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UPOV

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

DRAFT

DOCK

UPOV Code: RUMEX_AC

Rumex acetosa L.

[*]

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by an expert from Ukraine

to be considered by the
Technical Working Party for Vegetables
at its forty-third session, to be held in Beijing, from April 20 to 24, 2009

Alternative Names:[*]

Botanical name	*English*	*French*	*German*	*Spanish*
Rumex acetosa L.	Dock			

The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TGP documents, into detailed practical guidance for the harmonized examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.

ASSOCIATED DOCUMENTS

These Test Guidelines should be read in conjunction with the General introduction and its associated TGP documents.

[*] These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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1. Subject of these Test Guidelines

These Test Guidelines apply to all varieties of *Rumex acetosa* L. of the family *Polygonaceae*.

2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it 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 and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of seed.

2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

10 g of seed.

The seed should meet the minimum requirements for germination, species and analytical purity, health and moisture content, specified by the competent authority. In the cases where the seed is to be stored, the germination capacity should be as high as possible and should be stated by the applicant.

2.4 The plant material supplied should be visibly healthy, not lacking in vigor, nor affected by any important pest or disease.

2.5 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

3. Method of Examination

3.1 Number of Growing Cycles

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

3.2 Testing Place

Tests are normally conducted at one place. In the case of tests conducted at more than one place, guidance is provided in TGP/9 “Examining Distinctness”.

3.3 Conditions for Conducting the Examination

3.3.1 The tests should be carried out under conditions ensuring satisfactory growth for the expression of the relevant characteristics of the variety and for the conduct of the examination.

3.3.2 Type of observation

The recommended method of observing the characteristics is indicated by the following key in the second column of the Table of Characteristics:

MG: single 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.

3.4 Test Design

3.4.1 Each test should be designed to result in a total of at least 60 plants, which should be divided between two or more replicates.

3.4.2 The design of the tests should be such that plants or parts of 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.

3.5 Number of Plants / Parts of Plants to be Examined

Unless otherwise indicated, all observations should be made on 60 plants or parts of plants taken from each of 60 plants.

3.6 Additional Tests

Additional tests, for examining relevant characteristics, may be established.

4. Assessment of Distinctness, Uniformity and Stability

4.1 Distinctness

4.1.1 General Recommendations

It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding distinctness. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.1.2 Consistent Differences

The differences observed between varieties may be so clear that more than one growing cycle is not necessary. In addition, in some circumstances, the influence of the environment is not such that more than a single growing cycle is required to provide assurance that the differences observed between varieties are sufficiently consistent. One means of ensuring that a difference in a characteristic, observed in a growing trial, is sufficiently consistent is to examine the characteristic in at least two independent growing cycles.

4.1.3 Clear Differences

Determining whether a difference between two varieties is clear depends on many factors, and should consider, in particular, the type of expression of the characteristic being examined, i.e. whether it is expressed in a qualitative, quantitative, or pseudo-qualitative manner. Therefore, it is important that users of these Test Guidelines are familiar with the recommendations contained in the General Introduction prior to making decisions regarding distinctness.

4.2 Uniformity

4.2.1 It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines.

4.2.2 For the assessment of uniformity on a row plot, a population standard of 2.0% and an acceptance probability of at least 95% should be applied. In the case of a sample size of 60 plants, 3 off-types are allowed. In confirmation of test's reliability for uniformity, the results taken from panicles plots are considered.

4.3 Stability

4.3.1 In practice, it is not usual to perform tests of stability that produce results as certain as those of the testing of distinctness and uniformity. However, experience has demonstrated that, for many types of variety, when a variety has been shown to be uniform, it can also be considered to be stable.

4.3.2 Where appropriate, or in cases of doubt, stability may be tested, either by growing a further generation, or by testing a new seed stock to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

(a) Plant: attitude of rosette leaves (characteristic 1)
(b) Plant: height (characteristic 10)
(c) Plant: time of beginning of bolting in the second year (characteristic 21)
(d) Panicle: coloration (characteristic 25)

5.4 Guidance for the use of grouping characteristics, in the process of examining distinctness, is provided through the General Introduction.

6. Introduction to the Table of Characteristics

6.1 Categories of Characteristics

6.1.1 Standard Test Guidelines Characteristics

Standard Test Guidelines characteristics are those which are approved by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.

6.1.2 Asterisked Characteristics

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and should always be examined for DUS and included in the variety description by all members of the Union, except when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate.

6.2 States of Expression and Corresponding Notes

States of expression are given for each characteristic to define the characteristic and to harmonize descriptions. Each state of expression is allocated a corresponding numerical note for ease of recording of data and for the production and exchange of the description.

6.3 Types of Expression

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

6.4 Example Varieties

Where appropriate, example varieties are provided to clarify the states of expression of each characteristic.

