

SPEARMINT (*Mentha spicata* L) DESCRIPTORS

III CHARACTERIZATION AND EVALUATION DESCRIPTORS

Spearmint genetic resources evaluation methodology:

Characterization is done on 2-3 years old plants in full flowering stage. Vegetative propagation by cuttings. Accessions evaluated in 4 replications 5 shots in each.

Characterization of testing location:

- a. Country of characterization
- b. Institute name and address
- c. Institute site (latitude, longitude, elevation)
- d. Planting date
- e. Harvest date
- f. Plot size
- g. Number of plants per plot
- h. Number of evaluated plants
- i. Place of evaluation – field, greenhouse u.s.w.
- j. Number of replications
- k. Fertilizer (types, doses)
- l. Plant protection

ENVIRONMENT CHARACTERISTIC

- m. Soil type
- n. Relief
- o. Soil pH
- p. Soil organic matter content
- q. Soil texture
- r. Temperature range (growing period mean, maximum, minimum)
- s. Precipitation (sum in growing period)
- t. Frost (date and lowest temperature of most recent frost)

Descriptor code	Number of trait in other descriptors	Descriptor scale	Reference values	Remarks
III/1		Plant height (cm)		
		3 Short 5 Medium 7 High	< 50 50-90 >90	The whole plant from soil to top
III/2		Number of primary branches		
			Appendix, Figure 1	
III/3		Form-habitus of plant		
		1 Erect 3 Semi-erect 5 Spread	<45° 45-70° >70° Appendix, Figure 1	Branching angle between terminal stem and primary branches
III/4		Length of primary branches (cm)		
				Average of plant primary branches length
III/5		Stem colour		
		1 Green 2 Green with light antocian colour 3 Light antocian colour 4 Antocian colour		Using RHS Colour Chart or as below
III/6		Stem hair on surface *		
		1 Absent 2 Present		.
III/7		Number of internodes on main stem		
			Appendix, Figure 1	.Main stem from soil to top
III/8		Length of middle internodes of main stem (cm)		
III/9		Number of leaves pairs of main stem		
III/10		Density of shoot leafiness		

		1 Very sparse 2 Sparse 3 Medium 4 Dense		
III/11		Leaf length (cm)		
		3 Short 5 Medium 7 Length	<5 5-7 >7	Leaves of middle part of main stem
III/12		Leaf width (cm)		
		3 Narrow 5 Medium 7 broad	<1,5 1,5-2,5 >2,5	Leaves of middle part of main stem
III/13		Leaf shape		
		1 Elliptic 3 Lanceolate 5 Egg shaped	Appendix, Figure 2	Leaves of middle part of main stem
III/14		Leaf point of attachment		
		1 Sessile 2 Petiolate	Appendix, Figure 4	
III/15		Leaf margin		
		1 Serrate 2 Double serrate	Appendix, Figure 3	
III/16		Leaf surface of upper side		
		1 Without hairs 2 Medium covered by hairs 3 Covered by hairs		Leaf pubescence
III/17		Leaf surface of lower side		
		1 Without hairs 2 Medium covered by hairs 3 Covered by hairs		Leaf pubescence
III/18		Leaf curled		
		1 Slightly		

		2 Medium 3 Strongly		
III/19		Leaf veins		
		1 With hairs 2 Without hairs		
III/20		Leaf colour		
		1 Light green 2 Green 3 Grey green 4 Dark green		Using RHS Colour Chart or as below
III/21		Length of inflorescence (cm)		
		3 Short 5 Medium 7 Long	<1/2 from plant height 1/2 from plant height >1/2 from plant height Appendix, Figure 1	
III/22		Width of inflorescence (cm)		
				In middle part of compound inflorescence
III.23		Number of blooming branches including top		
III/24		Length of spikes of blooming shoots (cm)		
			Appendix, Figure 1	Average of plant spikes length
III/25		Density of floral whorls of blooming shoots		
		1 Very sparse 2 Sparse 3 Medium sparse 4 Medium dense 5 Dense 9 Very dense	Appendix, Figure 1	
III/26		Floral whorls number on spike		
		1 Difficult to separate 3 Medium 5 Many	5-10 >10 Appendix, Figure 1	
III/27		Colour of flowers		

		1 White 2 Yellow white 3 Green white 4 Lilac 5 Light violet 6 Violet 7 Dark violet 9 Another		Using RHS Colour Chart or as below
III/28		Flower calyx: length of calyx tube (mm)		
		1 Short 3 Medium 5 Long	<3 3 >3 Appendix, Figure 8	
III/29		Flower: length of sepal (mm)		
			Appendix, Figure 6	
III/30		Flower: length of petal (mm)		
		1 Short 3 Medium 5 Long	<4 4-5 >5 Appendix, Figure 7	
III/31		Beginning of flowering		
		3 Early 5 Medium 7 late	Middle of June Start of July Middle of July	
III/32		Weight of 1000 seeds (g)		
III/33		Susceptibility to diseases and pests		
III/34		Total amount of essential oil (%)		
III/35		Compositional characteristics of essential oil (%)		
		Ratio of carvone		Gas Chromatography

		Ratio of limonens Ratio of linalool		
III/36		Notes		
III/37		Cytological characteristics and identified genes		
III/38		Molecular markers		
III/39		Pictures		

