

# **Agricultural Innovation Plant Variety Rights Protection and the UPOV Convention**

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# Outline

- The UPOV Convention, 1991 Act
- Regional Arrangements (eg CPVR)
- National Legislation
- Patenting of plant breeding methods

# Origins of commercial plant breeding

Gregor Mendel,  
*Experiments on  
Plant Hybridization  
(Versuche über  
Pflanzen-Hybriden)*  
read to the Natural  
History Society of  
Brno on Feb 8 and  
March 8 1865



## Origins of commercial plant breeding

Hugo de Vries (1848-1935 Dutch botanist) published the results of Mendel's experiments in Comptes Rendus de l'Académie des Sciences in 1900, he neglected to mention Mendel's work, but after criticism by Carl Correns he conceded Mendel's priority.



# Paris Convention, 1883

## Article 1(3)

“Industrial property shall be understood within the broadest sense and shall apply not only to industry and commerce proper, but likewise to agricultural and extractive industries and to all manufactured or natural products, for example, wines, grain, tobacco leaf, fruit, cattle, minerals, mineral waters, beer, flowers and flour.”

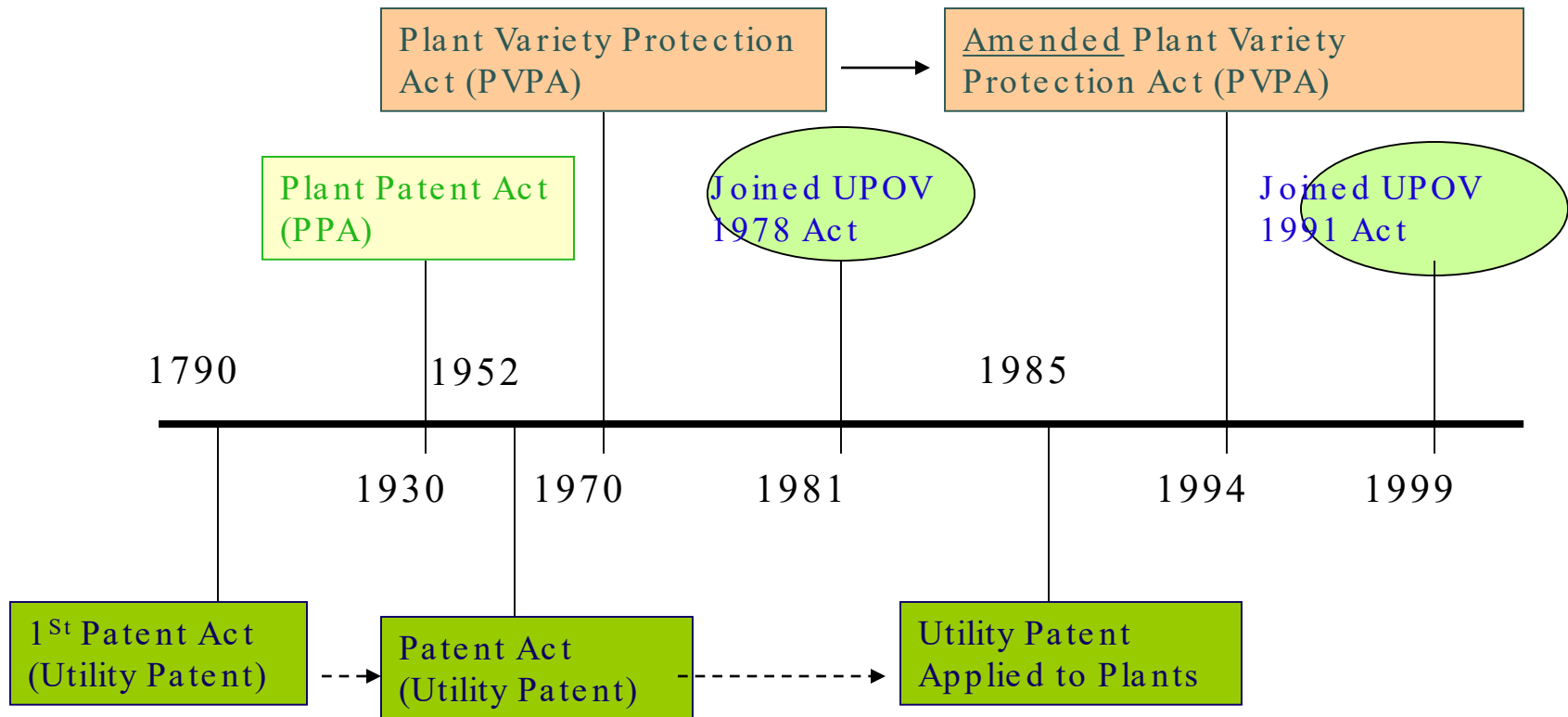
# US Legislation

1906 “Bill to amend the laws of patents in the interest of the originators of horticultural products”.

1930 “Plant Patent Act” (ss.161-164 of Title 35 of the US Code (Patents)).

Confined to asexually reproduced plants, excluding tuber-propagated plants

# The History of Plant Variety Protection in the United States



# Industry congresses

- Congrès pomologique de France, 1911 [special protection for plant varieties]
- International Horticultural Profession, 1911-13
- International Institute of Agriculture, 1927 [protection of denominations insufficient]
- International Breeders of Staple Crops, 1931, 1935-37 [sui generis protection]



# European legislation

- French Decree of 5 December 1922 introduced a Register for Newly-bred Plants [designations]
- Czech Law of 1921 on the Originality of Types, Seeds and Seedlings and the Testing of Horticultural Types [registered indication]
- German Law of June 27, 1953, on the Protection of Varieties and the Seeds of Cultivated Plants [registration of individualised and stable varieties, obligation to use protected designation]

# International Association of Plant Breeders (ASSINSEL)

- Founded, 17 Nov. 1938)
- First Congress, Paris July 1939
- Semmering Congress, June 1956 (call for international conference to promulgate a system for the protection of plant varieties
- Paris Diplomatic Conference, May 1957

# Paris Conference 1957

Participation limited by the French to those states known to have similar concerns to it on this subject. (USA not invited because it had “confined itself to plant patents for vegetatively reproduced varieties”

Final Act, recognised the legitimacy of breeders’ rights, preconditions for protection: distinct, homogenous and stable in its essential characteristics

# UPOV CONVENTION

221 (E)

**INTERNATIONAL CONVENTION  
FOR THE PROTECTION OF  
NEW VARIETIES OF PLANTS**  
of December 2, 1961,  
as Revised at Geneva on November 10, 1972,  
on October 23, 1978, and on March 19, 1991

**UPOV**

International Union for the Protection of New Varieties of Plants  
2001

# UPOV: INDEPENDENT INTERGOVERNMENTAL ORGANIZATION

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

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

**U**nion internationale pour la **p**rotection des **o**btentions **v**égétales

# Paris Conference 2<sup>nd</sup> Sess. 1961

- UPOV Convention;
- No dual protection; ie patents or UPOV
- Phased introduction to 13 genera

# UPOV 1978

- Application to all genera (at least 24 within 8 years)
- Farmers privilege to save seed

# UPOV 1991

- Dual protection
- Farmers privilege narrowed, Art 15 (2) save seed for propagating "on their own holdings" "within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder"