6.5 Legend

(*) Asterisked characteristic – see Chapter 6.1.2

QL: Qualitative characteristic – see Chapter 6.3
QN: Quantitative characteristic – see Chapter 6.3
PQ: Pseudo-qualitative characteristic – see Chapter 6.3

MG, MS, VG, VS: – See Chapter 3.3.2

(+) See Explanations on the Table of Characteristics in Chapter 8.1

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

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*) (+)	**VG**	**Plant: attitude of rosette leaves**					
QN		erect				Atstek	1
		semi erect				Shirokolistiy	3
		horizontal				Odesckiy 17	5
2.	**VG**	**Rosette leaves: intensity of green color**					
QN		light				Atstek	3
		medium				Shirokolistiy	5
		dark				Odesckiy 17	7
3. (+)	**MS**	**Rosette leaf blade: length**					
QN		short				Odesckiy 17	3
		medium				Shirokolistiy	5
		long				Atstek	7
4. (+)	**MS**	**Rosette leaf blade: width**					
QN		narrow				Odesckiy 17	3
		medium				Atstek	5
		broad				Shirokolistiy	7
5.	**MS**	**Rosette leaf blade: ratio length / width**					
QN		small				Shirokolistiy	3
		medium				Atstek	5
		large				Odesckiy 17	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
6. **(+)**	**VG**	**Rosette leaf blade: shape (excluding basal lobes)**					
PQ		lanceolate				Odesckiy 17	1
		elliptic				Atstek	2
		broad elliptic				Shirokolistiy	3
7. **(+)**	**VS**	**Rosette leaf: shape of apex**					
PQ		acute				Odesckiy 17	1
		obtuse				Atstek	2
		rounded				Shirokolistiy	3
8. **(+)**	**VG**	**Rosette leaf: shape of base**					
QL		truncate					1
		cordate				Shirokolistiy	2
		sagittate					3
		hastate				Odesckiy 17	4
		auriculate				Atstek	5
9. **(+)**	**MS**	**Rosette leaf: legth of petiole**					
QN		short				Odesckiy 17	3
		medium				Shirokolistiy	5
		long				Atstek	7
10. **(*)** **(+)**	**VG**	**Plant: height**					
QN		short				Odesckiy 17	3
		medium				Shirokolistiy	5
		tall				Atstek	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
11. **(+)**	**VS**	**Stem: shape in cross-section**					
PQ		rectangular				Odesckiy 17	1
		round–oval				Shirokolistiy	2
		round				Atstek	3
12.	**VS**	**Stem: pubescence**					
QL		absent				Atstek, Odesckiy 17	1
		present				Shirokolistiy	9
13.	**MG**	**Stem: number of internodes**					
QN		few				Atstek	3
		medium				Shirokolistiy	5
		many				Odesckiy 17	7
14.	**VG**	**Stem: anthocyanin coloration**					
QL		absent				Atstek	1
		present				Odesckiy 17, Shirokolistiy	9
15.	**VG**	**Stem: intensity of anthocyanin coloration**					
QN		light				Odesckiy 17	3
		medium				Shirokolistiy	5
		dark					7
16. **(+)**	**MS**	**Stem leaf: length of blade**					
QN		short				Odesckiy 17	3
		medium				Shirokolistiy	5
		long				Atstek	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
17. **(+)**	**MS**	**Stem leaf: width of blade**					
QN		narrow				Odesckiy 17	3
		medium				Atstek	5
		broad				Shirokolistiy	7
18. **(+)**	**MS**	**Stem leaf: ratio length / width of blade**					
QN		small				Shirokolistiy	3
		medium				Atstek	5
		large				Odesckiy 17	7
19. **(+)**	**MS**	**Stem leaf: length of petiole**					
QN		short				Odesckiy 17,	3
		medium				Shirokolistiy	5
		long				Atstek	7
20.	**VG**	**Stem leaf: surface: rough**					
QL		absent				Odesckiy 17	1
		present				Atstek, Shirokolistiy	9
21. **(*)** **(+)**	**MS**	**Plant: time of beginning of bolting in the second year**					
QN		early				Odesckiy 17	3
		medium				Atstek	5
		late				Shirokolistiy	7
22.	**MS**	**Plant: number of flowering stems**					
QN		few				Odesckiy 17	3
		medium				Atstek	5
		many				Shirokolistiy	7

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
23. **(+)**	**VG**	**Panicle: tendency of branching**					
QL		absent				Odesckiy 17	1
		present				Shirokolistiy	9
24. **(+)**	**MS**	**Panicle: length (without petiole)**					
QN		short				Odesckiy 17	3
		medium				Shirokolistiy	5
		long				Atstek	7
25. **(*)**	**VG**	**Panicle: coloration**					
PQ		greenish pink				Atstek	1
		brown pink				Odesckiy 17	2
		brown				Shirokolistiy	3
26.	**MS**	**Seeds: time of maturity**					
QN		early				Odesckiy 17	3
		medium				Atstek	5
		late				Shirokolistiy	7

