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# Consumer Preferences For Maple Syrup Grade Names

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## Introduction

One hundred percent maple syrup is a gourmet product and should not be confused with blended pancake syrups or toppings such as Mrs. Butterworth, Aunt Jemima or Log Cabin brands. This study deals with 100 percent pure maple syrup.

The U.S. Department of Agriculture's system for grading maple syrup for table use is Grade A Light Amber, Grade A Medium Amber and Grade A Dark Amber. Color is the principal USDA grade determining factor of syrup which meets the other requirements of density, lack of "off flavor" or cloudiness. When these factors are met there is no difference in "quality" between grades of table syrup (Sendak, 1982). All are considered fit, and all are enjoyed by consumers based on personal preference.

Syrup color specifications have characteristic flavors peculiar to each grade and are dramatically different from grade to grade. They have been described as follows: Grade A Light Amber, the lightest in color, is very volatile and aromatic. It has a delicate, yet "smokey" taste. The characteristic "maple" flavor, which most consumers know, is the flavor identified with Grade A Medium Amber syrup. This medium colored syrup is a blend of caramel flavor and the aromatic flavor of the Light Amber syrup. The strong caramel flavor, attributed to the browning of the invert sugars in maple syrup, gives Grade A Dark Amber its predominant flavor (Sendak and Jennings, 1982).

Laws regarding maple syrup grading differ from state to state and Canadian province. Some states such as Vermont, have very elaborate grading laws and other states have none. Some states voluntarily adopt the USDA grade names. Other states use grade names which they feel are more appropriate for marketing their syrup. For example, Vermont uses the term "Fancy" for its lightest color grade, while USDA recommends Grade A Light Amber.

Consumers know practically nothing about syrup grades (Sendak, 1982) (Drake and James, 1991). This lack of understanding of the grading system can cause loyal repeat customers to be disappointed in the product simply because they purchased an unfamiliar grade, (Drake and James, 1991). The result is a dissatisfied customer and a potential loss of future sales. The maple syrup industry has been concerned about the possible effects of consumer misunderstanding of maple grades on sales.

In 1992 focus group interviews were conducted to determine characteristics which customers could use to differentiate between grades and to suggest a more understandable set of maple syrup grade names (James and Drake, 1992). Maple syrup customers felt that grade names should reflect the flavor of the syrup as well as the color. They suggested alternative grade names of delicate, standard and hearty.

The study discussed in this paper quantified and compared various maple syrup grading systems for consumer understandability. These grade names will be referred to as "focus group suggested" for the remainder of this paper.

## Methodology

A mail survey was conducted of 100 percent pure maple syrup customers across the United States. Names were provided by North American Maple Syrup Council members from their mailing lists. An original questionnaire was reviewed and modified by a panel of Ohio State University agricultural and consumer researchers. The instrument was field tested by eleven customers of 100 percent pure maple syrup not included in this survey. Five hundred sixty-five maple syrup customers were surveyed with 349 questionnaires returned (62% rate). Questionnaires were mailed three times.

Four sets of maple syrup grade names were tested. The systems tested appear in Figure 1. The Vermont system was included because, as the leading maple syrup producing state in the United States, it has a long history of effective maple syrup marketing.

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**Figure 1. Maple Syrup Grade Names Tested**

	Set 1 Current USDA	Set 2 Focus Group	Set 3 Bogus	Set 4 Vermont
Lightest Grade	Grade A Light Amber	Delicate	Prime	Fancy
Medium Grade	Grade A Medium Amber	Standard	Choice	Grade A Medium Amber
Darkest Grade	Grade A Dark Amber	Hearty	Good	Grade A Dark Amber

An original questionnaire was developed testing respondent's ability to match descriptions of maple syrup flavor and color with grade names. The correct answers were as follows:

- "A pale golden syrup with a mild flavor" for the lightest grade.
- "A golden syrup with the customary maple flavor" for the medium grade.
- "A deep golden syrup with a strong flavor" for the darkest grade.

Incorrect descriptions were as follows:

- "A golden syrup with a strong flavor."
- "A pale golden syrup with the customary maple flavor."
- "A deep golden syrup with a mild flavor."

