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Udderly Complex: Examining Organic Dairy

A sustainable dairy solution goes beyond choosing a brand of organic milk.

With sales tripling in the past seven years and demand outstripping supply, organic dairy is a hot commodity, both in the market and in the press. In restaurants, dairy plays an important supporting role, showing up at every turn in the meal—on the table with bread, in appetizers, entrees, and desserts, alongside coffee. Although less expensive than meat, and bought in less volume than produce, dairy products are valuable, integral parts of any restaurant kitchen.

Chefs are among the many consumers who value dairy products produced without antibiotics, synthetic hormones, and pesticides. Because they're apt to regularly use a broader range of dairy products than the general consumer, chefs need to closely consider the costs and benefits of purchasing not only organic milk, but a range of organic dairy products for their restaurants.

The cost of using organic dairy can be substantial, chefs say, with organic milk premiums running over 20% above conventional, and products like butter and cream often commanding twice the conventional price. Also, in the past few years of surging demand, farmers and distributors have struggled to maintain a consistent supply. The industry's complex regulations and production methods, compounded by a more distant farmer-chef connection, further complicate a chef's purchasing decisions.

In the Restaurant

Cost and availability concerns give chefs pause when considering a switch to organic, especially with dairy's diversity in the kitchen. Do you start with milk? Rule out butter? Buy local cheese? For many chefs, the best answer is a compromise. "Whenever possible we support organic farmers," says Chris Blobaum, executive chef at Wilshire Restaurant in Santa Monica, CA. But when the cost of organic butter or cream skyrockets, he says, he forgoes those purchases for others, like cheese or eggs from nearby farms. Or, for example, he'll make ice cream with organic milk and eggs but use conventional cream.

Flavor is one compelling reason to choose organic foods. However, with milk and other dairy products, the flavor issue is less straightforward than with strawberries or spring lamb. When these products are farm-direct, they're fresher and more flavorful than those that are shipped, and you know the producer. But few dairy farmers process their own milk; it's too expensive and time-consuming. Most sell to cooperatives or corporations who pool milk together, then process, brand, and market it. Although some co-ops, like Organic Valley, sell regionally pooled milk, the prevailing model means that by the time most milk gets to the consumer, it's pretty well removed from its source.

These days, more and more organic and conventional milk is ultra-pasteurized: heated to between 191 and 212 degrees for a second or less, then quickly chilled. This kills pathogens in the milk and lengthens its shelf life from weeks to months, which helps milk endure thousands of miles of shipping. The pooling, pasteurizing, and long-distance travel of milk inevitably causes some flavor loss. It's in the direct-market and specialty dairy products that distinct flavor is found: slow-pasteurized milk, cultured butter, artisanal cheeses—the kinds of items that add value to a restaurant menu. It makes sense to add these products to the sustainable table, although flavor is not the only reason to choose organic dairy. Making this choice supports family farmers as well as animal health.

The Raw and the Cooked

Raw milk, unpasteurized and unhomogenized, is not legal to sell in stores in most states in the country, due to concern surrounding harmful pathogens and bacteria. Regulations for sale vary by state and town, but in places where it's sourced directly from farms, raw milk is a valuable niche market for farmers. Dairy experts recommend drinking raw milk that comes from cows raised on a pasture-based diet, because some studies show the bacteria that thrive in the unnaturally acidic stomachs of cows raised on grain are a potential health threat to humans.

Vat-pasteurization kills pathogens and bacteria by slowly bringing milk up to 145 degrees and holding it there for 30 minutes. This process also allows flavor to develop and texture to thicken, and is often used for milk being made into cheese or yogurt.

HTST pasteurization, or high temperature short time, brings milk to 161 degrees for 15 seconds. This is the most common pasteurization method in the U.S., as it kills potentially harmful bacteria and lengthens shelf life.

UP, or ultra pasteurization, is similar to HTST, but uses higher temperatures and shorter times. The milk's resulting longer shelf life makes UP a good choice for dairies who ship their milk long distances.