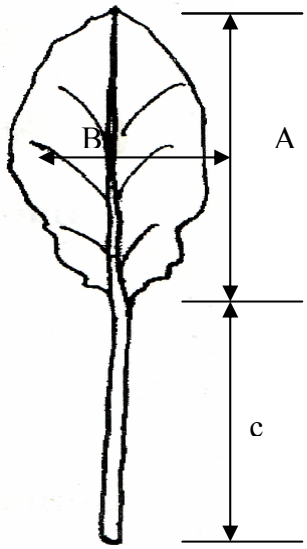
8. Explanations on the Table of Characteristics

8.1 Explanations for individual characteristics

Ad. 1: Plant: attitude of rosette leaves

1	3	5
erect	semi erect	horizontal

Ad. 3: Rosette leaf blade: length (a - length)
Ad. 4: Rosette leaf blade: width (в - width)
Ad. 9: Rosette leaf: length of petiole (c - length)



Ad. 6: Rosette leaf blade: shape (excluding basal lobes)

1	2	3
lanceolate	elliptic	broad elliptic

Ad. 7: Rosette leaf: shape of apex

1
acute

2
obtuse

3
rounded

Ad.8: Rosette leaf: shape of base

1
truncate

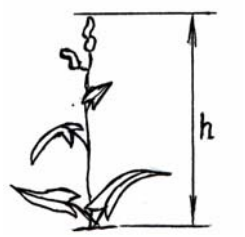
2
cordate

3
sagittate

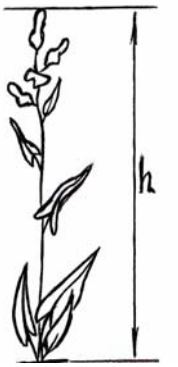
4
hastate

5
auriculate

Ad. 10: Plant: height



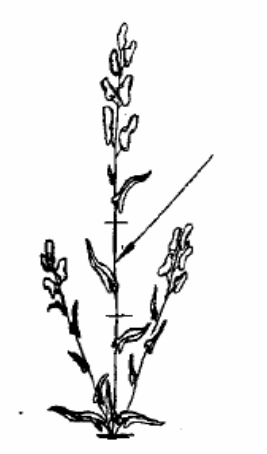
3
short



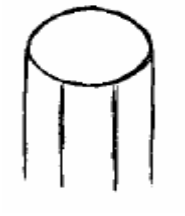
5
medium

7
tall

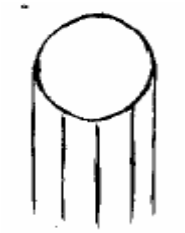
Ad. 11. Stem: shape in cross-section



1
rectangular

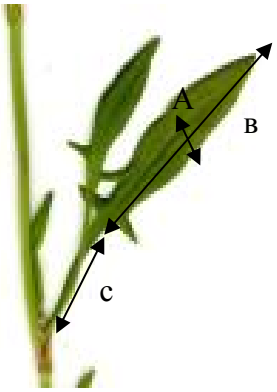


2
round-oval



3
round

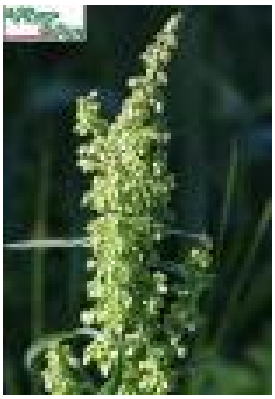
Ad. 16: Stem leaf: length of blade
Ad. 17: Stem leaf: width of blade
Ad. 18: Stem leaf: ratio length/ width of blade
Ad. 19: Stem leaf: length of petiole



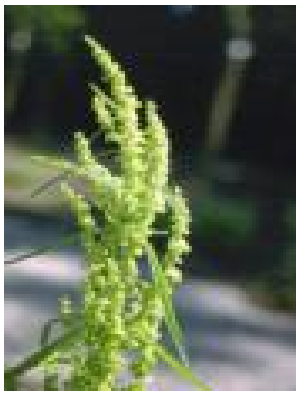
Ad. 21: Plant: time of the beginning of bolting in the second year

The beginning of bolting means that 15% of plants bolt.