# Main differences between the 1978 and 1991 UPOV Conventions

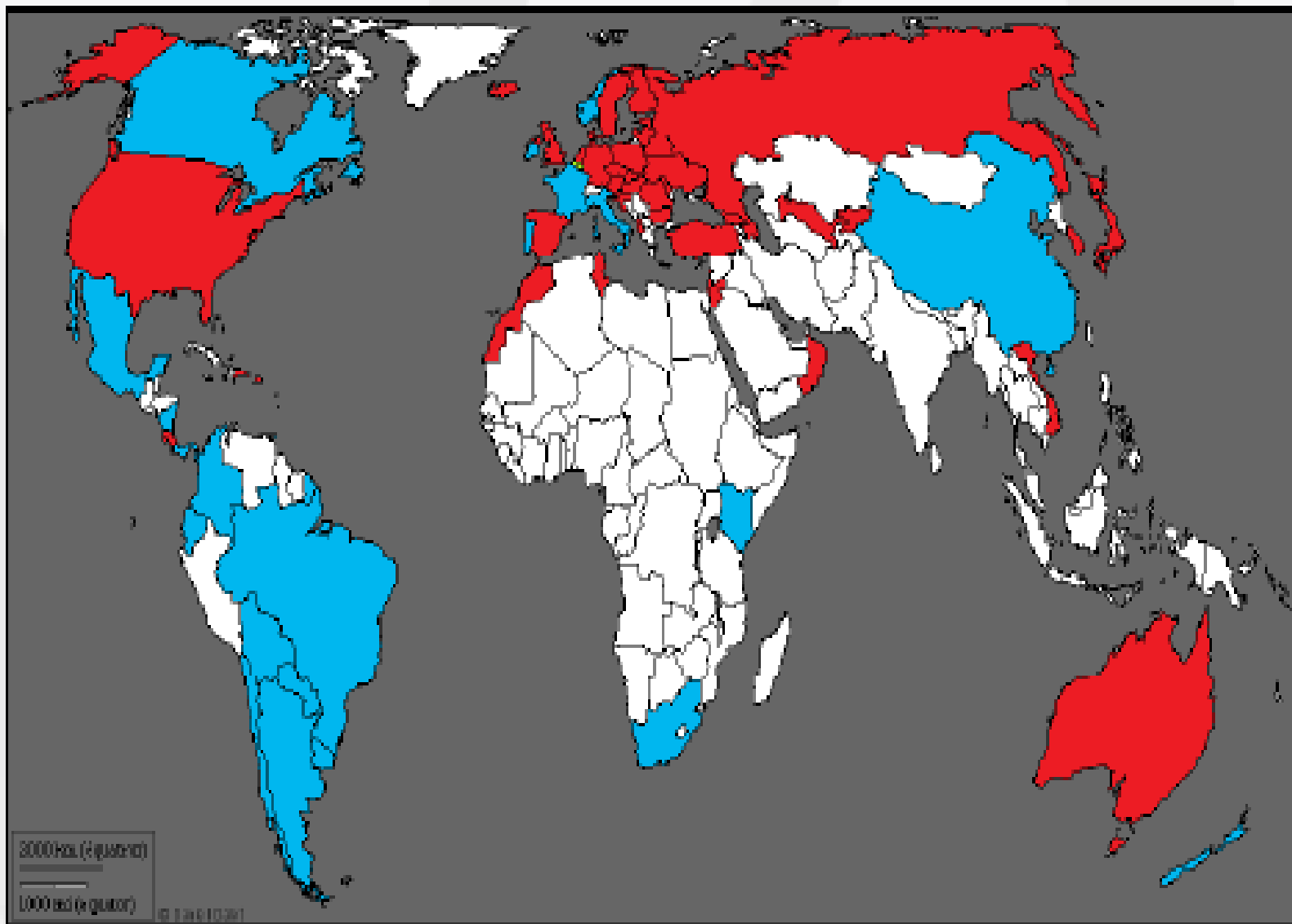
| 1978 UPOV   | 1991 UPOV   |
|---|---|
| Limited genera and species  | All genera and species  |
| 15-year protection<br>18 years for trees and vines  | 20-year protection<br>25 years for trees and vines<br>(EU 25/30 years for trees, vines and potatoes)  |
| Protection for reproduction material (including plant)  | Protection of i) reproduction material, ii) harvested material and iii) (option) products made directly from harvested material   |
| Protection for i) protected variety and ii) varieties whose production requires the repeated use of the protected variety | Protection for i) protected variety and ii) varieties whose production requires the repeated use of the protected variety, iii) non distinct variety, and iv) essentially derived variety |
| No provision on farmer's privilege (but acts of infringement did not include farm-saved seed)                             | Farmer's privilege optional (acts of infringement include farm-saved seed)  |
| Dual protection prohibited  | Dual protection possible  |

# UPOV Member States on 22/10/2009

1991 UPOV

1978 UPOV

1962/1971 UPOV



# European UPOV Member States

1991 UPOV including  
the European  
Community

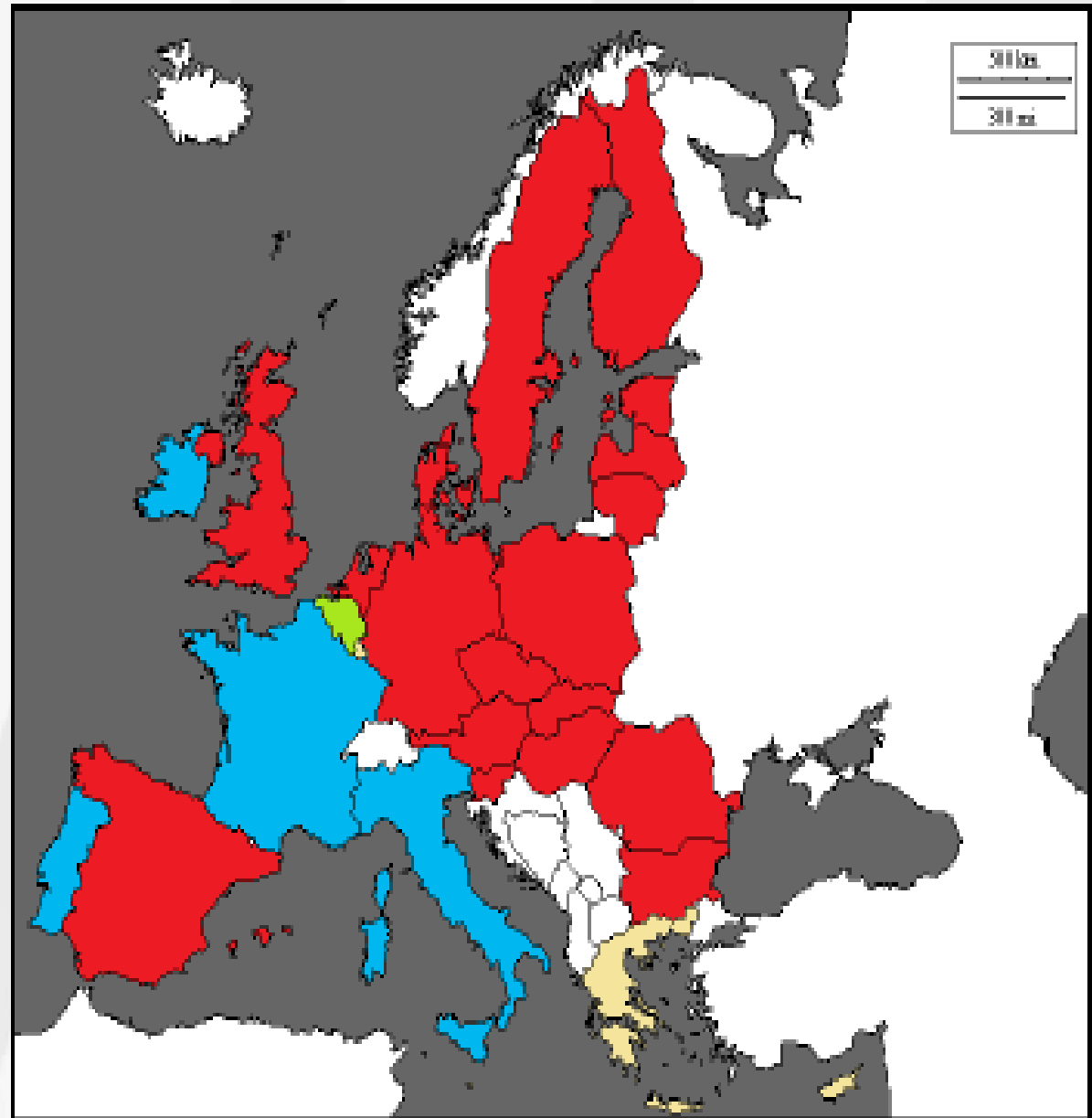
1978 UPOV including:

- France
- Italy
- Portugal

1962/1971 UPOV  
including Belgium

EU Member States not  
parties to UPOV:

- Cyprus
- Greece
- Luxembourg
- Malta



# CPVR

- **Council Regulation (EC) No 2100/94 of 27 July 1994 on Community plant variety rights**

*Official Journal L 227 , 01/09/1994 P. 0001  
- 0030*

# CPVR data

## ■ Number of applications received

|              | 1995  | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009 | Total  |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|--------|
| Agricultural | 957   | 365   | 343   | 405   | 407   | 406   | 442   | 417   | 495   | 536   | 499   | 610   | 732   | 790   | 172  | 7 576  |
| Vegetable    | 458   | 125   | 157   | 224   | 184   | 246   | 184   | 175   | 238   | 267   | 296   | 342   | 295   | 411   | 96   | 3 698  |
| Ornamental   | 1 513 | 835   | 953   | 1 102 | 1 195 | 1 267 | 1 415 | 1 506 | 1 643 | 1 706 | 1 800 | 1 616 | 1 788 | 1 632 | 261  | 20 232 |
| Fruit        | 233   | 61    | 77    | 104   | 95    | 94    | 117   | 124   | 141   | 146   | 139   | 168   | 162   | 181   | 37   | 1 879  |
| Total        | 3 161 | 1 386 | 1 530 | 1 835 | 1 881 | 2 013 | 2 158 | 2 222 | 2 517 | 2 655 | 2 734 | 2 736 | 2 977 | 3 014 | 566  | 33 385 |

