Plant	Mint	478	Primary essential character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Plant type	Block	Observation	1:Erect 2:Semi-erect 3:Slightly semi-erect 4:Intermediate 5:Slightly spreading 6:Spreading 7:Slightly prostrate 8:Semi prostrate 9:Prostrate	Degree of branch spreading at flower bud appearing stage
2	Plant height	20 plants	Measurement	cm (integer)	Length from ground to the top of a plant at the beginning of flowering stage
3	Pubescence on stem	Block	Observation	1:None 2:Extremely few 3:Few 4:Slightly few 5:Intermediate 6:Some 7:Many 8:Very many 9:Extremely many	At flower bud appearing stage
4	Stem color	Block	Observation	3:Light green 5:Light reddish purple 7:Reddish purple 9:Dark reddish purple	Color of stems which have branches at flower bud appearing stage
5	Leaf shape	Block	Observation	1:Heart shape 3:Egg shape 5:Elliptic 7:Oval 8:Long elliptic 9:Lanceolate	Shape of the largest leaf at flower bud appearing stage
6	Undulation of leaf	Block	Observation	1:None 2:Extremely few 3:Few 4:Slightly few 5:Intermediate 6:Some 7:Many 8:Very many 9:Extremely many	Undulation of leaves on the largest leaf at flower bud appearing stage
7	Leaf color	Block	Observation	1:Extremely light 2:Very light 3:Light 4:Slightly light 5:Intermediate 6:Slightly dark 7:Dark 8:Very dark 9:Extremely dark	Degree of adaxial side greenness of leaves on main stems which have the most upper branch and more than two nodes
8	Root shape	Block	Observation	1:Prostrate root 3:Slightly prostrate root 5:Intermediate 7:Slightly tubelous 9:Tubelous	At the beginning of flowering stage
9	Inflorescence	Block	Observation	3:Panicle type 4:Slightly panicle type 5:Intermediate 6:Slightly verticillate 7:Verticillate 8:Slightly head type 9:Head type	At the full flowering stage
10	Shape of stamen	Block	Observation	3:Perfect 4:Slightly degenerated 5:Degenerated 6:Slighty trace 7:Trace	At the full flowering stage
11	Flowering time	Block	Observation	date	The first flowering day

Plant	Mint	478	Primary essential character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
12	Flower color	Block	Observation	3:White 5:Very light purple 7:Light purple 9:Purple	Color of corolla at flower bud appearing stage

Plant	Mint	478	Primary optional character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Stem length	20 plants	Measurement	cm (integer)	Length from ground to the node which has flower bud on main stem at flower bud appearing stage
2	Width of stem	20 plants	Measurement	cm (integer)	Width of central part of the largest internode among the 1st to 4th nodes at flower bud appearing stage
3	Shape of cross sections of stem	20 plants	Observation	3:Quadrilateral 5:Polygon 7:Round	At flower bud appearing stage
4	Number of branches	20 plants	Measurement	branches/plant (integer)	Number of branches which have more than two nodes on main stem
5	Number of nodes	20 plants	Measurement	nodes (integer)	At flower bud appearing stage
6	Leaf size	20 plants	Measurement	Square centimeters (round to the 1st decimal place)	The product of length and width of the largest leave on main stem at flower bud appearing stage
7	Thickness of leaf	20 plants	Observation	1:Extremely thin 2:Very thin 3:Thin 4:Slightly thin 5:Intermediate 6:Slightly thick 7:Thick 8:Very thick 9:Extremely thick	Thickness of the largest leaf on main stem at flower bud appearing stage
8	Shape of leaf margin	20 plants	Observation	1:Absent 2:Very shallow 3:Shallow 4:Slightly shallow 5:Intermediate 6:Slightly deep 7:Deep 8:Very deep 9:Extremely deep	
9	Size of oil gland	20 plants	Measurement	1:Extremely small 2:Very small 3:Small 4:Slightly small 5:Intermediate 6:Slightly large 7:Large 8:Very large 9:Extremely large	By microscopic observation. Length of oil gland on the abaxial side of the largest leaf on main stem at flower bud appearing stage
10	Density of oil gland	20 plants	Measurement	1:Extremely sparse 2:Very sparse 3:Sparse 4:Slightly sparse 5:Intermediate 6:Slightly dense 7:Dense 8:Very dense 9:Extremely dense	By microscopic observation. Number of oil gland on the abaxial side of the largest leaf on main stem at flower bud appearing stage

Plant	Mint	478	Primary optional character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
11	Pubescence on leaf	20 plants	Observation	1:None 2:Extremely few 3:Few 4:Slightly few 5:Intermediate 6:Some 7:Many 8:Vary many 9:Extremely many	Of the largest leaf on main stem at flower bud appearing stage
12	Shape of leaf blade base	20 plants	Observation	2:Heart shape 3:Slightly heart shape 4:Truncate 5:Slightly round 6:Round 7:Slightly acute 8:Acute	Shape of the base of the largest leaf on main stem at flower bud appearing stage
13	Petiole length	20 plants	Observation	1:Extremely short 2:Very short 3:Short 4:Slightly short 5:Intermediate 6:Slightly long 7:Long 8:Very long 9:Extremely long	Of the petiole of the largest leaf on main stem at flower bud appearing stage
14	Flower size	Block	Observation	1:Extremely small 2:Very small 3:Small 4:Slightly small 5:Intermediate 6:Slightly large 7:Large 8:Very large 9:Extremely large	Size of corolla at flower bud appearing stage
15	Root width	20 plants	Measurement	mm (integer)	Width of the central part of the longest internode in root on main stem
16	Amount of root	20 plants	Observation	1:Extremely few 2:Very few 3:Few 4:Slightly few 5:Intermediate 6:Some 7:Much 8:Very much 9:Extremely much	At flower bud appearing stage
17	Sprouting time	Block	Observation	date	The day when 50% of sprouts have sprouted
18	Beginning time of bud formation	Block	Observation	date	The first day of flower bud have appeared

Plant	Mint	478	Secondary essential character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Lodging tolerance	Block	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Based on the degree of lodging
2	Seed fertility	Block	Observation	1:None 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	
3	Resistance to rust	Block	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Degree of tolerance based on the symptoms by Puccinia menthae

Plant	Mint	478	Secondary optional character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Resistance to leaf spot	Block	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Based on the symptom by Septoria menthae
2	Resistance to black rot	Block	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Based on the symptom by Phoma strasseri
3	Resistance to Pin nematode	Block	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Based on the symptom by Paratylenchus ourvitatusi
4	Resistance to root lesion nematode	Block	Observation	1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high	Based on the symptom by Paratylenchus penetrans

Plant	Mint	478	Tertiary essential character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Fresh weight	Block	Measurement	kg/a (round to the 1st decimal place)	
2	Extraction rate	Block	Measurement	% (round to the 1st decimal place)	Measurement of essential oil extracted from stems and leaves by steam distillation. (Weight of essential oil) / (Weight of green forage) x 100
3	Menthol content	Block	Measurement	% (round to the 1st decimal place)	Measurement of mint oil by analysis of total menthol

Plant	Mint	478	Tertiary optional character

No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Carvone	Block	Measurement	% (round to the 1st decimal place)	Measurement by aldehyde group and ketone analytical method
2	Optical rotatory	Block	Measurement	degree (round to the 1st decimal place)	Measurement of mint oil by optical rotatory test
3	Refractive index of oil	Block	Measurement	* (round to the 3rd decimal place)	Measurement of mint oil by refractive index test
4	Specific gravity of oil	Block	Measurement	* (round to the 3rd decimal place)	Measurment of mint oil by specific gravity test