

**TRADE AND AGRICULTURE DIRECTORATE  
COMMITTEE FOR AGRICULTURE**

**Annual Meeting of Representatives of the National Designated Authorities for the  
Implementation of the OECD Schemes for the Varietal Certification of Seed Moving in  
International Trade**

**DRAFT REVISED GUIDELINES FOR CONTROL PLOT TESTS AND FIELD INSPECTION OF SEED  
CROPS – PART IV (Characteristics for assessing varietal identity and varietal purity)**

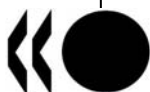
*This document was prepared by the Co-ordinating Centre, on the basis of description sheets accepted at the 6th Meeting of the TWG on Varietal Identity and Varietal Purity and comments received from member countries.*

*The present document revises Part IV of the "OECD Guidelines for Control Plot Tests and Field Inspection of Seed Crops", complementing TAD/CA/S/RD(2008)3/REV3 (Parts I, II and III). It includes the characteristics descriptions of 36 species.*

*It is circulated to Delegations, National Designated Authorities and Observers for information, and to the members of the TWG for agreement at the 7th TWG Meeting (under item 4.2.1 of the draft agenda TAD/CA/S/A(2009)4), to be held in Paris on 10 June 2009.*

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**Note by the Secretariat**

1. The background for the on-going revision of the “*OECD Guidelines for Control Plot Tests and Field Inspection of Seed Crops*” is given in TAD/CA/S/RD(2008)3/REV3, Note by the Secretariat, p.2.
2. TAD/CA/S/RD(2008)3/REV3 deals with revised Part I, Part II and Part III of the Guidelines (Introduction and all general texts on Control plot tests, Field inspection of seed crops, and Additional testing methods for varietal purity and identity). As a complement, the present document TAD/CA/S/RD(2008)12/REV2 initiates the revision of the last section of the Guidelines (Part IV), containing descriptions of species characteristics to be used for assessing varietal identity and varietal purity in post-control plots and during field inspections of seed crops.
3. The paper updates the 10 description sheets prepared for a pilot group of 13 species (some grass species of the same genus are described in a single sheet), and was first discussed at the 4<sup>th</sup> Meeting of the Technical Working Group on Varietal Identity and Varietal Purity (TWG) held in Paris in January 2008. The document also includes a further 17 description sheets prepared by nominated countries, covering 21 significant species eligible for OECD seed certification (some grass species have been grouped, and beet species is divided in two separate descriptions “Fodder beet” and “Sugar beet”).
4. Countries that have offered their technical expertise, identified at the 4<sup>th</sup> TWG Meeting as “1<sup>st</sup> reviewer” or “2<sup>nd</sup> reviewer” for each of the species, were the following;

Species	1 <sup>st</sup> Reviewer	2 <sup>nd</sup> Reviewer
<i>Festuca rubra</i>	Netherlands	Coordinating centre
<i>Lolium perenne</i> ; <i>Lolium multiflorum</i> ; <i>Lolium x boucheanum</i>	Netherlands	Coordinating centre
<i>Glycine max</i>	United States	Italy
<i>Trifolium repens</i>	Netherlands	Coordinating centre
<i>Brassica napus</i> var. <i>napobrassica</i> (Swede)	Coordinating centre	Coordinating centre
<i>Brassica napus</i> var. <i>oleifera</i> (Swede rape)	Coordinating centre	Coordinating centre
<i>Carum carvi</i>	Netherlands	Coordinating centre
<i>Gossypium barbadense</i> ; <i>Gossypium hirsutum</i> ; <i>Gossypium hirsutum</i> x <i>G. barbadense</i>	United States	Bulgaria
<i>Helianthus annuus</i>	France	Hungary
<i>Linum usitatissimum</i>	Netherlands	Coordinating centre
<i>Sinapis alba</i>	Netherlands	Hungary, Belgium
<i>Avena sativa</i> incl. <i>A. byzantina</i> ; <i>Avena nuda</i>	United Kingdom	Coordinating centre
<i>Hordeum vulgare</i>	United Kingdom	Coordinating centre
<i>Triticum aestivum</i>	United Kingdom	Coordinating centre
<i>Triticum turgidum</i> L. subsp <i>durum</i>	Hungary	Italy
<i>Secale cereale</i>	Germany	Hungary
<i>Beta vulgaris</i>	Denmark	France
<i>Zea mays</i>	Hungary	United States

