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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

UNION INTERNATIONALE POUR LA PROTECTION DES OBTENTIONS VÉGÉTALES

INTERNATIONALER VERBAND ZUM SCHUTZ VON PFLANZEN-ZÜCHTUNGEN

UNIÓN INTERNACIONAL PARA LA PROTECCIÓN DE LAS OBTENCIONES VEGETALES

DRAFT

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

TURNIP RAPE

(Brassica rapa* L. *var. silvestris* (Lam.) *Briggs.)

These Guidelines should be read in conjunction with document TG/1/2, which contains explanatory notes on the general principles on which the Guidelines have been established.

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I. Subject of these Guidelines

These Test Guidelines apply to all varieties of *Brassica rapa* L. *var. silvestris* (Lam.) Briggs. excluding varieties with swollen root.

II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the seed required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities are complied with. The minimum quantity of seed to be supplied by the applicant should be:

300 g.

In the case of hybrids and synthetic varieties a minimum of 100 g seed per component should also be supplied. The seed should at least meet the minimum requirements for germination capacity, moisture content and purity for marketing seed in the country in which the application is made. The germination capacity should be as high as possible.

2. The plant material must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

III. Conduct of Tests

1. The minimum duration of tests should normally be two independent growing cycles.

2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

3. The field tests should be carried out under conditions ensuring normal growth. The distance between rows and between plants within the rows should be adjusted to enable observations on individual plants. The size of the plots should be such that plants or parts of the plants may be removed for measurement or counting without prejudice to the observations which must be made up to the end of the growing cycle. As a minimum, each test should include a total of:

300 plants

which should be divided between 2 or more replicates. Separate plots for observation and for measuring should only be used if they have been subject to similar environmental conditions.

4. Additional tests for special purposes may be established.

IV. Methods and Observations

1. Unless otherwise indicated all observations on individual plants should be made on 60 plants or parts of each of the 60 plants.

2. In the case of assessment on a group of plants or parts of plants, observations should be made on each plot as a whole.

3. For the assessment of uniformity of open-pollinated varieties and synthetic varieties the variability within the variety should not exceed the variability of comparable varieties already known. Interpretation of results should be made according to the rules for cross-pollinated species as laid down in the General Introduction.

4. In the case of visually observed characteristics for the assessment of uniformity a population standard of 2% with an acceptance probability of at least 95% should be applied for parental lines and a population standard of 10% with an acceptance probability of at least 95% should be applied for hybrids.

5. In the case of measured characteristics the variability within hybrids and parental lines should not exceed the variability of comparable varieties already known.

6. Unless otherwise indicated, all observations on the foliage should be made on fully developed leaves in the rosette.

7. Unless otherwise indicated, all observations on siliquas should be made on the fully developed siliqua from the lower third on the main stem.

V. Grouping of Varieties

1. The collection of varieties to be grown should be divided into groups to facilitate the assessment of distinctness. Characters which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within the variety. Their various states of expression should be fairly evenly distributed throughout the collection.

2. It is recommended that the competent authorities use the following characteristics for grouping varieties:

(a) Ploidy (characteristic 2)
(b) Leaf: type (characteristic 8)
(c) Time of flowering (50% of plants with at least one open flower) (characteristic 16)
(d) Flower: color of petals (characteristic 17).

VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.

2. Notes (numbers), for the purposes of electronic data processing, are given opposite the states of expression for each characteristic. For certain characteristics, different example varieties, separated by a semicolon, are indicated for spring turnip rape and winter turnip rape. Where winter varieties are indicated they follow the semicolon.

3. Legend

(*) Characteristics that should be used on all varieties in every growing period over which the examinations are made and always be included in the variety descriptions, except when the state of expression of a preceding characteristics or regional environmental conditions render this impossible.

(+) See Explanations on the Table of Characteristics in Chapter VIII.

1) The optimum stage of development for the assessment of each characteristic is indicated by a number in the second column. The stages of development denoted by each number are described at the end of Chapter VIII.

