

Plant		Sesame		439	Primary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Branching habit	Block	Observation	0:Much branching 1:Top branching 2:Mid-high branching 3:Basal branching 4:No branching		
2	Stem pubescence	Block	Observation	0:Absent 3:Lobed or sparse 5:Moderately hairy 7:Very hairy		Stem hair density
3	Leaf shape	Block	Observation	1:Entire 4:Parted 7:Ternate		Leaf shape around 10th leaf
4	Phyllotaxis	Block	Observation	3:Alternate 5:Opposite 7:Spiral		Alternate is 1/2 opening, opposite is decussate, spiral is 2/5
5	Corolla color	Block	Observation	2:White 3:Pinkish white 4:Pink 5:Pale purple 6:Purple 7:Deep purple 8:Very deep purple		
6	Number of flowers per leaf axil	Block	Observation	1:1 2:1-2 3:2 4:2-3 5:3 6:>= 4		Four or five flowers type is mixed with three-flowers type
7	Number of nodes to the first flower	10 plants	Measurement	(round to the 1st decimal place)		Number of nodes including cotyledon node on main stem
8	Internode length	Block	Observation	3:Short 5:Intermediate 7:Long		Internode length of middle portion on main stem
9	Number of carpels per capsule	Block	Observation	2:Two carpels 3:Two or three carpels, mixed 4:Three carpels 5:Three or four carpels, mixed 6:Four carpels		When different carpel numbers are seen in a single plant, rank number is 3 or 5
10	Seed coat color	Block	Observation	1:White 2:Yellowish brown 3:Yellow 4:Reddish brown 5:Blackish gray 6:Violet 7:Black		Color of matured seed coat
11	Flowering date	Block	Observation	date		Date of flowering has occurred in about 40-50% of plants
12	Maturation period	Block	Observation	date		Date when color of dehiscent leaves or capsules of lower position turn yellow
13	Height of the first capsule grown	5 plants	Measurement	cm (integer)		Observe at the maturing time

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1	Cotyledon color	Block	Observation	1:Green 8:Light green		Observe one week after germination
2	Cotyledon shape	Block	Observation	1:Flat 8:Cup shape		Observe one week after germination
3	Leaf color	Block	Observation	1:Light green 3:Green 5:Dark green 7:Violet green		Observe at the beginning time of flowering
4	Color of stem basal position petiole and vein	Block	Observation	0:Absent 9:Present		Presence or absence of anthocyan pigmentation
5	Stem shape in cross section	Block	Observation	3:Square 5:Hexagon 7:Round		Shape of the first or the second node
6	Shape of corolla	Block	Observation	1:Complete shape 9:Incomplete shape		Complete shape; right part is symmetrical with left to central axis
7	Color of corolla edge	Block	Observation	1:White 3:Yellowish green 5:Pink		Observe at flowering time
8	Lower lip color	Block	Observation	0:Absent 9:Present		Observe at flowering time
9	Basal color of lower lip	Block	Observation	1:Yellow 3:Yellowish pink 5:Pink		Observe at flowering time
10	Corolla hairiness	Block	Observation	0:Glabrous 9:Hairy		Observe at flowering time
11	Capsule shape	Block	Observation	1:Tapered 3:Narrow oblong 5:Round oblong 7:Square		
12	Density of capsule hair	Block	Observation	0:None 3:Thin 5:Dense		The density at the time of capsule growing
13	Length of capsule hair	Block	Observation	1:Short 8:Long		The length at the time of capsule growing
14	Color of dry capsule	Block	Observation	3:Straw 5:Brown 7:Purple		The color after harvest
15	Number of seeds per capsule	10 capsules	Measurement	(integer)		Before dehiscence and shattering, keep capsule then count number of seeds

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16	Number of capsules per plant	5 plants	Measurement	(integer)		At maturing time	
17	Plant height	5 plants	Measurement	cm (integer)		Measured height at maturing time	
18	Number of branches per plant	5 plants	Measurement	(round to the 1st decimal place)		Number of primary branches	
19	1000 seed weight	Block	Measurement	g (round to the 1st decimal place)		Measure the weight of 100 mature seeds five times, then calculate its average	

Plant		Sesame		439	Secondary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Lodging resistance	Block	Observation	1:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 9:Very high		The degree of lodging at maturity
2	Phoma wilt resistance	Block	Obs.&Measr.	1:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 9:Very high		The degree of resistance to Phoma sesami Sawada in field and in injection tests
3	Bacterial leaf spot resistance	Block	Obs.&Measr.	1:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 9:Very high		The degree of resistance to Alternaria sesamicola Kawamura in field or injection tests
4	Mosaic virus resistance	Block	Obs.&Measr.	1:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 9:Very high		The degree of resistance to TUMV and UMV in field or injection tests
5	Wilt disease resistance	Block	Obs.&Measr.	1:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 9:Very high		The degree of resistance to Fusarium oxysporum f. sp. sesami in field or in injection tests

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1	Low temperature germinability	100 seeds	Measurement	3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High		Test germinability under low temperature
2	Photoperiodicity	5 plants	Measurement	3:Short 5:Intermediate 7:Long		Measure its critical day length
3	Leaf shedding	Block	Observation	3:Easy 4:Slightly easy 5:Intermediate 6:Slightly hard 7:Hard		Degree of leaf shedding at maturity
4	Hullability	Block	Observation	3:Easy 4:Slightly easy 5:Intermediate 6:Slightly hard 7:Hard		Hullability of seeds at maturity

Plant		Sesame		439	Tertiary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Seed yield	Block	Measurement	kg/a (round to the 1st decimal place)		Each experimental plot is about 4 square meters in area
2	Oil content		Measurement	% (round to the 1st decimal place)		Measured by Soxhlet method
3	Oleic acid content		Measurement	% (round to the 1st decimal place)		Measured by Gas chromatography
4	Linoleic acid content		Measurement	% (round to the 1st decimal place)		Measured by Gas chromatography
5	Sesamolin content		Measurement	% (round to the 1st decimal place)		Measured by High Performance Liquid Chromatograph

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No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks	
1	Total dry weight	Block	Measurement	kg/a (round to the 1st decimal place)		The fruit + stem + capsule + weight; calculate assuming 15% water content	
2	Protein content		Measurement	% (round to the 1st decimal place)			
3	Calcium content		Measurement	mg/g (round to the 1st decimal place)			
4	Sesamin content		Measurement	mg/g (round to the 1st decimal place)			
5	Flavor strength		Measurement	3:Weak 4:Slightly weak 5:Intermediate 6:Slightly strong 7:Strong		Evaluated roasted seeds' flavor	