In addition, the Netherlands prepared a draft description sheet for *Raphanus sativus* var. *oleiformis* that was checked by the Co-ordinating Centre.

5. The country experts have worked according to a common template. Instructions for the revision of characters were as follows:

- **Primary characters** are morphological characters to be used to identify varietal impurities in a given variety.
- **Secondary characters** should be used when there is a need to support differences in primary characters.
- **Stage of examination** must be stated for the use of both primary and secondary characters i.e. vegetative, earing or flowering.
- **The pilot template** for rape seed should be used as the model template [TAD/CA/S/RD(2008)3/REV3].

6. Experts exchanged information, confronted their suggestions and proposed a draft description sheet within a given timeframe aiming for each step the revision (1<sup>st</sup> Review, 2<sup>nd</sup> Review) being completed by 15 May 2008. Then the Co-ordinating Centre gathered the information and compiled the following draft paper. When editing the document, the Secretariat checked the accuracy of all botanical names by reference to the taxonomy database of the Germplasm Resources Information Network (GRIN, USDA), and harmonised them where necessary.

**7. Members of the TWG discussed the proposed descriptions at the 5<sup>th</sup> TWG Meeting. The lists of characters were accepted and it was agreed that any further comments (by 15 October 2008) would be considered by the Co-ordinating Centre who would then finalise the characters for these 36 species in order that they can be included in the Revised Guidelines for Control Plot Tests and Field Inspection. Comments were received from the Netherlands and these have been incorporated into the final revised paper.**

8. The current revised Part IV of the Guidelines comprises -at this stage- 27 sheets describing a total of **36 species**, which were prepared within one year (in between the two Annual Meetings). The 2001 issue of the Guidelines (current version) describes 155 species, including 38 vegetables. By the end of 2008, the OECD List of Varieties should contain about 200 species, but without vegetables. Considering the limited time resources available at the Secretariat and with the country experts, the question is how to develop at best the revised Part IV of the Guidelines, adding adequate description sheets for satisfying all users' needs? Should the document cover 200 species plus 50 main vegetable species, or could it be satisfactory enough if it contains a smaller but well-targeted group of species descriptions?

9. To facilitate the discussion and future decision making, the Secretariat prepared document TAD/CA/S/RD(2008)13/REV2, providing for the current full OED list of eligible species and summarising the situation regarding their concrete use for OECD Seed Certification (number of registered varieties, weights of seed certified...). Therefore important species, as well as species of little or no use, can be identified and description gaps to be filled in can be agreed on.

**GUIDELINES**  
**FOR CONTROL PLOT TESTS**  
**AND FIELD INSPECTION OF SEED CROPS**

**Part IV.**

**CHARACTERISTICS FOR ASSESSING**  
**VARIETAL IDENTITY AND VARIETAL PURITY**

**PROVISIONAL LIST OF  
SPECIES DESCRIPTION SHEETS**

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**VEGETABLES**

## GRASSES AND LEGUMES

### - Poaceae -

#### RED FESCUE (*Festuca rubra* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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#### **PRIMARY**

Vegetative	3*	Plant: height
	4	Plant: growth habit
	7	Leaf: intensity of green colour
	8	Leaf: glaucosity
	9	Plant: development of rhizomes
Heading	10	Plant: time of inflorescence emergence
	11*	Plant: height at time of inflorescence emergence
	15	Plant: length of the longest stem
	18	Inflorescence: anthocyanin colouration of the panicle

#### **SECONDARY**

Vegetative	2	Leaf sheath: anthocyanin colouration
	5	Leaf: length
	6	Leaf: width
Heading	12	Flag leaf: length
	13	Flag leaf: width
	16	Plant: length of upper internode
Laboratory	17	Inflorescence: length
	1	Plant: Ploidy

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc. No. TG/67/5 (05.04.2006) for explanation and method of examination.

