

Plant		Wine grape		58(07016)	Primary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Color of young shoot tips	10 shoots	Observation	1:Green 2:Very light red 3:Light red 4:Red 5:Violet		Color of tips of growing shoots 10-20 cm in length
2	Color of woody shoots	10 shoots	Observation	1:Yellow 2:Yellow-Brown 3:Dark brown 4:Red-Brown 5:Violet		Color of woody shoots after leaf fall
3	Shape of mature leaf	20 leaves	Observation	1:Wedge-shaped 2:Cordate 3:Pentagonal 4:Circular 5:Kidney-shaped 6:Truncate		Shape of mature leaves above bunches at time of fruit maturation
4	Number of lobes	20 lobes	Observation	1:Zero 2:Three 3:Five 4:Seven 5:More than seven		Number of lobes of mature leaves
5	Superior sinus	20 leaves	Observation	1:Open 2:Closed 3:Slightly overlapping lobes 4:Heavily overlapping lobes		Shape of superior sinus of mature leaves
6	Petiolar sinus	20 leaves	Observation	1:Wide open 2:Open 3:Slightly open 4:Closed 5:Slightly overlapping lobes 6:Overlapping lobes 7:Heavily overlapping lobes		Shape of petiolar sinus of mature leaves
7	Hairiness of the lower leaf surface	20 leaves	Observation	1:None or very low 3:Low 5:Intermediate 7:High 9:Very high		The degree of indument between veins on the lower leaf surface
8	Sex of flower	10 flower clusters	Observation	1:Male 2:Male to hermaphrodite 3:Hermaphrodite 4:Hermaphrodite to female 5:Female		Sex expression of flowers
9	Size of berries	20 berries	Measurement	1:Very small 3:Small 5:Intermediate 7:Large 9:Very large		Average weight of berries in the untrimmed and unthinned bunches at harvest. Very small:<=1 g, small:1.1-3.0 g, intermediate:3.1-6.0 g, large:6.1-10.0 g, very large:>=10.1 g
10	Shape of berry	20 berries	Observation	0:Oblate 1:Oblate-Round 2:Round 3:Round-Ovoid 4:Ovoid 5:Truncate 6:Obovoid 7:Cylindrical 8:Datiform 9:Bow-shaped		Above sample evaluated at the harvest
11	Skin color of berry	20 berries	Observation	1:Green-Yellow 2:Rose 3:Red 4:Red-Brown 5:Violet-Red 6:Violet 7:Black		For above sample evaluated at harvest
12	Seeds in berries	20 berries	Observation	1:Absent 3:Present		For above sample evaluated at harvest

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1	Hairiness of young shoot tips	10 shoots	Observation	1:None or very low 3:Low 5:Intermediate 7:High 9:Very high	At the tips of growing shoots 10-20 cm in length
2	Number of tendrils appearing continuously	10 shoots	Observation	1:<=2 3:>=3	Maximum number of tendrils or clusters appearing continuously at flowering time
3	Color of petiole	20 leaves	Observation	1:Green 2:Light red 3:Red	Color of sunny side of petiole of mature leaf opposite the clusters
4	Color of peduncle	10 bunches	Observation	1:Light green 2:Green 3:Dark green 4:Light red 5:Red	Color of sunny side of peduncle at harvest

Plant		Wine grape		58(07016)	Secondary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Vigor of vine	2 plants	Observation	3:Low 5:Intermediate 7:High		Evaluated based on the thickness and length of shoots
2	Sprouting time	2 plants	Observation	1:Very early 3:Early 5:Intermediate 7:Late 9:Very late		Time when the first leaf appears on 20-30% of buds of a vine
3	Flowering time	2 plants	Observation	3:Early 5:Intermediate 7:Late		Time when about 70% of calyptras of flowers form or fall down
4	Ripening time	2 plants	Observation	1:Very early 3:Early 5:Intermediate 7:Late 9:Very late		Determined based on the seed color and taste of fruits
5	Berry cracking	2 plants	Observation	1:No cracking 3:Slight 5:Intermediate 7:Heavy		Degree of berry cracking at harvest
6	Shattering	2 plants	Observation	1:Very slight 3:Slight 5:Intermediate 7:Large 9:Very large		Determined based on the difference between the number of flowers and number of berries in a bunch at harvest
7	Resistance to anthracnose	2 plants	Observation	3:Low 5:Intermediate 7:High		Evaluated based on natural infection
8	Resistance to downy mildew	2 plants	Observation	3:Low 5:Intermediate 7:High		Evaluated based on natural infection
9	Resistance to ripe rot	2 plants	Observation	3:Low 5:Intermediate 7:High		Evaluated based on natural infection