UHT pasteurization, or ultra-high temperature pasteurization, brings milk to 280 degrees for two seconds, sterilizing the milk and enabling it to be shelf stable until opened.

From Cow to Carton

Over the past century, the dairy business has shifted from networks of small family farms providing local milk supplies to large businesses providing regional and national supplies. More recently, rising milk supplies and other factors have reduced the milk prices paid to dairy farmers, driving many small-scale farms out of business. In Vermont, for example, family dairy farms dwindled from 11,206 in 1947 to 1,459 in 2003.

Organic milk commands a competitive price, and its rising demand creates a more stable income for farmers. This demand is keeping many family farms around the country in business, and spurring producers to undertake the three-year transition from conventional to organic production. Certified organic dairies in Vermont have jumped from three in 1993 to 93 in 2005, with over a hundred awaiting certification in the upcoming years. The trend is similar in New York, Pennsylvania, and Washington State. "Organic has been a saving grace for small family farms," says Hubert Karreman, a dairy veterinarian in Lancaster County, Pennsylvania and member of the National Organic Standards Board.

Many organic dairy farmers who sell milk to national companies manage smaller (hundreds or less, rather than thousands) herds of cows with rotational grazing methods. Many consumers associate happily grazing cows with organic milk production, since the image connotes both environmental and animal health. Pastures managed with rotational grazing provide species habitat, help prevent erosion, and reduce runoff polluted by animal waste. And although cold or inclement weather requires most cows to come inside for part of the year, a pasture-based diet is best for bovine digestive health, says Karreman, the dairy vet. Fewer digestive problems mean less threat of illness and infection, less stress on the cows, and, say some, better quality, more nutritious milk.

Resources

For further information on the effects of a pasture-based diet on animal health, see:

www.eatwild.com

To find out more about regionally pooled milk from pasture-raised cows, see:

www.organicvalley.coop

For resources and information on organic dairy, see:

www.nofa.org

www.organicmilk.org

For an organic dairy scorecard and information on the practices of large-scale organic dairies, see:

www.cornucopia.org

For information on the organic standards for dairy, see:

www.ams.usda.gov/nosb/

To read about changes and growth in the U.S. organic market, see:

The USDA organic standards for dairy require access to pasture—the more pasture, the better, say many dairy experts. For pasture-based, organic production systems, a small herd size works best, says Fred Berman of the Washington State Department of Agriculture. Moving a few hundred cows from pasture to milking parlor twice a day is easier than moving a few thousand, he says.

Tipping the Scale

But some dairy companies argue that large-scale production is necessary to meet the market's demand. For example, national organic dairy supplier Horizon buys milk from organic farms across the country. Since it takes three years for conventional farms to transition to organic, the company fills in the supply gap with milk from two of their own farms, one of which has 4,000 cows. Critics insist that the size of such an operation is too large to adhere to the requirements and spirit of organic production, particularly in the arena of access to pasture. Dairies whose animals lack sufficient access to outdoor grazing exploit the standard's lack of specificity, critics contend.

Large-scale dairy companies argue that they can get more milk and other dairy products to more people at lower prices. Although small-scale operations can potentially give animals more access to pasture than industrial-sized dairy farms, many operators don't feel that scale should be a consideration when determining the standards. Currently, the standards are scale-neutral, meaning they apply to herds of 40 to 4,000 cows.

Beyond the scale issue, family farmers and industry analysts are worried about the threat of a milk oversupply. As conventional dairy conglomerates recognize organic's profit potential, the transition of conventional feedlots into organic ones could tip the balance, and drive organic milk prices down. For family farmers who have found a lifeline in the stable milk prices afforded by organic production, this is a real threat to their livelihood.

For a chef considering a sustainable dairy program, your approach depends on your interpretation of sustainability. If you prioritize milk from pasture-raised animals and fair, stable prices for organic dairy farmers, find out which companies share your priorities. Develop relationships with distributors, and push them to carry regionally sourced and processed dairy products. By doing this, chefs and farmers will both benefit from stronger local and regional agriculture systems that produce more nutritious, more flavorful dairy products.

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