

## Proposal P1007 – Primary Production & Processing Requirements for Raw Milk Products

This submission is sectioned into 3 parts:

1. Cover letter
2. Personal experiences with Raw Milk products
3. Evidence supporting the availability of Raw Milk products

### **1. Cover letter**

#### **Proposal P1007 – Primary Production & Processing Requirements for Raw Milk Products**

Below is our submission in support of the continued availability of legal, raw goat's milk in the market place in Queensland. Our reasons for this are as follows:-

- To preserve a dynamic, competitive, localised raw milk industry, where the consumer has a choice of type and quality of product.
- Knowledge of conditions under which animals are farmed (e.g. organic, free-range, health, animal welfare etc.) and the knowledge that there are quality control practices in place.
- We feel that any legislation that removes my FREEDOM OF CHOICE to decide between brands and type of milk for my personal consumption an infringement on my BASIC HUMAN RIGHT to choose and make decisions on how we manage our own health.
- We prefer to use raw goat milk to pasteurised goat milk for the following reasons:
  - Palatability.....
  - Easier digestibility.....
  - Retention of both protective and digestive enzymes.....
  - The integrity of the protein profile and fat profile is not compromised (some proteins and fats are heat sensitive and damaged by the pasteurisation process)

We were recommended to use raw goat milk by our Naturopath

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## **2. Personal experiences with Raw Goats Milk**

My wife and I have been opting to consume/ingest food that has retained its natural integrity as much as possible. This was most imperative following a diagnosis of cancer for my wife. Thus we resort to organic food and to raw food products whenever we can.

I have been consuming Raw Goats Milk for the past few years. I have noted the benefits of this choice for my overall health in large and small ways. I shall go through these points in this submission.

My wife and I have had to drink goat's milk as an alternative to Cow's milk since becoming lactose intolerant. My wife and I have become lactose intolerant over time (approx 25 years for my wife and 15 for me) from consumption of pasteurised milk products. We have come to understand this biological change as a consequence of consuming pasteurised milk products (milk or cheese) over the years.

When drinking Raw Goats Milk we firstly notice that there is a subtle aroma to it, indicating that it is safe to drink and that good bacteria inhabit the product (as opposed to bad bacteria or a contaminated product due to an offensive odour or smell). This is not the case with the pasteurised equivalent product. The most common pasteurised product of goat's milk available in the supermarket seems to have a strong smell, a by-product of being pasteurised.

Another difference between Raw Goats milk and pasteurised Goats milk is in the digestive process. Common symptoms such as bloating, diarrhoea, flatulence and excess mucus are no longer a worry. My body feels less lethargic after consuming Raw milk as opposed to pasteurised products, indicating that my digestive system is less compromised while performing its natural function. I never feel bloated from raw goat's milk (or raw cow's) as I do after drinking the pasteurised equivalent product. Shortly after drinking pasteurised milk I get a gut reaction and need to go to the toilet. This never happens with Raw Goats (or cow's) Milk which leads me to believe that this is much healthier for my body and for the integrity of my overall health, as the product itself is ethically intact.

For my wife, the consumption of raw milk products is once again possible. She had been lactose intolerant for years prior to being diagnosed with cancer and then having to resort to a dairy free diet as part of her recovery. My wife is better able to metabolise let alone consume raw products compared to pasteurised products. For her, the ability to consume dairy products once again, has been a significant turning point to her health. Her body is once again able to handle such a complex food which in turn only helps to strengthen her body and restore her health, but only in its natural stage. She continues to show signs of being lactose intolerant if she consumes pasteurised cow's milk and experiences bloating and flatulence with pasteurised goat's milk. None of these symptoms persist if they are consumed in their ethical state – that is, Raw.

Therefore, how we both feel after consuming a product is a significant marker about how our body is metabolising that product during the natural digestive process. It is also an indication that: a) the integrity of that product is recognisable by the biological functions of the digestive track and b) that all compounds and micro-organisms are working in synergy for the digestion, absorption and metabolism of that product into energy for the body.

It has been a welcomed change that Raw Goat's milk allows us to feel and live much happier and content that our bodies are digesting a healthier alternative to what is available on the market today. We refuse to buy anything pasteurised nowadays as we know the significant difference it makes to our own health and wellbeing.