## ■ Number of Community titles granted per crop sector

|              | 1996  | 1997  | 1998  | 1999  | 2000  | 2001  | 2002  | 2003  | 2004  | 2005  | 2006  | 2007  | 2008  | 2009 | Total  |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|--------|
| Agricultural | 570   | 415   | 410   | 389   | 342   | 394   | 347   | 534   | 497   | 474   | 630   | 613   | 541   | 235  | 6 391  |
| Vegetable    | 170   | 160   | 228   | 93    | 105   | 161   | 171   | 169   | 197   | 232   | 243   | 258   | 244   | 35   | 2 466  |
| Ornamental   | 666   | 381   | 814   | 1 017 | 884   | 904   | 1 102 | 1 081 | 1 429 | 1 388 | 1 294 | 1 627 | 1 312 | 311  | 14 210 |
| Fruit        | 55    | 53    | 39    | 49    | 39    | 59    | 81    | 83    | 55    | 84    | 122   | 118   | 112   | 67   | 1 016  |
| Total        | 1 461 | 1 009 | 1 491 | 1 548 | 1 370 | 1 518 | 1 701 | 1 867 | 2 178 | 2 178 | 2 289 | 2 616 | 2 209 | 648  | 24 083 |

# UPOV 1991 Art 1

(vi) "variety" means a plant grouping within a single botanical taxon of the lowest known rank, which grouping, irrespective of whether the conditions for the grant of a breeder's right are fully met, can be—defined by the expression of the characteristics resulting from a given genotype or combination of genotypes,—distinguished from any other plant grouping by the expression of at least one of the said characteristics and—considered as a unit with regard to its suitability for being propagated unchanged;

# Article 5 Conditions of Protection

(1)[Criteria to be satisfied] The breeder's right shall be granted where the variety is

(i)new,

(ii)distinct,

(iii)uniform and

(iv)stable.

# Article 6 Novelty

The variety shall be deemed to be new if, at the date of filing of the application for a breeder's right, propagating or harvested material of the variety has not been sold or otherwise disposed of to others, by or with the consent of the breeder, for purposes of exploitation of the variety

- (i) in the territory of the Contracting Party in which the application has been filed earlier than one year before that date and
- (ii) in a territory other than that of the Contracting Party in which the application has been filed earlier than four years or, in the case of trees or of vines, earlier than six years before the said date.



## **Article 7 Distinctness**

The variety shall be deemed to be distinct if it is clearly distinguishable from any other variety whose existence is a matter of common knowledge at the time of the filing of the application.

# Article 8 Uniformity

- The variety shall be deemed to be uniform if, subject to the variation that may be expected from the particular features of its propagation, it is sufficiently uniform in its relevant characteristics.

# Article 9 Stability

- The variety shall be deemed to be stable if its relevant characteristics remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each such cycle.

## Article 15 Exceptions to the Breeder's Right

(1) The breeder's right shall not extend to:

(i) acts done privately and for non-commercial purposes,

(ii) acts done for experimental purposes and

(iii) acts done for the purpose of breeding other varieties, and, except where the provisions of [Article 14\(5\)](#) apply [this provision is concerned with “essentially derived varieties”]

## 15 (2)[Optional exception] -seed saving

Notwithstanding [Article 14](#), each Contracting Party may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety or a variety covered by [Article 14\(5\)\(a\)\(i\)](#) or [Article 14\(5\)\(a\)\(ii\)](#).

# TRIPS 1994

Article 27.3(b) “Members shall provide for the protection of plant varieties either by patents or by an effective sui generis system or by any combination thereof”. (to be reviewed within four years)

# Doha Declaration

19. We instruct the Council for TRIPS, in pursuing its work programme including under the review of Article 27.3(b)...to examine, *inter alia*, the relationship between the TRIPS Agreement and the Convention on Biological Diversity, the protection of traditional knowledge and folklore, and other relevant new developments.... In undertaking this work, the TRIPS Council shall be guided by the objectives and principles set out in Articles 7 and 8 of the TRIPS Agreement and shall take fully into account the development dimension.”

# EU Implementation

- Council Regulation (EC) No 2100/94 on Community plant variety rights (known as the CPVR)
- EU Directive 98/44/EC on the legal protection of biotechnological inventions ("The Biotech Directive") - in force July 1998
- European Patent Convention (EPC) - in force 1978  
Provisions of Biotech Directive introduced into EPC - September 1999



# Biotech Directive

## Article 4

*1. The following shall not be patentable:*

*(a) plant and animal varieties;*

*(b) essentially biological processes for the production of plants or animals.*

*2. Inventions which concern plants or animals shall be patentable if the technical feasibility of the invention is not confined to a particular plant or animal variety.*

# Council Regulation (EC) No 2100/94 on Community plant variety rights

- Implemented in the UK as Plant Varieties (Proprietary Rights) Law 1980 amended 1998 (“PVP Law”).

# Article 5 Object of Community plant variety rights

1. Varieties of all botanical genera and species, including, inter alia, hybrids between genera or species, may form the object of Community plant variety rights.

# Article 5.2 “variety”

2. For the purpose of this Regulation, 'variety' shall be taken to mean a plant grouping within a single botanical taxon of the lowest known rank, which grouping, irrespective of whether the conditions for the grant of a plant variety right are fully met, can be:
- defined by the expression of the characteristics that results from a given genotype or combination of genotypes,
  - distinguished from any other plant grouping by the expression of at least one of the said characteristics, and
  - considered as a unit with regard to its suitability for being propagated unchanged.

## s.1 PVP Law

"variety" means a plant grouping within a single botanical taxon of the lowest known rank, which grouping, irrespective of whether or not the conditions for the grant of a plant breeder's right are fully met, may be—

- (a) defined by the expression of the characteristics resulting from a given genotype or combination of genotypes,
- (b) distinguished from any other plant grouping by the expression of at least one of those characteristics, and

## s.1 PVP Law

(c) considered as a unit in relation to the suitability of the plant grouping concerned remaining unchanged following the propagation;" ,

# Article 6 “protectable varieties”

Community plant variety rights shall be granted for varieties that are:

- (a) distinct;
- (b) uniform;
- (c) stable; and
- (d) new.

Moreover, the variety must be designated by a denomination in accordance with the provisions of Article 63.

# Article 7, Distinctness

1. A variety shall be deemed to be distinct if it is clearly distinguishable by reference to the expression of the characteristics that results from a particular genotype or combination of genotypes, from any other variety whose existence is a matter of common knowledge on the date of application determined pursuant to Article 51.
  2. The existence of another variety shall in particular be deemed to be a matter of common knowledge if on [that] date:
    - (a) it was the object of a [registered] PVR;
    - (b) an application for the granting of PVR ...was filed, provided the application has led to the granting or entering in the meantime.
- The implementing rules pursuant to Article 114 may specify further cases as examples which shall be deemed to be a matter of common knowledge.



# PVP Act First Schedule -Distinctness.

1. (1) The plant variety concerned—
  - (a) is not a matter of common knowledge at the time that application for plant breeders' rights is made, and
  - (b) is clearly distinguishable from any other plant variety the existence of which is a matter of common knowledge at the time such application is made,and the distinguishing characteristic of that plant variety is recognisable and is capable of description and recognition.
- (2) For the purposes of this paragraph, common knowledge of a plant variety shall be established when an application is made
  - (a) for the grant of plant breeder's rights, or
  - (b) to enter the plant variety concerned in an official register of plant varieties in any country or territory which is a Contracting Party.

# Schräder, v Community Plant Variety Office (CPVO) Case C-38/09, 15 April 2010

- On 7 June 2001, Mr Schröder applied to the CPVO for a Community plant variety right for the plant variety SUMCOL 01, a plant of the species *Plectranthus ornatus*.
- On 1 July 2001, the CPVO requested the Bundessortenamt (Federal Plant Variety Office, Germany) to conduct the technical examination pursuant to Article 55(1) of Regulation No 2100/94.
- During the first year of the examination procedure, Mr Schröder's competitors opposed the grant of the right being sought, on the basis that the candidate variety was not a new plant variety but a wild variety originating in South Africa and which had been marketed for years in that country and in Germany.

## T-133/08 *Schräder v OCVV*

- LEMON SYMPHONY, a variety of the *Osteospermum ecklonis* African rain daisy species was granted a CPVR in 1999.
- The owner of the PVR, Hansson brought infringement proceedings against a company (in which the applicant, Schröder, had a 5% shareholding) growing and marketing SUMOST 01 before the German civil courts in 2005.
- Schröder filed an application for cancellation of LEMON SYMPHONY's CPVR on the ground that the plant material used to make the comparison did not match the plant material examined in 1997 for the purposes of the grant of the CPVR, and that it therefore lacked stability contrary to arts. 21 and 9.

- Variation was shown in the 'attitude of shoots' of the registered variety (from erect to semi erect) The Court held that the levels of expression of shoots which run, according to the test guidelines, from 'erect' to 'drooping', through 'semi-erect' and 'horizontal' and the nuances between those terms, is not, except in extreme cases, an 'absolute' characteristic which can be determined in a thoroughly objective manner using only the measurement of the angle of inclination of the shoots (at [166]).

## Article 8, Uniformity

A variety shall be deemed to be uniform if, subject to the variation that may be expected from the particular features of its propagation, it is sufficiently uniform in the expression of those characteristics which are included in the examination for distinctness, as well as any others used for the variety description.