Explanations

* obligatory evaluated traits

Appendix

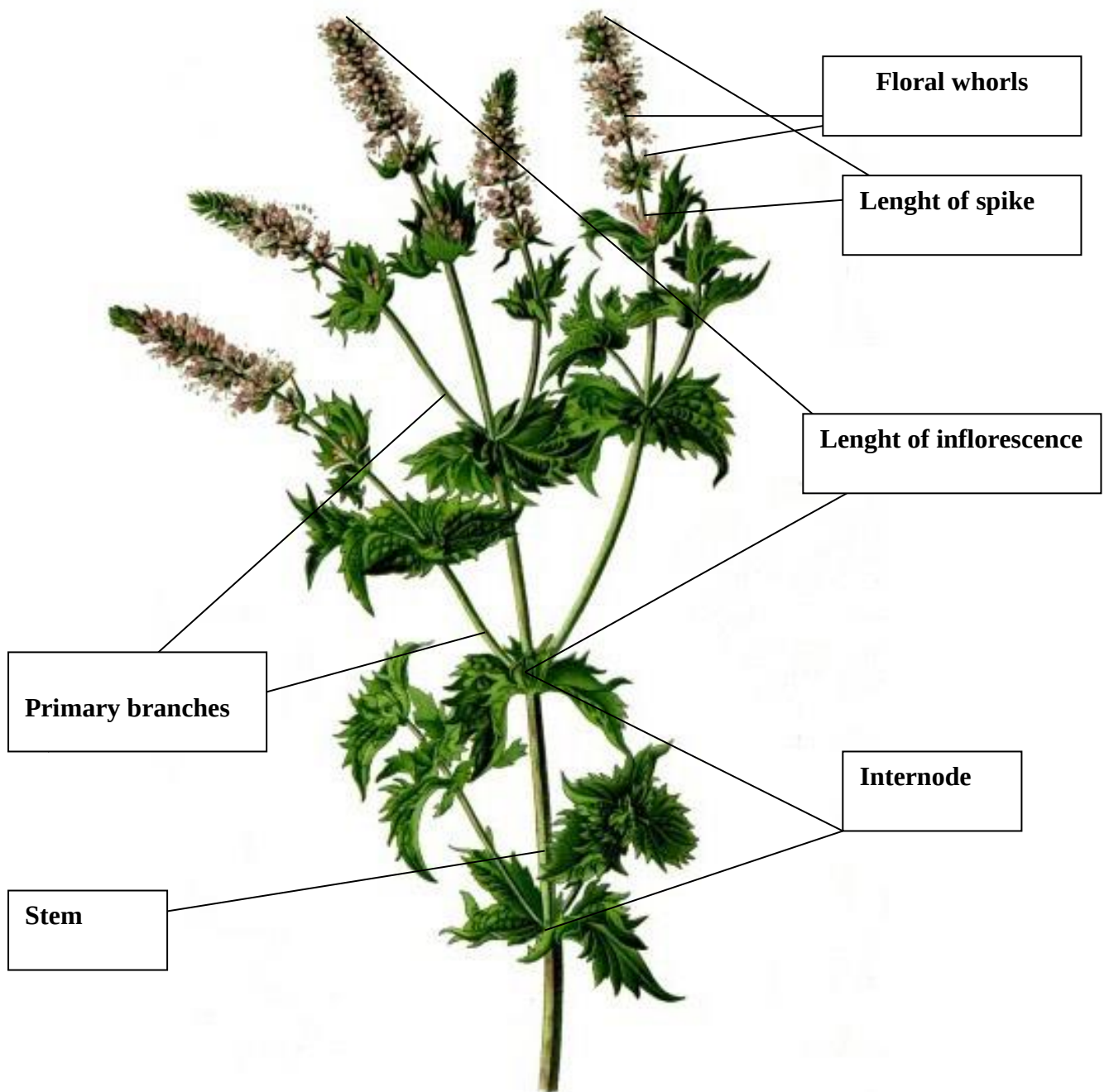
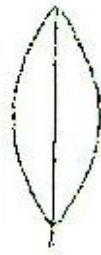


Figure 1. Spearmint *Mentha spicata* L



5
Egg shaped



3
Lanceolate



1
Elliptic

Figure 2. Leaf shape



Toothed



1
Serrate



2
Double Serrate

Figure 3. Leaf margin



2
Petiolate



1
Sessile

Figure 4. Leaf point of attachment



Figure 5. **Flower**



Figure 6. **Lenght of sepal**

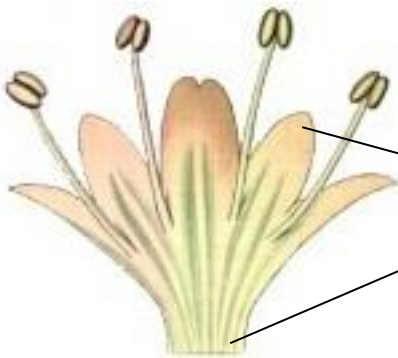


Figure 7. **Lenght of petal**

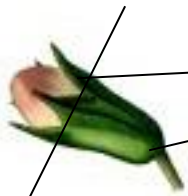


Figure 8. **Lenght of calyx**