

'Traminette' Grape

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'Traminette' is a late midseason white wine grape (*Vitis* spp.) (Fig. 1) that produces wine with pronounced varietal character likened to one of its parents, 'Gewürztraminer'. 'Traminette' is distinguished by its superior wine quality combined with good productivity, partial resistance to several fungal diseases, and cold hardiness superior to 'Gewürztraminer'. It is the fifth wine grape cultivar to be named by the New York State Agricultural Experiment Station and follows the release of 'Cayuga White' (Einset and Robinson, 1972), 'Horizon' (Reisch et al., 1983), 'Melody' (Reisch et al., 1986), and 'Chardonnay' (Reisch et al., 1990).

Origin

'Traminette' resulted from the cross Joannes Seyve 23.416 x 'Gewürztraminer', made in 1965. This cross was made by H.C. Barrett, then of the Univ. of Illinois, with the intention of producing a large-clustered table grape with the flavor of 'Gewürztraminer'. Seed from the cross were sent to Cornell's grape breeding program where they were planted in 1968. Fruit were first observed in 1971 and the original vine was propagated in 1974 under the number NY65.533.13. The vine was initially described as a vigorous and productive green grape with moderately loose clusters.

Description

Own-rooted vines grown in phylloxera (*Daktulosphaira vitifoliae* Fitch.)-infested soils are productive and moderately vigorous. Annual cane pruning weights averaged 0.6 kg/vine over 4 years in a replicated trial on a Lima silt loam (gray-brown Podzolic) soil at Dresden, N.Y. (Table 1). Mean fruit yield and pruning

weight for 'Cayuga White' were higher than for 'Traminette', but not significantly different. 'Traminette' clusters were significantly lighter than those of 'Cayuga White'. In this trial, vines of 'Traminette' were planted 1 year later than the other cultivars and selections, and were subjected to compacted soil conditions. Also, K deficiency contributed to reduced growth and yield, as demonstrated by 'Cayuga White', when compared with commercial yields obtained at nearby sites. In a trial on Chenango gravelly loam (well-drained Podzol) soil at Fredonia, N.Y. (Table 1), pruning weights of three vines of 'Traminette' were similar to those of control 'Melody' vines, and fruit yields were equivalent to 'Melody', $\approx 16.5 \text{ Mg} \cdot \text{ha}^{-1}$ at 1512 vines/ha. At Geneva, N.Y., on Honeoye (gray-brown Podzolic) and Lima silt loam soils, vines have been adequately productive, averaging 7.3 kg/vine ($11 \text{ Mg} \cdot \text{ha}^{-1}$) during 5 years.

'Traminette' vines are moderately winter hardy at Geneva, and while bud hardiness is good, trunk injury is occasionally a problem, especially on heavier soils. 'Traminette' is considerably harder than 'Gewürztraminer' and about as hardy as many cultivars of similar background, such as 'Seyval', 'Vidal blanc', 'Cayuga White', and 'Aurore'. Primary bud survival was measured in Jan. 1981 following

a low of -23°C on 25 Dec. 1980. Vines of 'Traminette' had 63% primary bud survival, similar to 'De Chaunac' (70%) and better than 'Gewürztraminer' (6%), 'Aurore' (20%), 'Melody' (23%), 'Seyval' (22%), 'Concord' (26%), and 'Riesling' (0%). In Jan. 1987, differential thermal analysis (DTA) (Pool et al., 1990) was used to determine the temperature at which 50% kill of primary buds occurred (LT_{50}). LT_{50} for 'Traminette' was -26.3°C , -23.5°C for 'Cayuga White', -23.7°C for both 'Chardonnay' and 'Melody' and -25.5°C for 'Concord'. Trunks of 'Traminette' are susceptible to damage from low temperatures that may cause trunk splitting or provoke crown gall disease. After 8 years in a replicated trial (five vines per block in three blocks) at Dresden, N.Y., 11 'Riesling' (winter tender) vines were dead and one had trunk damage, compared to three 'Traminette' vines with trunk damage and none dead. In this same trial, all vines of 'Cayuga White', 'Horizon', 'Aurore', and 'Concord' remained healthy.

Flowers of 'Traminette' are perfect and self-fertile, blooming at midseason, following late bud-break. Clusters are shouldered, moderately loose, and medium in size (110 to 130 g). Vines average 1.7 clusters/shoot. Very little crop is borne on lateral shoots and cluster thinning is rarely necessary. The amber berries are medium sized (1.52 g/berry) and spherical.

'Traminette' ripens late midseason, between 1 Oct. and 15 Oct. in New York. Juice soluble solids are usually higher and pH is usually lower than for 'Cayuga White' (Table 2). The balance between sugar, acidity, and pH is excellent. These data indicate that 'Traminette' can accumulate satisfactory amounts of sugar while maintaining sufficient acidity and a low pH. It does not lose acidity as quickly during ripening as does 'Cayuga White'. Wines, which were first made in 1972, have been described as distinctively spicy and fragrant, much like the 'Gewürztraminer' parent, and have received consistently high taste



Fig. 1. Fruit cluster of 'Traminette' at full maturity.