# PVP Act First Schedule - Uniformity

2. The plant variety concerned is sufficiently uniform in respect of the characteristic concerned notwithstanding any variation arising from the propagation of such plant variety.

## Article 9, Stability

A variety shall be deemed to be stable if the expression of the characteristics which are included in the examination for distinctness as well as any others used for the variety description, remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each such cycle.

# PVP Act First Schedule- Stability

3. The characteristic of the plant variety concerned does not alter—
  - (a) after repeated propagation, or
  - (b) where there is a particular cycle of propagation, at the end of each such cycle.



# Article 10, Novelty

1. A variety shall be deemed to be new if, at the date of application determined pursuant to Article 51, variety constituents or harvested material of the variety have not been sold or otherwise disposed of to others, by or with the consent of the breeder within the meaning of Article 11, for purposes of exploitation of the variety:
  - (a) earlier than one year before the abovementioned date, within the territory of the Community;
  - (b) earlier than four years or, in the case of trees or of vines, earlier than six years before the said date, outside the territory of the Community.

# PVP Act First Schedule- Novelty

4. Propagating or harvested material of the plant variety concerned, has not, on the date on which an application for plant breeders' rights is made, been sold or otherwise disposed of to others, by or with the consent of the applicant, for the purposes of exploitation of such plant variety either—
  - (a) in the State for a period that is greater than one year before the date of an application for plant breeders' rights, or
  - (b) in a territory other than that of the Contracting Party for a period that is greater than four years, or in the case of trees or vines, for a period that is greater than six years before that date."

# Article 11, Entitlement to Community plant variety rights

1. The person who bred, or discovered and developed the variety, or his successor in title, both - the person and his successor - referred to hereinafter as 'the breeder', shall be entitled to the Community plant variety right.
2. If two or more persons bred, or discovered and developed the variety jointly, entitlement shall be vested jointly in them or their respective successors in title. This provision shall also apply to two or more persons in cases where one or more of them discovered the variety and the other or the others developed it.

# Article 13, Rights of the holder of a Community plant variety right and prohibited acts

1. ... the holder(s) of the Community plant variety right, ...shall be entitled to effect the acts set out in paragraph 2.
2. ...the following acts in respect of variety constituents, or harvested material of the protected variety, ...shall require the authorization of the holder:
  - (a) production or reproduction (multiplication);
  - (b) conditioning for the purpose of propagation;
  - (c) offering for sale;
  - (d) selling or other marketing;
  - (e) exporting from the Community;
  - (f) importing to the Community;
  - (g) stocking for any of the purposes mentioned in (a) to (f).

The holder may make his authorization subject to conditions and limitations.

# Art. 13(5) “essentially derived varieties”

5. The provisions of paragraphs 1 to 4 shall also apply in relation to:
- (a) varieties which are essentially derived from the variety in respect of which the Community plant variety right has been granted, where this variety is not itself an essentially derived variety;
  - (b) varieties which are not distinct in accordance with the provisions of Article 7 from the protected variety; and
  - (c) varieties whose production requires the repeated use of the protected variety.

# Art. 13(6) “essentially derived varieties”

For the purposes of paragraph 5(a), a variety shall be deemed to be essentially derived from another variety, referred to hereinafter as 'the initial variety' when:

- (a) it is predominantly derived from the initial variety, or from a variety that is itself predominantly derived from the initial variety;
- (b) it is distinct in accordance with the provisions of Article 7 from the initial variety; and
- (c) except for the differences which result from the act of derivation, it conforms essentially to the initial variety in the expression of the characteristics that results from the genotype or combination of genotypes of the initial variety.

## PVP Act, s4(4)

'essentially derived variety' means a variety that is essentially derived from another variety if—

- (a) the essentially derived variety is predominantly derived from that other variety (in this Act referred to as 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,
- (b) it is clearly distinguishable from the initial variety,

## PVP Act, s4(4)

- (c) it conforms, except for the differences which result from the act of derivation, to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety, and
- (d) it may be obtained, without prejudice to the generality of the foregoing, by the selection of a natural or induced mutant, or of a somaclonal variant, the selection of a variant individual from plants of the initial variety, backcrossing, or transformation by genetic engineering;



# *Asteé Flowers B.V. -v- Danziger 'Dan' Flower Farm*, District Court of The Hague, 2005

Danziger was the holder of Community Plant Variety Right for *Gypsophilia* variety "Dangypmini". Asteé had been involved in the distribution of a new *Gypsophilia* variety called "Blancanieves".

- Danziger alleged that at least the Blancanieves variety was an infringement of their rights by virtue of it being essentially derived from Dangypmini.
- There were a considerable number of morphological differences between Blancanieves and Dangypmini, sufficient in fact for the CPVO to grant a plant variety right to Asteé for Blancanieves. Danziger's case was based upon DNA fingerprinting evidence that the genotypical differences were too different to have been realised by cross-breeding and selection.

# Decision of the Court

- The extension of protection of initial varieties to derived varieties can be considered an exception provision to the main rule of independence of distinguishable varieties, which because of its nature must be interpreted in a limited manner.
- The words "essentially derived", are used to express that the discrepancy between the initial variety and the derived variety should not be too substantial".
- The derived variety must retain almost the totality of the genotype of the mother variety and be distinguishable from that variety by a very limited number of characteristics (typically by one).
- Blancanieves does not infringe Danizger's rights as the number of differences is too great.

# Article 14, Derogation from Community plant variety right

1. Notwithstanding Article 13 (2), and for the purposes of safeguarding agricultural production, farmers are authorized to use for propagating purposes in the field, on their own holding the product of the harvest which they have obtained by planting, on their own holding, propagating material of a variety other than a hybrid or synthetic variety, which is covered by a Community plant variety right.

# Article 14, Derogation from Community plant variety right

2. The provisions of paragraph 1 shall only apply to [defined] agricultural plant species of:
  - (a) Fodder plants, eg Yellow lupin, Lucerne, Egyptian clover, Common vetch
  - (b) Cereal, eg Oats, Barley, Rice, Rye, Wheat, Durum wheat, Spelt wheat
  - (c) Potatoes:
  - (d) Oil and fibre plants, eg Swede rape, Turnip rape, linseed with the exclusion of flax.

# Article 15, Limitation of the effects of Community plant variety rights

The Community plant variety rights shall not extend to:

- (a) acts done privately and for non-commercial purposes;
- (b) acts done for experimental purposes;
- (c) acts done for the purpose of breeding, or discovering and developing other varieties;

...

# Seed saving- Geistbeck & Anor v Saatgut - Treuhandverwaltungs GmbH [2012] EUECJ C- 509/10

- The dispute between Geistbeck (farmers) and Saatgut-Treuhandverwaltungs GmbH (STV), which represents the interests of the holders of the protected plant varieties Kuras (potato), Quarta (potato), Solara (field pea), Marabel (cabbage) and Secura (potato)
- concerns the relationship between derogation provided for in Article 14 of Regulation (EC) No 2100/94 on Community plant variety, also known as the 'farmers' privilege', and the calculation of the reasonable compensation within the meaning of Article 94(1) payable to the holder of a plant variety right in the event of an infringement.

The farmers were found to have planted more quantities of the protected plant varieties than authorised. A payment corresponding to remuneration was claimed, but the Geistbeck's only paid half. The Geistbeck's appealed on a point of law, which the Bundesgerichtshof referred to the Court for a preliminary ruling.

First, the referring court sought clarification on how to determine the amount of 'reasonable compensation' payable under Article 94(1) and the damage due under Article 94(2). In particular, should the fee payable for licensed production or the fee for authorised planting, which is 50% of the amount payable for licensed production, be the basis for calculating that compensation.

- Held: A farmer cannot rely on the farmers privilege if there is a failure to fulfil his/her obligations, inter alia, to receive authorisation as required under Article 14
- In consequence, he must be regarded as a third party who, without authorisation, has carried out one of the acts referred to in Article 13(2) of Regulation No 2100/94' (at [35]).
- Such an infringement amounts to a loss of at least the fee a third party would be expected to pay for licensed production.



# Article 17, Use of variety denominations

1. Any person who, within the territory of the Community, offers or disposes of to others for commercial purposes variety constituents of a protected variety, or a variety covered by the provisions of Article 13 (5), must use the variety denomination designated pursuant to Article 63; where it is used in writing, the variety denomination shall be readily distinguishable and clearly legible. If a trade mark, trade name or similar indication is associated with the designated denomination, this denomination must be easily recognizable as such.

# Article 19, Duration of Community plant variety rights

1. The term of the Community plant variety right shall run until the end of the 25th calendar year or, in the case of varieties of vine and tree species, until the end of the 30th calendar year, following the year of grant.
2. The Council, acting by qualified majority on proposal from the Commission, may, in respect of specific genera or species, provide for an extension of these terms up to a further five years.
3. A Community plant variety right shall lapse before the expiry of the terms laid down in paragraph 1 or pursuant to paragraph 2, if the holder surrenders it by sending a written declaration to such effect to the Office, and with effect from the day following the day on which the declaration is received by the Office.

