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# **Impacts of Maple Syrup Grading Laws on the Maple Producing Regions of United States and Canada**

by

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## **Introduction**

Commercial production of 100 percent maple syrup is concentrated in the states of Ohio, Wisconsin, Michigan, Pennsylvania, New York, New Hampshire, Massachusetts, Maine, Minnesota, and Vermont and in the Canadian provinces of Nova Scotia, New Brunswick, Quebec, and Ontario (Taylor, Pasto, Southworth, 1967) and (Schuler, Sherman, 1959). There are a few other minor production states such as Indiana, Kentucky, Maryland, West Virginia and Connecticut.

There is currently a voluntary U.S.D.A. maple syrup grading system which has been legally adopted by some state legislatures. Some states have also modified the U.S.D.A. standards and adopted laws. Other states, including Ohio, have no grading laws. Canada has federal and provincial grading regulations.

The current U.S.D.A. grades of maple syrup include Grade A Light Amber, Medium Amber, Dark Amber and Grade B. These grades are primarily based on the color of the syrup. Syrup color specifications have characteristic flavors peculiar to each grade. 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. It has 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, give Grade A Dark Amber its predominant flavor. Grade B has a bitter and acrid caramel flavor. It is predominantly used to flavor corn syrup "toppings" (Sendak and Jennings, 1982). Canada has a similar system of grading.

In a recent survey of maple wholesale buyers in the United States and Canada, large buyers (\$500,000 per year or more in purchases) bought

only from states and provinces with legally adopted grading standards or specifically mentioned difficulty in doing business with states without standardized grading (James and Drake, 1990). Since Ohio has no state maple grading laws, the industry informally uses U.S.D.A. grading standards. There has been much discussion within the Ohio maple industry concerning possible impacts of formally adopting state grading laws. This study provides additional information to the industry regarding the consequences of such laws.

### **Purpose**

To determine if Ohio should adopt maple syrup grading laws by examining the impacts of laws on maple producing states and provinces.

### **Methodology**

The population for this study was the North American Maple Syrup Council (NAMSC) and representatives from the state departments of Agriculture, Canadian provincial Ministries of Agriculture and Agriculture Canada. The NAMSC is a group of maple syrup industry leaders who promote the interests of the industry by encouraging maple research, establishing standards and assisting in equalizing supplies of maple syrup. Membership consists of one delegate from each state and province commercially producing maple syrup. All sixteen council members were surveyed with a 100 percent return. Thirteen departments of agriculture were surveyed with twelve out of the thirteen responding. Quebec was not surveyed due to a language barrier.

Two original questionnaires were developed. The questionnaire developed for NAMSC members measured the perception of impacts of maple syrup grading laws on producers, consumers and the industry. The same questions were asked of departments of agriculture plus questions to determine the actual experiences of departments of agriculture who are administering maple syrup grading laws.

The questionnaires were reviewed and modified by a panel of agricultural economists and extension specialists to determine content validity.

In addition, a field test was conducted using a representative from a maple producing state department of agriculture. Data was collected during May and June 1991. One mailing was sent followed by telephone interviews with non respondents.

### **Results**

Of the ten U.S. states which are major producers of maple syrup, five states have maple syrup grading laws. They are Wisconsin, (adopted 1956), New Hampshire (1971), New York (1969), Vermont (1929), and Maine (1967). There are Canadian Federal Regulations (1985), which are administered by Agriculture Canada. In addition, the province of Ontario had its own laws (1980).