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Table 1. Viticultural production data for 'Traminette', 'Cayuga White', and 'Melody' grown at two locations.

Location and year	Cultivar	n	Pruning wt (kg/vine)	Fruit yield	
				(kg/ cluster) ^z	(kg/ vine)
Dresden, N.Y. ^y	Traminette	15	0.6 ^{ns}	0.11b	3.6 ^{ns}
	Cayuga White	15	0.7 ^{ns}	0.18a	7.7 ^{ns}
Fredonia, N.Y.	Traminette	3	1.6	0.13	10.9
	Melody	18	1.8	0.13	10.0

^zMean separation by *t* test, *P* < 0.05.

^yData collected in a replicated trial of 22 white wine cultivars and selections.

^{ns}Not significantly different (*t* test) at *P* < 0.05. Statistics are presented only where they could be calculated from the available data.

Table 2. Juice soluble solids concentration, wine pH, and acidity for 'Traminette', 'Cayuga White', and 'Melody' grown at two New York locations.

Location and cultivar	Years	Characteristics								
		Soluble solids (%)			Total acidity (g·L ⁻¹) ^z			pH		
		Avg	Min.	Max.	Avg	Min.	Max.	Avg	Min.	Max.
Geneva, N.Y.										
Traminette ^y	1972–95	20.1	17.1	23.0	10.1	6.3	12.8	2.96	2.80	3.20
Cayuga White ^x	1975–86	18.9	14.3	22.4	7.9	5.5	11.0	3.26	3.00	3.33
Fredonia, N.Y.										
Traminette	1990–93	19.7	17.9	23.4	10.0	5.0	15.0	3.10	2.90	3.20
Melody	1990–93	20.4	19.7	21.3	10.0	6.0	11.0	3.10	2.90	3.10

^zAs tartaric acid.

^yWine data for 'Traminette'—Soluble solids data based on 23 years (1972–75, 1977–95); pH data based on 11 years (1982–86, 1988–89, 1991, 1993–95); total acidity based on 19 years (1972–75, 1977–82, 1984, 1986–89, 1991, 1993–95).

^xWine data for 'Cayuga White'—Soluble solids data based on 10 years (1975–83 and 1986); pH data based on 2 years (1982, 1983); total acidity based on 7 years (1976, 1977, 1979–82, and 1986).

panel scores. The wine has good body and no noticeable flavors characteristic of interspecific hybrid grapes. Skin contact for 12 to 48 h (4 to 10 °C) during fermentation helps to enhance the desirable spicy, floral aromas. Prolonged skin contact does not result in excessive bitterness. Wines may be finished dry or semi-dry, depending on preferred style. When fruit are fully ripe and processed with some skin contact, the aromas of 'Traminette' are very similar to those of 'Gewürztraminer'. 'Traminette' wine differs from 'Gewürztraminer' in its structure and mouthfeel. It does not have the strong fresh ground spice flavors with phenolic bitterness as is characteristic of very ripe 'Gewürztraminer'. However, it does not acquire the bitter taste that 'Gewürztraminer' may develop. 'Traminette' also maintains a lower, more favorable, wine pH.

Foliage and fruit are moderately resistant to powdery mildew (*Uncinula necator* [Schw.] Burr.), black rot [*Guignardia bidwellii* (Ellis) Viala and Ravaz], and Botrytis bunch rot (*Botrytis cinerea* Pers.). Foliage is susceptible to downy mildew [*Plasmopara viticola* (Berk. and Curt.) Berl. and de Toni], which can be controlled by standard commercial practices. Rupestris stem pitting virus has been found in vines of 'Traminette'. It is not known whether stem pitting has a negative effect on vine growth (D. Gonsalves, personal communication); infected vines in New York trials have been as productive as adjacent uninfected vines (H. Amberg, personal communication).

Seven grower/cooperators were surveyed and five recommended the release of 'Traminette'. Two growers, one in Georgia and one in Maryland, indicated that growth

was weak. Vines grafted on C. 3309 in Michigan State Univ. trials were overly vigorous, with low productivity, excessive winter damage, and crown gall (S. Howell and D. Miller, Michigan State Univ., personal communication). Therefore, on fertile soils, grafting of 'Traminette' is not recommended. In Missouri, vines were moderately vigorous with good productivity (M. Walsh, Southwest Missouri State Univ., personal communication). In New York, three growers have indicated satisfaction with viticultural and enological traits of 'Traminette'. It is suited to sites with average-length growing seasons and little to moderate cold stress. 'Traminette' is an alternative for those wishing cold tolerance and disease resistance superior to 'Gewürztraminer', along with wine resembling 'Gewürztraminer'.

Availability

Cornell Univ. will not apply for a plant patent on 'Traminette'. Nursery requests for cuttings may be addressed to B.I.R. Vines will be available for sale in 1997 from Grafted Grapevine Nursery (2399 Wheat Road, Clifton Springs, NY 14432), Double A Vineyards (10275 Christy Road, Fredonia, NY 14063), and Evergreen Nursery (17 Southwinds Circle Suite No. 7, Washington, MO 63090).

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