



Taste Test of Venus - The New Seedless Table Grape for Arkansas

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VENUS is a blue, seedless table grape developed by Dr. J.N. Moore at the University of Arkansas (see Arkansas Farm Research, November-December, 1977, p. 3). During August, 1981, a consumer acceptance study for the new grape was conducted, using a random sample of shoppers in a Fayetteville grocery supermarket. Three hundred twenty-five respondents were interviewed as a means of determining consumer acceptance and assessing the market potential for Venus grapes.

Venus was compared with two long established varieties of California table grapes commonly sold in Arkansas Thompson Seedless and Cardinal. The respondents were given a single grape of each of the three varieties. The order of testing was randomized. All respondents were asked to indicate their order or preference for the three grapes and state what they liked or disliked most about each.

The grape varieties also were tested for degree of maturity. The more mature the grape, the more palatable it becomes. Two measures that indicate maturity are the percent of soluble solids (SS) or sugar content and the pH, which is the ratio of acid salts to free acid. The higher the sugar content and pH, the more mature the variety. The Thompson grapes tested at 17.8 percent SS, with a pH of 3.90 (Table 1). Both Venus and Cardinal were somewhat lower in soluble solids and pH.

Table 1. Maturity as Indicated by Chemical Analysis

Variety	%SS	pH
Venus	15.6 ¹	3.40
Cardinal	15.0	3.85
Thompson	17.8	3.90

¹The higher the values, the more mature the variety.

Flavor was the predominant reason given for likes and dislikes of the individual grapes. Out of 325 respondents, 259 stated the thing they liked most about Venus was its flavor (Table 3). This compares with 260 for Cardinal and 188 for Thompson. The factor most disliked about Venus was its thick skin, with 20 percent of the respondents stating this as an objection.

Forty-three percent of the respondents rated Venus as their first choice, 26 percent rated it second, and 30 percent rated it third (Table 2). By comparison, Cardinal was rated first by 35 percent of the respondents, while 22 percent picked Thompson as their first choice. The apparent difference between Venus and Cardinal grapes was not significant at the .05 level using Duncan's Multiple Range Test, but the observed difference between these two varieties and Thompson grapes was statistically significant.

Thompson, which is the California table grape most commonly shipped into Arkansas, was selling for \$1.49 per pound in the test store at the time of the survey. In order to estimate a competitive price comparison, each respondent was asked, "If you were going to buy table grapes would you be willing to pay more, less, or the same for Venus as for Thompson?" If they indicated more or less they were asked by how much.

Of the 43 percent who picked Venus first, the average price differential was 5 cents per pound in favor of Venus over Thompson, or at that time \$1.54 per pound. However, when all respondents were considered together, the price differential for Thompson versus Venus grapes averaged 12 cents per pound less for the Venus grape.

The importance of price in consumers' decisions to purchase grapes was associated with family size. Larger families were more cognizant of the price of grapes than smaller families. Of the households with one or two members, 32 percent indicated price was a factor in their purchase of table grapes. This compares with 39 percent for households with three to five members and 57 percent for those with six or more members.

In conclusion, Venus grapes seem to compare favorably with commercial imported varieties of table grapes now sold in Arkansas markets. But, to enhance its competitive position with Thompson, Venus would need to sell for somewhat less per pound; this was indicated to be about 8 percent less.

Table 2. Consumer Preferences for the Three Grape Varieties

Variety ^a	1st		2nd		3rd	
	No.	%	No.	%	No.	%
Venus a	141	43.4	86	26.5	98	30.2
Cardinal a	113	34.8	110	33.8	102	31.4
Thompson b	71	21.8	129	39.7	125	38.5

^aVarieties with the same letter are not significantly different at the 5 percent level.

Table 4. Effect of training system and pruning treatment on sensory evaluation of Concord juice, 1979.^a

Treatment	Color		Flavor	General acceptability
	intensity	acceptability		
<i>GDC</i>				
30+10	7.8a ^y	6.0ab	5.6cd	5.8b
60	7.1ab	7.0a	6.6bc	6.7ab
90	6.9ab	6.3ab	4.8de	5.4bc
No touch-up	4.4c	4.9b	4.0e	4.2cd
<i>SC</i>				
30+10	7.7a	7.9a	7.6ab	7.4a
60	7.3ab	6.9ab	8.3a	7.2a
90	5.7bc	5.9ab	5.8cd	5.7b
No touch-up	2.7d	2.8c	4.0e	3.3d

^a Sensory attributes rated on a scale of 1 to 10 with 10 = excellent, 5 = minimum acceptability, and 1 = totally unacceptable.

^y Means separation within columns by Duncan's Multiple Range Test, 5%.