2) Type of assessment:

MG: measurement of a group of plants or parts of plants
MS: measurement of a number of individual plants or parts of plants
VG: visual assessment by a single observation of a group of plants or parts of plants
VS: visual assessment by observation of individual plants or parts of plants
C: special test

VII. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	Stage [1)] Stade [1)] Stadium [1)] Estado [1)]	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. **(+)**	**00** **C**	**Seed: erucic acid**	**Graine: acide érucide**	**Samen: Erucasäure**	**Semilla: ácido erúcico**		
		absent	absent	fehlend	ausente	- ; Rex	1
		present	présent	vorhanden	presente	Nokonova; Perko PVH	9
2. **(*)**	**00** **MS**	**Ploidy**	**Ploïdie**	**Ploidie**	**Ploidía**		
		diploid	diploïde	diploid	diploide	Nokonova; Rex	2
		tetraploid	tétraploïde	tetraploid	tetraploide	- ; Perko PVH	4
3. **(+)**	**13** **MS**	**Cotyledon: length**	**Cotylédon: longueur**	**Keimblatt: Länge**	**Cotiledón: longitud**		
		short	court	kurz	corto		3
		medium	moyen	mittel	medio	- ; Rex	5
		long	long	lang	largo	- ; Perko PVH	7
4. **(+)**	**13** **MS**	**Cotyledon: width**	**Cotylédon: largeur**	**Keimblatt: Breite**	**Cotiledón: anchura**		
		narrow	étroit	schmal	estrecho		3
		medium	moyen	mittel	medio		5
		broad	large	breit	ancho	- ; Perko PVH	7
5.	**23-27** **VG**	**Leaf: attitude**	**Feuille: port**	**Blatt: Stellung**	**Hoja: porte**		
		erect	dressé	aufrecht	erecto	Hysyn 100; -	1
		semi-erect	demi-dressé	halbaufrecht	semierecto	Tobin; -	3
		horizontal	horizontal	waagerecht	horizontal	Clan; -	5

	Stage [1)] Stade [1)] Stadium [1)] Estado [1)]	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
6. **(+)**	**23-27** **VG**	**Leaf: reflexion of top**	**Feuille: enroulement du sommet**	**Blatt: Rollen der Spitze**	**Hoja: curvatura de la punta**		
		weak	faible	gering	débil	Tobin; -	3
		medium	moyen	mittel	media	Skye; -	5
		strong	fort	stark	fuerte	Fortuna; -	7
7. **(*)**	**23-27** **VG**	**Leaf: intensity of green color**	**Feuille: intensité de la couleur verte**	**Blatt: Intensität der Grünfärbung**	**Hoja: intensidad del color verde**		
		light	claire	hell	claro	Clan; -	3
		medium	moyenne	mittel	medio	Tuli; -	5
		dark	foncée	dunkel	oscuro	Agena; -	7
8. **(*)** **(+)**	**23-27** **VS**	**Leaf: type**	**Feuille: type**	**Blatt: Typ**	**Hoja: tipo**		
		entire	entière	ganzrandig	entera	- ; Chicon	1
		lobed	lobée	gelappt	lobulada	Kova; Perko PVH	2
9. **(+)**	**23-27** **MS**	**<u>For varieties with lobed leaves only</u>: Leaf: number of lobes**	**<u>Uniquement variétés à feuilles lobées</u> : Feuille: nombre de lobes**	**<u>Nur für Sorten mit gelappten Blättern</u>: Blatt: Anzahl Lappen**	**<u>Sólo para variedades de hoja lobulada:</u> Hoja: número de lóbulos**		
		few	faible	gering	bajo	Mull; -	3
		medium	moyen	mittel	medio	Skye; -	5
		many	élevé	groß	alto	Hymac; -	7
10.	**23-27** **VS**	**Leaf: undulation of margin**	**Feuille: ondulation du bord**	**Blatt: Randwellung**	**Hoja: ondulación del borde**		
		weak	faible	gering	débil	Tobin; -	3
		medium	moyenne	mittel	media	Kova; -	5
		strong	forte	stark	fuerte	Harmoni; -	7