### Results and Conclusions

Reliability was determined on each of the grading name sets using a Kuder Richardson Reliability test. Reliability for each set was as follows: Set 1 (USDA) 0.2308; Set 2 (focus group suggested) 0.5011; Set 3 (bogus) 0.4777 and Set 4 (Vermont system) 0.2531. The focus group suggested name set was the most accurate, dependable and consistent.

A one-sample chi-square analysis was conducted on the four sets of grade names. The expected distribution frequency relative to the observed distribution was so small for the "bogus" system that it was dropped from further analysis.

The "focus group suggested" grade name system was clearly the most understandable by maple syrup customers. Forty-four percent of the respondents correctly matched all three grade names with the appropriate characteristics. Twenty-five percent matched the

USDA system and 12 percent matched the Vermont system (Figure 2).

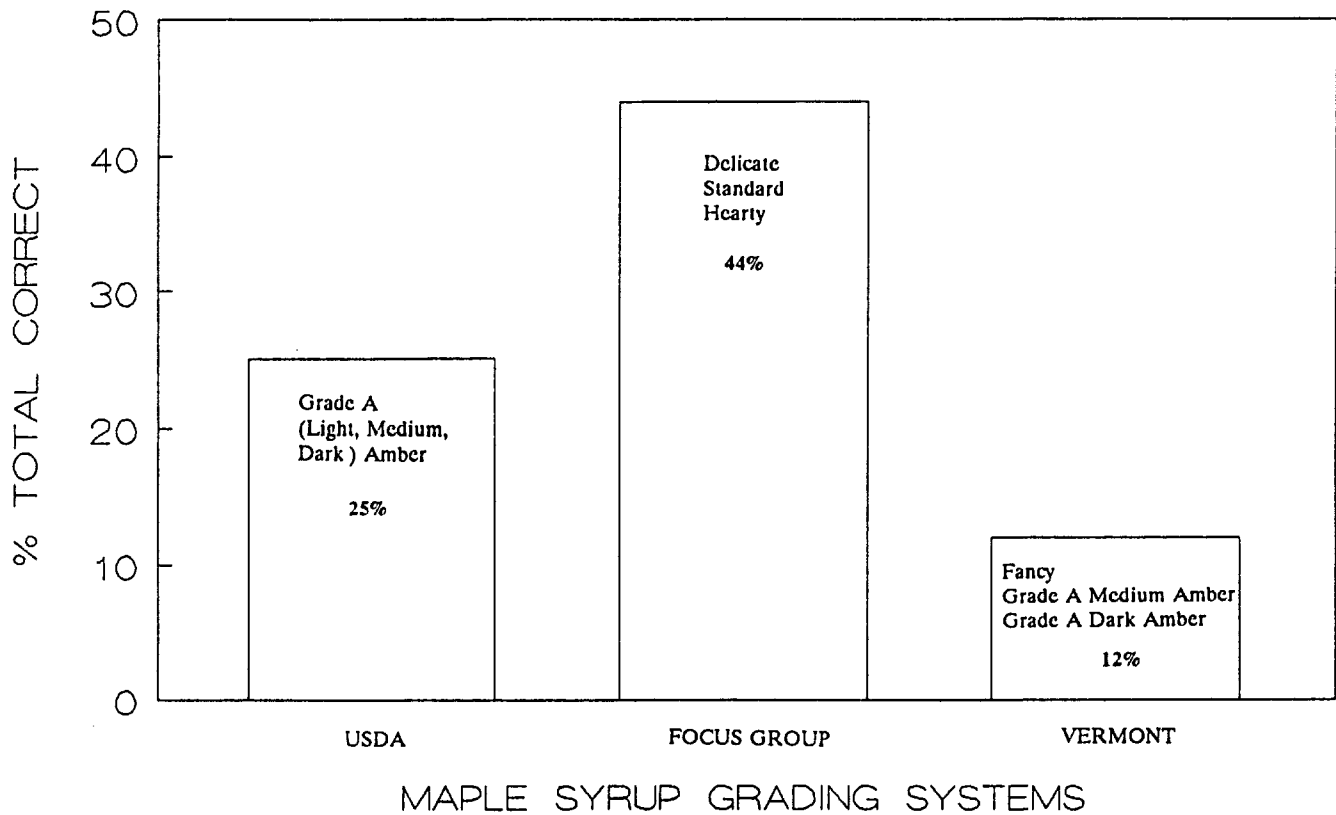
Individual names for grades in each system were compared. The correct response for "Grade A Light Amber," "Delicate," and "Fancy" was "a pale golden syrup with a mild flavor." The name "delicate" from the focus group system was far more understandable than the other names for this grade. "Fancy" was the least understandable (Figure 3).