*Festuca rubra* L. includes Chewings Fescue and Creeping Red Fescue.

**PERENNIAL RYEGRASS, ITALIAN RYEGRASS, HYBRID RYEGRASS**  
*(Lolium perenne L., Lolium multiflorum Lam. and Lolium x boucheanum Kunth)*

Stage of examination	UPOV character number <sup>1</sup>	Character description
<b><u>PRIMARY</u></b>		
Vegetative	2	Plant: vegetative growth habit (without vernalisation)
	4	Leaf: width at vegetative stage
	5	Leaf: intensity of green colour
	7	Plant: vegetative growth habit (after vernalisation)
	8*	Plant: height
Heading	11*	Plant: time of inflorescence emergence (precocity)
	12	Plant: height at inflorescence emergence
	17*	Plant: length of the longest stem Awns: absent/present
<b><u>SECONDARY</u></b>		
Heading	14	Flag leaf: length
	15	Flag leaf: width
Laboratory	1	Ploidy

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/4/8 (05.04.2006) for explanation and method of examination.

*Lolium x boucheanum* Kunth is also classified as *Lolium x hybridum* Hausskn.

**SMOOTH-STALKED MEADOW GRASS**  
(*Poa pratensis* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	7*	Plant: growth habit
	8	Leaf: green colour
	9	Leaf: width
Heading	11*	Time of flowering (precocity)
	12* + 13*	Flag leaf: size
	14*	Stem: length of longest stem
	16	Inflorescence: anthocyanin colouration

**SECONDARY**

Vegetative (at 4-5 leaf stage)	1	Leaf sheath: anthocyanin colouration
	2	Leaf sheath: density of hairs on margin
	4	Leaf sheath: length of hairs on ligule
	5*	Leaf blade: density of hairs on leaf margin
	6	Leaf blade: density of hairs on upper side
Heading	17*	Inflorescence: shape of rachis opposite lower side branches
	18*	Inflorescence: form of collar of rachis (open or closed)
	19	Inflorescence: attitude of lower side branches

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/33/6 (1990-10-12) for explanation and method of examination.

**MEADOW FESCUE** (*Festuca pratensis* Huds.),  
**TALL FESCUE** (*Festuca arundinacea* Schreb.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
<b><u>PRIMARY</u></b>		
Vegetative	2*	Plant: vegetative growth habit
	3	Leaf: fineness (only for <b>tall fescue</b> )
	4*	Leaf: intensity of green colour
	7*	Plant: natural height after vernalisation
Heading	8*	Plant: time of inflorescence emergence
	9	Plant: growth habit at inflorescence emergence
	10	Plant: natural height at inflorescence emergence
	11*	Stem: length of longest stem incl. inflorescence
<b><u>SECONDARY</u></b>		
Heading	12	Flag leaf: width
	13	Inflorescence: length
	14	Flag leaf: length on representative stem
Laboratory	1	Ploidy

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/39/8 (2002) for explanation and method of examination.

**COCKSFOOT**  
(*Dactylis glomerata* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	2*	Foliage: fineness
	4*	Leaf: intensity of green colour
Heading	5*	Plant: time of inflorescence emergence
	6	Plant: growth habit at inflorescence emergence
	7	Stem: length of longest stem including inflorescence

**SECONDARY**

Heading	8*	Stem: length of upper internode
	9*	Inflorescence: length
	10*	Flag leaf: length
	11*	Flag leaf: width
Laboratory	1	Ploidy

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/31/8 (2002) for explanation and method of examination.