	Stage [1)] Stade [1)] Stadium [1)] Estado [1)]	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
11. **(+)**	**23-27** **VS**	**Leaf: dentation of margin**	**Feuille: denture du bord**	**Blatt: Randzähnung**	**Hoja: incisiones en el borde**		
		weak	faible	gering	débiles		3
		medium	moyenne	mittel	medias		5
		strong	forte	stark	fuertes		7
12. **(*)** **(+)**	**23-27** **MS**	**Leaf: length (blade and petiole)**	**Feuille: longueur (limbe et pétiole)**	**Blatt: Länge (Blattspreite und Blattstiel)**	**Hoja: longitud (limbo y pecíolo)**		
		short	courte	kurz	corta	Kulta	3
		medium	moyenne	mittel	media	Harmoni	5
		long	longue	lang	larga		7
13. **(+)**	**23-27** **MS**	**Leaf: width (widest point)**	**Feuille: largeur (au point le plus large)**	**Blatt: Breite (an der breitesten Stelle)**	**Hoja: anchura (punto más ancho)**		
		narrow	étroite	schmal	estrecha	Kulta	3
		medium	moyenne	mittel	media	Kova	5
		broad	large	breit	ancha		7
14. **(*)**	**VG**	**Tendency to form inflorescences in the year of sowing for <u>spring</u> sown trials**	**Tendance à former des inflorescences l'année du semis dans les essais semés au <u>printemps</u>**	**Neigung zur Bildung von Blütenständen im Aussaatjahr bei <u>Frühjahrs</u>aussaat**	**Tendencia a formar inflorescencias el año de la siembra en los ensayos sembrados en <u>primavera</u>**		
		absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	- ;Triton	1
		weak	faible	gering	débil	- ;Rex	3
		medium	moyenne	mittel	media	- ;Primax	5
		strong	forte	stark	fuerte	Nokonova;	7
		very strong	très forte	sehr stark	muy fuerte	Hymac ;	9

	Stage [1)] Stade [1)] Stadium [1)] Estado [1)]	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
15.	**VG**	**Tendency to form inflorescences in the year of sowing for summer sown trials**	**Tendance à former des inflorescences l'année du semis dans les essais semés en été**	**Neigung zur Bildung von Blütenständen im Aussaatjahr bei Sommeraussaat**	**Tendencia a formar inflorescencias el año de la siembra en los ensayos sembrados en verano**		
		absent or very weak	absente ou très faible	fehlend oder sehr gering	ausente o muy débil	- ; Rex	1
		weak	faible	gering	débil	- ; Primax	3
		medium	moyenne	mittel	media	Asko ;	5
		strong	forte	stark	fuerte	Nokonova;	7
		very strong	très forte	sehr stark	muy fuerte	Hymac ;	9
16. (*)	**61-62 MG**	**Time of flowering (50% of plants with at least one open flower)**	**Époque de floraison (50% des plantes avec au moins une fleur épanouie)**	**Zeitpunkt der Blüte (50% der Pflanzen mit wenigstens einer geöffneten Blüte)**	**Época de floración (50% de las plantas con al menos una flor abierta)**		
		very early	très précoce	sehr früh	muy temprana	Hymac; Primax	1
		early	précoce	früh	temprana	Agena;	3
		medium	moyenne	mittel	media	Kova: Rex	5
		late	tardive	spät	tardía	Munro;	7
		very late	très tardive	sehr spät	muy tardía	Nokonova; Triton	9
17. (*)	**62-63 VG**	**Flower: color of petal**	**Fleur: couleur des pétales**	**Blüte: Farbe des Blütenblatts**	**Flor: color de los pétalos**		
		lemon yellow	jaune-citron	zitronengelb	amarillo limón	Kulta; Perko PVH	1
		orange yellow	jaune-orange	orangegelb	amarillo anaranjado		2
18.	**62-63 MS**	**Flower: length of petal**	**Fleur: longueur des pétales**	**Blatt: Länge des Blütenblatts**	**Flor: longitud de los pétalos**		
		short	courts	kurz	cortos		3
		medium	moyens	mittel	medios	Kulta	5
		long	longs	lang	largos		7