# Article 29, Compulsory exploitation right

1. Compulsory exploitation rights shall be granted to one or more persons by the Office, on application by that person or those persons, but only on grounds of public interest and after consulting the Administrative Council referred to in Article 36.

....

3. The Office shall, when granting the compulsory exploitation right, stipulate the type of acts covered and specify the reasonable conditions pertaining thereto ...The reasonable conditions shall take into account the interests of any holder of plant variety rights who would be affected by the grant of the compulsory exploitation right. The reasonable conditions may include a possible time limitation, the payment of an appropriate royalty as equitable remuneration to the holder, and may impose certain obligations on the holder, the fulfilment of which are necessary to make use of the compulsory exploitation right.

# Article 50, Conditions governing applications

1. The application for a Community plant variety right must contain at least the following:
  - (a) a request for the grant of a Community plant variety right;
  - (b) identification of the botanical taxon;
  - (c) information identifying the applicant or, joint applicants;
  - (d) the name of the breeder and an assurance that, to the best of the applicants knowledge, no further persons have been involved in the breeding, or discovery and development, of the variety;
  - (e) a provisional designation for the variety;
  - (f) a technical description of the variety;
  - (g) the geographic origin of the variety;
  - (h) the credentials of any procedural representative;
  - (i) details of any previous commercialization of the variety;

# Examination

Art. 53 provides for formal examination

Art. 54 provides for substantive examination,  
ie whether the variety is new and whether  
the proposed denomination is available

Art. 55 provides for a technical examination  
ie whether the variety is distinct, uniform  
and stable



|                                     |  |                         |              |                      |          |
|-------------------------------------|--|-------------------------|--------------|----------------------|----------|
| <b>File number</b>                  | 19951096   | <b>Publication date</b> | 24 Juin 1996 | <b>Gazette issue</b> | 1996 / 1 |
| <b>Chapter nr.</b>                  | 1.2 Application for community protection   |                         |              |                      |          |
| <b>Specie name</b>                  | Avena sativa L.  |                         |              |                      |          |
| <b>Denomination</b>                 | GERALD   |                         |              |                      |          |
| <b>Applicant</b>                    | Aberystwyth University<br>Institute of Biological, Environmental and Rural Sciences (IBERS)<br>Plas Gogerddan<br>UK - Aberystwyth, Ceredigion SY23 3EB<br>UNITED KINGDOM |                         |              |                      |          |
| <b>Breeder(s)</b>                   | WELSH PLANT BREEDING AND ENVIRONMENTAL RESEARCH<br>PLASS GOGERRDAN - DYFED<br>UK - Aberystwyth SY23 3EB<br>UNITED KINGDOM  |                         |              |                      |          |
| <b>Procedural Representative(s)</b> | N/A  |                         |              |                      |          |

Note : this page displays the current Applicant(s), Breeder(s) and Procedural Representative(s).

Please refer to chapters V of the CPVO Gazette to track the changes in the applicants and representatives for applications (table 1) and rights (table 2).

## PBR Application (Australia)

Variety: **'Big Time'**

Application No. **1990/060**

Application Received: 10 May 1990

Applicant: **Chief Executive Officer of the Western Australian Department of Agriculture, South Perth, Western Australia**

### **Origin**

This variety arose from the controlled pollination of 'Lady Williams' by 'Golden Delicious'. It was bred by J E L Cripps of the Western Australian Department of Agriculture. 'Big Time' was selected for development on the basis of fruit size and flavour and propagated asexually through 2 generations.

# Variety: 'BIG TIME'

**App. no:** 1990/060 **Current status:** GRANTED

**Certificate no:** 242

**Received:** 10-May-1990

**Accepted:** 18-May-1990

**Description published in Plant Varieties Journal:**

Volume 4, Issue 4

**Title Holder:** Western Australian Agriculture

**Authority Agent:** N/A

**Telephone:** 0893683347

**Fax:** 0893683814





# Big Time variety

- **Description** – see comparison tables
- ‘Big Time’ is a late-maturing spur-bearing variety producing large red-skinned fruit. Shoot growth is wavy in ‘Big Time’, ‘Sundowner’ and ‘Lady Williams’ but zig-zag in ‘Pink Lady’. ‘Lady Williams’ has internodes which are shorter than those of ‘Big Time’ and the other comparative varieties. Stem pubescence is absent in ‘Sundowner’, medium in ‘Big Time’ and ‘Lady Williams’ and heavy in ‘Pink Lady’. ‘Big Time’ has leaves which are medium in colour and longer than those of any of the comparative varieties. The fruit is longer and wider than any of the comparative varieties. ‘Big Time’ has pink stamens whereas these are white in ‘Sundowner’, ‘Pink Lady’ and ‘Lady Williams’. The calyx is open in ‘Big Time’ and ‘Sundowner’ whereas it is closed in ‘Lady Williams’ and ‘Pink Lady’. Fruit texture (hardness using a penetrometer) is 3.53 units in ‘Big Time’, 3.96 in ‘Pink Lady’, 4.23 in ‘Sundowner’

# Big Time variety

- **Comparative Trials**
- All characteristics described below are from comparative trials conducted at Stoneville and Manjimup Horticultural Research Stations in Western Australia between April 1989 and October 1990. The trials comprised randomised blocks on two rootstocks designated MM104 and MM109 with six replications on each rootstock. The soil was a sandy loam. Watering was by under-tree micro-sprinklers and herbicide, insecticide and fungicide sprays were applied. pruning was to be a central leader.

# Council Regulation (EC) No 1383/2003 of 22 July 2003 concerning customs action against goods suspected of infringing certain intellectual property rights and the measures to be taken against goods found to have infringed such rights

## Article 2

1. For the purposes of this Regulation, "goods infringing an intellectual property right" means:

- (c) goods which, in the Member State in which the application for customs action is made, infringe:
  - (i) a patent under that Member State's law;
  - (iii) a national plant variety right under the law of that Member State or a Community plant variety right of the kind provided for in Council Regulation (EC) No 2100/94(9);

# Council Regulation (EC) No 1383/2003 of 22 July 2003 concerning customs action against goods suspected of infringing certain intellectual property rights and the measures to be taken against goods found to have infringed such rights

## Article 2

1. For the purposes of this Regulation, "goods infringing an intellectual property right" means:

- (c) goods which, in the Member State in which the application for customs action is made, infringe:
- (iv) designations of origin or geographical indications under the law of that Member State or Council Regulations (EEC) No 2081/92(10) and (EC) No 1493/1999(11);
- (v) geographical designations of the kind provided for in Council Regulation (EEC) No 1576/89(12).

## Article 4

1. Where the customs authorities, in the course of action in one of the situations referred to in Article 1(1) and before an application has been lodged by a right-holder or granted, have sufficient grounds for suspecting that goods infringe an intellectual property right, they may suspend the release of the goods or detain them for a period of three working days from the moment of receipt of the notification by the right-holder and by the declarant or holder of the goods, if the latter are known, in order to enable the right-holder to submit an application for action in accordance with Article 5.



# star fruits®



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## **CONTREFAÇONS POSSIBLES** **DE LA MARQUE PINK LADY® EN EUROPE**



*Mise à jour : 16 mai 2005*



## APPARENCE DES STICKERS

Sur une pomme PINK LADY®, doit être apposé un sticker spécifique avec le logo et la marque PINK LADY®, comme ci-dessous :

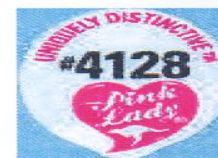


A – Sticker obligatoire sur les pommes PINK LADY® produites en Europe (commercialisées de Novembre à Mai) : un seul modèle de sticker est valide.



(Avec # 4130 ou #4128 selon le calibre des fruits)

B – Stickers possibles pour les pommes produites dans l’Hémisphère Sud (commercialisation de Mai à Septembre) : utilisation du logo PINK LADY® obligatoire sur le sticker



Pour les pommes de l’hémisphère sud, il est également possible qu’en plus du logo PINK LADY® décrit ci-dessus, un autre logo d’entreprise soit utilisé sur le sticker (sticker en co-branding : voir exemple ci-dessous)



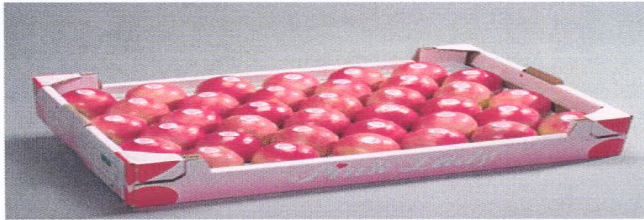


## ASPECT DES EMBALLAGES

### A- POMMES PRODUITS EN EUROPE : EMBALLAGES EUROPEENS

Les pommes PINK LADY® produites en Europe doivent être conditionnées, au moment de la première mise en marché, dans un emballage respectant un cahier des charges de conditionnement précis, applicable à toute la production européenne.

