

Plant		Lettuce		83(08023)	Primary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Leaf shape	10 plants	Observation	1:Acute oblong 2:Oblong 3:Round 4:Scallop 5:Oblate 9:Other		Investigate the largest leaf at harvest time
2	Leaf color	10 plants	Observation	1:Yellow 3:Light green 5:Green 7:Dark green		Investigate outer leaves at harvest time
3	Lobe of leaf	10 plants	Observation	0:None 1:Extremely shallow 2:Very shallow 3:Shallow 4:Slightly shallow 5:Intermediate 6:Slightly deep 7:Deep 8:Very deep 9:Extremely deep		Investigate outer leaves at harvest time
4	Leaf texture	10 plants	Sensory	3:Brittle 4:Slightly brittle 5:Intermediate 6:Slightly elastic 7:Elastic		Investigate the largest extended leaf on unheading type and the first wrapping leaf of heading type at harvest time
5	Heading formation character	10 plants	Observation	1:Non-heading 3:Half-heading 5:Heading		Investigate at harvest time
6	Head shape	10 plants	Observation	1:Flat 2:Slightly flat 3:Globular 4:Slightly globular 5:Intermediate 6:Slightly elliptic 7:Elliptic 8:Very elliptic 9:Extremely elliptic		Investigate at harvest time
7	Overlapping of head	10 plants	Observation	0:None 1:Extremely shallow 2:Very shallow 3:Shallow 4:Slightly shallow 5:Intermediate 6:Slightly deep 7:Deep 8:Very deep 9:Extremely deep		Investigate at harvest time
8	Core length	10 plants	Measurement	cm (integer)		Investigate standard plants at harvest time
9	Earliness of maturing	10 plants	Observation	1:Extremely early 2:Very early 3:Early 4:Slightly early 5:Intermediate 6:Slightly late 7:Late 8:Very late 9:Extremely late		Investigate when plants become harvestable

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No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Growth type	10 plants	Observation	1:Cutting 2:Stem 3:Cos 4:Leaf 5:Butterhead 6:Crisphead		Investigate at harvest time
2	Plant attitude	10 plants	Observation	3:Erect 4:Slightly erect 5:Intermediate 6:Slightly opening 7:Opening		Investigate at harvest time
3	Pigmentation of leaf	10 plants	Observation	0:None 1:Extremely light 2:Very light 3:Light 4:Slightly light 5:Intermediate 6:Slightly dark 7:Dark 8:Very dark 9:Extremely dark		Investigate anthocyanin pigmentation of leaf at harvest time
4	Gloss of leaf	10 plants	Observation	0:None 1:Extremely low 2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high 9:Extremely high		Investigate at harvest time
5	Ruffleness of leaf	10 plants	Observation	1:None 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Slightly severe 7:Severe 8:Very severe 9:Extremely severe		Investigate at harvest time
6	Wave of leaf margin	10 plants	Observation	0:None 1:Extremely little 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Slightly obvious 7:Obvious 8:Very obvious 9:Extremely obvious		Investigate at harvest time
7	Serration of leaf margin	10 plants	Observation	0:Absent 1:Extremely shallow 2:Very shallow 3:Shallow 4:Slightly shallow 5:Intermediate 6:Slightly deep 7:Deep 8:Very deep 9:Extremely deep		Investigate at harvest time
8	Leaf length	10 plants	Measurement	cm (integer)		Investigate the largest outer leaf at harvest time
9	Leaf width	10 plants	Measurement	cm (integer)		Investigate the largest outer leaf at harvest time
10	Petiole width	10 plants	Observation	1:Extremely narrow 2:Very narrow 3:Narrow 4:Slightly narrow 5:Intermediate 6:Slightly wide 7:Wide 8:Very wide 9:Extremely wide		Investigate the base of petiole at harvest time
11	Leaf tacityity	10 plants	Sensory	1:Stiff 2:Brittle 3:Elastic		Investigate the largest outer leaf of nonheading type and the first wrapping leaf of heading type at harvest time

