



MILK PRIMER

Modern milk bears little resemblance to what the cow gives. How do you know what you're buying?

BY PEGGY O'BRIEN

In the dairy aisle of your grocery store, there is a battle being waged for your milk dollars. Whether you believe milk is healthy or not, it's hard to know which kind to get and when it's worth a little more. Is it better to buy organic? Is the cheaper one just as good? Why does "grass-fed" matter? Buying milk has become so complicated, we decided to find out what's behind all those labels, to help you make your own choices.

Historically, milk came in its natural form. Traditional, or "raw," milk was provided by one's own cow or a nearby farmer's. But the availability of fresh, good-quality milk became rare as urbanization increased. In the late 1800s, the health of cows in city

confinement dairies was so bad that their milk began to be seen as unsafe, and the high infant mortality rate was attributed largely to contaminated milk. A movement to clean up milk (along with water and other public health concerns) began at the turn of the century.

There were two competing ideas of how best to provide clean milk in cities. The first was prevention: An association of MDs developed a program of certification by doctors who would regularly visit farms to inspect the health of cows and the hygiene of farming practices. The other idea was to use the newly developed process of pasteurization to kill any pathogens in the

PHOTOS BY HILARY HARVEY

milk, however it was produced. By 1930, pasteurization had won out, and it became compulsory throughout most of the US.

Today, we have a combination of governmental oversight and required pasteurization. However, what is seen as the norm in dairy practices is driven mostly by market demands for longer shelf life, increased milk production, and cost reductions for dairies. Most of today's dairies do not resemble family farms where cows spend their days grazing in sunny pastures. Instead, technological innovations affect all aspects of milk production. Most large-scale dairies have more than

500, sometimes thousands, of cows, housed in confinement facilities where they are routinely fed a diet of grain and additives like bovine growth hormone (rBGH) to increase yields.

LONG WORDS. Pasteurization is the process of heating a food or beverage to kill pathogens that can cause illness and microorganisms that cause spoilage. The most common type is hot temperature, short time (labeled HTST or simply "pasteurized"), which brings the milk to no more than

165° F for 15 seconds. Milk treated this way lasts for two to three weeks. Ultra-high temperature pasteurization (labeled UHT or ultra-pasteurized) brings milk to 280° F, for half the time, and can extend shelf life as long as two to three months. Less costly and more likely to be used by small dairies, ultraviolet (UV) pasteurization uses pulsed laser light to nonthermally (cold) pasteurize milk.

Nina Planck, former director of Greenmarket's 42 markets in NYC, says that despite the benefits of pasteurization, "It allows less scrupulous dairy farmers to be lax with animal health and milk handling. They count on pasteurization to destroy...heat-sensitive pathogens, which doesn't necessarily guarantee against food poisoning."

Homogenization, contrary to common belief, has nothing to do with health: It merely breaks the fat particles into tinier particles so the cream, which can quickly turn rancid, never rises. It gives milk a uniform appearance and prolongs shelf life. Most commercial dairies collect milk

from many farms into tankers and deliver it to bottling facilities for pasteurization and homogenization. Here, vitamins, particularly A and D, may be added to full-fat and reduced-fat milks before bottling.

WHAT ORGANIC REALLY MEANS. Certified Organic means the product is antibiotic- and synthetic hormone-free and that the grass or grain ingested by the cows is pesticide- and herbicide-free. Certified Organic also prohibits the use of irradiation, sewage sludge, and genetically modified organisms (GMOs). A government-approved certifier inspects the farm to ensure that all USDA

organic standards are met. Though not certified, a farm can be meeting or exceeding some or all of these quality standards. Check the label for words like biodynamic, or language that communicates that the animals are being treated humanely and may have continuous access to pasture.

WHY GRASS-FED?

The natural diet of cows is grass and their natural lifestyle includes grazing, which makes pastured cows healthier than grain-fed cows.



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—Rick Ososky

The milk from grass-fed cows contains higher levels of conjugated linoleic acid (CLA) than that of cows fed grain. CLA is an Omega 6 fatty acid, which studies have shown helps protect against disease and promotes muscle growth and fat burning in the body. Milk from grass-fed cows naturally contains higher levels of Beta-carotene, vitamin A, and vitamin E because grass itself contains more of these nutrients than grain. Most dairy cows, including those whose products are labeled Certified Organic, are fed grain. Pasture-raised animals have fresh air, and they are more likely to be strong and healthy without the need for antibiotics and hormones.