**TIMOTHY**  
(*Phleum pratense* L. and *Phleum nodosum* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	3*	Leaf: colour
	4*	Leaf: width
	5*	Plant: growth habit before elongation
Heading	6*	Plant: time of inflorescence emergence
	10*	Stem: length of longest stem including inflorescence

**SECONDARY**

Heading	7*	Flag leaf: length
	8*	Flag leaf: width
	10	Stem: length of upper internode
	11	Inflorescence: length (when fully expanded)
Laboratory	1	Ploidy

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/34/6 (1984-11-07) for explanation and method of examination.

**BENT***(Agrostis canina L., Agrostis gigantea Roth, Agrostis stolonifera L. and Agrostis capillaris L.)*

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	2*	Plant: growth habit
	4*	Leaf: colour
	5*	Leaf: width
Heading	8	Plant: time of inflorescence emergence
	11*	Stem: length of longest stem including inflorescence
		Panicle: colour

**SECONDARY**

Heading	9*	Flag leaf: length
	10*	Flag leaf: width
	12*	Stem: length of upper internode
	13	Inflorescence: length (when fully expanded)
Laboratory	1	Ploidy

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/30/6 (1990-10-12) for explanation and method of examination.

## GRASSES AND LEGUMES

### - Fabaceae -

#### FIELD BEAN

(*Vicia faba* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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#### **PRIMARY**

Flowering	13 (3) (4*) 3 (6) (7) 1* (8) 2* (14*) 10 (19) 15*(23*) (26)	Plant: height Plant: number of stems Stem: anthocyanin colouration Foliage: greyish hue of green colour Foliage: intensity of green colour Time of flowering Standard: anthocyanin colouration Pod: length Pod: intensity of green colour
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#### **SECONDARY**

Flowering	8 (16) 9 (17) (18) (21) 2(2) (25*)	Wing: melanin spot Wing: colour of melanin spot Standard: melanin spot Truss: number of pods Pod: attitude Pod: degree of curvature
Laboratory	19*(32*) 20 (33)	Dry seed: colour of testa Dry seed: black pigmentation of hilum

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/8/6 (2002) for explanation and method of examination. Characteristics enclosed by parenthesis are corresponding characters from TG/206/1 - Broad Bean

**FIELD PEA**  
(*Pisum sativum* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	9	Plant: anthocyanin colouration
	16	Foliage: colour
	17*	Foliage: intensity of green colour
	18	Foliage: greyish hue
	19	Leaf: leaflets
	20	Leaf: waxiness of surface of upper leaflet
	22	Leaflet: size
	33	Stipule: flecking
Flowering	10	Plant: height
	11	Stem: fasciation
	12	Stem: length
	36	Time of flowering
	38	Flower: anthocyanin colouration of wing
	41	Flower: colour of standard
	48	Pod: length
55	Pod: colour	

**SECONDARY**

Vegetative	26	Leaflet: dentation
	28	Stipule: type of development
	29	Stipule: rabbit-eared stipules
	34*	Stipule: density of flecking
Flowering	52	Pod: degree of curvature
Laboratory	1	Seed: shape
	3	Seed: colour of cotyledon
	6	Seed: black colour of hilum

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/7/9 +Corr (1994-11-04) + (1996-10-18) for explanation and method of examination.

**SOYA BEAN**  
[*Glycine max* (L.) Merr.]

Stage of examination	UPOV	Character description
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n.b. Where the OECD character description differs from the UPOV character, it is indicated by \* against the relevant character number

	Character Number <sup>1</sup>	
<b><u>PRIMARY</u></b>		
Vegetative	1	Hypocotyl: anthocyanin colouration
Flowering	4	Plant: growth habit
	5*	Plant: colour of hairs (main stem)
	8	Leaf: shape of lateral leaflet
	10	Leaf: intensity of colour
	11	Flower: colour
	19	Time of beginning of flowering (1 flower open on 50% of plants)
Maturity	6	Plant: height
	20	Time of maturity
<b><u>SECONDARY</u></b>		
Vegetative	3	Plant: growth type
Flowering	4	Plant: growth habit
	9	Leaflet: size of lateral leaflet
Pod development	12	Pod: intensity of brown colour
Maturity	13	Seed: size
	14	Seed: shape
	15	Seed: colour of testa (excluding hilum)
	17	Seed: hilum colour

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/80/6 (April 1, 1998) for explanation and method of examination.