	Stage [1)] Stade [1)] Stadium [1)] Estado [1)]	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
19.	**62-63 MS**	**Flower: width of petal**	**Fleur: largeur des pétales**	**Blatt: Breite des Blütenblatts**	**Flor: anchura de los pétalos**		
		narrow	étroits	schmal	estrechos		3
		medium	moyens	mittel	medios	Kulta	5
		broad	larges	breit	anchos		7
20. (*)	**62-63 VS**	**Flower: production of pollen**	**Fleur: production de pollen**	**Blüte: Pollenbildung**	**Flor: producción de polen**		
		absent	absente	fehlend	ausente	MDA 1803	1
		present	présente	vorhanden	presente	Kova	9
21. (*)	**75-89 MS**	**Plant: total length including side branches**	**Plante: longueur totale, branches latérales incluses**	**Pflanze: Gesamtlänge, einschließlich der Seitenzweige**	**Planta: longitud total incluídos los tallos laterales**		
		short to medium	courte à moyenne	kurz bis mittel	corta a media		3
		medium	moyenne	mittel	media	Kulta	5
		medium to long	moyenne à longue	mittel bis lang	media a larga	Harmoni	7
22. (+)	**75-89 MS**	**Siliqua: length (between pedicel and beak)**	**Silique: longueur (entre pédoncule et bec)**	**Schote: Länge (zwischen Stiel und Spitze)**	**Silicua: longitud (entre el pedicelo y el rostro)**		
		short	courte	kurz	corta		3
		medium	moyenne	mittel	media	Kulta	5
		long	longue	lang	larga	Harmoni	7
23. (+)	**75-89 MS**	**Siliqua: width (widest point)**	**Silique: largeur (au point le plus large)**	**Schote: Breite (an der breitesten Stelle)**	**Silicua: anchura (en su punto más ancho)**		
		narrow	étroite	schmal	estrecha		3
		medium	moyenne	mittel	media		5
		broad	large	breit	ancha		7

	Stage [1)] Stade [1)] Stadium [1)] Estado [1)]	English	français	deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
24. **(*)** **(+)**	**75-89** **MS**	**Siliqua: length of beak**	**Silique: longueur du bec**	**Schote: Länge der Spitze**	**Silicua: longitud del rostro**		
		short	court	kurz	corto		3
		medium	moyen	mittel	medio	Kulta	5
		long	long	lang	largo		7
25. **(+)**	**75-89** **MS**	**Siliqua: length of pedicel**	**Silique: longueur du pédoncule**	**Schote: Länge des Stiels**	**Silicua: longitud del pedicelo**		
		short	court	kurz	corto	MDA 1803;	3
		medium	moyen	mittel	medio	Kulta;	5
		long	long	lang	largo	Noko;	7
26. **(+)**	**00** **VG**	**Seed: frequency of yellow seeds**	**Graine: pourcentage de graines jaunes**	**Samen: Anteil des gelben Samens**	**Semilla: proporción de semillas amarillas**		
		absent or low	absente ou faible	fehlend oder gering	ausente o baja	Corlee;	1
		medium	moyenne	mittel	media	Monsun; Triton	2
		high	grande	hoch	alta	Parkland;	3

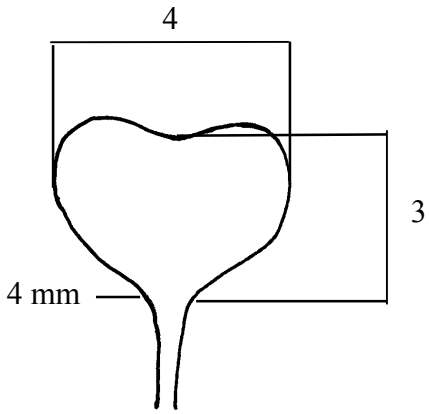
VIII. Explanations on the Table of Characteristics

