

# ***Growing the Pasture-Grazed Dairy Sector***

## **Research Results**

### **Consumer Response to Pasture-Grazed Dairy Products**

We conducted several formal and informal evaluations of consumer attitudes toward pasture-based products. Formal processes included consumer sensory panels and focus groups. We also conducted informal “tasting sessions,” comparative side-by-side tastings with self-selected volunteers including grazing farmers and other interested parties.

<b>Milk Type</b>	<b>Flavor</b>	<b>Aroma</b>	<b>Appearance</b>	<b>Aftertaste</b>	<b>Purchase?</b>
<b>Pasture</b>	<b>5.8</b>	<b>5.6</b>	<b>6.7</b>	<b>5.6</b>	<b>3.1</b>
<b>Conventional</b>	<b>6.3</b>	<b>5.7</b>	<b>6.3</b>	<b>6.3</b>	<b>3.4</b>

### **Consumer Sensory Panels**

Consumer sensory panels were conducted using conventional and pasture homogenized milk, plain yogurt and cheese. The milk and yogurt panels are reported here. Such studies involve the recruitment of average consumers who consider themselves dairy product consumers. Volunteer consumers evaluate the products at a campus-based sensory facility with controlled lighting in individual booths. Data is collected using a variety of scales and assessments designed to determine critical opinions; in general, a single consumer panel will collect data from approximately 100 panelists and the data is summarized with a variety of statistical evaluations. For the milk, the consumers were asked to rate their degree of liking of several attributes, namely: overall flavor, aroma, appearance, aftertaste (1-9 point scale, where 9 is most desirable), and purchase intent (1-5 point scale, where 5 is most desirable). Average values are presented in Table 4. As you can see, these panelists preferred the flavor, aroma, and aftertaste of the conventional milk to the pasture milk. In contrast, participants in a different focus group preferred the pasture milk to conventional milk (see below).

Plain yogurt samples were evaluated using a similar approach wherein the consumers were asked to rate their degree of liking of the attributes, overall flavor, aroma, appearance, acidity (1-9 point scale, where 9 is most desirable), and purchase intent (1-5 point scale, where 5 is most desirable). Average values are presented in Table 5. For this product, participants slightly favored the pasture-based samples, suggesting that the pasture milk “grassy note” combines well with the tangy flavor of yogurt.

<b>Yogurt Type</b>	<b>Flavor</b>	<b>Aroma</b>	<b>Appearance</b>	<b>Acidity</b>	<b>Purchase?</b>
<b>Pasture</b>	<b>4.8</b>	<b>5.6</b>	<b>5.6</b>	<b>5.0</b>	<b>2.6</b>
<b>Conventional</b>	<b>4.8</b>	<b>5.5</b>	<b>5.4</b>	<b>5.1</b>	<b>2.6</b>

### **Focus Group**

In July 2011, we contracted with Ady Voltedge, a market research firm run by Janet Ady, to conduct a formal focus group with pasture products. While the consumer sensory panels provide a good assessment of general consumer acceptance of a product, the focus groups that Ady conducts test the products on a targeted audience of “foodies,” individuals who are likely to be the first to try a new, value-added dairy product. This evaluation helps determine which new products are likely to be well-

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received initially, and as a result, are more likely to succeed in the marketplace. The focus group allows for not only tasting and rating foods, but more in-depth exploration of consumer attitudes and interests.

The focus group compared pasture-grazed and conventional milk, butter, and two types of cheese. In contrast to the consumer sensory panel, the focus group preferred the pasture fluid milk over the conventional milk (Table 6). Comments included: creamier, sweeter taste; it has an interesting flavor note; buttery taste, tasted sweeter to me; tasted superior; both were good but the pasture milk was creamier.

Table 6. Focus group evaluation of pasture versus conventional milk (scale of 1=poor to 5=excellent).

	Pasture milk	Conventional milk
Taste	4.4	3.6
Appearance	4.4	3.9
Mouth feel	4.2	3.5
Saltiness	3.8	3.3
Aroma	3.9	3.7
Overall	4.4	3.8

Responses to the other products were mixed (Table 7). Panelists preferred the conventional product in cheeses, but preferred the unsalted pasture butter. Tasters remarked on the bright yellow color of the pasture butter, with one describing it as “unnaturally yellow.”

Table 7. Focus group overall evaluation of pasture versus conventional dairy products (scale of 1=poor to 5=excellent).

	Pasture	Conventional
Salted butter	3.5	4.0
Unsalted butter	4.0	3.4
Muenster Cheese	3.8	4.4
Emmentaler cheese	3.2	3.5

### Informal taste testing

As part of a “Grass-fed Tasting Event” in October 2010, about 60 participants rated side-by-side samples of pasture and conventional butter and cheese, as well as butter and buttermilk used in recipes. While participants were self-selected grass-fed advocates (farmers, agency staff, and a few consumers), rating differences among the foods are useful, as well as general themes in comments.

In contrast to the Focus Group, participants in this session compared Gouda and Emmentaler cheeses preferring the pasture milk cheeses to conventional ones by an average of 36.5% or two points on a scale of one to seven.

Participants also tasted four products made with pasture butter: croissant, cupcakes with buttercream frosting, bread with butter, and fish with a sage-garlic browned butter sauce. They were asked to compare them to conventional products on a scale from 1=much lower ranking to 7=much greater ranking for four traits: flavor, texture, aroma, and appearance (Figure 6). The majority of this admittedly biased group rated the pasture butter recipes higher than the conventional ones, but the graph provides

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insights into which products are the best fit for pasture milk. Overall, the croissant (light blue bars) scored the highest, with highest ratings for texture and aroma, reinforcing the Chefs' observations that pasture butter contributes to the texture of recipes that have high butterfat content.

The cupcake with buttercream frosting scored the highest for flavor (red bars), and participants observed that “the grass-fed sweetness unfolded slowly, but was more whole than the ‘cheaper’ sweetness of the conventional frosting” and “the conventional hit my tongue as sugary, almost candy-like. The grass-fed was smooth, deep, and very non-offensive. I was not overpowered by the sugar as I was with the conventional.”

The butter on bread scored the highest for appearance (green bars). While most consumers have gotten used to and prefer the pale color of conventional butter, this audience appreciated the bright yellow color of the pasture butter, describing it as a “nice mellow yellow color” and “more eye appealing”. Some participants appreciated the “earthier flavor” and “longer, lingering taste” and many commented on texture differences between the two, describing the pasture butter as smoother and creamier. Not always considered a positive, some participants described the texture as oily or greasy.