The correct response for "Grade A Medium Amber" (USDA system), "Grade A medium Amber" (Vermont system) and "Standard" (focus group suggested) was "a golden syrup with the customary maple flavor." The name "Standard" from the focus group suggested system was the most understandable (Figure 4).

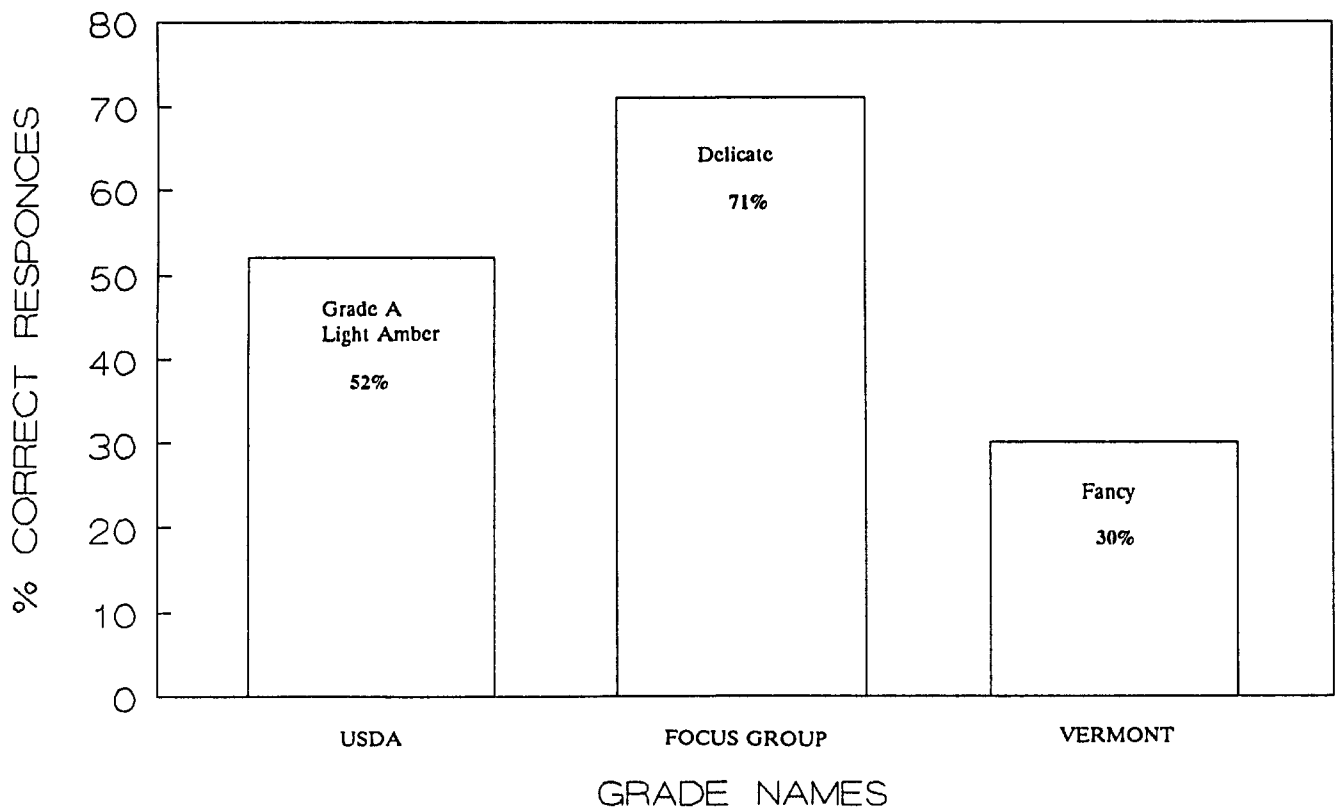
The correct response for "Grade A Dark Amber" (USDA System), "Grade A Dark Amber" (Vermont System) and "Hearty" (focus group system) was "a deep golden syrup with a strong flavor." "Grade A Dark Amber" used in the USDA system was as understandable as "Hearty" in the Focus Group system (Figure 5).