LARGE-SCALE ORGANIC PRODUCERS.

Large commercial dairies may provide organic milk, but that says nothing of the ethical practices of their business. Mark Kastel of the Cornucopia Institute, an industry watchdog, claims, "Horizon is the Wal-Mart of milk"—it undercuts every ethical organic farmer in the market. It



is owned by Dean, an \$11 billion Texas corporation. Dean gets at least half of its milk from family-size farms, but the fine pasture gets mixed in with milk from giant factories. Many of the cows are heavily grain-fed and confined, contrary to the picturesque scene of grazing on the cartons. (Dean also owns Organic Cow of Vermont—but you don't ever see a Dean label on any of the packaging.)

Stonyfield, another large organic label, licenses its milk production to HP Hood of Boston. Hood purchases milk from family-scale farms, and takes efforts to be a company that people can believe in. A truly groundbreaking concept took shape in 1988 with the founding of Organic Valley Family of Farms. This farmer-owned cooperative of more than 700 family farms processes and distributes organic milk nationwide. Their business model aims to reward farmers, employees, their communities, and consumers. Several other co-ops have since formed, including Natural by Nature in Pennsylvania.

A recent study that ranks milk according to how it is produced and the ethical practices employed by the dairies is now available at www.cornucopia.org.

THE LOCAL CONNECTION. New York is the third largest dairy producing state in the U.S., however most milk production is from outside the Hudson Valley; a formerly rich dairy region. The pressure to compete with large-scale dairies who can produce for low prices and the recent increase in Hudson Valley land values has driven small, local dairies almost to extinction. For example Orange County, one of the top dairy producing counties in the Hudson Valley, lost 29 percent of its dairy farms in the ten-years between 1989 and 1999. By 2004 there were only 86 dairy farms in a county where, in 1960, there had been about 180 dairy farms. Joe Walsh of the Cornell Cooperative Extension confirmed that the number of local dairy farms continues to decrease. As of 2004, the number of dairy farms in Ulster County had gone down to six, and there were none in Rockland.

As difficult as it is for small farmers to survive, a few farms in the Hudson Valley are doing it. More and more, consumers want to support local agriculture.

Samuel Simon, a retired orthopedic surgeon, started Hudson Valley Fresh in Pleasant Valley last May. The herd is pastured all summer and fed hay and some locally

grown grain. The milk is pasteurized and homogenized at Ronnybrook Farms in nearby Pine Plains. "Everything is within a 30-mile radius. The milk is picked up from the farm on Wednesdays, processed on Thursdays, and delivered to stores on Fridays."

Rick Osofsky at Ronnybrook confirms the European ideal of "eating your view." By buying local, open space and farmland can be preserved. Ronnybrook makes products fresh and delivers them no further than two hours from the farm. Simon agrees: "If you want to keep the Hudson Valley as beautiful as it is, you buy products produced off the land. It costs more because the farmers are small, but more care is given to the animals to provide premium quality."

OLD-FASHIONED RAW MILK. If you want your milk fresh from the cow, short of keeping a dairy cow, options are limited. In New York State, raw milk sales are permitted on the farm only. In the Hudson Valley, Hawthorne Valley is the only farm that is licensed to sell raw milk. However, Connecticut is one of the few states where raw milk, from licensed farms, is legal in stores. Just over the border, in Cornwall and Cornwall Bridge, CT, Local Farm and Stonewall Dairy sell raw milk from their farms and at a few local groceries.

Nina Planck is a member of a NYC moving speakeasy for raw milk. She confirms the existence of a desire for raw milk and dairy products, "Twice a month [she] schleps across town to collect raw milk, cream, butter, yogurt, whey and crème fraiche." There are similar cooperatives throughout the Hudson Valley where members take turns driving long distances to buy raw milk for the whole group.

Many people believe that healthy cows, good farm hygiene, grass-based feed, and nontoxic farming practices make the best quality milk. They believe the many nutritive properties of milk are compromised by pasteurization. Sullivan County, NY recently introduced the cattle health assessment program, which will eventually allow farms to be able to sell raw milk as herds are confirmed to be healthy over a five-year period. The view that safe milk should be guaranteed by inspections instead of mandatory pasteurization is something that will continue to be battled for and against for years to come, no doubt, but it's an industry to be supported for those so inclined.

Now that you know a bit more about milk, you can decide what's in line with your values and budget. ♦



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