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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
Geneva

TECHNICAL WORKING PARTY FOR VEGETABLES

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Angers, France, June 15 to 19, 2015

ADDENDUM TO

MATTERS CONCERNING VARIETY DESCRIPTIONS

Document prepared by the Office of the Union


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1. The Annexes to this document contain the following presentations made at the forty-ninth session of the Technical Working Party for Vegetables (TWV):

- ANNEX I Experience with regard to variety descriptions and verifying the maintenance of the variety at the Community Plant Variety Office (CPVO) (European Union)
- ANNEX II Verifying the maintenance of vegetable varieties - Experience and practice in the Netherlands (Netherlands)
- ANNEX III Verification of the maintenance of the variety in the Republic of Korea (Republic of Korea)
- ANNEX IV Verifying the maintenance of a variety - Matters concerning variety descriptions (Spain)

[Annexes follows]

ANNEX I



CPVO
Community Plant Variety Office

Experience with regard to variety descriptions and verifying the maintenance of the variety at the Community Plant Variety Office (CPVO)

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Experience with regard to variety descriptions (VD)

- Legal basis: Article 87(4) 2100/94

“The Office may of its own motion and upon consultation with the holder adapt the official variety description in respect of the number and type of characteristics or of the specified expressions of those characteristics, when necessary, in the light of the current principles governing the description of varieties of the taxon concerned, in order to render the description of the variety comparable with the descriptions of other varieties of the taxon concerned.”

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Experience with regard to variety descriptions

- Experience of the CPVO:
 - In the understanding of the CPVO: concerns only variety descriptions of the registers of the CPVO
 - Updates are exceptional cases
 - Changing the variety description is a formal decision of the CPVO
 - Adapted description replaces the former description

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Experience with regard to variety descriptions

- Discussion with examiners revealed wide-ranging understanding of the status of variety descriptions
- CPVO seeks to develop a common understanding
- Survey amongst examination offices

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Experience with regard to variety descriptions

- CPVO provisionally defined 3 types of Variety Description:
 1. “Original VD”: approved upon granting or listing (possibly several original variety descriptions if variety underwent several procedures)
 2. “Official VD”: either original or adapted version of an original variety description
 3. “Working VD”: any other variety description

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Survey amongst European Union examination offices

1. Do you prepare a (full) working variety description of each variety grown for reference purpose?
 - 1.1. If yes, do you (fully) describe the reference variety each time the variety is grown as reference?
 - 1.2. If you do not (fully) describe reference varieties each time do you re-describe them (primarily for working purpose) when a new Technical Protocol becomes applicable?

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Survey amongst European Union examination offices

2. When mentioning a reference variety as similar variety under point 16 of the Official Variety Description, do the notes there reflect the state of expression of the year the candidate variety is assessed, or are the notes taken from the Official Variety Description that was part of the title of protection (or the basis for registration in the National/Common Catalogue)?



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Survey amongst European Union examination offices

3. Do above-mentioned (question 1 and 2) descriptions replace Official Variety Descriptions? If so, are there particular conditions to be fulfilled?
4. Are there other circumstances when an Official Variety Description is amended? (*not to be confused with correcting errors in the Official Variety Description*)



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Survey amongst European Union examination offices

5. What would be the procedure to change Official Variety Descriptions?
- Is the CPVO/other Examination Offices/holder of the right informed on such adaptations?
Do you publish adapted variety description?
6. In case you contribute to shared databases, which variety description(s) do you provide for shared databases? (Working Variety Description or Official Variety Descriptions?)



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Survey amongst European Union examination offices

7. When a report is provided for a take-over, which variety description is provided?
- the Official Variety Description as attached to the national plant variety right/registration certificate ?
 - the latest Working Variety Description?



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Survey amongst European Union examination offices

8. If a characteristic was not observed at the time the Official Variety Description was prepared but becomes observable later, will these additional observations be added and thus be considered as an updated Working Variety Description?

Position of the CPVO to be developed based upon responses....



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Verifying the maintenance of protected varieties

- Legal basis: Article 64 2100/94: Technical Verification
 - Not done systematically
 - When reference samples show problems or anomalies spotted in traded varieties **or are not submitted by the title holder when ordered as reference**
 - Conducted along lines of a DUS trial with plant material to be submitted by the holder of the rights
 - Only U (and S) checked + **conformity with the VD**



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Verifying the maintenance of protected varieties

- Technical Verifications:
 - CPVO Technical Protocol in force at the time of the **initial** technical examination is applied
 - If variety passes technical verification:
 - **Report certifies variety still U and S and conforms to its original variety description**
 - If variety fails the technical verification:
 - **CPVO cancels title of protection**
 - Examination office's remuneration 50% of the regular exam (no D test)
 - No fee from the holder of the rights