Vous trouverez ci-dessous des exemples de ces emballages spécifiques PINK LADY® européens:



60X40

**Plateau spécifique PINK LADY® (existe également en 40X25 et en 2 rangs)**



50 X 30



**Bushel spécifique PINK LADY®**



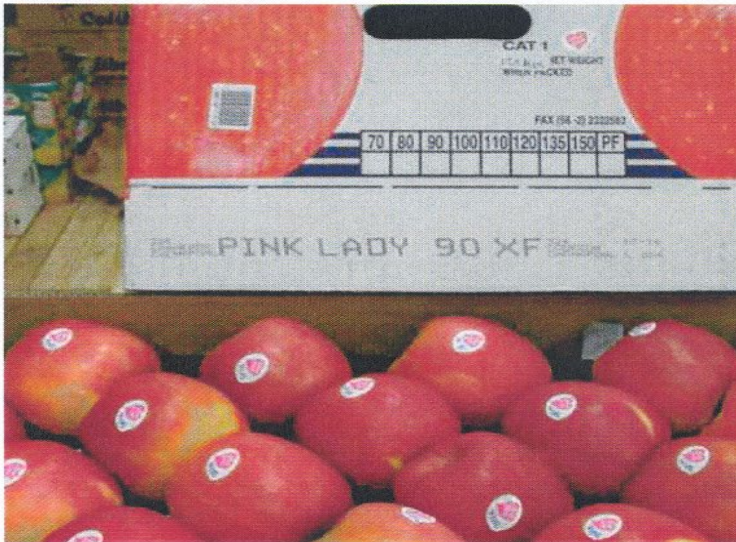
**Barquette spécifique PINK LADY® (4 fruits) (exit également en 6 et 8 fruits)**



**Sachet spécifique PINK LADY®**



- ❖ Les pommes ne sont pas conditionnées dans des emballages conformes, c'est à dire qu'ils ne répondent pas aux règles existant en matière d'emballage pour les pommes PINK LADY® d'hémisphère Sud (rappelées en page 6).



**Exemple de non respect des exigences en matière d'emballage : PINK LADY® n'apparaît pas sur les bushels avec une taille équivalente à la taille de la marque du fournisseur : marque PINK LADY® est de taille insuffisante.**

Dans ces deux cas, la responsabilité du détaillant n'est pas engagée, mais il est important de remonter la filière pour identifier qui est le fournisseur des pommes en amont.

# **Customs Action against Israeli grown Plant Varieties at the Dutch Borders**

**8 Dec 2006, the customs office at Amsterdam-Schiphol airport (the Netherlands) blocked a batch of gerbera cut flowers from Israel, as requested by the gerbera breeder.**

**These specific varieties are protected in the EU by European breeders' rights.**



# Patenting and PVP

- *J.E.M. Ag Supply v. Pioneer Hi-Bred* 122 S. Ct. 593 (Dec. 10, 2001). U.S. Supreme Court confirmed that breeders could apply for both utility patents and PVP with respect to the same variety.
- *Novartis II/Transgenic Plant*, [2000] E.P.O.R. 303. Extended Board of Review of the EPO, claims to patent protection which are drawn to encompass an invention broader than a single variety may be patented, even though such claims may encompass multiple varieties.

# Patenting of plant breeding methods

- Wrinkled tomatoes with reduced water content.
- Brassicaceae family (Broccoli) with elevated levels of anticarcinogenic glucosinolates

(19) **United States**

(12) **Patent Application Publication**  
**SCHAFFER**

(10) **Pub. No.: US 2010/0095393 A1**  
(43) **Pub. Date: Apr. 15, 2010**

(54) **METHOD FOR BREEDING TOMATOES  
HAVING REDUCED WATER CONTENT AND  
PRODUCT OF THE METHOD**

7,119,261, filed as application No. PCT/IL00/00389  
on Jul. 4, 2000.

(75) **Inventor:** Arthur A. SCHAFFER,  
Hashmonaim (IL.)

(30) **Foreign Application Priority Data**

Aug. 19, 1999 (IL.) ..... 131509

**Correspondence Address:**

**MARTIN D. MOYNIHAN d/b/a PRISI, INC.,  
P.O. BOX 16446  
ARLINGTON, VA 22215 (US)**

**Publication Classification**

(51) **Int. Cl.**  
*A01H 1/02* (2006.01)  
*A01H 5/00* (2006.01)

(52) **U.S. Cl.** ..... **800/260; 800/317.4**

(73) **Assignees:** The State of Israel, Ministry of  
Agriculture & Rural  
Development, Agricultural  
Research Organization, (A.R.O.),  
Volcani Center, Beit-Dagan (IL.)

(57) **ABSTRACT**

(21) **Appl. No.:** 12/636,889

(22) **Filed:** Dec. 14, 2009

A method for breeding tomato plants that produce tomatoes with reduced fruit water content including the steps of crossing at least one *Lycopersicon esculentum* plant with a *Lycopersicon* spp. to produce hybrid seed, collecting the first generation of hybrid seeds, growing plants from the first generation of hybrid seeds, pollinating the plants of the most recent hybrid generation, collecting the seeds produced by the most recent hybrid generation, growing plants from the seeds of the most recent hybrid generation, allowing plants to remain on the vine past the point of normal ripening, and screening for reduced fruit water content as indicated by extended preservation of the ripe fruit and wrinkling of the fruit skin.

**Related U.S. Application Data**

(63) Continuation of application No. 11/506,896, filed on Aug. 21, 2006, which is a continuation of application No. 10/069,389, filed on Jul. 1, 2002, now Pat. No.

# Tomato Breeding Patent

- [0009] The present invention seeks to provide a method for breeding tomatoes having fruit that naturally dehydrate while still attached to the tomato plant and thus have a reduced water content, and to tomatoes having reduced water content and to products of the method.

# Tomato Breeding Patent

- [0010] It can contribute to reduction of processing costs and energy expenditures in the production of pastes, sauces and ketchups. It can contribute to the production of high quality dried and semi-dried (raisin-type) tomato products. It can contribute to the improvement of tomato fruit transport since the volume of transported material will be decreased. It can improve the storage ability of the tomato fruit since reduced water content will be accompanied by increased soluble solids concentration which contributes to the resistance to microbial spoilage.

# Tomato Breeding Patent

- [0011] There is thus provided in accordance with a preferred embodiment of the present invention a method for breeding tomato plants that produce tomatoes with reduced fruit water content including the steps of crossing at least one *Lycopersicon esculentum* plant with a *Lycopersicon* spp. to produce hybrid seed, collecting the first generation of hybrid seeds, growing plants from the first generation of hybrid seeds, pollinating the plants of the most recent hybrid generation, collecting the seeds produced by the most recent hybrid generation, growing plants from the seeds of the most recent hybrid generation, allowing plants to remain on the vine past the point of normal ripening, and screening for reduced fruit water content as indicated by extended preservation of the ripe fruit and wrinkling of the fruit skin.



**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

|  |   |  |
|--|---|--|
| (51) International Patent Classification <sup>6</sup> :<br><b>A01H 5/10</b>  | <b>A1</b>   | (11) International Publication Number: <b>WO 99/52345</b><br>(43) International Publication Date: 21 October 1999 (21.10.99) |
| <p>(21) International Application Number: PCT/GB99/01079</p> <p>(22) International Filing Date: 8 April 1999 (08.04.99)</p> <p>(30) Priority Data:<br/>60/081,169 9 April 1998 (09.04.98) US</p> <p>(71) Applicant: PLANT BIOSCIENCE LIMITED (GB/GB); Norwich Research Park, Colney Lane, Norwich, Norfolk NR4 7UH (GB).</p> <p>(72) Inventors: MITHEN, Richard; 4 Colton Road Cottages, Marlingford, Norwich, Norfolk NR9 5MS (GB). FAULKNER, Kathy; 26 Sedge Road, Scarning, East Dereham, Norfolk NR19 2UA (GB). WILLIAMSON, Gary; Halfway House, Westgate Street, Shouldham, Kings Lynn, Norfolk PE33 0BH (GB).</p> <p>(74) Agents: MASCHIO, Antonio et al.; D. Young &amp; Co., 21 New Fetter Lane, London EC4A 1DA (GB).</p> | <p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b><br/><i>With international search report.<br/>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> |  |
| (54) Title: METHOD FOR SELECTIVE INCREASE OF THE ANTICARCINOGENIC GLUCOSINOLATES IN <i>BRASSICA SP.</i>  |   |  |
| (57) Abstract<br><p>The invention relates to a method for producing <i>Brassica oleracea</i> with elevated anticarcinogenic glucosinolate derivatives. The elevated levels are obtained by crossing wild <i>Brassica oleracea</i> species with <i>Brassica oleracea</i> breeding lines, and subsequently selecting hybrids with levels of 4-methylsulfinylbutyl and/or 3-methylsulfinylpropyl glucosinolates elevated above that initially found in <i>Brassica oleracea</i> breeding lines. The invention also relates to edible <i>Brassica</i> plants, such as broccoli plants, with elevated levels of 4-methylsulfinylbutyl glucosinolate and/or 3-methylsulfinylpropyl glucosinolates, and to seeds of such plants.</p>      |   |  |

# Broccoli Patent

- method for providing plants belonging to the Brassicaceae family with elevated levels of ***anticarcinogenic glucosinolates***. The plants are obtained by 1) the production of a Brassica oleracea plant with elevated levels of ***anticarcinogenic glucosinolates*** in the edible parts and 2) the use of the Brassica oleracea plant produced under 1) as a starting material for breeding Brassica varieties with elevated levels of ***anticarcinogenic glucosinolates***.