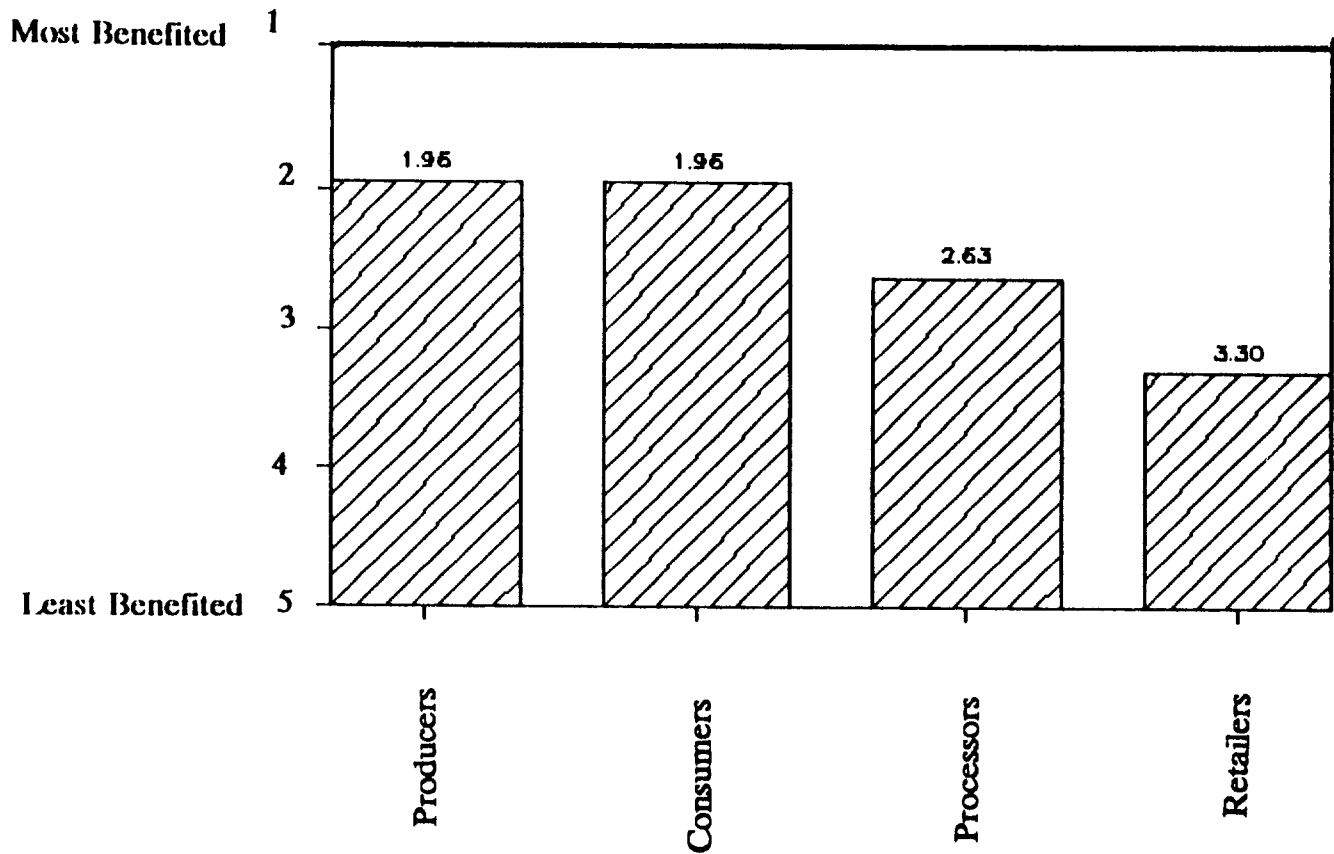
When asked if Ohio should adopt grading laws, 86 percent of the surveyed industry and government leaders said yes. Interestingly, the few leaders who said no were from states which did not have grading laws.

When asked who benefits from maple syrup grading laws, departments of agriculture and North American Maple Syrup Council Board Members said maple producers and consumers benefit the most (Table 1). Government and maple syrup leaders were asked about the benefits and drawbacks of maple syrup grading laws. Their responses are tabulated in Tables 2 & 3.

Respondents were also asked to indicate their level of agreement with statements regarding the impacts of maple syrup grading laws. Their responses are summarized in Table 4.

