

Research Note

Progress Towards a Standardized System of Wine Aroma Terminology

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To facilitate communication among members of the wine industry, the Sensory Evaluation Sub-committee of the American Society for Enology and Viticulture has proposed a list of standardized wine aroma terminology. From an initial list composed of virtually all possible wine descriptors, terms were selected which were analytical and free of hedonic or value-judgment connotations. These were arranged by similarity of flavor in three tier system, which permits analytical description of wine aroma by generic or specific terms.

With the development of refined analytical sensory techniques, increasingly precise flavor terminology has been developed in the beer (3), whiskey (7), and wine industries. Although the development and use of this standardized terminology serves several functions, the main one is facilitation of communication among winemakers, marketing personnel, wine researchers and wine writers, as well as consumers. A winemaker describing a flavor defect must use the same terms that his/her cellar workers do for the problem to be recognized and treated. Further, a winemaker or researcher reading the literature must be able to understand the flavor language to make use of progress in basic science or applied research. Towards this end, the Sensory Evaluation Sub-committee of the Technical Projects Committee of the ASEV has developed a list of Standardized Wine Terminology.

Table 1. Proposed standardized wine aroma terminology of American Society for Enology and Viticulture.

Principal or 1st Tier Term	2nd Tier Term	3rd Tier Term
I. Floral	A. Floral	1. Terpene
		2. Linalool
		3. Jasmine
		4. Rose
		5. Violet
		6. Geranium
II. Spicy	B. Spicy	7. Cinnamon
		8. Cloves
		9. Black pepper
		10. Licorice, Anise
		11. Mint
III. Fruity	C. Citrus	12. Grapefruit
		13. Lemon
		14. Orange
	D. Berry	15. Blackberry
		16. Raspberry
		17. Strawberry
		18. Black currant (Cassis)
	E. (Tree) Fruit	19. Cherry
		20. Apricot
		21. Peach
22. Pear		
23. Apple		
F. (Tropical) Fruit	24. Pineapple	
	25. Melon	
	26. Banana	

IV. Herbaceous/ Vegetative	G. Estery	27. Artificial fruit (Fruit essence)
	H. (Dried) Fruit	28. Strawberry jam
		29. Raisin
		30. Prune
		31. Fig
	I. Labrusca	32. Methyl anthranilate
	J. Muscat	
	K. Fresh	33. Stemmy
		34. Grass, cut green
		35. Bell pepper
36. Eucalyptus		
L. Dried	37. Hay/straw	
	38. Tea	
M. Canned/cooked	39. Green beans	
	40. Asparagus	
	41. Green olive	
	42. Black olive	
	43. Artichoke	
	44. Dusty	
	45. Mushroom	
N. Earthy	46. Concrete	
	47. Earthy	
	48. Musty	
O. Moldy	49. Moldy cooperage	
	50. Moldy cork	
	51. Tar	
VI. Chemical	P. Petroleum	52. Plastic
		53. Kerosene
		54. Diesel
		55. Rubbery
Q. Sulfur	56. Hydrogen sulfide	
	57. Mercaptan	
	58. Onion	
	59. Garlic	
	60. Skunk	
	61. Cabbage	
	62. Burnt match	
	63. Wet wool, wet dog	
R. Papery	64. Filter pad	
	65. Wet cardboard	
	66. Wet paper	
S. Pungent	67. Ethyl acetate	
	68. Acetic acid	
	69. Ethanol	
	70. Sulfur dioxide	
T. Other	71. Fishy	
	72. Soapy	
	73. Sorbate	
	74. Fusel alcohol	
VII. Oxidized	U. Oxidized	75. Acetaldehyde
		76. Phenol
VIII. Wood	V. Phenolic	77. Vanilla

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	W. Resinous	78. Pine
		79. Cedar
		80. Oak
IX. Caramelized	X. Caramel	81. Honey
		82. Butterscotch
		83. Buttery (Diacetyl)
		84. Soy sauce
		85. Chocolate
		86. Molasses
	Y. Burned	87. Smoky
		88. Burnt toast/charred
X. Microbiological	Z. Yeasty	89. Flor-yeast
		90. Lees
	AA. Lactic	91. Sauerkraut
		92. Butyric acid
		93. Sweaty
		94. Lactic acid
	BB. Other	95. Horsey

Previously, flavor terminology lists were developed for whiskey (7) cider and perry (8). More recently, beer flavor terminology has been proposed for use in the brewing industry in 1979 (3). The hierarchical system used in the beer and whiskey lists was based on the same principles as those used by this sub-committee in generating the proposed Standardized Wine Terminology. Subjective, hedonic terms, which may have meaning to an individual or group of people within a winery or tasting group, but which generally have different meaning to each individual and cannot be readily defined or standardized, were not included. This requirement eliminates terms such as well-rounded, good or bad, (un)balanced, rich, vinous, young, old, etc. Terms were included which were as specific as possible so that each separately identifiable aroma or flavor characteristic has a descriptor. Terms

