

In Defense of Living Organic Farm Fresh Foods

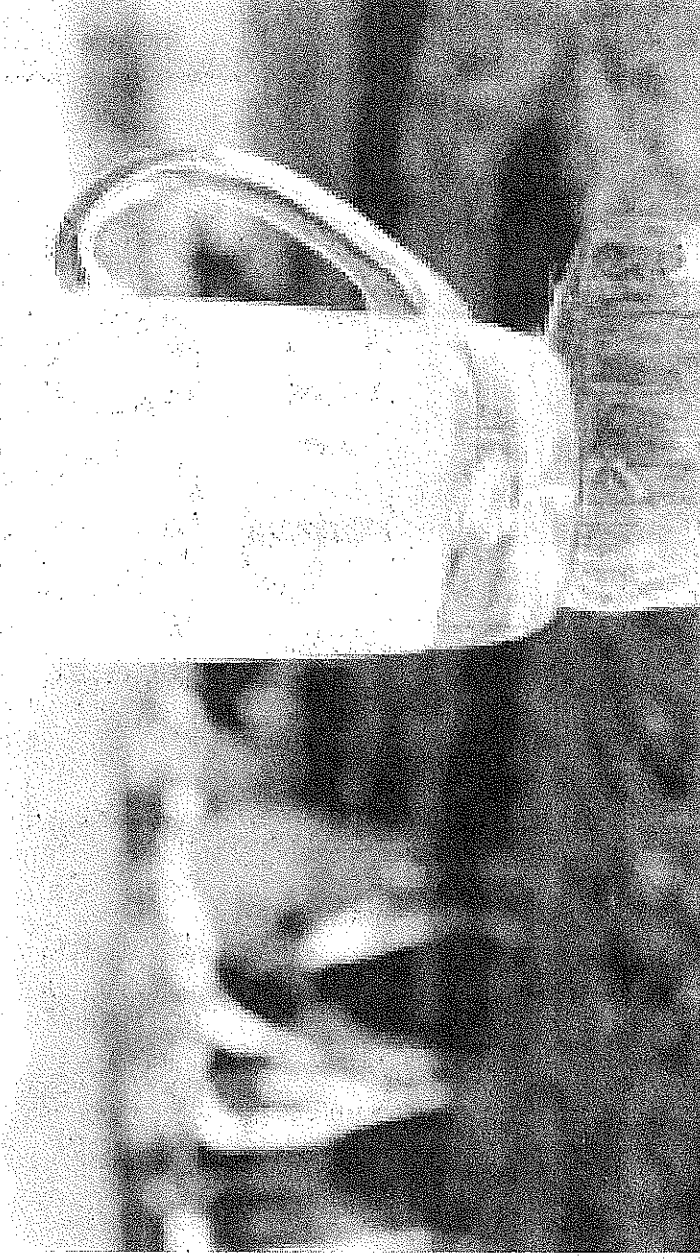
by Joseph R. Heckman, Ph.D.
Extension Specialist - Soil Fertility
The Rutgers New Jersey Agriculture Experiment
Station

59 Dudley Road - Foran Hall
New Brunswick, NJ 08901-8520

Farm fresh foods have 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. Among the many forces behind this movement, there is a human craving for truly authentic traditional foods straight from local organic farms.

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.

As early as 1940, Walter Northbourne summarized the issue in his classic *Look to the Land*. "So long as people go on being fooled by advertisement (blatant or concealed) of processed foods, so long will they and the farmers be at the mercy of vast distributing concerns, whose every interest seems to be opposed to the people's real nutritional necessities. How can it be otherwise in a world of specialization and urbanization? Effective distribution seems to necessitate sterilization, which means killing, for failure to sterilize may mean infection in bulk. Hence the outcry for the pasteurizing of milk. But



sterilization reduces the resistance to infection and the power of assimilation of the consumer of that which is sterilized. So yet more sterilizing seems to be necessary. A vicious circle again, of a type which should by now be familiar."

In *The Living Soil* by Eve Balfour (1975 edition, first published in 1943) she discusses her concerns with compulsory pasteurization: "It is still possible for some country folk to get unpasteurized milk legally, but in towns and cities there is no longer any source of supply. This is to be regretted. With

the high standard of hygiene which all producers of milk for sale must now follow, and with the ease of refrigerated transport, there is much to be said for having two classes of milk- 'cooking milk' which might just as well be pasteurized, because it is going to be heated anyway, and 'drinking milk' (for those who wanted it) which would be raw milk, supplied under license from certified healthy cows. Nutritionally there is a world of difference between the two. Pasteurization, and also of course cooking, injures both the vitamin and calcium content of milk, and the beneficial lactic acid bacteria, which

attack disease organisms (and in the process cause souring) are killed by heat, leaving pasteurized milk as a perfect breeding ground for any subsequent contamination." In this same book chapter, she quotes Dr. Robert McCarrison to provide a perspective on the "something" of freshness: "There is something in *freshness* and *quality* of foods which is not accounted for by the *known chemical* ingredients of food: proteins, fats, carbohydrates, minerals and vitamins."

In 1958, Jerome Rodale succinctly and loudly spoke out for organic raw milk: "It is not organic to produce milk organically, and then to pasteurize it."