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12	Head color	10 plants	Observation	1:Extremely light 2:Very light 3:Light 4:Slightly light 5:Green 6:Slightly dark 7:Dark 8:Very dark 9:Extremely dark		Investigate at harvest time
13	Head tightness	10 plants	Observation	1:Extremely loose 2:Very loose 3:Loose 4:Slightly loose 5:Intermediate 6:Slightly tight 7:Tight 8:Very tight 9:Extremely tight		
14	Head diameter	10 plants	Measurement	cm (integer)		Investigate at harvest time
15	Head height	10 plants	Measurement	cm (integer)		Investigate at harvest time
16	Number of outer leaves	10 plants	Measurement	(integer)		Count at harvest time
17	Number of heading leaves	10 plants	Measurement	(integer)		Count at harvest time
18	Head distortion	10 plants	Observation	1:Extremely frequent 2:Very frequent 3:Frequent 4:Slightly frequent 5:Intermediate 6:Slightly rare 7:Rare 8:Very rare 9:Extremely rare		Investigate at harvest time
19	Stem width	5 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		Investigate at harvest time
20	Bolting	10 plants	Observation	1:Extremely early 2:Very early 3:Early 4:Slightly early 5:Intermediate 6:Slightly late 7:Late 8:Very late 9:Extremely late		Evaluate at late spring sowing

Plant		Lettuce		83(08023)	Secondary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Seed dormancy	100 seeds	Measurement	% (integer)		Germination rate under 25 centi degree, using 2 month old seeds after harvest
2	Bacterial rot resistance	10 plants	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		Evaluated by natural infection
3	Virus resistance	10 plants	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		Evaluated by natural infection
4	Soft rot resistance	10 plants	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		Evaluated by natural infection

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No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Seed thermodormancy	100 seeds	Measurement	% (integer)		Germination rate at 30 centi degrees
2	Heat tolerance	10 plants	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		
3	Cold tolerance	10 plants	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		
4	Drought tolerance	10 plants	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		
5	Tolerance to excess moisture	10 plants	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		
6	Sclerotinia drop resistance	10 plants	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		
7	Downy mildew resistance	10 plants	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		
8	Insect resistance	10 plants	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		
9	Tolerance to physiological disorder	10 plants	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		

Plant		Lettuce		83(08023)	Tertiary essential character
No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Weight of head	5 plants	Measurement	g (integer)	Investigate standard plants at harvest time
2	Texture of leaves	10 heads	Sensory	1:Extremely soft 2:Very soft 3:Soft 4:Slightly soft 5:Intermediate 6:Slightly hard 7:Hard 8:Very hard 9:Extremely hard	
3	Brix content	10 plants	Measurement	% (round to the 1st decimal place)	Investigate at harvest time (Brix %)
4	Bitterness of leaf	10 plants	Sensory	0:None 1:Extremely little 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Slightly much 7:Much 8:Very much 9:Extremely much	Investigate midrib at harvest time

Plant		Lettuce		83(08023)	Tertiary optional character
No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Latex content	10 plants	Observation	1:Extremely little 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Slightly much 7:Much 8:Very much 9:Extremely much	Investigate at harvest time
2	Browning of cutting stem	10 plants	Observation	1:Extremely little 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Slightly much 7:Much 8:Very much 9:Extremely much	Investigate at harvest time
3	Carbohydrate content	10 plants	Measurement	g per 100 g (round to the 1st decimal place)	Investigate at harvest time
4	Protein content	10 plants	Measurement	g per 100 g (round to the 1st decimal place)	Investigate at harvest time
5	Fat content	10 plants	Measurement	g per 100 g (round to the 1st decimal place)	Investigate at harvest time
6	Mineral content	10 plants	Measurement	mg per 100 g (round to the 1st decimal place)	Investigate at harvest time
7	Ascorbic acid content	10 plants	Measurement	mg per 100 g (round to the 1st decimal place)	Investigate at harvest time
8	Vitamin A content	10 plants	Measurement	I.U.per 100 g (integer)	Investigated at harvest time