Ad. 23: Panicle: tendency of branching

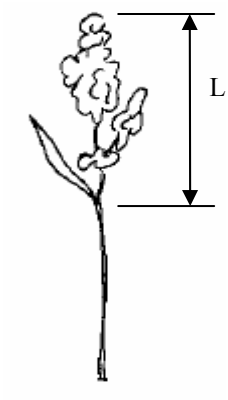


1
absent

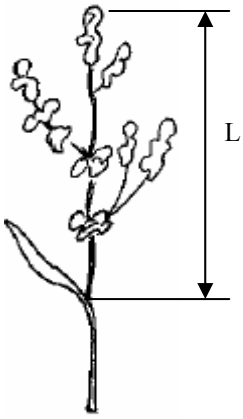


9
present

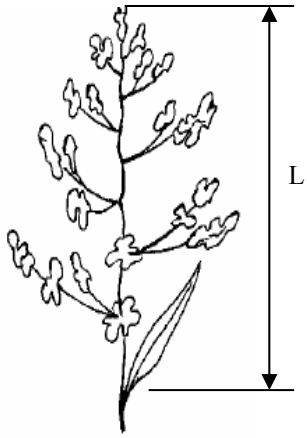
Ad. 24 : Panicle: length (without petiole)



3
short



5
medium



7
long

9. Literature

Dong Baodi, Liu Satoshi Yamada, Hideyasu Fujiama, SunaoYamazaki, Toshiaki Tanado, Li Dengshum, 1999: Study of the introduction of Rumex K-1 hybrid of sorrel in saline soil.6.8.

Goodwin, B.C., 1970: Biological stability/Towards a theoretical biology. Aldine. Chicago, USA

10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

	Application date: (not to be filled in by the applicant)

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

1. Subject of the Technical Questionnaire

1.1 Botanical Name	*Rumex acetosa* L.
1.2 Common Name	Dock

2. Applicant

Name	
Address	
Telephone No.	
Fax No.	
E-mail address	

Breeder (if different from applicant)

3. Proposed denomination and breeder's reference

Proposed denomination (if available)	
Breeder's reference	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

[#]4. Information on the breeding scheme and propagation of the variety

4.1 Breeding scheme

Variety resulting from:

4.1.1 Crossing

(a) controlled cross [ ]
(please state parent varieties)
(b) partially known cross [ ]
(please state known parent variety(ies))
(c) totally unknown cross [ ]

4.1.2 Mutation [ ]
(please state parent variety)

4.1.3 Discovery [ ]
(please state where, when and how developed)

4.1.4 Other [ ]
(please provide details)

4.2 Method of propagating the variety

[#] Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

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

	Characteristics	Example Variety	Note
5.1 (1)	**Plant: attitude of rosette leaves**		
	erect	Atstek	1[ ]
	semi erect	Shirokolistiy	2[ ]
	horizontal	Odesckiy 17	3[ ]
5.2 (3)	**Rosette leaf blade: length**		
	short	Odesckiy 17	3[ ]
	medium	Shirokolistiy	5[ ]
	long	Atstek	7[ ]
5.3 (10)	**Plant: height**		
	short	Odesckiy 17	3[ ]
	medium	Shirokolistiy	5[ ]
	tall	Atstek	7[ ]
5.4 (21)	**Plant: time of the beginning of bolting in the second year**		
	early	Odesckiy 17	3[ ]
	medium	Atstek	5[ ]
	late	Shirokolistiy	7[ ]
5.5 (23)	**Panicle: tendency of branching**		
	absent	Odesckiy 17	1[ ]
	present	Shirokolistiy	9[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

	Characteristics	Example Variety	Note
5.6 (25)	**Panicle: coloration**		
	greenish pink	Atstek	1[ ]
	brown-pink	Odesckiy 17	2[ ]
	brown	Shirokolistiy	3[ ]

6. Similar varieties and differences from these varieties

Please, use the table and space provided for comments below to provide information on how your candidate variety differs from the variety (or varieties) which, to the best of your knowledge, is (or are) most similar. This information may help the examination authority to conduct its examination of distinctness in a more efficient way.

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the **similar** variety(ies)	Describe the expression of the characteristic(s) for **your** candidate variety
Example		(example to be inserted)	(example to be inserted)

Comments:

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

[#]7. Additional information which may help in the examination of the variety

7.1 In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety?

Yes [ ] No [ ]

(If yes, please provide details)

7.2 Special conditions for the examination of the variety

7.2.1 Are there any special conditions for growing the variety or conducting the examination?

Yes [ ] No [ ]

7.2.2 If yes, please give details:

7.3 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 (b) is yes, please attach a copy of the authorization.

[#] Authorities may allow certain of this information to be provided in a confidential section of the Technical Questionnaire.

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:

9. Information on plant material to be examined.

9.1 The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc.

9.2 The plant material should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

(a) Microorganisms (e.g.virus, bacteria, phytoplasma) Yes [ ] No [ ]

(b) Chemical treatment (e.g.growth retardant, pesticide) Yes [ ] No [ ]

(c) Tissue culture Yes [ ] No [ ]

(d) Other factors Yes [ ] No [ ]

Please provide details of where you have indicated “yes”.

……

10. I hereby declare that, to the best of my knowledge, the information provided in this form is correct:

Applicant’s name

Signature Date

[End of document]