

FREEDOM TO EAT FARM FRESH FOODS FROM FERTILE SOIL, ORGANIC RAW MILK, VEGETABLES, ETC.

Joseph R. Heckman, Ph.D.
Extension Specialist - Soil Fertility
The Rutgers New Jersey Agriculture Experiment Station
59 Dudley Road - Foran Hall
New Brunswick, NJ 08901-8520

Farm fresh foods nourished humanity since the dawn of agriculture, but in our modern culture the freedom to eat traditional foods that have not been pasteurized, homogenized, hydrogenated, irradiated, fumigated etc., is being increasingly challenged. Over sixty years ago, Sir Albert Howard declared “fresh food from fertile” soil the birthright of humanity. He, along with other organic pioneers, ignited the organic agricultural movement that continues to build momentum. To simply highlight here the remarkable growth in the demand for organic food would not do justice to the movements less recognized undercurrent: the rebirth of the human craving for truly authentic traditional foods straight from the local organic farm.

The new consumer hunger for traditional, organic nutrient-dense foods is exemplified by the raw milk movement. Raw milk was part of the organic agricultural movement from its inception. The early organic pioneers Walter Northbourne, Eve Balfour, and Jerome Rodale were all advocates for raw milk. In 1958, Jerome Rodale spoke out loudly for organic raw milk: “It is not organic to produce milk organically, and then to pasteurize it.” However, in 2003 when the USDA national organic program (NOP) standards were established, it allowed for organic milk to be pasteurized. This heat process, which denatures enzymes, kills beneficial bacteria, and lowers the nutritional value of the milk, arguably undermines the traditional values of the organic system of food and farming.

Raw milk today continues as an unresolved and contentious issue. Although, the USDA-NOP standards which allow milk to be pasteurized and labeled “USDA Certified Organic”, it is not the end of the battle for organic raw milk. Originally the USDA-NOP also allowed organic foods to be irradiated. The policy regarding irradiation, however, was eventually reversed after a huge public outcry from the organic community. At the time of this policy reversal, the organic raw milk movement was less well-organized to resist pasteurization. The already existing laws mandating that all milk be pasteurized, before sale, in many states also created an insurmountable obstacle to maintaining the integrity of organic milk as a fresh food under the “USDA Certified Organic” label. Another limitation to resolution of this issue is that many people are not well-informed about the nutritional value and safety of organic raw milk.

In the early decades of the organic agricultural movement the USDA and Land Grant Universities ignored or shunned organic agriculture but the movement continued to grow despite the skeptics. It was the 1980 USDA Report and Recommendation on Organic Farming that seemed to initiate the needed

change in attitudes towards organic. While much has changed today with the organic agriculture experiencing growth, and a higher level of institutional acceptance, the raw milk movement continues to face major educational and legal challenges.

Some universities have begun to organize educational and research programs on raw milk. For example, in 2006 the University of Nebraska held a round table on raw milk which was summarized into an Extension fact sheet on Raw Milk Use and Safety. In the spring of 2008, the Rutgers New Jersey Agricultural Experiment Station organized and hosted a seminar series on raw milk to bring the latest science and objective discussion to the public. Excellent summaries of some of the Rutgers University sponsored raw milk seminars have been posted on the web by the Rodale Institute (titles and links below). While these progressive educational programs were important events to draw attention to the raw milk issue, much more research and extension programming is needed to overcome a persistent institutional bias against raw milk. Beyond academia, The Weston A. Price Foundation is the most active organization involved in raw milk educational programs.

Many people, including scientists, have little knowledge about the historic and economic circumstances that lead to the pasteurization of milk in the first place. One of my Extension programs for Rutgers Cooperative Extension is an ongoing effort to collect scientific literature and news articles about raw milk and to share this information electronically with other scientists at Rutgers University, and the public as requested. The best general reference work on the subject of raw milk that I am aware of is *The Untold Story of Milk, Green Pastures, Contented Cows and Raw Dairy Foods*, by Dr. Ron Schmid, ND. This book chronicles how the feeding of whiskey swill to cows in inner city dairies lead to unhealthy cows and poor quality of milk produced under very unsanitary conditions. Two different approaches were used to deal with this milk crisis.