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Board of Appeal cases on the matter

- In case of living collection
 - Comparison of the material received with the material in the collection
- In case of non living collection
 - The examination office has to rely on the description and other information stored (e.g. pictures, measurements) in order to assess whether the variety still matches its original description



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Board of Appeal cases on the matter

- In case of non living collection
 - Various challenges:
 - The technical protocol may have changed since the time of establishment of the original description:
 - Reference varieties may no longer be available
 - Range of variation for QN characteristics may be different
 - Methods of observations may have changed (e.g. old version of the RHS colour chart)
 - Characteristics may largely be influenced by the environment (and for this reason have disappeared from more recent versions of the protocol)



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Board of Appeal cases on the matter

- In case of non living collection
 - Various challenges:
 - When it is challenged, difficulty to defend that a variety remains unchanged when its updated description shows up to 3 notes difference compared to original description
 - 'Seimora' case: sound explanations of differences and expertise succeeded in convincing the CPVO Board of Appeal



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Thank you for your attention!



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Verifying the maintenance of vegetable varieties

Experience and practice in the Netherlands
Marian van Leeuwen

Verifying the maintenance of vegetable varieties in the Netherlands

- The material of the variety, seed or plants, is the basis for verifying the maintenance of a variety
- Only in cases of doubt the process of maintaining the variety at the breeder is verified by
 - a system of field control: examining the production of the propagating material
 - assessing the administration

Verifying the maintenance of a listed and protected variety

- Varieties listed in the Common Catalogue of vegetable varieties are included in a maintenance control system: every 3 to 5 years, a sample provided by the maintainer is side by side compared with the DUS sample or at the next period with the sample earlier examined in this system as true to the variety.
- A complication are vegetatively propagated varieties: the variety is not maintained by Naktuinbouw, but DNA is stored. Side by side comparison is not possible. The maintenance is verified using the description, photo's, etc. In cases of doubt DNA comparison may be used.

Verifying of the maintenance using the DUS sample

Verifying the maintenance of a parent line

- Parent lines:
 - Parent lines are not included in the maintenance control system that is used for listed varieties (seed nor vegetatively propagated)
 - Material is requested if necessary for comparison purposes
 - The identity is checked using the variety description, documentation and extra's like photo's, data, etc

The DUS sample and a maintenance sample

DUS not true

The use of a later version of the Test Guideline for verifying the maintenance

- To compare side by side a new maintenance sample with a verified maintenance sample Test Guidelines are not used
- The later version of the Guideline is included in the documentation system and new or changed characteristics are included or 'translated';
- The description of a variety according to an earlier Guideline is made up-to-date in the documentation system which serves as a 'work file'
- Examples: Resistances (p.e. new Bremia races); lobing of leaf blades of watermelon, etc.

The role of the variety description in verifying the maintenance

- The variety description is at the time of generation automatically included in the documentation system
- Descriptions are then 'translated' in search terms which makes sorting and selecting possible
- For maintenance control mainly this 'work file' is used

Variety Description

Number	Description	Number	Description
1	Year of generation	1	Year of generation
2	Year of selection	2	Year of selection
3	Year of introduction	3	Year of introduction
4	Year of registration	4	Year of registration
5	Year of commercialization	5	Year of commercialization
6	Year of first harvest	6	Year of first harvest
7	Year of first sale	7	Year of first sale
8	Year of first export	8	Year of first export
9	Year of first import	9	Year of first import
10	Year of first cultivation	10	Year of first cultivation
11	Year of first seed harvest	11	Year of first seed harvest
12	Year of first seed sale	12	Year of first seed sale
13	Year of first seed export	13	Year of first seed export
14	Year of first seed import	14	Year of first seed import
15	Year of first seed cultivation	15	Year of first seed cultivation
16	Year of first seed harvest	16	Year of first seed harvest
17	Year of first seed sale	17	Year of first seed sale
18	Year of first seed export	18	Year of first seed export
19	Year of first seed import	19	Year of first seed import
20	Year of first seed cultivation	20	Year of first seed cultivation

The role of the original DUS plant material in verifying the maintenance

- When a variety description has to be modified because of an omission or an error the original plant material will be used if necessary and possible;
- In case the original seed sample is not viable anymore, an already verified maintenance sample will be used;
- In case of vegetatively propagated material, there is no living reference collection. Then the documentation/description and/or DNA are used.

