Maple Syrup Pricing Analysis Using a Shelf Survey: Factors impacting the price of maple syrup in grocery and retail outlets

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Background/Context

This research was made possible by the U.S. Department of Agriculture's (USDA) Agricultural Marketing Service through grant AM200100XXXXG011 "Accessing South Atlantic Markets for US Maple Syrup: Educating consumers and enhancing distribution networks" (2020-2023) made to Future Generations University. Virginia Tech's role was to conduct marketing research, and was supported through a sub-grant from this program. The goal of this program is to support the development of markets for syrup produced in West Virginia, Virginia, and Maryland. This market development and promotion program was designed to strengthen and diversify market opportunities for the maple syrup industry in the South Atlantic United States. It sought to promote consumer awareness and access to maple syrup products through market research, consumer education, promotion of agri-tourism, and distribution support. Gaining knowledge of how maple syrup is sold (prices, on store shelves) and what information is provided to consumers (labels) to help them make buying decisions seemed a good first step. Such information had never been collected.

Summary

The majority of maple syrup marketed in the United States is available in retail outlets such as grocery stores. Although most syrup is sold in such open and public venues, there is no publicly available research discussing the pricing and other characteristics of maple syrup sold in this way. To gain a better understanding of how maple syrup is priced and sold, an analysis of maple syrup on store shelves was conducted. Data was generated from a canvas of maple syrup available on shelves in chain-operated grocery stores, locally-owned grocery stores, health food stores, and general merchandise retail stores in the mid-Atlantic region. Data was collected for each brand and type of maple syrup product that was found on the shelves of these stores. Characteristics of these products were summarized. It was found that the factor that best explained the price of maple syrup was whether or not it was part of a store brand. Store-brand syrup is typically maple syrup purchased in bulk by a commercial distributor. It is often a blend of syrups from multiple sources. The most frequently observed origin for maple syrup was "North America," accounting for 38.15% of observations. Around 25% of the syrup came from Canada or Vermont. No other source accounted for more than 5% of the syrup observed. The findings suggest that

larger outlets, such as grocery stores tend to stock syrup produced by large-scale producers and packaged by third parties. In contrast, regionally produced syrup was more commonly sold through smaller, independent outlets.

Introduction

Maple syrup producers sell their syrup in many ways, but grocery stores are still the main place where consumers purchase maple syrup (Farrell and Chabot, 2011). Although retail and grocery stores are the primary market for maple syrup in the United States, no publicly available research has been conducted on the marketing and pricing of maple syrup in this region. The purpose of this study was to catalog the type of maple syrup available in these stores, and to investigate how various features of this syrup are related to the price.

An analysis of the price of maple syrup within the Northeastern United States between 1916 and 2012 found that there is no statistically significant variation in price between any region of the United States with historical pricing data (McConnell and Graham, 2016). The lack of variation in price between states indicates that individual producers have limited control over the price of syrup in their region. This study also found that maple syrup prices increased by an average of 0.95% annually over the past century when adjusted for inflation.

Between 1975 and 2010, the average annual per capita consumption of maple syrup in the United States increased by over 155% from 1.03 fluid ounces to 2.63 fluid ounces per person (Farrell and Chabot, 2011). This increase in demand for maple syrup has been met with an increase in production, however much of that production is in. Canada which out produces the United States in maple syrup production. The province of Quebec alone produces nearly 80% of the world's supply of maple syrup (Duchesne et al., 2009). The United States is a net importer of maple syrup. In 2019, the United States imported nearly 66% percent of maple syrup that was consumed (USDA, National Agricultural Statistics Service; U.S. Department of Commerce, Bureau of the Census, 2020). The bulk production and sale of maple syrup in and from Canada has lowered prices of American maple syrup, and historically caused many American producers to cease production (McConnell and Graham, 2016). Commercially produced bulk syrup is often sold to large bottling and distribution companies, where it is then repackaged and bottled with a large grocery chain's label.

During the past two decades exchange rates and government policies have made exporting syrup from Canada more difficult (McConnell and Graham, 2016). Along with growing consumer demand, this has created an opportunity for American producers to sell more syrup. This study was first of its kind to investigate the sources of maple syrup on store shelves, how it is described (labels) and pricing information.

Objectives of this work

The ACER- funded project objectives were to raise consumer awareness of the benefits of, production history of, and buying options for US Maple Syrup, and to improve consumer access to U.S. Maple Syrup in South Atlantic markets (focusing at first on Virginia, Maryland, West Virginia, and the District of Columbia, and later stretching to other states to the Southern US).

In many instances when seeking to quantify markets and sales, price information is the easiest to collect and summarize. Hence, this case study sought to better understand how maple syrup is priced and sold. The specific research objectives are to:

- Determine how different characteristics of maple syrup are related to the price of the product;
- Investigate the difference in price between store brand and non-store brand syrup that is available in stores; and
- Identify maple syrup available in stores and where it is produced.

Methods

Overview

During the Spring of 2021 a survey form was developed and tested to help guide information collection. Since previously similar studies had not been conducted, the survey form was developed based solely on the research team's experience with other surveys

During the Summer of 2021, a research team was trained. Virginia Tech developed and presented a series of video and Zoom-based training sessions for data collectors. Written resources were also created and distributed to all members of the surveying team. A survey form was designed in Google Forms where data collectors could enter information about various characteristics of maple syrup including the brand, size, price, packaging material, and place of origin for the syrup. No information on corn syrup or cane sugar-based "table syrup" was collected – only containers of real maple syrup were cataloged.