By 2003, however, 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 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 standards 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 compulsory 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 organic agriculture experiencing growth and a higher level of institutional acceptance, the raw milk movement continues to face major educational and legal challenges:

Some institutions 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). In March 2009, raw milk was on the program for the Northeast Pasture Consortium (involving USDA-ARS, land grant colleges, and non-profit research institutions) annual meeting where Mark McAfee of Organic Pastures, a raw milk dairy farm in California, was invited to speak. 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. Non-governmental organizations with active raw milk educational programs include The Weston A. Price Foundation and the Farm to Consumer Legal Defense Fund.

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, is: *The Untold Story of Milk, The History, Politics and Science of Nature's Perfect Food: Raw Milk from Pasture-Fed Cows*, by Dr. Ron Schmid (revised and updated second edition, New Trends Publishing, 2009). This book chronicles how the feeding of 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

**Do you heat with wood? Do you own a woodlot?
Let us transform your logs into firewood!**

a Medical Milk Commission. This effort, led by New Jersey physician, Dr. Henry Coit, MD, won the praise of health officials. Unfortunately, the higher costs (4X) 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 time 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 many states including New Jersey, where I live. Like other raw milk drinkers in New Jersey, I must drive past local farms that wish to sell raw milk on my way to farms in neighboring Pennsylvania, where sales are permitted.

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 to the large investment required for pasteurization equipment. In fact, compulsory pasteurization drove many small dairy farms, which once produced high quality raw milk, out of business.

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 guide 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 a good track record of safety. When raw milk is produced with careful attention to sanitation and

reported be "adequate".

2) 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.

3) Raw milk contains microbial growth inhibitors such as lactoferrin and the lactoperoxidase system. While pasteurization kills pathogens, most of the antimicrobial properties of raw milk are also destroyed by pasteurization. Thus, contamination after processing is a concern with pasteurized milk.

4) 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 anecdotal observations that children with asthma benefit from switching from pasteurized to raw milk.

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 who travel out-of-state to purchase farm fresh raw milk also like to purchase other farm fresh foods including meat, eggs, vegetables, and fruit from the same farm. The current situation with raw milk is unsustainable in terms of energy consumption for travel and it is inequitable to local farmers who 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

good livestock health, the likelihood of illness attributable to raw milk consumption is small but not zero. There has not been an apparent increase in incidence of food borne disease associated with raw milk consumption over the last decade following increased demand and consumption of raw milk.

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 real organic farms. With this in mind, any intelligent freedom-loving person that cares deeply about food quality can make an informed choice about high-quality organic raw milk versus pasteurized milk. Or one 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 milk literature follows:

1) Government agencies typically point out the risks of drinking raw milk without acknowledging comparable food safety risks associated with consuming pasteurized dairy products. This leaves the impression that pasteurization of milk makes the food perfectly safe, but the facts are that pasteurized milk is sometimes linked to sickness and death. In 1985, it was pasteurized milk that was responsible for a massive outbreak of Salmonellosis in Illinois, that affected more than 168,000 people (Journal of the American Medical Association, vol. 258, 1987). In 2000, pasteurized milk from a dairy plant in Pennsylvania was responsible for a multi-state outbreak of Salmonellosis. In 2007, an outbreak of Listeria, that sickened five people and killed three men and one unborn child, was linked to properly pasteurized milk in Massachusetts (Journal of the American Medical Association, vol. 301, 2009). In this recent Massachusetts outbreak, the pasteurized milk came from a facility where the operations were

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food irradiation, intended to ensure food safety may initially begin as voluntary programs but they can eventually become compulsory. 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 rules. Most people who seek organic do not want irradiated foods anyway. But what if this irradiation treatment were mandated?

The current situation with raw almonds is 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 who could supply truly raw almonds that are in demand by many consumers. The USDA rule is also deceptive in that treated almonds are allowed to be labeled as "raw". There is nothing inherently unsafe about raw almonds, but for the way they are typically harvested by sweeping them up from the orchard floor - which sometimes, by chance, also sweeps up animal droppings. The Cornucopia Institute is supporting efforts by organic almond farmers attempting 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. Sale of raw apple cider is not allowed in some states.

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 compulsory 'technological fixes' to control food borne disease are usually 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. I see this every week when I meet other people from New Jersey on my weekly trips to the organic dairy farm in Pennsylvania to get my organic pasture-fed farm fresh raw milk (half of the farm's customers are reported to be from New Jersey).

I also witnessed a remarkable event on the 4th of July 2007, in the gathering of farmers and consumers on an Amish farm in Lancaster County, Pennsylvania. 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.

Perhaps the widespread restoration of farm fresh raw milk as a staple food will one day become a reality and a new chapter will begin in the history of the organic farming movement. For a history of organic farming see: www.westonaprice.org/farming/history-organic-farming.html. In the forward to the *Untold Story of Milk Sally Fallon*

writes: "Twenty years ago organic agriculture was a fringe movement, barely on the mainstream radar scope, a subject commentators treated with derision and politicians with scorn... Raw milk today is a fringe movement, a crusade of underdogs, a pesky inoise against the entrenched lions of medicine and industry."

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 carry over 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 processing technologies 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 or restricted in its pathway to the people.

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>

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A Milk Experiment You Can Do at Home

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Here is a simple experiment people can try at home: Take a container of store bought pasteurized whole milk and pour it into a glass

and let it sit out on a counter. Right beside it place another glass and pour into it farm fresh raw milk. Over the next seven to ten days observe with your nose and eyes what happens in each glass. Do not eat this, but take note of which contain a substance that most resembles food.