

Plant		Japanese pear		53(07011)	Primary essential character
No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Pubescence on current shoot	10 shoots	Observation	0:None 1:Very low 3:Low 5:Intermediate 7:High	Degree of pubescence on normally growing vegetative shoots
2	Shape of serration	15 leaves	Observation	1:Round 3:Crenate 5:Dentate 7:Serrate	Observe leaves collected from 8-10th node of normally growing shoot with about 20 unfolded leaves
3	Size of leaf blade	15 leaves	Measurement	1:Very small 3:Small 5:Intermediate 7:Large 9:Very large	Length x width of each leaf blade is calculated.
4	Length of leaf	15 leaves	Measurement	1:<=1.1 2:1.2-1.3 3:1.4-1.5 4:1.6-1.7 5:1.8-1.9 6:2.0-2.1 7:2.2-2.3 8:2.4-2.5 9:2.6-2.7	Length/width of each leaf blade is calculated.
5	Color of young leaves	15 leaves	Observation	1:Yellow green 3:Greenish brown 5:Brown 7:Red brown	Color of young leaves just after unfolding
6	Size of flower	5 flowers	Measurement	cm (round to the 1st decimal place)	Diameter of flower just after flowering
7	Shape of petal	10 flowers	Observation	1:Round 3:Ovate 5:Elliptical 9:Heart-shape	Shape of petals at flowering
8	Fruit index	10 fruits	Measurement	(round to the 1st decimal place)	Ratio of height/width of mature fruit
9	Location of max width of fruit	10 fruits	Observation	1:Near peduncle 2:Near center 3:Near calyx end	Position of the maximum fruit width on the longitudinal section of mature fruit
10	Suberization of fruit surface	10 fruits	Observation	1:Almost none 3:Half of fruit 5:All of fruit	Area of suberin formation on fruit surface at harvest

Plant		Japanese pear		53(07011)	Primary optional character
No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Pubescence color of young shoot	10 shoots	Observation	0:None 1:White 2:Yellowish	Degree of pubescence on the abaxial end of mature leaf
2	Pubescence on back of mature leaf	15 leaves	Observation	0:None 1:Light 3:Heavy	Degree of pubescence on the abaxial end of mature leaf
3	Waving in margin of mature leaf	15 leaves	Observation	3:Little 5:Intermediate 7:Much	Presence of waving on margin of mature leaf
4	Pubescence on back of young leaf	15 leaves	Observation	0:Absent 1:Scarce 9:Present	Degree of pubescence on the abaxial end of young leaf just after unfolding
5	Spines on shoot	10 shoots	Observation	0:Absent 9:Present	Formation of spines on current shoot, observe after leaf fall
6	Color of flower bud	10 flowers	Observation	1:Orange red 3:White 5:Light pink 7:Pink	Color of flower bud at balloon stage

Plant		Japanese pear		53(07011)	Secondary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Vigor of tree	2 trees	Observation	3:Weak 5:Intermediate 7:Strong		Observe length and thickness of newly sprouted shoots
2	Number of branches	2 trees	Observation	3:Few 5:Intermediate 7:Many		Amount of newly sprouted shoots. Observe after leaf fall
3	Number of axillary fruit buds	10 shoots	Observation	3:Few 5:Intermediate 7:Many		Number of axillary fruit buds formed on normally grown shoots. Observe after leaf fall
4	Number of spurs	10 shoots	Observation	3:Few 5:Intermediate 7:Many		Number of newly formed spurs and maintenance of spurs
5	Date of germination	2 trees	Observation	3:Early 5:Intermediate 7:Late		Date when 20-30% of total buds germinated
6	Defoliation time	2 trees	Observation	3:Early 5:Intermediate 7:Late		Date when 20-30% of total leaves defoliated naturally
7	Amount of pollen	2 trees	Observation	0:Absent 9:Present		Formation and amount of intact pollen at flowering
8	Full bloom stage	2 trees	Observation	3:Early 5:Intermediate 7:Late		Date when 80% of flower buds have bloomed
9	Harvest time	2 trees	Observation	1:Very early 3:Early 5:Intermediate 7:Late		Date when the largest amount of fruits were harvested
10	Resistance to black spot	2 trees	Observation	3:Low 5:Intermediate 7:High		Infection on young fruits without bagging

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1	Number of petals	20 flowers	Measurement	5:Average 6:Many 7:Very many	Number of petals per flower just after flowering
2	Anther color	20 flowers	Observation	1:White 3:Light pink 5:Deep red 7:Dark red 9:Deep orange	Color of anther before dehiscing

Plant		Japanese pear		53(07011)	Tertiary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Fruit size	10 fruits	Measurement	1:Very small 3:Small 5:Intermediate 7:Large		Average weight of fully mature fruit. Very small:<=24 g, small:25-199 g, intermediate:200-399 g, large:>=400 g
2	Fruit shape in longitudinal section	10 fruits	Observation	2:Oblate 3:Round 4:Broad elliptical 5:Spindle 6:Broad ovate 7:Obovate		Fruit shape in longitudinal section at harvest
3	Presence of calyx	30 fruits	Observation	0:Absent 1:Sporadic 9:Present		Presence of calyx on fruit at harvest
4	Color of flesh	10 fruits	Observation	3:Snowy white 5:White 7:Yellowish white		Color of flesh on cut surface at harvest
5	Firmness of flesh	10 fruits	Measurement	3:Soft 5:Intermediate 7:Firm		Flesh firmness at harvest measured by Magness-Taylor pressure tester with 5/16 inch plunger. Soft:<=4.9 pounds, intermediate:5.0-6.9 pounds, firm:>=7.0 pounds
6	Total soluble solid content	10 fruits	Measurement	3:Low 5:Intermediate 7:High		Brix of juice. Low:<=10.4%, intermediate:10.5-12.4%, high:>=12.5%
7	Acid content	10 fruits	Measurement	3:Low 5:Intermediate 7:High		pH of juice. Low:>=4.7, intermediate:4.4-4.6, high:<=4.3
8	Astringency	10 fruits	Sensory	0:Absent 9:Present		Astringency is evaluated organoleptically.
9	Aroma	10 fruits	Sensory	0:Absent 1:Very weak 2:Weak 9:Strong		Aroma is evaluated organoleptically.
10	Eating quality	10 fruits	Sensory	1:Very low 3:Low 5:Intermediate 7:Good 9:Excellent		General evaluation

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1	Core browning	10 fruits	Observation	0:None 3:Little 5:Intermediate 7:Much		Core browning of full mature fruits at harvest
2	Water core	10 fruits	Observation	0:None 3:Little 5:Moderate 7:Much		Water core of full mature fruits at harvest