

Taste Panel to Evaluate the Consumer Acceptability of Local Meat Products

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Introduction

Livestock producers in Kentucky have shown increased interest in reaching alternative markets for their livestock. Some producers have chosen to focus on traditional value-added opportunities such as cooperatives, alliances, and retained ownership. However, a large number of producers are having their animals processed, and selling the meat locally. This may include selling to a restaurant or retail store that sells the meat to the end consumer, or it may include selling products direct to consumers through farmers' markets or by farm freezer sales.

The University of Kentucky, in partnership with the Kentucky Department of Agriculture, received a Federal and State Market Improvement Project grant to explore the feasibility of direct and local meat marketing. Although the project had many components, a major goal was to evaluate the consumer acceptance of local meat products when directly compared to typical grocery store products. A controlled taste panel setting was determined to be the best way to achieve this end.

Methodology

One June 19th and 20th, a taste panel was held at the University of Kentucky. The purpose of the panel was to evaluate the acceptability of local meat products compared to products purchased from a grocery store. In order to reach this end, both a consumer panel and a trained panel were used. 61 consumer panelists participated while 10 trained panelists participated.

In order to recruit participants, an email was sent to employees at the University of Kentucky. Employees were invited to participate and were given a free lunch for their involvement. A large percentage of the participants were employees in the College of Agriculture, but several came from other units of the university. The consumers who participated were asked to taste and evaluate ground beef and chicken. Each product had two or three samples for the consumers to compare. Panelists were asked to choose the sample that they liked most based on juiciness, flavor, and texture. Lastly, they were asked to choose the sample that they like best overall.

In all cases, cooking was done in a way that would alter the taste of the meat as little as possible. The ground beef was griddle cooked, while the chicken was prepared in a convection oven. Panelists were not told which products were local and which were store bought in order to isolate the direct attributes from the meat.

Results

Three ground beef products were included in the taste comparison. The first product was a lean ground beef product from a producer in Frankfort, KY. The second ground beef product was a more conventional product that was produced in Olive Hill, Kentucky. The third product was purchased from the case ready section of a grocery store meat department.

Locally produced ground beef, was found to be superior to store bought in this sample. The ground beef purchased from the supermarket ranked last in all four categories. The conventional local product was preferred in terms of juiciness, texture, and overall acceptability. The leaner local product was determined to have the best flavor. The following chart reveals what percentage of panelists preferred each of the three products by category.

% of Panelists Preferring Each Product by Category

	Juiciness	Flavor	Texture	Overall
Locally produced lean ground beef	36.7%	44.8%	36.2%	38.9%
Locally produced conventional ground beef	50%	39.7%	48.3%	50%
Store bought ground beef	13.3%	15.5%	15.5%	11.1%

Only two types of chicken were evaluated during the taste panel. The first sample was a free-range chicken that was produced in Kentucky, while the second was purchased from the grocery store. Only the breasts were used in the taste panel. Consumers showed strong preference for the chicken that was purchased at the grocery. It was preferred in all three categories and overall by a 4:1 margin. The chart below reflects these results.

% of Panelists Preferring Each Product by Category

	Juiciness	Flavor	Texture	Overall
Locally grown chicken	20.3%	18.3%	21.7%	18.6%
Store bought chicken	79.7%	81.7%	78.3%	81.4%

The trained panel was composed of people who had been trained in methods of evaluating foods, detecting off-flavors, etc. Instead of choosing which product they preferred, they were asked to rate each product on a Likert scale 1 through 8. An 8 was considered extremely desirable, while a 1 was considered extremely undesirable. They evaluated each product based on the same characteristics as the consumer panel.

Only four trained panelist tasted the ground beef products. The trained panel preferred the grocery store product in terms of juiciness and flavor, but preferred the conventional local product in terms of texture. In total, little difference was detected between the three products.

Average Response from Trained Panel

	Juiciness	Flavor	Texture	Overall
Locally produced lean ground beef	3.75	5	4.75	4.75
Local produced conventional ground beef	4.75	5.75	6.25	5.75
Store bought ground beef	5.5	6	6	5.75

Much like the consumer panel, trained panelists preferred store bought chicken over the local pasture raised chicken. The purchased product was rated higher in all three categories and overall. The following chart reveals how the 8 panelists rated each of the products.

Average Response from Trained Panel

	Juiciness	Flavor	Texture	Overall
Locally grown chicken	5.13	5.63	5.38	5.63
Store bought chicken	6.63	6.88	7.38	7.5

In addition to evaluating these three products, the trained panel also tasted boneless pork loin and ribeye steaks. In each case, one product was purchased from a local producer while the other was purchased from a grocery store. The panel showed strong preference for store bought pork loin in all categories. See the chart below for specific results.

Average Response from Trained Panel

	Juiciness	Flavor	Texture	Overall
Locally produced pork loin	5.7	4.7	4.8	5
Store bought pork loin	6.7	6.8	6.9	6.9

In the case of the ribeye steaks, there was some variation. The juiciness of the local product was preferred to the grocery store product, but the flavor of the grocery store product was slightly preferred. Respondents showed equal preference for the texture of the two products. Overall, the grocery store product was slightly preferred to the local product. These results are summarized in the chart below.

Average Response from Trained Panel

	Juiciness	Flavor	Texture	Overall
Locally produced ground beef	6.7	5.8	6.1	6
Store bought ground beef	6.2	6	6.1	6.22

Conclusions / Implications

After evaluating the responses to our consumer and trained taste panels, there was no strong evidence that people would prefer locally produced products based solely on taste. Efforts now should be focused on determining the value of “locally produced” alone, assuming that no strong taste difference exists. Since the taste panel was “blind”, panelists relied only on taste to evaluate the products. It would be interesting to conduct the same taste panel, but tell participants which products were which. This would allow indirect attributes such as “locally produced” to be measured.

For the producer who is interested in marketing his own meat, the taste panel has some real implications. Producers often assume that their product is superior to products purchased from a grocery store, but this may be a dangerous assumption. As this study suggests, sometimes grocery store products can be as pleasing to the consumer as locally produced product. One

should objectively compare their product to grocery store product to determine how the two truly compare.

This taste panel will be followed by a “Willingness to Pay” survey to be conducted in Louisville, during the Kentucky State Fair. The state fair audience should yield a more random sample than the panel conducted here at UK, and should also provide us with a much greater sample size. The results of this study will be published this fall.

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