The team began canvasing outlets for maple syrup including major grocery chains, independent grocery stores, health food stores, and gift shops to determine the prevalence and pricing of real maple syrup. Data was collected for every unique container of syrup stocked in each store. If there were multiple containers of the same brand, size, and packaging material, then only one observation was made for that syrup. In total, 382 unique containers of maple syrup were observed. Due to a data collection error, data on the place of origin for maple syrup was only collected for 173 of the 382 observations, so analysis of this variable was conducted on a smaller sample size. This type of study had not previously been conducted, and this sample size was ample for our purposes.

The primary focus of this study was in Virginia and neighboring areas. Stores surveyed were in areas where local syrup was not expected to be available, and most were some distance from regional producers.

For example, stores were surveyed in Richmond, the greater Washington, DC area, and northeastern Tennessee. Sixty-two stores were surveyed. Forty-eight stores in Virginia, four in Maryland, three in both Tennessee and Washington, DC, and one each in West Virginia, Connecticut, Ohio, and North Carolina were surveyed. Stores to be surveyed were selected via a convenience sample based on the proximity locations of the survey team members.

Surveys were conducted at five different types of stores/outlets: chain grocery stores, independent grocery stores, health food stores, artisan arts and crafts stores (gift shops), and retail stores. Forty-one (41) chain grocery stores, eight (8) health food stores, five (5) independent grocery stores, four (4) retail stores, and four (4) crafts stores (gift shops) were surveyed.

Once this data was collected, analysis was conducted to understand the relationship between the price of syrup and other variables. This report presents an analysis of the pricing of maple syrup, and how price is related to variables including the type of store the syrup is sold in, the quantity of syrup, packaging material, syrup place of origin, and if the syrup is sold as part of a store-brand or from an independent company. Maple syrup is sold in many different quantities. To create a comparative unit for analysis, all pricing analysis was done on a dollars-per-ounce basis.

Identifying Store Brand Syrup

A key variable in this analysis is whether or not maple syrup is being sold as part of a store-brand or not. Store-brand syrup is syrup that is purchased in bulk from producers and then resold by a commercial distributor to retail and grocery stores who package the syrup under their own brands. The purpose of comparing store-brand and non-store brand syrup was to isolate syrup that was clearly purchased in bulk by a national or international distributor. To identify what syrup was part of a store-brand, the research team investigated all sixty-three brands of syrup identified in this study, and found which brands were owned by the same organization that owns the store the syrup was found in. Store-brand syrup is not the only commercially distributed syrup that was observed in this study. There are generic brands such as Food Club and Field Day that purchase syrup in bulk from a variety of producers. However, it was outside of the scope of this project to investigate the supply chain of all sixty-three brands of syrup identified. Isolating the store-brand syrup provided a simple way to begin an investigation into the differences between syrup purchased in bulk and syrup that is packaged and branded by maple syrup producers. When reading this report, it is important to remember that even the non-store-brand classified syrup does have many containers of syrup that are being sold by commer

cial distributors.

Discussion and Conclusions

Limitations

This study was limited by the availability of the research team to visit stores, and the time required to visit stores and record data. A follow-up study could be strengthened by analyzing a data set with more observations collected from other regions of the United States. Analysis was also only conducted on maple syrup present on shelves, and no data on the actual sales of maple syrup was conducted.

Conclusions

Based on the 382 observations (unique bottles or package units) collected from 64 different stores, it appears the most influential factor on the price of maple syrup is whether it is sold as a store-brand or as a non-store-brand. Store-brand syrup was sold for an average price-per-ounce of $0.64 while non-store-brand syrup was sold for an average price-per-ounce of $0.95. Syrup sold in plastic containers tended to be cheaper than syrup in glass or metal containers, and "North American" syrup was cheaper than syrup produced in any more specific region. In this study, store-brand syrup serves as a proxy for bulk syrup that is distributed by a large company. In grocery and retail stores, which are believed to be the primary markets for maple syrup purchasing in the United States, nearly half of all maple syrup observed was part of a generic store brand. The findings in this study highlight the difference in price of syrup purchased in bulk by commercial distributors and syrup sold by farmers or smaller businesses.

This study also found that 87.86% of the different bottles of syrup observed came from either "North America", Canada, or Vermont. This finding highlights the difference in how producers in Central Appalachia market and sell their syrup compared to producers from the Northeast. Only one of the 173 bottle labels gave place of origin as Virginia. No syrup observed on the shelves came from Maryland or West Virginia.

The lack of local syrup (from Maryland, Virginia, and West Virginia) and the lower cost of bulk (often blended syrup brought in from other regions) syrup indicates that grocery and retail stores may not be an appropriate outlet in which producers from Central Appalachia can be competitive. The exception would be if these venues had a "locally produced" section. Further investigation is needed to see if even with such a location available to local producers, would they be competitive on a price basis? A future shift in market conditions, such as if consumers were more willing to pay a premium for locally branded products, could allow Central Appalachian producers to be more competitive in this space. In the current situation, sales mediums like farmer's markets, festivals, and websites afford a more realistic platform for Appalachian producers.

We believe this study is interesting to readers of the Maple Digest because (a) it provided locally-relevant market data to maple syrup producers in Central Appalachia, and (b) it is easily rep

licable. We have no reason to assume that supermarket price points are the same in all regions of the countrybut we do have reason to believe that the average maple syrup producer is producing at around the same scale as producers in Central Appalachia: as Mark Isselhardt writes, "the average size of U.S. maple operations is 1,410 taps/farm." Therefore, with the help of a dozen or so volunteers, maple syrup producers, or undergraduate or high-school students, producers in many regions could gain locally-relevant market data similar to that gained by Central Appalachian producers in this study.

Note: Results and further analysis, the data collection survey form and other materials may be available on request to Future Generations or through the website: Future.edu/maple

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