# Patenting of Plant Breeding in Europe

- Patent application was filed by Plant Bioscience Ltd. for a "method for selective increase of the anticarcinogenic glucosinolates in brassica species". Patent specification EP 1069819, published 24.7.2002 EBA Case G2/07 (2010)
- application was filed by the Israeli Ministry of Agriculture for "method for breeding tomatoes having reduced water content and product of the method". Patent specification EP 1211926 published, 26.11.2003. EBA Case G1/08 (2010).

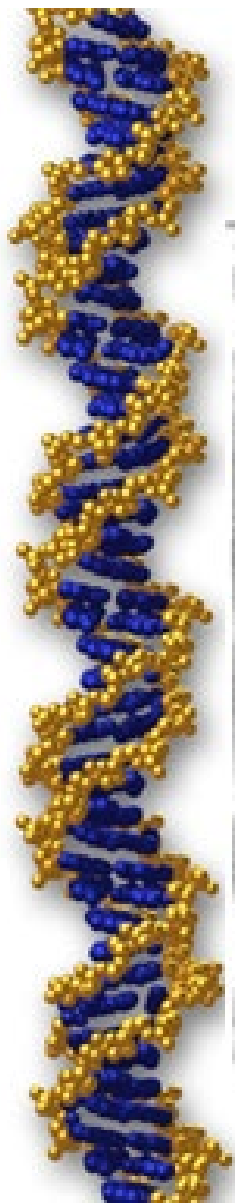
# Consideration of broccoli and tomato patents by the Appeal Board of the European Patent Office (EPO)

- A non-microbiological process for the production of plants which contains or consists of the steps of sexually crossing the whole genomes of plants and of subsequently selecting plants is in principle excluded from patentability as being "essentially biological" within the meaning of Article 53(b) European Patent Convention [and most patent laws]

- If, however, such a process contains within the steps of sexually crossing and selecting an **additional step of a technical nature**, which step by itself introduces a trait into the genome or modifies a trait in the genome of the plant produced, so that the introduction or modification of that trait is not the result of the mixing of the genes of the plants chosen for sexual crossing, then the process is **not excluded from patentability** under Article 53(b) EPC.

- Over 30% of 350 applications made for patents on plants to WIPO under the Patent Cooperation Treaty (PCT) covered the conventional breeding of plants, such as for marker-based selection, regeneration and reproductive processes, measuring constituent substances, hybrid breeding and mutagenesis, “as well as for material used in breeding such as seed, genes and parts of plants, whole plants, their harvests and products (sometimes processed) like food, feedstuff and biomass.”

Christoph Then & Ruth Tippe, *Seed monopolists increasingly gaining market control Applications and granting of patents in the sphere of animal and plant breeding in 2010*, March, 2011. <http://www.no-patents-on-seeds.org/sites/default/files/news/patentreport2011>



# Critiques of the PVP System

- Over the last two decades commentators on the PVP system have begun to question its relevance, raising the possibility that it might have become “the Neanderthal of intellectual property systems”. Cary Fowler, *Unnatural Selection: Technology, Politics, and Plant Evolution*, Gordon and Breach, Switzerland and Langhorne Pa, 1994, p. 152.
- PVP in focussing upon a phenotypic paradigm, based upon “characteristics” and “features” has become outmoded as plant breeding moves towards a genotypic approach, utilising genetic modification and molecular breeding techniques. Mark Janis and Stephen Smith, ‘Technological Change and the Design of Plant Variety Protection Regimes’ (2007) 82 *Chicago Kent Law Review* 1557.



# Critiques of the PVP System

- See also Laurence Helfer, 'The Demise and Rebirth of Plant Variety Protection: A Comment on Technological Change and the Design of Plant Variety Protection Regimes' (2007) 82 *Chicago Kent Law Review* 1619
- Jay Sanderson, 'Back to the Future: Possible Mechanisms for the Management of Plant Varieties in Australia' (2007) 30 *University of New South Wales Law Journal* 686.

- It has been generally assumed that the increasing number of varieties released and planted is an indication of the greater availability of PVRs.
- [W. Lesser, 'Sector issues II: Seeds and plants' in W. E. Siebeck, R. E. Evenson, W. Lesser and C. A. Primo Braga, *Strengthening Protection of Intellectual Property in Developing Countries*, Washington, DC, The World Bank, 1990, pp. 59-68.]
- However, it is considered to be uncertain as to whether the availability of protection caused the increase in varietal release, as well as whether this is an economic good.
- [Dwijen Rangnekar, *Access to genetic resources, gene-based inventions and agriculture – issues concerning the TRIPs Agreement*, Prepared for the UK Government Commission on Intellectual Property Rights, London, CIPR, 2002 at pp. 45-50]

# IMPACT OF PLANT VARIETY PROTECTION

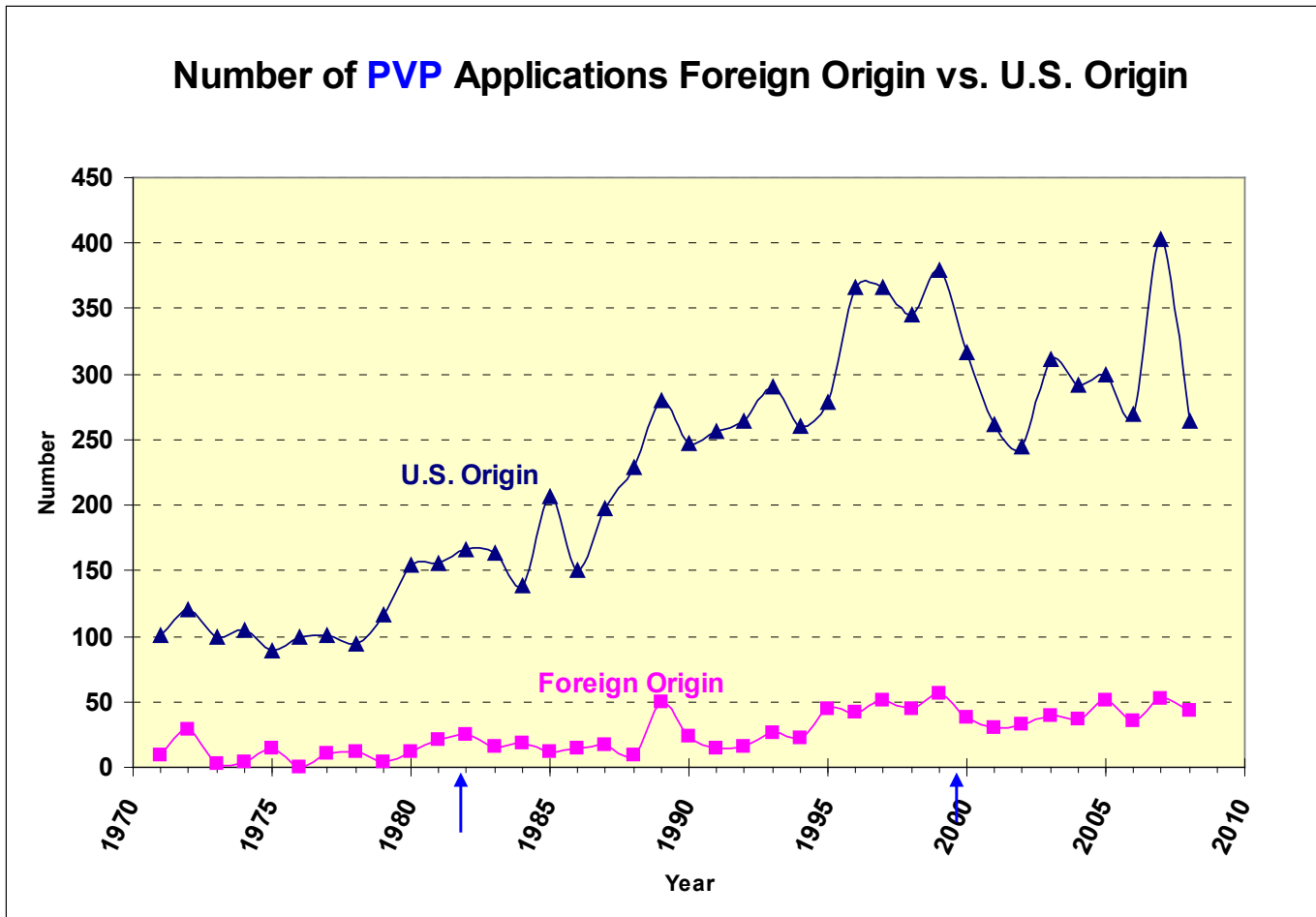
*John Calvert*  
*United States Patent And Trademark Office*

