

Plant		Garden asparagus		81(08020)	Primary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Plant height	10 plants	Measurement	cm (integer)		Measure the plant height of 10 plants in autumn
2	Stalk thickness	10 plants	Measurement	mm (integer)		Measure the stalk thickness of 10 plants in autumn
3	Stalk internode length	10 plants	Measurement	mm (integer)		Measure internode length between the first and fifth branches
4	Stalk number	10 plants	Measurement	(integer)		Number of stalks per plant in autumn
5	Spear thickness	10 plants	Measurement	mm (integer)		Obtain data at the peak harvest time
6	Spear color	10 plants	Observation	1:White 2:Yellowish green 3:Light green 4:Green		At peak harvest time
7	Spear number	10 plants	Measurement	(integer)		Number of spears per plant
8	Spear head shape	10 plants	Observation	3:Round 4:Slightly round 5:Intermediate 6:Slightly sharp 7:Sharp		At peak harvest time
9	Spear 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		At peak harvest time
10	Time of spear bud break	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		Record the time when the buds on the spear start to grow rapidly
11	Ratio of male plants	50 plants	Measurement	% (integer)		

Plant		Garden asparagus		81(08020)	Primary optional character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Seed weight	200 seeds	Measurement	mg (integer)		
2	Germination	200 seeds	Measurement	% (integer)		Germinate seeds for 28 days under diurnal temperatures of 30 centi degrees for 16 hours and 20 centi degrees for 8 hours
3	Germination time	200 seeds	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		
4	Plant height at first year	10 plants	Measurement	(integer)		
5	Number of spears at first year	10 plants	Measurement	(integer)		
6	Spear diameter at first year	10 plants	Measurement	mm (integer)		
7	Earliness of spear emergence	20 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		
8	Spear hardness	20 plants	Observation	1:Extremely soft 2:Very soft 3:Soft 4:Slightly soft 5:Intermediate 6:Slightly hard 7:Hard 8:Very hard 9:Extremely hard		Measure at peak harvest time
9	Spear uniformity	20 plants	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly uniform 7:Uniform 8:Very uniform 9:Extremely uniform		Measure at peak harvest time
10	Spear color (anthocyanin)	20 plants	Observation	1:None 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Some 7:Much 8:Very much 9:Extremely much		
11	Spear tip color	20 plants	Observation	1:White 2:Cream 3:Yellowish green 4:Purple green 5:Greenish purple 6:Dark purple		
12	Scale leaf length	20 plants	Measurement	mm (integer)		

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13	Scale leaf width	10 plants	Measurement	mm (integer)		
14	Scale leaf color	20 plants	Observation	1:White 2:Cream 3:Yellowish green 4:Purple green 5:Greenish purple 6:Dark purple		
15	First branch height	10 plants	Measurement	cm (integer)		
16	Branch density	20 plants	Observation	1:Extremely thin 2:Very thin 3:Thin 4:Slightly thin 5:Intermediate 6:Slightly dense 7:Dense 8:Very dense 9:Extremely dense		
17	Cladophyll length	10 plants	Measurement	mm (integer)		
18	Cladophyll color	10 plants	Observation	1:Extremely light green 2:Very light green 3:Light green 4:Slightly light green 5:Intermediate 6:Slightly dark green 7:Dark green 8:Very dark green 9:Extremely dark green		
19	Cladophyll density	20 plants	Observation	1:Extremely thin 2:Very thin 3:Thin 4:Slightly thin 5:Intermediate 6:Slightly dense 7:Dense 8:Very dense 9:Extremely dense		
20	Bisexual flowers	100 plants	Measurement	% (integer)		
21	Time of flowering	20 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		
22	Flower perianth color	20 plants	Observation	1:Extremely white 2:Very white 3:White 4:Slightly white 5:Light yellow 6:Slightly yellow 7:Yellow 8:Very dark yellow 9:Extremely dark yellow		
23	Anthocyanin in perianth vein	20 plants	Observation	1:None 2:Very little 3:Little 4:Slightly little 5:Intermediate 6:Some 7:Much 8:Very much 9:Extremely much		
24	Length of male flowers	10 plants	Measurement	mm (integer)		

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No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
25	Number of male flowers	20 plants	Observation	1:Extremely few 2:Very few 3:Few 4:Slightly few 5:Intermediate 6:Some 7:Many 8:Very many 9:Extremely many	
26	Length of female flower	20 plants	Measurement	mm (integer)	
27	Number of female flowers	20 plants	Observation	1:Extremely few 2:Very few 3:Few 4:Slightly few 5:Intermediate 6:Some 7:Many 8:Very many 9:Extremely many	
28	Number of seeds per berry	20 plants	Observation	1:Extremely few 2:Very few 3:Few 4:Slightly few 5:Intermediate 6:Some 7:Many 8:Very many 9:Extremely many	
29	Berry size	10 plants	Measurement	mm (integer)	Observe at maturity
30	Berry color	20 plants	Observation	1:Other 3:Light brown 4:Slightly light brown 5:Brownish red 6:Red 7:Dark red 8:Very dark red 9:Extremely dark red	Observe at maturity

Plant		Garden asparagus		81(08020)	Secondary essential character
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1	Stem blight resistance	50 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	
2	Resistance to stemphylium botryosum W.	50 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	Resistance to rust	50 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	Resistance to cabbage army worm	50 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	

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1	Chilling requirement for uniform sprouting	20 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		
2	Color quality at low light intensity	20 plants	Observation	1:Extremely pale 2:Very pale 3:Pale 4:Slightly pale 5:Intermediate 6:Slightly good 7:Good 8:Very good 9:Excellent		
3	Lodging tolerance	20 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	Resistance to Violet root rot	20 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	Resistance to Fusarium oxyporm S.	20 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	Resistance to Sclerotium sp.	20 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	Resistance to Rust	20 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	Resistance to Crown rot	20 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	Spear elongation under low temperature	20 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		
10	Heat tolerance	20 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		Head tightness and spear coloration under high temperature
11	Winter survival	20 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		

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12	Drought tolerance	20 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	
13	Tolerance to excess moisture	20 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		Garden asparagus		81(08020)	Tertiary optional character
No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Amount of fiber in fresh spears	Block	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Some 7:Many 8:Very many 9:Extremely many	
2	Canning quality	Block	Observation	1:Extremely poor 2:Very poor 3:Poor 4:Slightly poor 5:Intermediate 6:Slightly good 7:Good 8:Very good 9:Excellent	