Since Vermont was the state system tested, the surveys completed by Vermont residents were further analyzed. It is important to note that only 6 percent of the respondents (N=20) were Vermont residents. Vermonters were better able to match "Fancy" to its correct descriptors (45% correct as opposed to 30% correct in the total population). However, 80 percent of the Vermont respondents were able to correctly match "Delicate" to the correct descriptors.

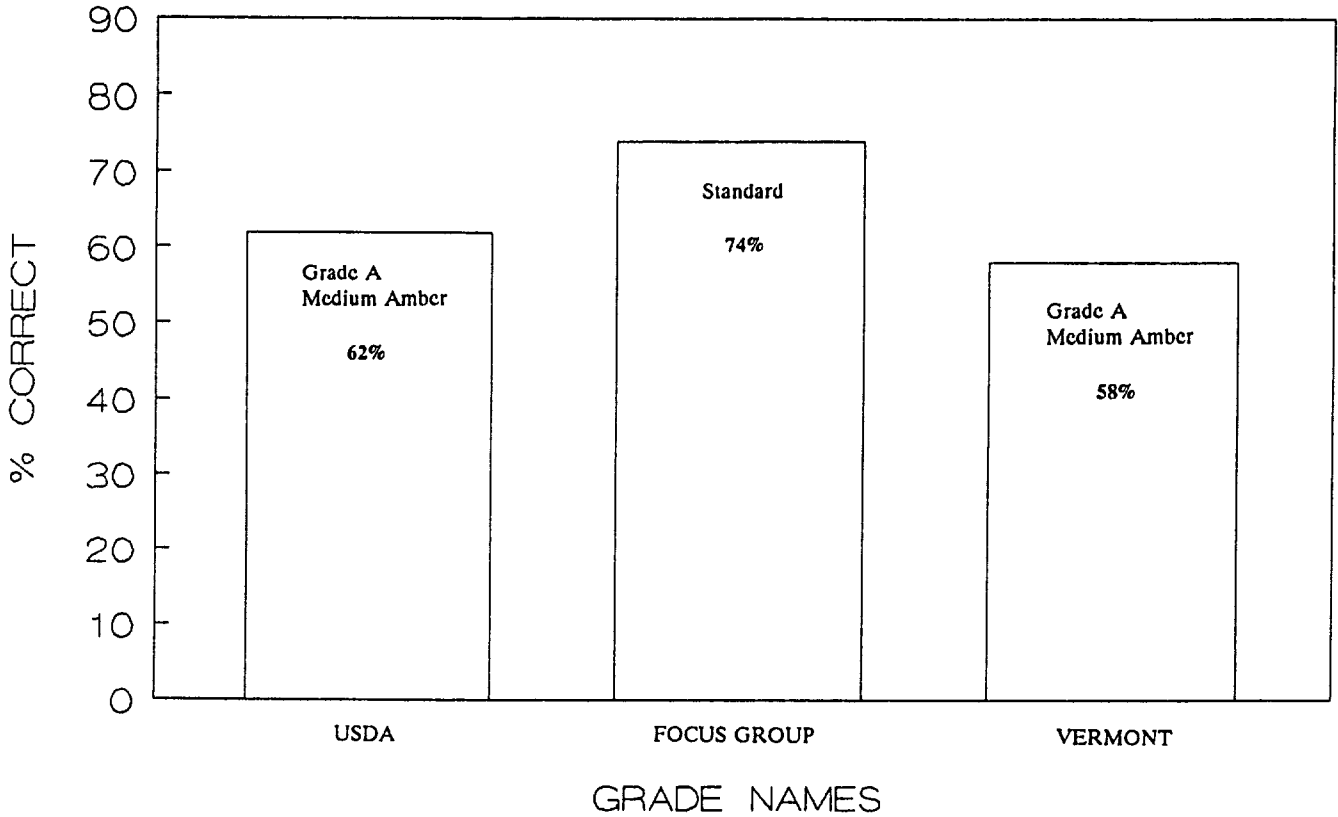
**Figure 2. Percent of Respondents Matching All Grade Names in a System With Appropriate Color and Flavor Characteristics**