Verification of the maintenance of the variety in the Republic of Korea



KOREA SEED & VARIETY SERVICE
SangDon Yun

Contents

- 1 Objectives
- 2 Related law with verifying the maintenance of the variety
- 3 Test to verifying the maintenance of the variety in KSVS
- 4 The result of tests to verifying the maintenance of the variety
- 5 Discussions
- 6 Future plans of test to verifying the maintenance of the variety

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1. Objectives

- ◆ To verify the maintenance of the variety of PVP right holders.
- ◆ To encourage PVP right holders to maintain the basic characteristics of their protected variety.
- ◆ To enhance farmer's reliability to crops of protected varieties.

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2. Related law with verifying the maintenance of the variety

- ◆ **Plant Variety Protection Law**
 - Article 82 Maintenance Obligation of the Protected Variety
 - (1) The variety protection right holder shall have the obligation to maintain the basic characteristics of the protected variety at the time of the registration of establishment of the variety protection right for the entire duration of the right.
 - (2) The Minister of Ministry of Agriculture, Food and Rural Affairs may require the variety protection right holder to provide materials deemed necessary for verifying the maintenance of the basic characteristics of the protected variety under Paragraph (1), in this case the variety protection right holder should provide the materials without proper reason.

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2. Related law with verifying the maintenance of the variety

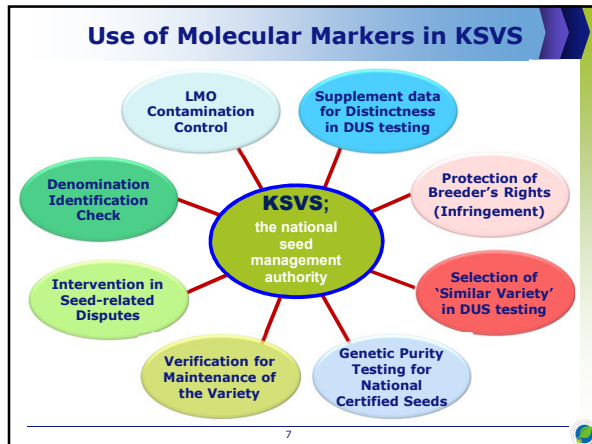
- Article 79 Cancellation of the Variety Protection Right
 - (1) The Minister of Ministry of Agriculture, Food and Rural Affairs may cancel the variety protection right under any of the following circumstances; however, in case of Item (ii), the variety protection right shall be cancelled:
 - (ii) Where an act of maintaining the protected variety under Article 82 has not been performed; and
 - (2) The variety protection right shall be extinguished from the time of cancellation of the variety protection right under Paragraph (1).

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3. Test to verifying the maintenance of the variety in KSVS

- ◆ **Possible crops for verifying the maintenance**
 - Should have kept and managed the seed sample: seed propagated crops, for example vegetable & agriculture crops
 - KSVS shall keep and manage the seed sample, in case of the seed of a variety of which establishment of the protection variety right has been registered. However in case of vegetative propagated variety, the seeds shall not keep instead of keeping by breeder.
 - Should have developed techniques of DNA markers distinguishing varieties among the crop.
 - Major crops are preferred in verification.

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Molecular Marker Database in KSVS

(May 2015)

Category	Crop	Techniques	Number of varieties	Category	Crop	Techniques	Number of varieties	
Vegetables (13)	Hot Pepper	SSR	672	Fruit trees (6)	Peach	SSR	174	
	Watermelon	SSR	300		Apple	SSR	67	
	Melon	SSR	180		Blueberry	SSR	40	
	Tomato	SSR	122		Mandarins	SSR	113	
	Onion	SSR	77		Plum	SSR	160	
	Strawberry	SSR	110		Pear	SSR	87	
	Ornamental (3)	Chinese Cabbage	SSR	435	Rose	SSR	70	
		Oriental melon	SSR	108	Chrysanthemum	SSR	128	
					Gerbera	SSR	30	
		Grains and Oilseeds (4)	Pumpkin	SSR	167	Rice	SSR	373
			Radish	SSR	288	SNP	SSR	78
			Lettuce	SSR	171	Barley	SSR	71
			Cucumber	SSR	175	Soybean	SSR	148
Mushrooms (1)		Carrot	SSR	113	Maize	SSR	90	
					Oyster mushroom	SSR	69	
Total(27 crops) 4,618 varieties								

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3. Test to verifying the maintenance of the variety in KSVS

◆ **Procedure to test**

- I. Take the **present seeds** provided by PVP right holders.
- II. Prescreening using DNA markers
 - Prescreening varieties by comparing provided **present seeds** with **kept and managed seeds** using DNA markers.
 - **DNA marker** : A short specific DNA sequence with a known location on a chromosome (Tools for testing difference of DNA sequence)

