



Adding Value to Plant Production: Market Research for Value-added Products

Cheryl Kaiser¹ and Matt Ernst²

Introduction

The University of Kentucky's Center for Crop Diversification has sponsored several market research projects evaluating the value consumers place on different crops and product characteristics. This fact sheet will report the results of research about:

- Retail demand for processed blueberry products
- Consumer willingness to pay for organic blueberry products
- Interest in different sweet potato varieties and products

Researchers from the University of Kentucky Department of Agricultural Economics have also cooperated with agricultural economists at The Ohio State University to measure market demand and willingness to pay for locally produced products in Kentucky and Ohio. This fact sheet will also report some of the conclusions of that research for producers adding value to crops by marketing them as "Kentucky Proud" or "local."

Detailed research citations are provided at the end of this fact sheet for producers who wish to further explore the research reports.

Retail Demand for Processed Blueberry Products

Would Kentucky consumers be willing to pay any more for syrup and vinegar made from blueberries? More than 600



consumers at four Kentucky food retail markets were asked to indicate their interest in, and willingness to pay a premium for, such blueberry products.

The consumers were asked to consider blueberry products as alternatives to maple syrup and apple cider vinegar. Nearly half (47.6%) of those surveyed indicated they would be willing to pay a premium for blueberry basil vinegar. Over half (61.5%) of those surveyed indicated a willingness to pay more for blueberry syrup. Consumers indicated they would be willing to pay about \$0.30 more for a standard 8-ounce bottle of blueberry syrup than for maple syrup.



The researchers also investigated how different kinds of consumers respond to different marketing information about blueberry products. For blueberry basil vinegar, the results indicated that:

¹Cheryl Kaiser is a former Extension Associate with the Center for Crop Diversification.

²Matt Ernst is an independent contractor with the Center for Crop Diversification.

- Younger consumers were willing to pay more than older consumers
- Individuals with higher incomes, and individuals with higher education levels, were willing to pay more

These kinds of consumers may be more receptive to specialty blueberry processed products, specifically blueberry basil vinegar.

This consumer survey also measured whether health claims about blueberries affected a consumer's willingness to pay more for the product. Consumers were presented with a health claim stating, "antioxidants in blueberries may protect the body from damaging effects of free radicals and chronic diseases associated with aging." The health claim positively affected consumer willingness to pay for both blueberry basil vinegar and blueberry syrup. However, the health claim had a greater effect on the willingness to pay for blueberry syrup.

Implication for Producers

The research on consumer willingness to pay for blueberry basil vinegar and blueberry syrup illustrates an important marketing principle for producers developing value-added products from crops. Consumers may generally be willing to pay more for products with which they are more familiar. In this study, consumers were more receptive to paying more for blueberry syrup (as compared to the willingness to pay for blueberry basil vinegar). Producers with new product ideas may be able to position their products for greater acceptance by developing "familiar" products with new, or less common, ingredients.

Producers need to exercise caution when making claims about health benefits of value-added products. Several marketers of cherry products, for example, were cited by the Food and Drug Administration (FDA) in 2005 for making health claims on product packaging that were inconsistent with government guidelines for marketing food products. Other fines and actions have been taken against food companies deemed to be making unsubstantiated health claims on product labels.¹

Health claims made about products, such as including health benefits on packaging, need to be scientifically based and align with regulatory guidelines. While this

can be an intimidating area of developing value-added products, there are many ways to tout benefits of new crop products while adhering to laws and regulations.

Acceptance and Willingness to Pay for Organic and Local Blueberry Products

Some of the same demand characteristics of processed blueberry products were reflected in a separate research project conducted about organic and local blueberry products. This project measured consumer acceptance of:

- pure blueberry jam
- blueberry-lime jam
- blueberry yogurt
- blueberry fruit rollups
- blueberry dry muffin mix
- blueberry raisinettes

The research also evaluated how consumers would respond to certain product characteristics, including an organic-product feature, a Kentucky-grown claim, and a sugar-free claim.

The research found that, of these six products, consumers showed a significant interest in purchasing pure blueberry jam, dry blueberry muffin mix, and blueberry raisinettes.

The research also found that, while consumers were very interested in organic products, they were not as concerned that dry blueberry muffin mix and blueberry raisinettes were organic. Producers will need to realize that consumers may differentiate a quality like "organic" between different kinds of products.

The consumers were strongly attracted to "Kentucky-grown" as a product attribute. "Sugar-free" was also found to be a favorable attribute (one that adds to the consumer's utility) in all the products except blueberry-lime jam and dry blueberry muffin mix. The researchers indicated that the lack of "sugar-free" adding utility to the muffin mix was a bit of a surprise. The research report inferred that consumers generally expect dry muffin mix to contain sugar — so the attribute of "sugar-free" is not perceived to be of added benefit.

Implications for Producers

The research indicates that blueberry growers inter-

ested in developing value-added products might first investigate products such as blueberry jam, blueberry raisinettes, and dry blueberry muffin mix.

Producers should also realize that consumers might place a different value upon the “organic” labeling of different products. Organic products may require more investment by the producer for development, and producers need to identify whether consumers will actually be willing to pay more for the organic trait in particular value-added products.