# Increased Innovation

Innovation means:

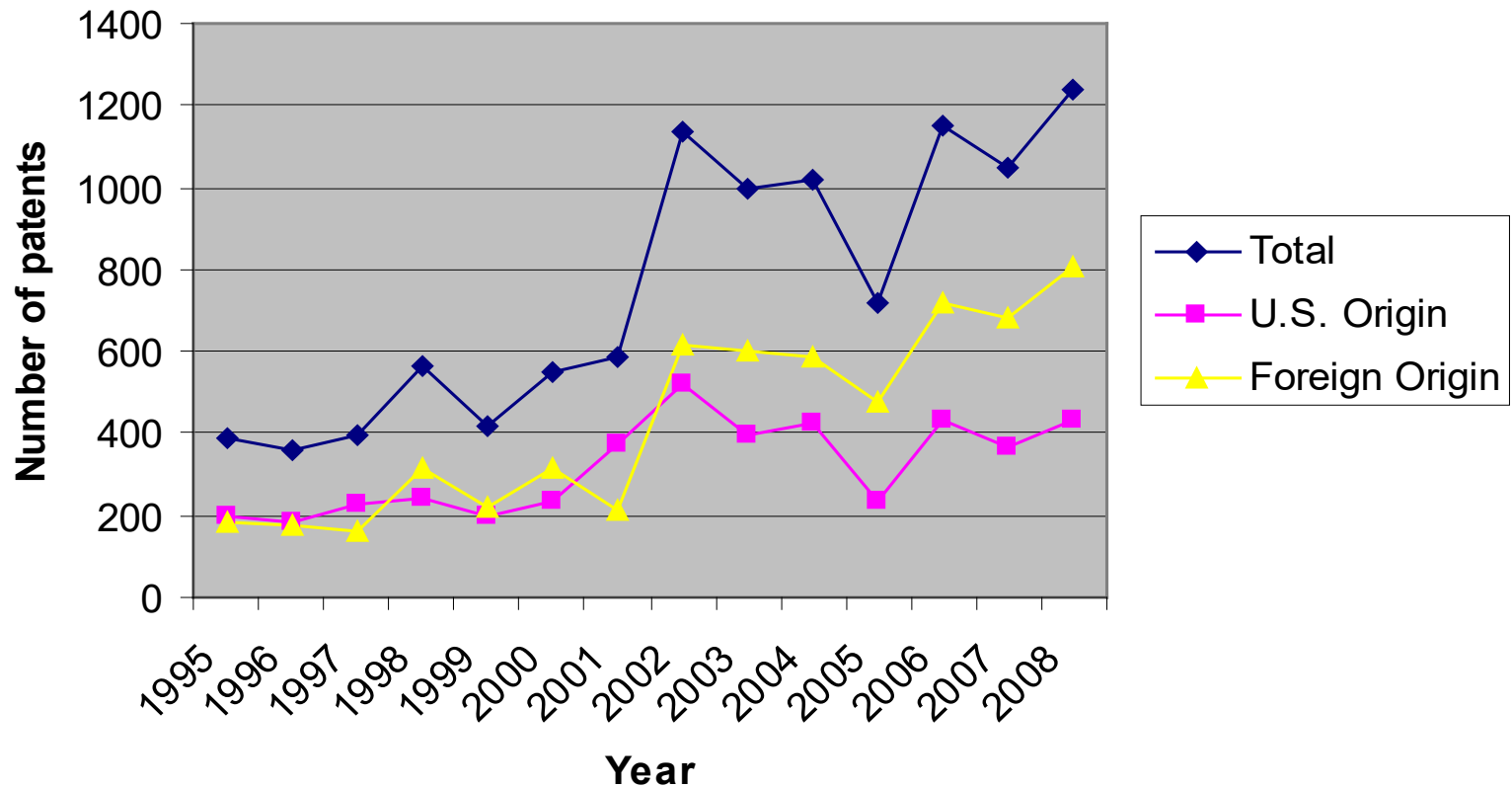
- Improved germplasm
- Products that enable farmers to be more productive
  - Increased yield –high yielding varieties
  - Reduced cost—quality seeds
  - Less risk of loss—disease resistance, insect resistance, drought tolerance
- Products that improve food quality-low fat, high protein
- Products that has better industrial application: fiber strength, bio-energy crops
- New and distinct products

# INCREASED INNOVATION

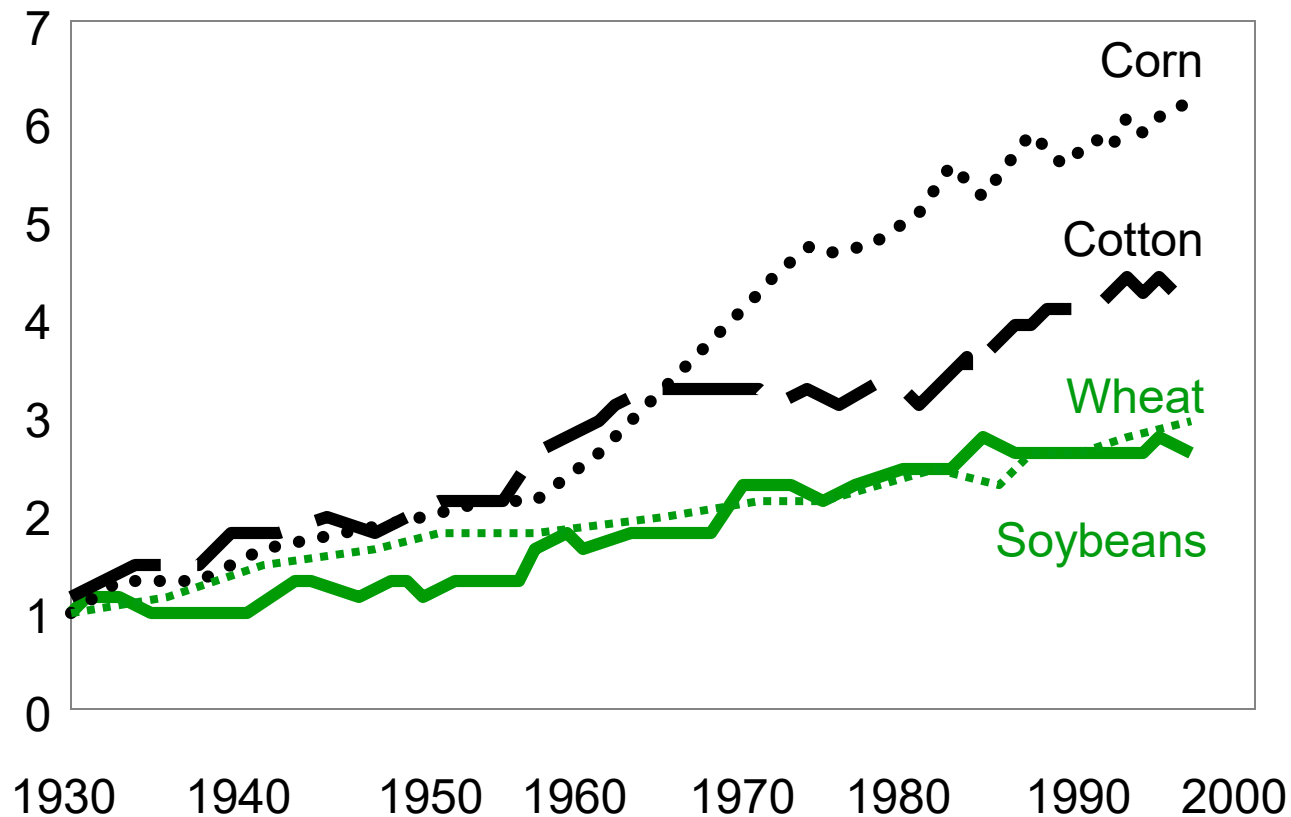


# INCREASED INNOVATION

**Number of Plant Patents Granted  
(U.S. vs. Foreign Origin)**



# Improve Crop Yields



# Innovation Brings Choices

- For Farmers
  - reduces impact of factors beyond their control
  - Pests/diseases
  - Temperature
  - Moisture
  - Soil conditions
  - Length of growing season
  - Nutrient uptake



# Improve Crop Yield

- Increased average corn yields
  - 1930s 30 bushels/acre (1.6 tons/hectare)
  - 2005 140 bushels/acre (6.7 tons/hectare)
- Quadrupled cotton yields
- More than tripled soybean yields

Source: American Seed Trade Association

# US Seed Industry Today

- US Industry – \$12 b
- Global Industry – \$27b
- Heavy investment to new traits and new technologies

Source: American Seed Trade Association

# A Pipeline Beyond Imagination



# Impact of Plant Variety Protection

- **Increased Innovation**
- **Increased Investment in R&D**
- **Improved Productivity**
- **Preserved Natural Resources**
- **More Choices for Farmers and Consumers**
- **Expanded Trade**