Ad. 1: Seed: erucic acid

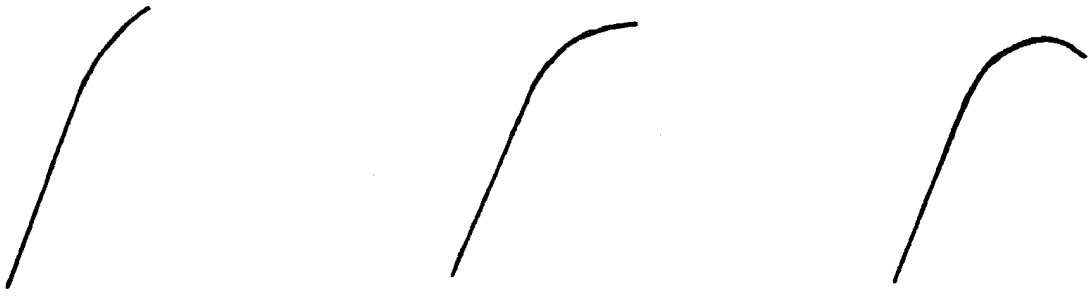
The erucic acid content should be observed on seed provided by the applicant. It should be expressed as a percentage by mass of methyl esters in accordance with the ISO standard in document 5508, paragraph 6.2.2.1. Seed containing 2% or less of erucic acid will be classified as "absent".

Ad. 3 + 4: Cotyledon: length (3) and width (4)

The measurements should be taken in the glasshouse on cotyledons of 40 seedlings. If the two cotyledons differ in size, the biggest one should be measured. The length is defined as the distance between the inclination at the top of the cotyledon and the point where the width of the petiole is about 4 mm. The width of the cotyledon should be measured at the widest point of the cotyledons.