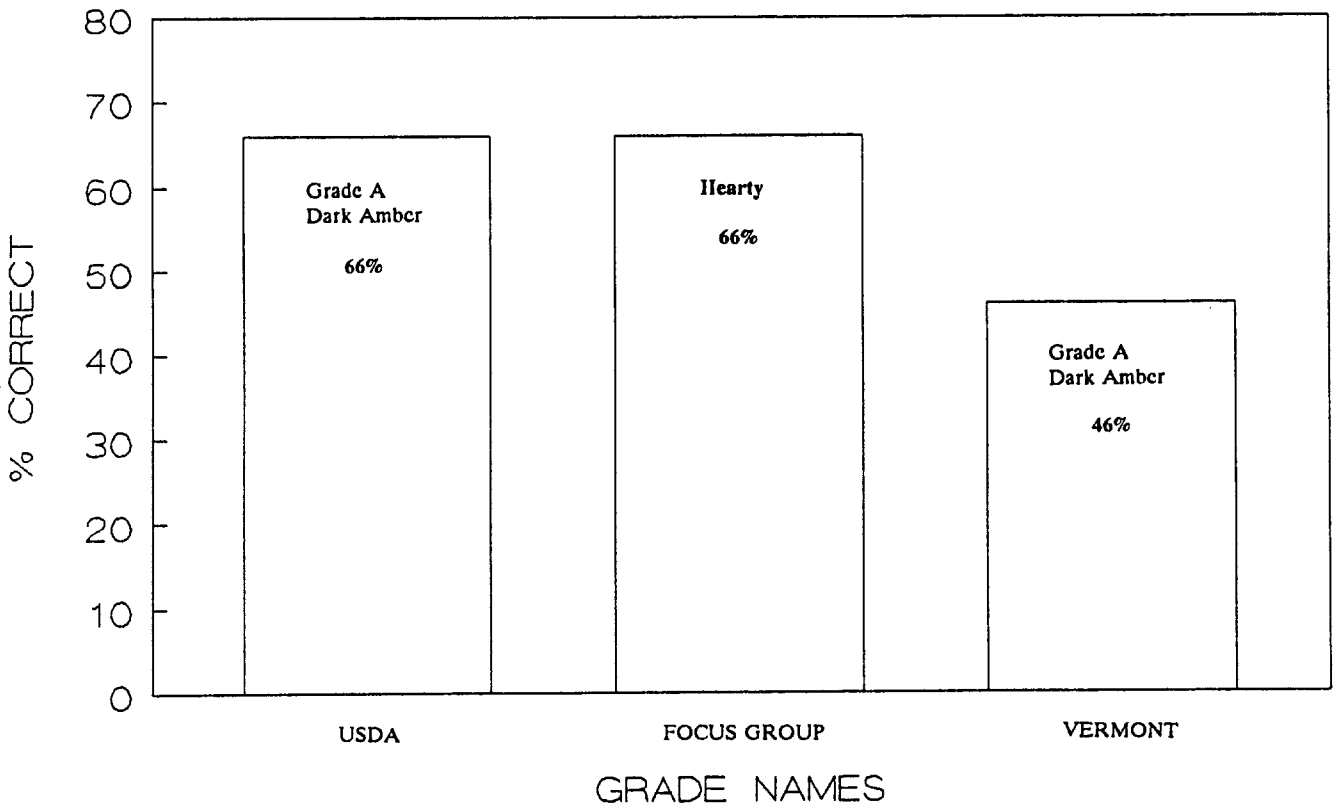
**Figure 3. Percent of Respondents Matching Grade Names for the Lightest Syrup With Appropriate Color and Flavor Characteristics**



**Figure 4. Percent of Respondents Matching Grade Names for Medium Syrup With Appropriate Color and Flavor Characteristics**



**Figure 5. Percent of Respondents Matching Grade Names for the Darkest Syrup With Appropriate Color and Flavor Characteristics**



## Implications

One of the principle reasons for having a maple syrup grading system is to differentiate the characteristics of maple syrups for the convenience of customers; thereby allowing them to consistently buy a maple product that meets their personal taste. Any marketing tool that can be employed to reduce customer confusion and possible disappointment with the product is of real benefit. The industry should work toward adoption of *one* system all customers can understand.

The data overwhelmingly shows that, of the systems tested, the focus group suggested system was the most understandable. Therefore, it is recommended that the U.S. maple syrup industry work with the Canadian industry to agree upon one system and strongly consider the inclusion of the terms "Delicate," "Standard" and "Hearty" in the grade names.

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