**WHITE CLOVER**  
(*Trifolium repens* L.)

Stage of examination	UPOV	Character description
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Character Number <sup>1</sup>
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**PRIMARY**

Vegetative	2	Plant: intensity of green colour
	5	Plant: prominence of white leaf marks
	9	Plant: growth habit
Flowering	16	Leaf: size of median leaflet
	6	Plant: time of flowering (precocity)
	7	Plant: height

**SECONDARY**

Flowering	21	Inflorescence: diameter
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<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability. Doc No. TG/38/7 (09.04.2003) for explanation and method of examination.

## CRUCIFER AND OTHER OIL OR FIBRE SPECIES

### - Brassicaceae –

#### SWEDE

[*Brassica napus* L. var. *napobrassica* (L.) Rchb.]

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
<b><u>PRIMARY</u></b>		
Vegetative	1	Leaf: green colour
	3	Leaf: type
	7	Leaf: length
	8	Leaf: width
	19	Pseudostem: length
	20	Pseudostem: anthocyanin colouration between leaf scars
<b><u>SECONDARY</u></b>		
Vegetative	2	Leaf: intensity of waxiness
	4	Leaf: number of lobes (lobed varieties only)
	5	Leaf: length of terminal lobe (lobed varieties only)
	6*	Leaf: width of terminal lobe
	9	Leaf: undulation of margin
	10	Petiole: attitude
	11	Petiole: thickness
	12	Root: predominant colour of skin above soil
	13	Root: anthocyanin colouration of skin above soil
	14.1	Root: intensity of anthocyanin colouration of skin above soil (only varieties with green or bronze skin colour)
	14.2	Root: intensity of anthocyanin colouration of skin above soil (only varieties with reddish purple skin colour)
	15	Root: predominant colour of skin below soil level
	16	Root: shape in longitudinal section
	17	Root: length
	18	Root: diameter
21	Root: colour of flesh	
22	Root: intensity of yellow colour of flesh	

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/89/6 (2001) for explanation and method of examination.

**SWEDE RAPE, OILSEED RAPE, FODDER RAPE**  
(*Brassica napus* L. var. *oleifera* Delile)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
<b><u>PRIMARY</u></b>		
Vegetative	4	Leaf: green colour
	5	Leaf: lobes
Flowering	11	Time of flowering (first flower open on 50% of plants, from autumn sowing)
	12	Flower: colour of petals
	17	Plant: total length including side branches
<b><u>SECONDARY</u></b>		
Vegetative	6	Leaf: number of lobes (fully developed leaf)
	7	Leaf: dentation of margin
	8	Leaf: length (blade and petiole)
	9	Leaf: width (widest point)
	10	Leaf: length of petiole (lobed leaved varieties only)
Flowering	13	Flower: length of petals
	14	Flower: width of petals
	15	Production of pollen
	16	Plant: height (at full flowering)
Laboratory	1	Seed: erucic acid

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/36/6 Corr. (1996, 2002) for explanation and method of examination.

Formerly classified as *Brassica napus* (var. *oleifera* Subvar. *Annua* and Subvar. *Biennis*) L.