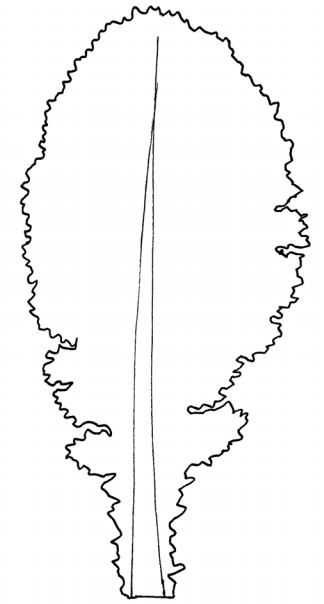


Ad. 6: Leaf: reflexion of top

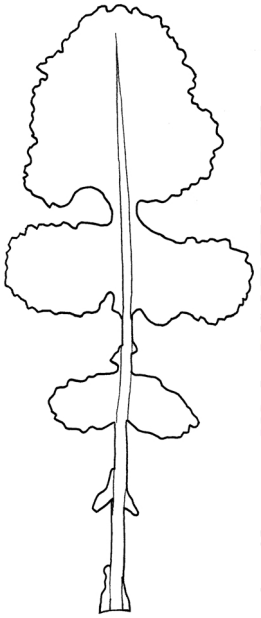


3	5	7
weak	medium	strong

Ad. 8: Leaf: type

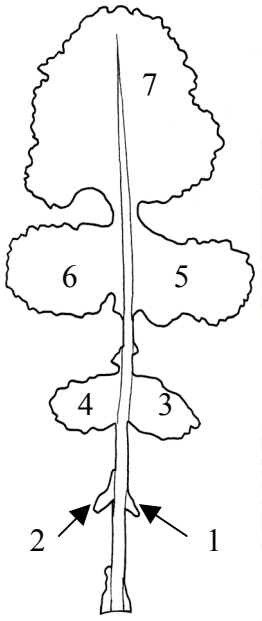


1
entire



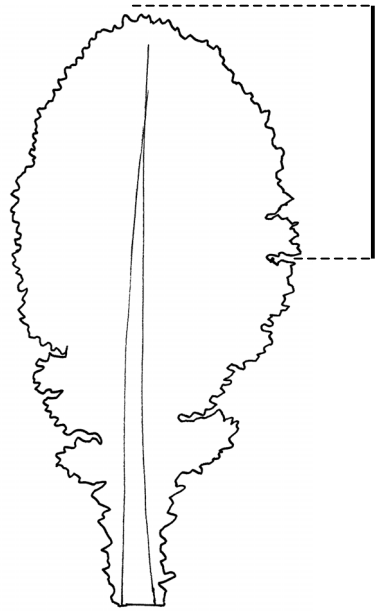
2
lobed

Ad. 9: Leaf: number of lobes

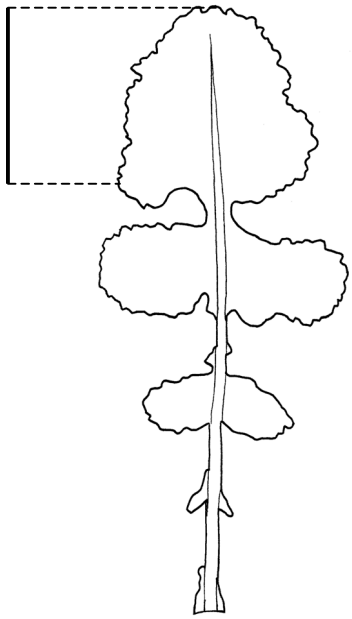


Parts of the leaf blade are considered as lobes if their length is at least equivalent to the width of the leaf petiole at their point of attachment and if both notches of the blade have at least half the length of the lobe itself.

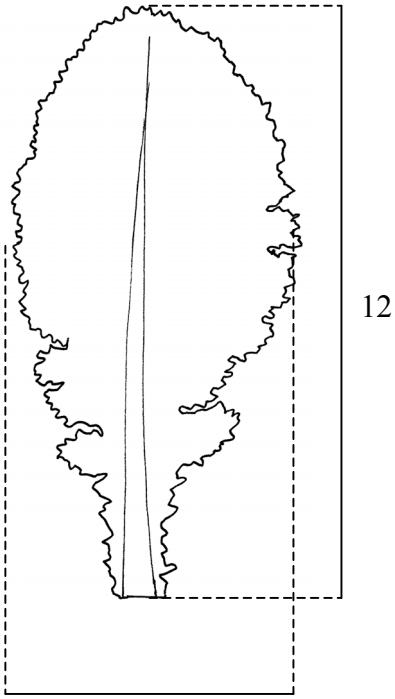
Ad. 11: Leaf: dentation

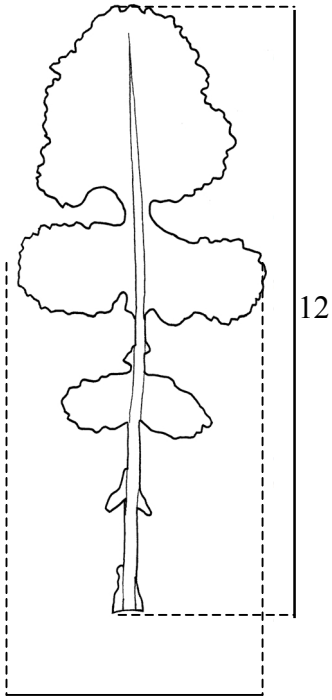


Part on which dentation should be recorded

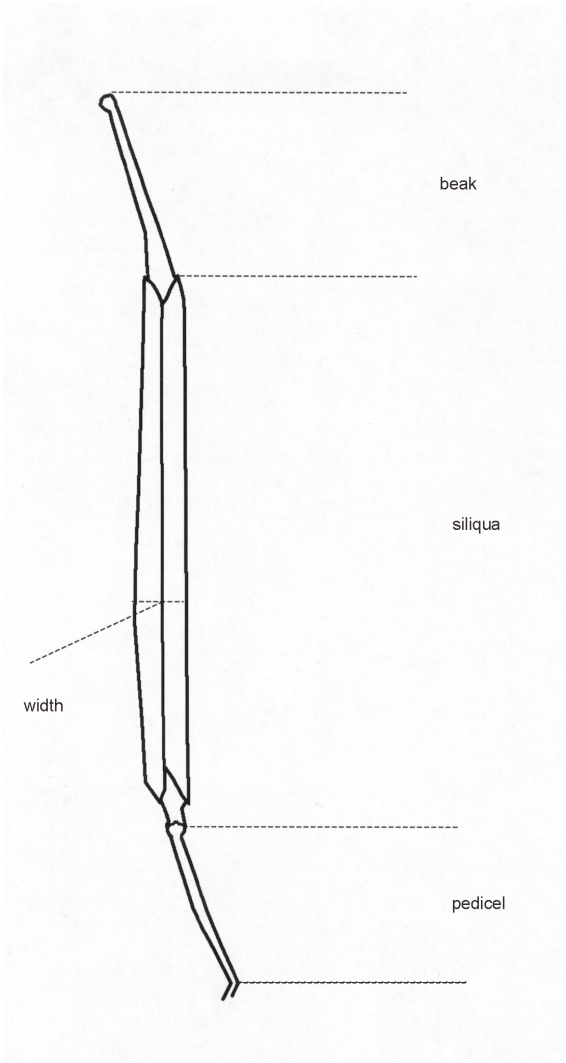


Ad. 12 + 13: Leaf: length (blade and petiole) (12) and width (widest point) (13)