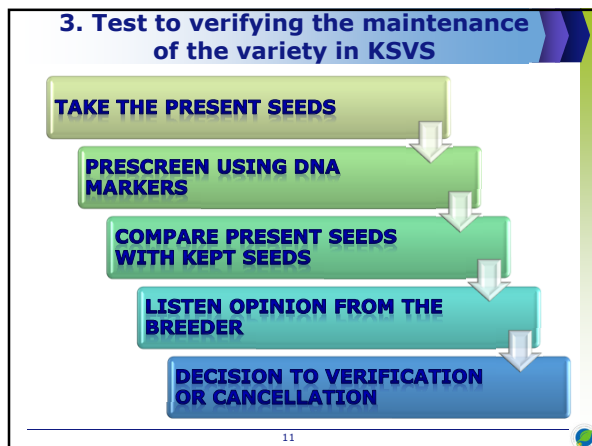
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3. Test to verifying the maintenance of the variety in KSVS

III. Compare present seeds with kept and managed seeds in same varieties by discrimination testing

- No difference between the two kinds of seeds: Verification to the maintenance of the variety
- Difference between the two kinds of seeds: cancellation of the variety protection right

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4. The result of tests to verifying the maintenance of the variety

◆ **Rice ('12)**

- Prescreening 164 registered varieties to 8 varieties using DNA markers.
- Difference between the present seeds and kept seeds among 7 varieties: A joint KSVS-breeders meeting --> Replace the kept seeds, because the kept seeds were different from the standard plants of breeders, but variety descriptions coincided with the standard plants .

◆ **Hot pepper ('13)**

- Prescreening 86 registered varieties to 6 varieties using DNA markers.
- No difference between the present seeds and kept seeds in cultivation test of a variety: Verification to the maintenance.
- Difference between the present seeds and kept seeds in 5 varieties: Cancellation(1) and withdrawal(4) of the PVP.

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4. The result of tests to verifying the maintenance of the variety

◆ Bean('13~'14)

- Prescreening 121 registered varieties to 2 varieties using DNA markers.
- Postponed the cultivation test because of very low germination rate and heavy damage by diseases and insects.



◆ Chinese cabbage('14)

- Prescreening 82 registered varieties to 9 varieties using DNA markers.
- Cancelled 17 varieties because not provided by PVPR holders.
- No difference between the present seeds and kept seeds in cultivation test of 8 varieties: Verification to the maintenance.
- Postponed the cultivation test of a variety because of no uniformity

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5. Discussions

<< Compare present seeds with **kept seeds** instead of variety description >>

◆ Advantage

- Minimize variation from years and circumstances
- Checking on the farm with breeders was possible

◆ Disadvantage

- The kept seeds may not same to original seeds or standard plants of breeders
- Only seed propagated variety can be tested
- In a few cases breeders refused provision of seeds because of security of breeding parents, etc

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6. Future plans of test to verifying the maintenance of the variety

◆ '2015 test

- Radish(109 registered varieties) and Barley(94) will be tested
- Hot pepper(1 variety), bean(2), chinese cabbage(1) will be retested.

◆ Construction of DNA profile database for new crops

- Sesame, cymbidium will be developed in 2015.

◆ Vegetative propagated crops


- In case of vegetative propagated variety, KSVS do not keep the seeds.
- We are consider comparing the **present seeds** with the **examination reports** when the variety was registered in vegetative propagated crops for verifying the maintenance of the variety.

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Thank You !

[Annex IV follows]

ANNEX IV



CENTRO DE EVALUACIÓN DE VARIEDADES DE VALENCIA (SPAIN)

Verifying the maintenance of a variety

(TWV/49 June of 2015)

Verifying the maintenance of a variety

When ?

A new sample of seeds is requested to the maintainer and its varietal identity must be verified:

- After 10 years of listing/granting the variety
- If the emergence rate in trials is apparently decreasing
- If there is any suspicious of possible lack of stability
- If the variety was registered or granted in other country, when it is considered necessary for include in trials as comparing variety for the technical examination of a candidate.

Methods of verifying

1. Compare the new and original seed samples.
(When both are available)
 - Design in the field: Adjacent plots
 - Number of plants and replications and characteristics to observe: The current in ES for the technical examination of varieties of the same crop.
 - Disease resistance tests: to decide case by case, depending on the reasonable suspicious of problem of stability and the compulsoriness of the test.

2. Compare a seed sample with an official description.
(When no official sample is available)
 - *Some cases of re-inscriptions of ancient deleted varieties*
 - *Entrances of seed samples of varieties for the reference collection*
 - the characteristics to check are those of the original description.
 - Only is possible to check the compatibility of the description and the sample, specially when the official description was produced in other country because the different conditions may vary the expression of the characteristics, specially on the QN

[End of Annex IV and of document]