**FODDER RADISH**  
(*Raphanus sativus* var. *oleiformis* Pers.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	4	Leaf: green colour
	5	Leaf: lobes
	7	Leaf: dentation of margin
	8* + 9*	Leaf: size
Flowering	12	Time of flowering (precocity)
	13	Plant: height at flowering
	14	Flower: colour of petals

**SECONDARY**

Vegetative	6*	Leaf: number of lobes
	23	Root: colour

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/178/3 (04.04.2001) for explanation and method of examination.

**WHITE MUSTARD**  
(*Sinapis alba* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	5 8* + 9*	Leaf: green colour Leaf size
Flowering	11 12 13 14* + 15*	Time of flowering (precocity) Plant: height at flowering Flower: yellow colour of petals Size of flower (corolla)

**SECONDARY**

Vegetative	6* 7	Leaf: number of lobes Leaf: dentation of margin
Flowering	17	Siliqua: length (between peduncle and beak)
Laboratory	2	Ploidy

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/179/3 (2001) for explanation and method of examination.

<b>CRUCIFER AND OTHER OIL OR FIBRE SPECIES</b>
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<b>- Other species -</b>
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**CARAWAY**  
(*Carum carvi* L.)

Stage of examination	UPOV Character Number #	Character description
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**PRIMARY**

Flowering		Plant: natural height Plant: intensity of green colour Flower: size of flower head (small, medium, large) Flower: colour of petals (white, non-white) Time of flowering (precocity)
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**SECONDARY**

Maturity		Seed: abscission layer
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# There are no UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability for this species.

Source: The Netherlands

**FLAX, LINSEED**  
(*Linum usitatissimum* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Flowering	1*	Plant: natural height including branches
	3*	Flower: size of corolla
	5*	Petal: colour
	7	Petal: longitudinal folding
	15*	Time of beginning of flowering (precocity)

**SECONDARY**

Flowering	4	Sepal: dotting
	8	Stamen: colour of filament at top
	9	Anther: colour
	10	Style: colour at base
Laboratory	12	Boll: ciliation of false septa

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<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/57/6 (20.10.1995) for explanation and method of examination.

**COTTON***(Gossypium spp. including Gossypium hirsutum, Gossypium barbadense and G. hirsutum x G. barbadense)*

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	24	Plant: shape
	26	Plant: height
	11	Leaf: shape
Flowering	12	Leaf: size
	1	Flower: colour of petal (at opening)
Maturity	19	Boll: size

**SECONDARY**

Vegetative	25	Plant: density of foliage
	9	Plant: number of nodes at lowest fruiting branch (at flowering stage)
	5	Fruiting branch: length
	13	Leaf: pubescence (lower side)
	14	Leaf: nectarines
Maturity	20	Boll: shape (in longitudinal sectional)
	21	Boll: pitting of surface
	22	Boll: Length of peduncle
	23	Boll: prominence of tip
	30	Seed: density of fuzz
	33*	Boll: content of lint
	34	Fibre: length
35	Fibre: strength	
	32	Seed: weight of 100 seeds
	27	Boll: time of opening (50% one boll open)

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/88/6 (April 4, 2001) for explanation and method of examination.

**SUNFLOWER**  
(*Helianthus annuus* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
<b><u>PRIMARY</u></b>		
Vegetative	4	Leaf: green colour
	6	Leaf: serration
	8	Leaf: shape of distal part
Flowering	14	Time of flowering
	19	Ray floret: colour
	20	Disc flower: colour
	23	Disc flower: production of pollen
Maturity	28	Plant: natural height
	29	Plant: branching (excluding environmental branching)
	30	Plant: type of branching (as for 29)
	31	Plant: natural position of highest lateral head to the central head
	33	Head: size
	38	Seed: main colour
	41	Seed: colour of stripes
<b><u>SECONDARY</u></b>		
Vegetative	3	Leaf: size
	5	Leaf: blistering
	13	Stem: hairiness at the top (last 5cm)
Flowering	15	Ray floret: density
	16	Ray floret: shape
Maturity	32	Head: attitude
	36	Seed: shape

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/81/6 (2000) for explanation and method of examination