Ad. 22 to 25: Siliqua: length (between pedicel and beak) (22), width (widest point) (23), length of beak (24) and length of pedicel (25)



Ad. 26: Seed: frequency of yellow seeds

Immature (green) seeds and seeds with a damaged testa (yellow) should be removed from the sample to be assessed. Yellow seeds are seeds with yellow present, even if this is partial.

KEY FOR THE GROWTH STAGES according to Berkenkamp, 1973

KEY	GENERAL DESCRIPTION
0	**Germination**
00	Dry seed
10	**Seedling growth**
11	Appearance of cotyledons
13	Cotyledons expanded
15	1 leaf-stage
17	2 leaf-stage
19	3 leaf-stage
20	**Rosette**
21	4 leaf-stage
22	5 leaf-stage
23	6 leaf-stage
24	7 leaf-stage
25	8 leaf-stage
26	9-11 leaf-stage
27	12 or more leaves are completely developed
30	**Stem elongation**
31	Distance between cotyledons and vegetation point is more than 5 cm
35	Distance between cotyledons and vegetation point is more than 15 cm
39	Distance between cotyledons and vegetation point is more than 25 cm
50	**Bud formation**
51	Terminal bud is present, not raised above leaves
53	Terminal bud is raised above level of leaves
57	Pedicels are elongating
59	Buds are yellowing
60	**Flower**
61	First open bud on terminal raceme
62	Few buds are open on terminal raceme
64	Full flower, lower siliques are elongating
65	Lower siliques are starting to fill, less than 5% of buds are not yet open
67	Seeds in lower siliques are enlarging, all buds are open
70	**Siliqua**
71	Seeds in lower siliques are in full size translucent
75	Seeds in lower siliques are green, opaque
79	All seeds of siliques on terminal raceme are dark
80	**Maturation**
81	Seeds in lower siliques on terminal raceme show brown areas
85	Seeds in upper siliques show brown areas
89	Brown siliques are brittle, stems are dry

IX. Literature

Aoba, T., 1970: "Inheritance of seed coat color in turnip." Jap. Journ. Breeding 20 (3): 173-197.

Baltjes, H.J., Klein Geltink, D.J.A., Nienhuis, K.H. and Luesink, B., 1985: "Linking distinctness and description of varieties." Journal National Institute Agricultural Botany. 17. p. 9-19.

Berkenkamp, B., 1973: "A growth-stage key for rape." Can. Journal Plant Sci. 55:413.

Green, F.N. and Winfield, P.J. 1984. The Development of Distinctness, Uniformity and Stability tests for Turnip, Turnip Rape and Swede in the United Kingdom. Procedures of Better Brassicas 1984 Conference. St. Andrews. Eds. W.H. Macfarlane Smith, T. Hodgkin and A.B. Wills. 96-107. Scottish Crop Research Institute, Dundee.

Harper, F.R. 1973: "A key to standardize the description of growth stages in turnip rape, *Brassica campestris*.". Can. Plant Dis. Surv. 53 (2): 93-95.

Kajanus, B. 1913: **"**Ueber die Vererbungsweise gewisser Merkmale der Beta- und Brassica-Ruben. II Brassica", Zeitschrift fur Pflanzenzuchtung, Band I (4): 419-466.

Kimber, D.S., and McGregor, D.I. (Eds) 1995. *"Brassica* Oilseeds: Production and Utilisation." CAB International. Wallingford.

Klein Geltink, D.J.A., 1983: "Inheritance of leaf shape in turnip (*Brassica rapa* L. partim) and rape (*Brassica napus* L.). Euphytica 32 (2): 361-365.

Mohammad, A. and Sikka, S.M. 1937: "Breeding investigations in some of the oleiferous Brassicas of the Punjab." Ind. Journ. Agric. Sci. VII (VI): 849 - 861.

