

RED CLOVER (*Trifolium pratense* L.) DESCRIPTORS

III CHARACTERISATION AND EVALUATION DESCRIPTORS

Legumes genetic resources evaluation methodology:

Accessions are sown by hand in the field in spring, without cover culture. Each accession is planted in 2 m long 2 rows. Distance between rows are 60 cm, but between plots 1 m. Each plot is 1 m² large. Minimal replicates number are 2-3, arrangement was random.

Standard cultivars are:

for lucerne – “Skrīveru”;

for alsike clover – “Menta” (2n), “Fricis” (4n);

for red clover – “Skrīveru agrais”, “Stendes vēlais”, “Skrīveru tetra”.

Standard cultivars were included in the common sample evaluation. Accession evaluation time is: sowing year and two next years – together 3 years.

Nutrition KP was applied in the spring, in next year plots are fertilized with complex minerals 200 kg/ha.

Characterization of testing location:

- a. Country of characterization
- b. Institute name and address
- c. Institute site (latitude, longitude, elevation)
- d. Sowing date
- e. Harvest date
- f. Percentage field establishment
- g. Plot size
- h. Number of replications
- i. Plant protection

ENVIRONMENT CHARACTERISTIC

- j. Soil type
- k. Relief
- l. Soil pH
- m. Soil organic matter content
- n. Soil texture
- o. Temperature range (year and/or the seasonal mean, maximum, minimum)
- p. Frost (date and lowest temperature of most recent frost)

Descriptor code	Number of trait in other descriptor	Descriptor scale (score)	Reference values	Remark
Characteristic				
III/1	IPGRI 1.6.6.	Ploidy level		
		diploid tetraploid		
III/2		Tendency to form inflorescences in so wing year		
	IPGRI 4.3.1.	1 Very low 5 medium 9 very high	Flowered some plants 50% of plants practically all plants	Evaluate in the beginning of September in all plot (row).
III/3		Winter damage		
	IPGRI 4.4.1.	1 very little 3 little 5 medium 7 much 9 very much damage - plant dead	damage < 10% 30% plant damage 50% plant damage 75% plant damage > 90%	In spring, two weeks after beginning vegetation.
III/4		Regrow in spring		
		1 slow 5 medium 9 fast		After beginning vegetation in faze of bush.
III/5		Length of central leaflet at flowering		
	IPGRI 4.1.1. UPOV TG 5/4 No.7	1 very short 5 medium 9 very long	3.5 – 4.0 cm 4.1 – 5.5 cm 5.6 – 6.0 cm	At flowering time, measure 5 plants.
III/6		Width of central leaflet at flowering		
	IPGRI 4.1.2. UPOV TG 5/4 No.8	1 very narrow 5 medium 9 very broad	2 cm very narrow 2-3 cm medium > 3 – very broad	Flowering time, measure 5 plants.
III/7		Shape of leaf		
	IPGRI 4.1.3.	3 elongated 5 oval 7 round		Evaluate in all plot (row), at flowering.
III/8		Frequency of plants with white marks		

	IPGRI 4.1.4 UPOV TG 5/4 – No. 9	1 very low 3 low 5 medium 7 high 9 very high		Evaluate leaves in middle part of plant in all plot.
III/9		Length longest stem including head		
	IPGRI 4.2.2. UPOV TG 5/4 – No.3	1 very short 3 short 5 medium 7 long 9 very long	1 - < 50 cm 3 – 50-60 cm 5 – 60-70 cm 7 – 80-100 cm 9 - >100 cm	At full flowering time, measure 5 plants.
III/10		Thickness of stem		
	IPGRI 4.2.3. UPOV TG 5/4 – No. 4	3 thin 5 medium 9 thick		Beginning of flowering.
III/11		Number of internodes		
	UPOV TG 5/4 – No.5	3 low 5 medium 7 high 9 very high	3 – 5 internodes 5 - 5-7 internodes 7 – 7-9 internodes 9 – 9-11 internodes	Lowest internodes minimum 0,5 cm.
III/12		Density of hairs		
	UPOV TG 5/4 – No.6	1 Absent or very low 3 low 5 medium 7 high 9 very high		Measure 5 plants, at flowering.
III/13		Date of flowering		
	IPGRI 4.3.2. UPOV TG 5/4 – No.2	1 very early 3 very early 5 medium 7 late 9 very late		Date when 50% of plants first show petal colour development on an inflorescence.
III/14		Colour of flowers		
	IPGRI 4.3.3.	3 light red		At full flowering time.

		7 dark red		
III/15		Profuseness of flowering		
	IPGRI 4.4.3.	1 sparse 9 very profuse		Scored at flowering.
III/16		Density of bush		
		1 very low 9 very high		In the flowering time.
III/17		Spring yield – eye scores		
	IPGRI 4.4.2.	1 very low 9 very high		4 weeks after end of winter.
III/18		Summer yields – eye scores		
	IPGRI 4.4.2.3.	1 very low 9 very high		Yield relative to adjusted designed control.
III/19		Autumn yields eye scores		
	IPGRI 4.4.2.4.	1 very low 9 very high		Yield relative to adjusted designed control.
III/20		Color of seed coat		
	IPGRI 4.3.6. UPOV 10 TG 5/4	1 yellow 2 multicoloured 3 violet		
III/21	Notes			Any other additional information
III/22	Cytological characteristics and identified genes			
III/23	Molecular markers			
III/24	Pictures			

Explanations and references

- 1) J. Lielmanis, T. Godmanis „Sarkanā āboliņa audzēšana” Izd. „Liesma”, Rīga 1970.g. 195. lpp.
 - 2) A. C. Шпаков, A.C. Новосёпова, A.A. Кутузова «Клевер в России», Москва, 2002. 297.стр.
 -) Robert R Barnes, C. Jerry Nelson, Michael „Forages” an introduction to grassland USA agriculture.” 6 th edition, 2003
- ¹IPGRI descriptors (1985.g.)
- ²UPOV – DUS test guidelines TG/5/4, 1990.g.