

Plant		Winged bean		100(12001)	Primary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Terminal leaflet length	10 leaves	Measurement	cm (round to the 1st decimal place)		Record using terminal leaflet of a leaf in the middle of main stem at flowering stage
2	Pod length	10 pods	Measurement	cm (round to the 1st decimal place)		Record at an appropriate stage for harvesting as vegetables and at maturity for harvesting seeds
3	Pod width	10 pods	Measurement	cm (round to the 1st decimal place)		Record at an appropriate stage for harvesting as vegetables and at maturity for harvesting seeds
4	Immature pod color	10 pods	Observation	1:Light green 2:Green 3:Dark green 4:Reddish purple		
5	Wing color of immature pod	10 pods	Observation	1:Light green 2:Green 3:Dark green 4:Reddish purple		
6	Number of seeds per pod	10 pods	Measurement	(round to the 1st decimal place)		
7	100 seed weight	100 seeds	Measurement	g (round to the 1st decimal place)		Record using dry seeds (less than 16% water content)
8	Seed coat color	100 seeds	Observation	1:White 2:Yellow 3:Brown 4:Reddish purple 5:Black		

Plant		Winged bean		100(12001)	Primary optional character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Growth habit	10 plants	Observation	1:Determinate (dwarf) 2:Determinate (semi-climbing) 3:Indeterminate		Record at flowering stage
2	Branching habit	5 plants	Measurement	1:Low 2:Intermediate 3:High		Assessed by the ratio of number of primary branches to number of nodes of main stem. Intermediate:0.2
3	Plant height	5 plants	Measurement	cm (integer)		Measure length from ground to shoot apex of main stem
4	Stem color	10 plants	Observation	1:Green 2:Light purple 3:Purple		
5	Number of nodes on main stem	5 plants	Measurement	(round to the 1st decimal place)		Record number of nodes from unifoliate node to shoot apex of main stem
6	Petiole length	10 leaves	Measurement	1:Short 2:Intermediate 3:Long		Record using leaves in the middle of main stem. Short:<=9 cm, long:>=14 cm
7	Terminal leaflet shape	10 leaves	Observation	1:Ovate 2:Deltoid 3:Acute		
8	Notches of leaflet	10 leaves	Observation	0:Absent 1:Present		
9	Corolla color	10 flowers	Observation	1:White 2:Light blue 3:Dark blue 4:Light blue purple 5:Dark blue purple 6:Light purple 7:Dark purple		Record using flower on the day of flowering
10	Shape of cross section of immature pod	10 pods	Observation	1:Flat on suture 2:Rectangular 3:Square 4:Semi-flat 5:Flat on sides		
11	Smoothness of immature pod surface	10 pods	Observation	1:Smooth 2:Rough		
12	Notches of wings	10 pods	Observation	0:None 1:Low 2:Intermediate 3:High		
13	Seed shape	20 seeds	Observation	1:Round 2:Oval 3:Drum-shaped		
14	Mottling on seed coat	20 seeds	Observation	0:Absent 1:Present		

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15	Ring coloration around hilum	20 seeds	Observation	0:Absent 1:Present		
16	Hilum color	20 seeds	Observation	1:White 2:Light yellow 3:Brown 4:Dark brown		
17	Seed surface	20 seeds	Observation	1:Highly wrinkled 2:Wrinkled 3:Smooth		
18	Appearance of compound leaf with more than 5 leaflets	5 plants	Observation	0:Absent 1:Present		Record for leaves of upper position

Plant		Winged bean		100(12001)	Secondary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Earliness of pod-bearing	10 plants	Observation	1:Early 2:Intermediate 3:Late		Based on days to harvesting of young pods from seeding (early:<=3 months)
2	Number of flowers per cluster	10 flower clusters	Measurement	(round to the 1st decimal place)		Assess using moderately grown flower clusters
3	Photoperiodic sensitivity	10 plants	Observation	1:High 2:Intermediate 3:Low		Assess under more than 14 hours day-length (after June)
4	Earliness of flowering	10 plants	Observation	1:Early 2:Intermediate 3:Late		Based on days to the first flowering from seeding (early:about 70 days)

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No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Low temperature growth	10 plants	Observation	1:Poor 2:Intermediate 3:Vigorous		Based on growth vigor lower than 20 centi degrees of average temperature
2	Earliness of tuberous root auxesis	5 plants	Observation	1:Early 2:Intermediate 3:Late		Observe by digging tuberous root after midsummer

Plant	Winged bean		100(12001)	Tertiary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Yield of immature pod (1)	5 plants	Measurement	Number of pods per plant (round to the 1st decimal place)	Record for varieties used as vegetables
2	Yield of immature pod (2)	5 plants	Measurement	kg/plant (round to the 1st decimal place)	Record for varieties used as vegetables

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1	Seed yield	5 plants	Measurement	g per plant (round to the 1st decimal place)		
2	Weight of tuberous root	5 plants	Measurement	g/plant (round to the 1st decimal place)		Measure after plants died
3	Smell of pods	10 pods	Sensory	0:None 1:Faint 2:Intermediate 3:Heavy		Assessed by snapping young pods