Mohammed, A., S.M. Sikka and M.A. Aziz, 1942: "Inheritance of seed colour in some oleiferous Brassicae". Ind. Journ. of Genetics & Plant Breeding 2: 112 - 127.

Scarisbrick, D.H. and Ferguson, A.J. (Eds.) 1995. "New Horizons for Oilseed Rape." Semundo Limited. Cambridge.

Schutte, E., Steinberger, J. und Meier. U. 1982: "Entwicklungsstadien des Rapses". Merkblatt der Biologischen Bundesanstalt fur Land- und Forstwirtschaft. Nr. 27/7.

Stringham, G.R. 1980: "Inheritance of seed color in turnip rape" . Can. Journ. Plant Sci. 60: 331 - 335.

X. Technical Questionnaire

	Reference Number (not to be filled in by the applicant)

TECHNICAL QUESTIONNAIRE
to be completed in connection with an application for plant breeders' rights

1. Species *Brassica rapa* L. var.silvestris (Lam.) Briggs.

TURNIP RAPE

- Spring type [ ]
- Winter type [ ]

2. Applicant (Name and address)

3. Proposed denomination or breeder's reference

4. Information on origin, maintenance and reproduction of the variety

4.1 Type of material

(a) inbred line
  – male sterile line [ ]
  – male fertile line [ ]
(b) hybrid
  – male sterile hybrid [ ]
  – male fertile hybrid [ ]
(c) open-pollinated variety [ ]
(d) synthetic variety [ ]
(e) other (please indicate)

.....

4.2 Formula (if applicable, for each component in separate sheets, the information according to the following Chapters 5 to 7 to be added)

Single hybrid

– Denomination or breeder's reference of female parental line .....
– Denomination or breeder's reference of male parental line .....

Three-way hybrid

Denomination or breeder's reference of:

– single hybrid used .....
– female parental line of the single hybrid .....
– male parental line of the single hybrid .....
– female parent of the three-way hybrid .....
– male parental line of the three-way hybrid .....

NB: In case of use of male sterility system, indicate the name of the maintainer line of the female parental line

.....

In case of use of self-incompatibility system, indicate, if applicable, the name of the self-compatible lines

.....

4.3 Genetic origin and breeding method

4.4 Other information

5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the state of expression which best corresponds).

	Characteristics	Example Varieties (Spring variety; Winter variety)	Note
5.1 (2)	**Ploidy**		
	diploid	Nokonova; Rex	2[ ]
	tetraploid	- ; Perko PVH	4[ ]
5.2 (8)	**Leaf: type**		
	entire	- ; Chicon	1[ ]
	lobed	Kove; Perko PVH	2[ ]
5.3 (16)	**Time of flowering (50% of plants with at least one open flower)**		
	very early	Hymac; Primax	1[ ]
	early	Agena;	3[ ]
	medium	Kova: Rex	5[ ]
	late	Munro;	7[ ]
	very late	Nokonova; Triton	9[ ]

	Characteristics	Example Varieties	Note
5.4 (17)	**Flower: color of petal**		
	lemon yellow	Kulta; Perko PVH	1[ ]
	orange yellow		2[ ]
5.5 (21)	**Plant: total length including side branches**		
	short to medium		3[ ]
	medium	Kulta	5[ ]
	medium to long	Harmoni	7[ ]

6. Similar varieties and differences from these varieties

Denomination of similar variety	Characteristic in which the similar variety is different o)	State of expression of similar variety	State of expression of candidate variety

o) In the case of identical states of expressions of both varieties, please indicate the size of the difference.

7. Additional information which may help to distinguish the variety

7.1 Resistance to pests and diseases

7.2 Special conditions for the examination of the variety

(a) Group

a) Spring turnip rape [ ]
b) Winter turnip rape [ ]

7.3 Main use

a) seed [ ]
b) forage [ ]
c) other use (specify) [ ]

7.4 Other information

8. Authorization for release

(a) Does the variety require prior authorization for release under legislation concerning the protection of the environment, human and animal health?

Yes [ ] No [ ]

(b) Has such authorization been obtained?

Yes [ ] No [ ]

If the answer to that question is yes, please attach a copy of such an authorization.

[End of document]