## CEREALS

### OATS and NAKED OATS [*Avena sativa* L. (\*) and *Avena nuda* L.]

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
<b><u>PRIMARY</u></b>		
Flowering	1	plant: growth habit
Earing	4*	flag leaf: (frequency of plants with recurved flag leaves)
	5*	time of panicle emergence (first spikelet visible on 50% of panicles)
	8	panicle: orientation of branches
	9	panicle: attitude of branches
	15	plant: height (stem and panicle)
	17	grain: husk
<b><u>SECONDARY</u></b>		
Flowering	2	lower leaves: hairiness of sheaths
Earing	3	hairiness of margins of leaf below flag leaf:
	6	stem: hairiness of uppermost node
	77	stem: intensity of hairiness of uppermost node seasonal type
	10	panicle: attitude of spikelets
	11	glume: glaucosity
	12	glume: length

(\*) Also comprises *Avena byzantina*

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/20/10 (01.10.1994) for explanation and method of examination.

<sup>2</sup> Not applicable to naked types

**BARLEY**  
(*Hordeum vulgare* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
<b><u>PRIMARY</u></b>		
Earing	3	flag leaf: anthocyanin colouration of auricles
	5	frequency of plants with recurved flag leaves
	6	flag leaf: glaucosity of sheath
	7	time of ear emergence (first spikelet visible on 50% of ears)
	8	awns: anthocyanin colouration of tips
	10	ear: glaucosity
	11	ear: attitude
	12	plant: height (stem and ear)
	13	ear: number of rows
	15	ear: density
<b><u>SECONDARY</u></b>		
Tillering	1	plant: growth habit
	2	lowest leaves: hairiness of leaf sheaths
Earing	4	flag leaf: intensity of anthocyanin colouration of auricles
	9*	awns: intensity of anthocyanin colouration
	14	ear: shape
	16	ear length (excluding awns)
	17	awn: length (compared to ear)
	20#	sterile spikelet: attitude (in mid third of ear)
	22	grain: rachilla hair type
	23	grain: husk
	24	grain: anthocyanin colour of lemma nerves
	28	kernel: colour of aleurone layer

# Two-rowed barley only.

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/19/10 (04.11.1994) for explanation and method of examination.

**RYE**  
(*Secale cereale* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Vegetative	7	Plant: growth habit
	8	Flag leaf: glaucosity of sheath
Ear emergence	9	Time of ear emergence
After ear emergence	12	Ear: glaucosity
	14	Plant: length (stem, ear and awns)
	16	Ear: length without awns
	17	Ear: density
	18	Ear: attitude

**SECONDARY**

Vegetative	3	Coleoptile: anthocyanin colour
Ear emergence	10*	Leaf next to flag leaf: length
	11*	Leaf next to flag leaf: width
	13	Stem: hairiness below the ear
	15	Stem: length between upper node and ear
Maturity	2	Grain: colour of aleurone layer

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/58/6 (24.03.1999) for explanation and method of examination

**WHEAT**  
(*Triticum aestivum* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Earing	5*	Plant: time of ear emergence
	6	Flag leaf: glaucosity of sheath
	7	Ear: glaucosity
	8	Culm: glaucosity of neck
	9*	Plant: height
	16	Ear: colour (at maturity)
	11*	Ear: shape
	12	Ear: density
	17	Awns or scurs: absent/present

**SECONDARY**

Earing	15	Scurs at tip of ear: length
	18* + 19*	Lower glume: shoulder width and shoulder shape
	20* + 21*	Lower glume: beak length and beak shape
Laboratory	25	Grain: colouration with phenol

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/3/11 (04.11.1994) for explanation and method of examination.

