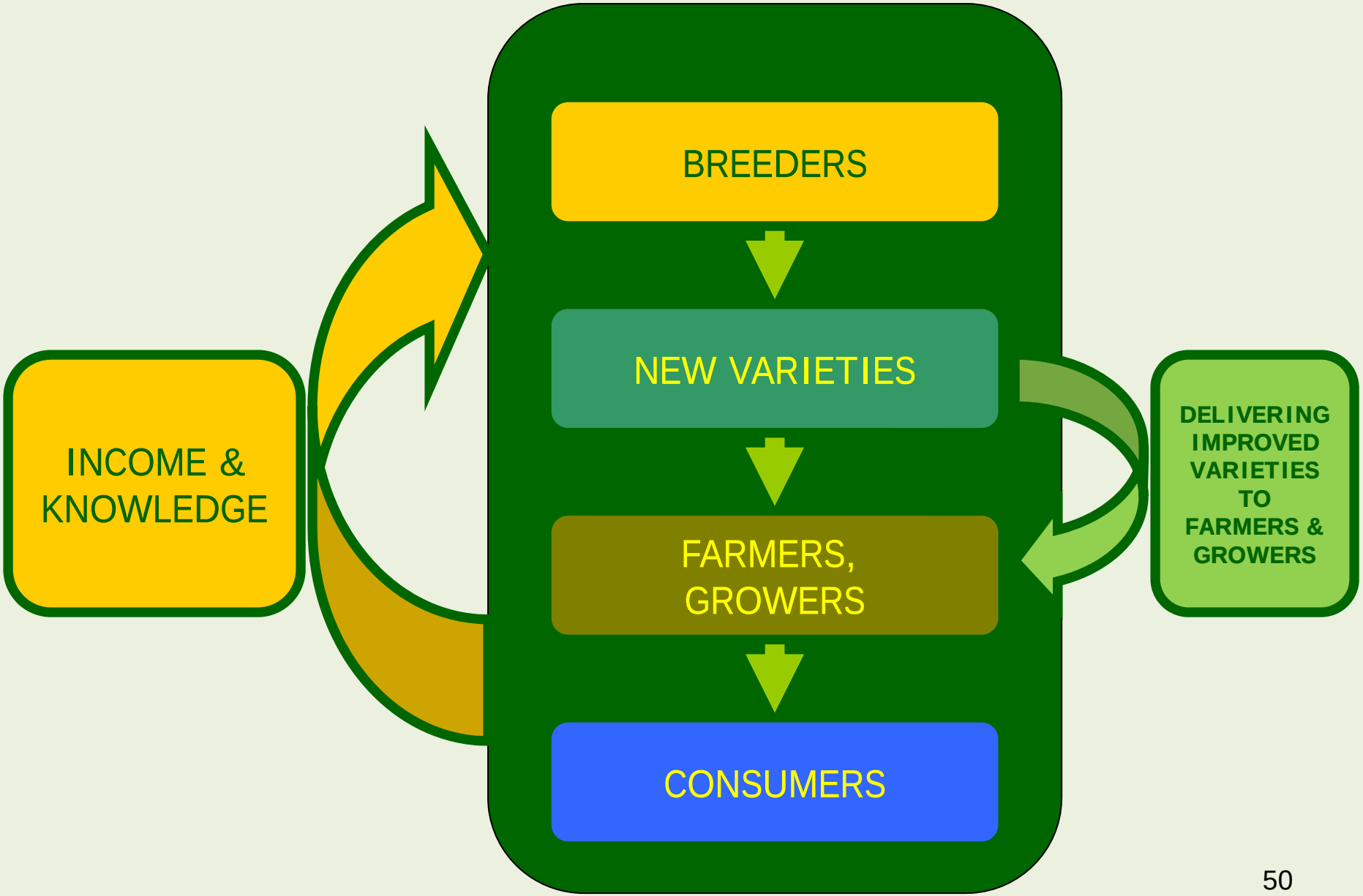
Farm-saved seed

OPTIONAL EXCEPTION TO THE BREEDER'S RIGHT

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

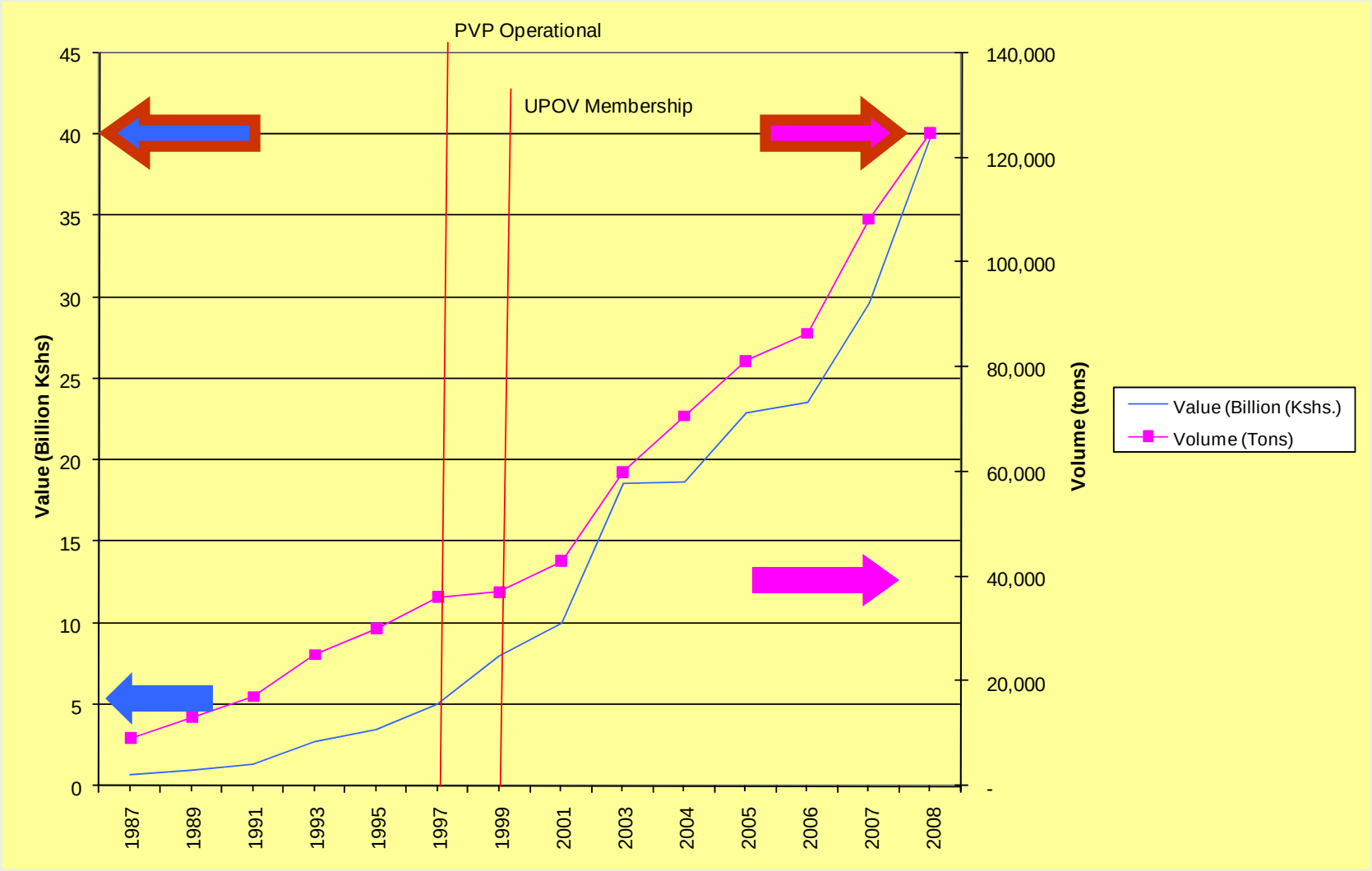
- for propagating purposes **on their own holdings the product of the harvest**
- **obtained on their own holdings** from the protected variety
- **within reasonable limits**
- subject to **safeguarding legitimate interests of the breeder**

Impact of Plant Variety Protection



International Market Development

Export of Kenyan Cut Flowers



The economic, social and environmental value of plant breeding in the European Union