One approach enlisted farmers to produce clean high quality Certified Raw Milk based on exceptional standards of hygiene established by a Medical Milk Commission. This effort, lead by New Jersey physician, Dr. Henry Coit, MD, won the praise of health officials. Unfortunately, the higher costs (4X) that were associated with producing Certified Raw Milk put it at an economic disadvantage. Although Certified Raw Milk predated developments in organic farming, the concepts are analogous to special farming practices and standards employed in organic agriculture for producing high quality certified organic foods for a premium.

The alternative approach for dealing with the milk crisis was pasteurization. It won easy acceptance as pasteurization facilities were subsidized with the financial support of philanthropist Nathan Straus.

For a while consumers had a choice between Certified Raw Milk and pasteurized milk but eventually laws were enacted to mandate pasteurization. Currently sales and distribution of raw milk is illegal in about half of the states including New Jersey. Permits to sell raw milk are allowed in Pennsylvania, New York, and Connecticut. Dairy farmers able to direct market raw milk find it to be more profitable than selling milk to a processor. Direct marketing of pasteurized

milk from the farm is a less profitable option for small dairy farmers due the large investment required for pasteurization equipment.

Considering that milk pasteurization laws were introduced about a century ago and given today's level of technology (milking machines, modern refrigeration, stainless steel, animal disease testing, etc.) and greater knowledge of food microbiology to ensure sanitation, it is now possible to achieve an acceptable level of food safety to enable informed consumer choice with respect to milk. In states where raw milk sales are allowed, there is already a good track record of safety. When raw milk is produced with careful attention to sanitation and good livestock health, the incidence of illness attributable to raw milk consumption is rare. Even with the rapid growth in the demand and consumption of raw milk over the last decade, there does not appear to be a corresponding increase in incidence of food borne disease associated with raw milk consumption.

Members of the organic community already familiar with the history of the organic agricultural movement will know that many scientists and people in positions of authority have over the years made false and misleading statements about organic agriculture that did not stand up to the reality witnessed daily on the organic farm. With this in mind, any intelligent freedom-loving person that passionately cares about food quality can make an informed choice about high quality organic raw milk versus pasteurized milk. Or they can simply submit to the dictates of authorities and accept their pronouncements about raw milk at face value. Unfortunately, many of the pronouncements by "authorities" against raw milk are uninformed and based on a selective review of scientific literature.

A summary of my own analysis of the raw milk literature follows:

1) There is a considerable body of scientific literature reporting that raw milk is superior in nutrition to pasteurized milk. For example, raw milk supplies more vitamin C than pasteurized milk. Raw milk has been found to be more effective at preventing or helping children recover from scurvy than pasteurized milk. Raw milk has active enzymes that aid in the digestion and assimilation of nutrients from the food. These same enzymes are destroyed by pasteurization. Several animal and human feeding trials have demonstrated better growth and performance with raw milk compared to pasteurized milk. While the published literature gives many examples for superior nutrition with raw milk over pasteurized, I am not aware of a single study showing that the nutritional quality of milk is improved by pasteurization.

2) Raw milk contains many antimicrobial properties that inhibit the growth of pathogens. Most of these antimicrobial properties are destroyed by pasteurization. Although pasteurization can destroy many pathogens, the process has no benefit for preventing the growth of newly introduced pathogens post-pasteurization. Based on this information, it may be argued that the antimicrobial properties of raw milk may in some circumstances make raw milk inherently safer than pasteurized milk.

3) A recent study in Europe found that children consuming fresh farm milk are much less susceptible to asthma and allergy. This finding is consistent with antidotal observations that children with asthma benefit from switching from pasteurized to raw milk.

4) Public health officials always warn about the dangers of consuming raw milk but rarely at the same time due they acknowledge that records show that thousands people have contracted food borne illnesses from consumption of pasteurized milk. It must be acknowledged that pasteurization does not always ensure food safety. Even properly pasteurized milk is sometimes directly linked to illness and death. In 2007, for example, *Listeria* from properly pasteurized milk caused the deaths of several people in Massachusetts.