**DURUM WHEAT**  
(*Triticum turgidum* L. Subsp *durum* (Desf..) Husn.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
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**PRIMARY**

Earing to anthesis	5*	Time of ear emergence
	6	Flag leaf: glaucosity of sheath
	10	Culm: glaucosity of neck
	11	Ear: glaucosity
Maturity	12*	Plant: length
	22	Awn: colour
	23	Ear: length excluding awns
	25	Ear: colour (at maturity)
	27	Ear: density

**SECONDARY**

Maturity	16*	Lower glume: shape of shoulder
	17*	Lower glume: shoulder width
	18*	Lower glume: length of beak
	19*	Lower glume: shape of beak
	20*	Lower glume: hairness on external surface

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/120/3 (21.10.1988) for explanation and method of examination

# BEET

## FODDER BEET (*Beta vulgaris* L.)

Stage of examination	UPOV Character number <sup>1</sup>	Character description
<b>PRIMARY</b>		
Vegetative (fully developed leaves)	4	Leaf: attitude
	5	Leaf: length (incl. petiole)
	6*	Leaf blade : width
	7	Leaf blade: width compared to length
	8	Leaf blade: green colour
	11	Petiole: length Petiole: width
	12	Petiole: colour at base Plant: height
<b><u>SECONDARY</u></b>		
Dry seed	1	Germity
	2	Ploidy
Vegetative (seedling)	3	Hypocotyl: colour
Vegetative (fully developed roots)	13	Root: shape
	14	Root: length
	15	Root: width
	16	Root: length compared to width
	17	Root: position in soil
	19	Root: colour below ground

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc. No. TG/150/3 (94-11-04) for explanation and method of examination.

**SUGAR BEET**  
(*Beta vulgaris* L.)

Stage of examination	UPOV Character number #	Character description
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**PRIMARY**

Vegetative (fully developed leaves)

Leaf: attitude  
Leaf blade: green colour  
Leaf blade: undulation of margin  
Leaf blade: blistering  
Plant: height

**SECONDARY**

Dry seed

Germity  
Ploidy

Vegetative (seedling)

Percentage of seedlings with anthocyanin  
colouration in the hypocotyl

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# There are no UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability for Sugar Beet.

Source: France

## **SUBTERRANEAN CLOVER AND SIMILAR SPECIES**

No updates for the subterranean clover and similar species.

## MAIZE AND SORGHUM

### MAIZE (*Zea mays* L.)

Stage of examination	UPOV Character Number <sup>1</sup>	Character description
<b><u>PRIMARY</u></b>		
Anthesis	7*	Tassel: time of anthesis
	8*	Tassel: anthocyanin colouration at base of glume
	9*	Tassel: anthocyanin colouration of glumes excluding base
	10*	Tassel: anthocyanin colouration of anthers
	14	Tassel: number of primary lateral branches
	15*	Ear: time of silk emergence
	16	Ear: anthocyanin colouration of silks
	17	Ear: intensity of anthocyanin colouration of silks
Medium milk	22.1*	In-bred lines only: Plant: length
	22.2*	Hybrids and open pollinated varieties only: Plant: length
Ripening	26*	Ear: length
	30*	Ear: type of grain
	31	Ear: colour of top of grain
	32	Ear: colour of dorsal side of grain
	33	Ear: anthocyanin colouration of glumes of cob
	34	Ear: intensity of anthocyanin colouration of glumes of cob
<b><u>SECONDARY</u></b>		
Anthesis	3*	Leaf: angle between blade and stem
	4*	Leaf: attitude of blade
	6	Stem: anthocyanin colouration of brace roots
	11*	Tassel: density of spikelets
	12*	Tassel: angle between main axis and lateral branches
	13*	Tassel: attitude of lateral branches
	18*	Leaf: anthocyanin colouration of sheath
Ripening	20	Tassel: length of main axis above upper side branch
	28	Ear: shape
	29	Ear: number of rows of grain

<sup>1</sup> Please refer to the UPOV Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability Doc No. TG/2/6 +Corr. (24.11.1999) for explanation and method of examination

## **VEGETABLES**

No updates for the vegetable species.