– Results achieved so far* –

Steffen Noleppa
HFFA Research GmbH

* *This research has been initiated and financially supported by ETP. The results of the study are the sole responsibility of the author and have never been influenced by the initiator and supporter of the study.*

October 13th, 2015, Vienna

EU: 2000-2013

Additional agricultural GDP amounts to EUR 8.2 billion:

- Wheat: EUR 3.1 billion
- Corn (Maize) EUR 0.9 billion
- Pulses EUR 0.2 billion

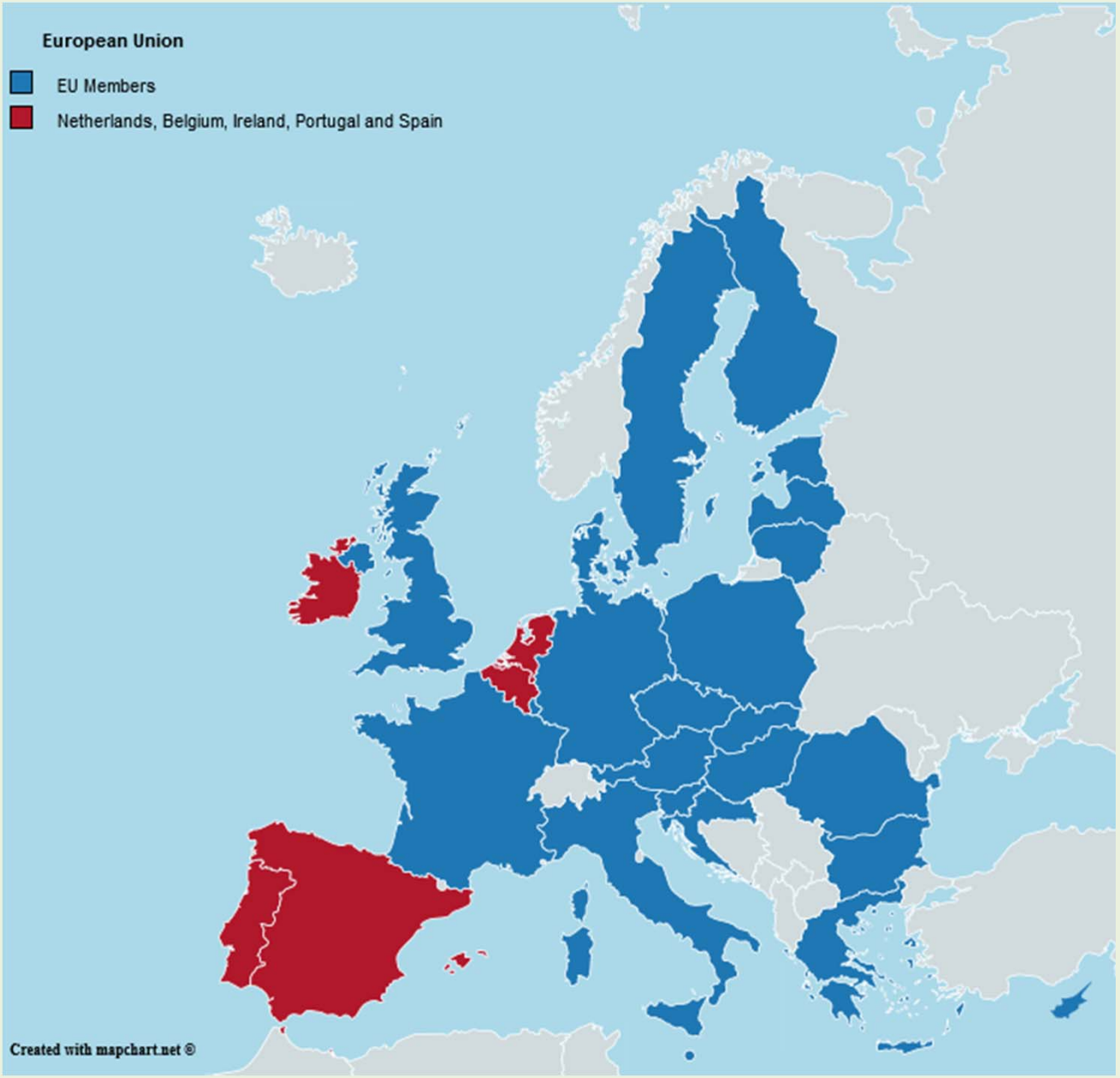
Without plant breeding:

EU would have moved from being net **EXPORTER** to net **IMPORTER** in all major agricultural crops (including wheat and barley)

EU: 2000-2013

Without plant breeding:

An additional 18 million ha of arable land outside the EU would be needed: equivalent to the arable land of…


European Union
EU Members
Netherlands, Belgium, Ireland, Portugal and Spain
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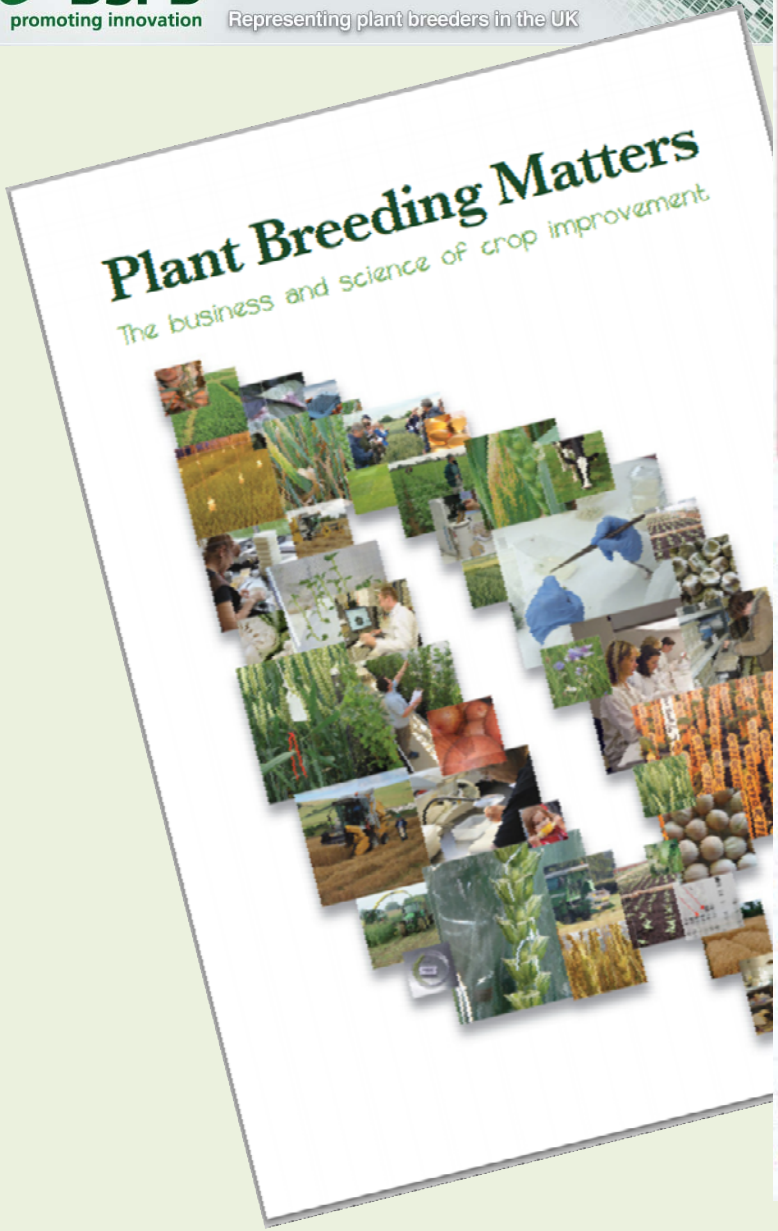
BSPB
promoting innovation

Representing plant breeders in the UK



Every £1 invested in plant breeding generates at least £40 in added value within the wider UK economy

An **independent study** concluded that every £1 invested in plant breeding generates at least £40 in added value within the wider UK economy, from higher yields and input savings at the farm level through to import substitution, export earnings and enhanced processing efficiency within the food and drink manufacturing sector.

Economic Impact of Plant Breeding in the UK

Download a copy of the independent study at www.plantbreedingmatters.com/history.php