Vegetable and fruit growers and other farmers may wonder about the relevance of the raw milk issue to their farming operation. For one, many people from New Jersey go to neighboring states to purchase raw milk and while there also purchase other farm fresh products including meat, eggs, vegetables, and fruit. The current situation with raw milk in New Jersey is unsustainable in terms of energy consumption and it is inequitable to New Jersey farmers that could profit from this growing niche market. It's the milk that brings customers to the farm market each week. Got Raw Milk? For another, food processing strategies, such as pasteurization, fumigation, and food irradiation, intended to ensure food safety may initially begin as a voluntary program but they may eventually become mandated. Such has been the case with raw milk, raw almonds, and raw apple cider. Irradiation has recently been permitted for salad greens. Irradiation of organic foods is currently not allowed under USDA-NOP standards and organic consumers do not want irradiated foods anyway. But what if this irradiation treatment were to become mandatory?

The current situation with raw almonds may be instructive. In 2007, the USDA imposed a "pasteurization" (processed as steam treatment or fumigation with propylene oxide) mandate on all domestically produced almonds. Imported almonds are exempt from the rule. The mandate is causing economic hardship for organic almond producers that could supply truly raw almonds that are in demand by many consumers. The Cornucopia Institute is providing support to fifteen almond farmers who filed a lawsuit seeking to overturn the raw almond treatment mandate.

The movement to mandate that apple cider be pasteurized is just as controversial. Some consumers prefer raw apple cider and some apple growers want to provide this truly fresh product.

Placing a warning label on raw foods to indicate that they may contain pathogens may be an acceptable approach to both farmers and consumers, but new mandates and 'technological fixes' to control food borne disease are generally not in the interests of small organic farmers and customers. Farmers who want to provide fresh raw foods must be aware that excellent farm management practices are required to ensure cleanliness and safety in production of such foods. Organic farming systems are generally more reliant on

cultural practices to prevent diseases. Pasture based organic dairy farms, for example; typically have healthier cows than confinement dairies and these cows generally produce higher quality milk. Good organic farming practices, that prevent disease in crops and livestock, also apply by extension to the production of safe organic foods such as raw milk, almonds, cider, or salad greens.

People who have a passion for truly farm fresh foods are willing to go the extra mile to satisfy their desire for farm fresh foods. This was illustrated on the 4th of July 2007, when there was a most remarkable coming together between farmers and consumers on an Amish farm in Lancaster County. Over 550 people participated in the founding of The Farm to Consumer Legal Defense Fund, www.farmtoconsumer.org. This organization was formed for the purpose of defending “farmer rights to sell grass-based meats, raw dairy, fresh produce, and other nutritious products directly to consumers”. It also “supports the consumer’s right to obtain such products from farmers.” The organization provides legal advice and legal representation, when farmer and consumer rights are in question.

Today organic food is in greater demand and more popular than ever, but food policy that mandates unnecessary processing is increasingly restricting consumer freedom to enjoy truly authentic fresh organic foods. Much concern has focused on how long distance-transport impacts food freshness, yet industrial food processing may be doing even greater harm to food quality. One of the ecological philosophies of the organic system is that only natural unrefined raw materials be used to “feed the soil” and build soil fertility. Another is the production of compost through the biological process of fermentation. In general, these same principles carryover to the management of organic foods in that they are ideally fresh, raw, minimally processed, or fermented. Thus, whether it is fertilizer or food, the same general philosophy of avoiding harsh industrial types of processing applies. Sir Albert Howard predicted that soil fertility would one day be the foundation of the public health system of the future, but such a vision requires that “fresh food from fertile soil” not be mishandled in its pathway to the people.

References

I invite anyone with a serious interest in the issue of raw milk to read the volumes of literature I have collected on this subject.

Rutgers University Raw Milk Seminars:

- 1) Raw Milk, Mother Nature's Inconvenient Truth by Mark McAfee, Organic Pastures Dairy: <http://www.rodaleinstitute.org/20080515/n1>
- 2) Raw Milk Wars, Government's Attempt to Dictate What Foods We Can Consume, David G. Cox, Attorney at Law, Lane, Alton & Horst LLC: <http://www.rodaleinstitute.org/20080612/nf1>
- 3) Raw Milk, A Microbiology Primer, Dr. Mark Gebhart, MD, Wright State University <http://www.rodaleinstitute.org/20080717/n1>
- 4) A Risk Assessor Takes a Look at Raw Milk, Dr. Don Schaffner, <http://www.rodaleinstitute.org/20080911/n1>