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1	Detachment of berries from pedicel	5 bunches	Observation	3:Easy 5:Intermediate 7:Difficult	Ease of detaching berries from pedicels at harvest

Plant		Wine grape		58(07016)	Tertiary essential character	
No	Characters	No. of samples	Methods	Rank or measurement unit		Remarks
1	Size of bunch	5 bunches	Measurement	1:Very small 3:Small 5:Intermediate 7:Large 9:Very large		Average weight of untrimmed and unthinned bunches at harvest. Very small:<=100 g, small:101-200 g, intermediate:201-350 g, large:351-550 g, very large:>=551 g
2	Compactness of bunch	5 bunches	Observation	2:Very low 3:Low 4:Slightly low 5:Intermediate 6:Slightly high 7:High 8:Very high		Degree of compactness of untrimmed and unthinned bunches with berries
3	Skin thickness of berry	10 berry	Observation	3:Thin 5:Intermediate 7:Thick		Compared with standard cultivars. Thin:Rosaki, intermediate:Delaware, thick:Campbell Early
4	Flesh separation from skin	10 berries	Observation	1:Easy 3:Intermediate 5:Slightly difficult 7:Difficult		Ease of separating flesh from skin
5	Difficulty of breaking down flesh by mastication (chewing)		Sensory	1:Easy 5:Intermediate 9:Difficult		By sensory test
6	Juiciness of flesh	10 berries	Measurement	3:Little 5:Intermediate 7:Much		Quantity of juice squeezed from a berry by pressing with fingers
7	Content of soluble solids in juice	10 berries from each of five bunches	Measurement	3:Low 5:Intermediate 7:High 9:Very high		Low:<=15%, intermediate:15.1-18.0%, high:18.1-20.0%, very high:>=20.1%
8	Acidity of juice	10 berries from each of five bunches	Measurement	1:Very low 3:Low 5:Intermediate 7:High 9:Very high		Very low:<=0.35, low:0.36-0.55, intermediate:0.56-0.75, high:0.76-0.95, very high:>=0.96
9	Particular aroma of berry		Sensory	1:No aroma 2:Muscat 3:Foxy 4:Other		No aroma:Delaware, Muscat:Muscat Hamburg, Foxy:Niagara, other:Steuben, Himrod.
10	Number of seeds per berry	20 berries	Measurement	1:No seeds 3:Few 5:Intermediate 7:Many		Average number. Few:<=1.9, intermediate:2.0-2.9, many:>=3.0

Plant		Wine grape		58(07016)	Tertiary essential character	
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11	Number of flower clusters per shoot	10 shoots	Observation	1:Very few 3:Few 5:Intermediate 7:Many 9:Very many		Very few:<1 cluster, few:1 cluster, intermediate:2 clusters, many:3 clusters, extremely many:>3 clusters
12	Yield	2 plants	Measurement	3:Low 5:Intermediate 7:High		Calculated per 100 square meters. Low:<=119 kg, intermediate:120-159 kg, high:>=160 kg

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No	Characters	No. of samples	Methods	Rank or measurement unit	Remarks
1	Shape of bunch	5 bunches	Observation	1:Globular 2:Cylindrical 3:Conical 4:Long conical 5:Winged cylindrical 6:Winged conical 7:Poly winged 8:Double clustered	Evaluated for untrimmed and unthinned bunches
2	Average weight of berry	20 berries	Measurement	g (round to the 1st decimal place)	Twenty berries sampled from each of five trimmed and thinned bunches
3	Quantity of blooms	5 bunches	Observation	3:Little 5:Intermediate 7:Much	Evaluated at maturity
4	Firmness of flesh		Sensory	3:Soft 5:Intermediate 7:Hard	By sensory test. Low:Portland, intermediate:Steuben, high:Muscat of Alexandria
5	Astringency of juice		Sensory	1:Absent 3:Low 5:Intermediate 7:High	By sensory test
6	Ease of coloring	10 bunches	Observation	1:No coloring 3:Easy 5:Intermediate 7:Difficult	Easy=coloring by low intensity of light, difficult=coloring by high intensity of light
7	Use of fruit		Others	1:Table use 2:Wine 3:Table use and wine 4:Table use and juice 5:Rootstock	Use of fruit