**Table 1**

**Groups Benefitting from Maple Syrup Grading Laws as  
Identified by Government and Maple Syrup Industry Leaders**



**Table 2**

**Benefits of Maple Syrup Grading Laws  
As Identified by Government  
And Maple Syrup Industry Leaders**

<u>Item</u>	<u>Percentage</u>
Promotes quality syrup	86
Helps producers market syrup	75
Increases wholesale buyer confidence	71
Helps syrup move across state/national lines	57
Producers sell syrup at a higher price	39
Helps state/province economy	29
Increases consumer purchases	25
Wholesalers sell syrup at a higher price	18
No benefits	7

**Table 3**

**Drawbacks of Maple Syrup Grading Laws  
As Identified by Government and  
Maple Syrup Industry Leaders**

<u>Item</u>	<u>Percentage</u>
No drawbacks	39
Too much government interference	29
Increases producer costs	25
Consumers don't care	21
Increases retail costs of syrup	7

To document the actual experiences of departments of agriculture who are administering maple syrup grading laws, a series of questions were asked pertaining to administrative practices and how these affect the industry and consumers. Five U.S. state departments of agriculture with existing laws were surveyed.

**Table 4**

**Government and Maple Syrup Industry Leaders'  
Level of Agreement with Impact Statements  
On Maple Syrup Grading Laws**

<u>Statement</u>	<u>Mean Level of Agreement*</u>
All states should adopt maple syrup grading laws.	3.45
Overall, the existence of maple syrup grading laws has been good for our state/province.	3.45
Maple syrup grading laws are beneficial to the industry.	3.23
Grading laws have helped producers sell more syrup.	2.92
Grading laws have allowed producers to charge a higher retail price for their syrup.	2.77
Grading laws have allowed producers to charge a higher wholesale price for their syrup.	2.73
The existence of grading laws has increased sugar house inspections.	2.70
Most consumers are familiar with maple syrup grades.	1.88

\* 4 = strongly agree    3 = agree  
2 = disagree            1 = strongly disagree

It was found all states opened and inspected finished maple syrup. The number of samples opened per year range from 25 to 3,000 with a total of 6,136 sampled in all five states. Those states sampling over 100 samples per year found violations in only 6 to 10 percent of the cases. The violations found are ranked in Table 5.

**Table 5**  
Violations Found in Inspected  
Maple Syrup Samples as Ranked  
From 1 (Most Common) to 10 (Least Common)

<u>Violation</u>	<u>Rank</u>
Color	1
Density	2
Other off flavor	3
Improper labeling	4
Foreign material	5
Buddiness (Off flavor in late season syrup)	6
Fermented syrup	7
Improper packaging	8
Off odors	9
Other	10

All five states inspected production facilities (farm sugar houses). Number of inspections ranged from eighteen to two hundred per year. Sugar houses were principally inspected for cleanliness and to check maple syrup samples. Only one state reported stopping production in sugar houses due to violations.

Departments of agriculture received approximately two to twenty complaints per year from consumers about maple syrup. The few complaints received are ranked in Table 6.

**Table 6**  
Consumer Complaints About Maple Syrup  
Ranked from (1 Most Common)  
To 4 (Least Common)

<u>Complaint</u>	<u>Ranking</u>
Off flavor	1
Off odor	2
Mold	3
Foreign matter in syrup	4

## Conclusions

Government and industry leaders felt Ohio should adopt maple syrup grading laws. Leaders also thought all U.S. states should adopt the same grading laws. It has been found maple producers, consumers and the industry benefit from maple syrup grading laws. Principle benefits from the laws are: promotes quality syrup, helps producers market syrup and increases wholesale buyer confidence.

There are no overwhelming drawbacks to maple syrup grading laws. When mentioned, the most commonly perceived drawback was "too much government interference". However, the perception was not supported by the experiences reported by departments of agriculture. Even though departments of agriculture inspect production facilities (farm sugar houses), production at these houses is very rarely stopped due to violations. It is more common for a department of agriculture to open and inspect the finished maple syrup than to inspect the sugar house. The most commonly found violation by departments of agriculture was off color.

There are very few consumer complaints to departments of agriculture. When there are complaints, consumers most reported disappointment with flavor. Surveyed government and industry leaders said that consumers are not familiar with maple syrup grades. Since it was also felt that consumers benefit from grading laws, an understandable grading system would assist consumers in their decision making.

## Recommendations

1. Ohio should adopt maple syrup grading laws.
2. Ohio laws should be as similar as possible to other states and U.S.D.A. standards.
3. Ohio grading laws should pay particular attention to the quality of the flavor of the maple syrup.
4. All states should adopt a national grading standard which is understandable to the consumer.

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