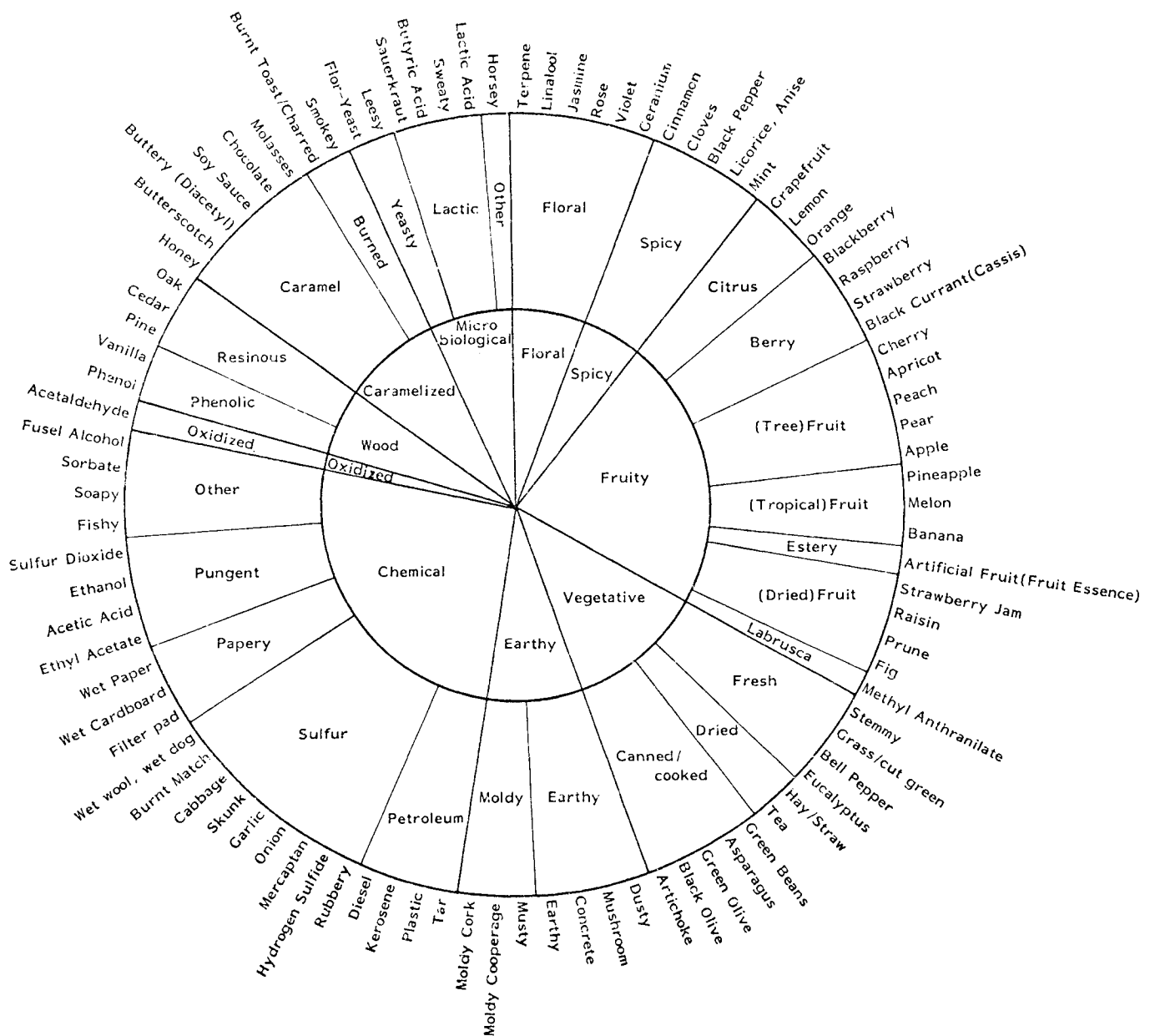


Fig. 1. The Wine Aroma Wheel, showing first, second and third tier terms.

that describe similar aromas are grouped together under an appropriate hierarchical term, which describes each class of adjectives. This facilitates location of the term quickly and provides a generic or class term for use when a more specific term is not appropriate.

To assist international usage and understanding of flavor terminology, creation of reference standards is necessary (2). Reference standards to be used for defining Beer Flavor Terminology have been suggested (3,4). In addition, reference standards have been suggested for cider and perry by Williams (8). To aid in defining wine aroma terminology, the committee is in the process of developing a list of chemicals to serve as reference standards. However, most of the terms can be very quickly defined by addition of the appropriate product to a neutral base wine, as has been done in several wine studies (1,5,6). For example, vanilla or apricot reference standards can be readily produced by the addition of a few drops of vanilla extract or apricot nectar, respectively, to a neutral base wine.

An initial list of analytical terms thought to adequately describe all wine flavors was created by this committee. A questionnaire, in which the frequency of usage of the terms was rated, was mailed to over 100 individuals in the wine industry or in wine research. From the 70 responses, the three tiered list of standardized wine terminology presented in Table 1 was created, although this is not proposed as a final version. For convenience, the list is also shown in the Wine Aroma Wheel in Figure 1.

Although the list was developed to include third tier terms which permit very specific descriptions, in many cases, it is not possible to be this precise. Instead, a combination of terms may be used, such as peach-apricot or asparagus-green bean. Alternatively, the more general second tier terms, such as fruity or vegetative, could be

employed. Whether these terms are used informally by winemakers, writers or consumers, or formally in wine research or in consumer studies, better communication will result.

The committee welcomes comments on the list and suggestions for its further refinement. To facilitate its acceptance and use within the wine industry, examples of the application of descriptive terms to define wine flavors and procedures for preparing reference standards will be presented in a subsequent publication.

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