Consumer Interest in Different Sweet Potato Varieties and Products

The Kentucky Food Consumers Panel targeted food preferences and issues of more than 600 consumer households. These households were asked to measure their interest in:

- organically produced sweet potatoes
- white and purple sweet potatoes
- sweet potato products (fries, flour, dried)

This research differed from the blueberry research in that it only measured consumer interest in products and their attributes — but not consumer willingness to pay. The research determined that, among the households surveyed, there was:

Relatively strong interest for organic sweet potatoes (44.9% “interested” or “very interested”)

- Stronger interest in organic sweet potatoes from younger consumers and from more highly educated consumers
- Slightly more interest in white than purple cultivars
- Considerably more interest in sweet potato fries than for sweet potato flour or dried sweet potato products
- Slightly less interest in purple sweet potatoes from male consumers

Implications for Producers

This research indicates significant interest in organic sweet potatoes from the Kentucky consumer panelists. It also reiterates common consumer characteristics not unusual among those interested in organic products: they tend to be younger and/or of a higher education level.



As in the blueberry research, consumers also indicated more interest in products similar to existing products. This was shown in greater interest in sweet potato fries (as opposed to sweet potato flour and dried sweet potato). It is safe to say that fries are a more familiar product to consumers than potato flour and dried potatoes. Producers should capitalize on existing product familiarity.

Consumers also indicated comparatively more interest in white sweet potato varieties than purple varieties. Such research implications could help producers make production decisions. A producer considering organic sweet potato production for the first time, for instance, might choose to start with traditional orange varieties before considering varieties of different colors. When contemplating other colors, consumers may more easily accept white varieties than purple. If choosing purple varieties, producers should recognize the need for additional marketing to overcome the (comparative) lack of consumer interest in purple varieties.

What is Local and for What Foods Does it Matter?

Consumer interest in local foods has grown with the rise in popularity of marketing channels like farmers markets and CSAs (community supported agriculture). This research looked at how about 1,000 consumers in Ohio and Kentucky defined “local” in terms of the distance their food traveled to market. Although the Kentucky data could not be evaluated for this question, the Ohio data indicated that 48% of consumers defined “local” as food traveling 25 miles or less to market.

Fresh products — fresh vegetables, fresh meat and

milk — were the three products that consumers showed the most interest in sourcing “locally” out of numerous food categories. The researchers concluded that growth in “local” food marketing for small- and medium-sized farms should realize the potential advantages for marketing food grown within 25 miles. The authors also suggested that defining local as produced within a 100-mile radius might not actually be how consumers in Ohio and Kentucky perceive “local.”²

Implications for Producers

Producers diversifying crop production are often attracted to producing for “local” markets. Initial research shows that “local,” and perhaps the willingness of consumers to pay premiums for local, may actually exist for fresh products grown much less than 100 miles from where the products are consumed.

This research could help producers accurately label their products. A “Local” label for fresh food that is grown 25, and perhaps 50, miles from the point of consumption may result in value added to the crop. Similarly, producers transporting their crops a greater distance may find that consumers value their crop for higher quality and relative freshness — even if that crop does not fall into a consumer’s definition of “local.”

Research Cited

- “Consumer Acceptance and Willingness to Pay for Blueberry Products with Nonconventional Attributes.” Wuyang Hu, Timothy A. Woods, and Sandra Bastin. *Journal of Agricultural and Applied Economics* 41:1 (April 2009), pp. 47-60. <http://purl.umn.edu/48753>
- “Kentucky Consumer Interest in Different Sweet Potato Varieties and Products.” Timothy Woods, Emine Bayar and Wuyang Hu. 2008 Fruit and Vegetable Crops Research Report. University of Kentucky Extension Publication PR-555, p.67. <http://www.ca.uky.edu/agc/pubs/pr/pr572/pr572.pdf>

- “Retail Demand for Blueberry Vinegar and Blueberry Syrup.” Timothy Woods, Wuyang Hu, Sandra Bastin, and Nick Wright. 2007 Fruit and Vegetable Crops Research Report. University of Kentucky Extension Publication PR-555, p.10. <http://www.ca.uky.edu/agc/pubs/pr/pr555/pr555.pdf> (1.45 MB file)
- “What is Local and For What Foods Does it Matter?” Wuyang Hu, Marvin T. Batte, Timothy A. Woods, and Stan Ernst. Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual Meeting, Orlando, FL, February 6-9, 2010. <http://purl.umn.edu/56326>

Additional Resources

- Food Systems Innovation Center (University of Kentucky) <http://www.uky.edu/fsic/>

¹Additional information on food labeling law can be accessed at the National Agricultural Law Center Food Labeling topic index at <https://nationalaglawcenter.org/research-by-topic/food-labeling/>

²Smith, A. and J.B. MacKinnon (2007) *The 100-Mile Diet: A Year of Local Eating*, Random House Canada.

Suggested Citation:

Kaiser, C. and M. Ernst. (2021). *Adding Value to Plant Production: Market Research for Value-added Products*. CCD-MP-15. Lexington, KY: Center for Crop Diversification, University of Kentucky College of Agriculture, Food and Environment. Available: <http://www.uky.edu/ccd/sites/www.uky.edu/ccd/files/varesearch.pdf>

Reviewed by Emily Spencer, UK Extension Associate, and Bethany Prekopa Cox, Direct Marketing Program Manager, Kentucky Horticulture Council

Photos courtesy of Pixabay.com

November 2021

For additional information, contact your local [County Extension](#) agent

Educational programs of Kentucky Cooperative Extension serve all people regardless of economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, or physical or mental disability.