There are various sources of information publicised attempting to highlight the dangers and health risks arising from the consumption of raw milk products. The information is inaccurate and misleading. This is dangerous dissemination of information especially since much effort and regulation has been put in place by FSANZ to ensure a safe and hygienic product is made available to the public. In our opinion it is more valid to pursue the need for stringent hygiene practices to be maintained by all producers of raw milk products rather than resorting to pasteurising as the means to achieving safe practices. Historically, the need to uphold a standard of hygiene has been paramount to human health – the Bubonic plague is one such famous example!

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If stringent hygiene practices are adhered to by all producers of Raw Goat's Milk this will ensure the continuation of an ethical product being available to the public as clean and safe to consume. Pasteurising is far from being the solution to upholding or ensuring the hygiene and safe production of Raw Goat's Milk. Instead it destroys and hinders the integrity of such a food from being safe for human consumption. The natural defence micro-organisms that are inherently found in natural produce such as Raw Milk are destroyed and/or altered thus rendering the food item indigestible for the long term. No wonder there has been an increase of dairy intolerances in our population over the years. My wife and I are examples of this and so are numerous other people around us who are suddenly becoming intolerant to pasteurised milk: parents, aunties, siblings, friends, young children.

It appears to be a fact of life that bacterial problems can occur within the food industry at times, whether that be food preparation, preservation or outlets. The outbreak of bacterial problems in the raw dairy industry is significantly less compared to the number of incidents involving the food industry or pasteurised dairy products. There are more statistics that show far more incidences of food poisoning involving 'modified' dairy products when compared to Raw dairy products, indicating that safe food practices and best practice methods are successful.

With such modern and technologically advanced systems available today, surely this simple principle of hygiene can be achieved. If the correct systems are in place, for health and safety, then the safe consumption of Raw Goats Milk can be assured to all consumers. It is more conducive that correct, hygienic and safe delivery systems are put in place as opposed to damaging the natural integrity and ethical standard of Raw Milk by describing the situation as being 'unsafe', 'getting out of hand' or 'losing control'. It is far more common to become ill or experience discomfort from the consumption of commercially prepared food and pasteurised milk that has been ill prepared than it is from drinking Raw Milk products (refer to section 3 of this submission).

The health benefits of consuming Raw Goats Milk far out-weigh the need to put a stop to it being available throughout our modern society. We all need to have a choice to what we can buy to further enhance our lifestyles and as a personal responsibility to looking after ourselves. No Governing body or department has the right to take away or refuse this basic right nor tell each of us how to live, which crosses over to what we can and can't consume. The focus needs to be on how FSANZ can put in checks for the SAFE delivery of Raw Goats Milk to the consumers not denying access to such a choice of product.

There is an obvious need to create clean, hygienic state, safe methods of delivering Raw Goats milk products to the public. This includes the utmost importance of good hygienic practices and ensuring that the stock is well fed (none of this grain fed, nutrient depleted feed that is available for the convenience for the commercial farmer) and that the extraction and storage of the Raw Goats milk is safely delivered to the public. If the main concern is limiting the supply of Raw Goats milk because of the notion 'what if people get sick?', then people need to become responsible for what they buy, store and consume on a daily basis. There are many dangers out there for the public, such as buying fast food that has been left in the bain marie for many hours.

As noted under <http://www.foodstandards.gov.au/consumerinformation/foodrecalls/foodrecallstats.cfm> the food recall statistics show the impact and importance of adhering to hygienic and safe food practices but does not identify any of the recalls to be a result of Raw Goat's (or cow's) Milk products. It may be appropriate to conclude therefore, that stringent and regulated safety measures that have been put into practice for ensuring that "potential microbial contamination" is eliminated in the interest of public health and for the safe consumption of Raw dairy products.

Concerns around hygiene and health practices are a significant point. It is mandatory to have safe food practices in place and to have stringent standard practices in order to ensure the safe consumption of consumable products. There is no question about the validity of this point for human health and safety. So checks and systems can be put into place, to ensure that this regulated system continues to provide safe foods for the consumers, who rightly have the 'choice' to decide what and when they can consume a product (unmodified by humans).

It is when this type of food activity is not regulated which forces the consumer to simply 'give-up' on consuming these Raw products or to seek out alternative sources, which can be more dangerous

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than the present availability. We have highlighted the information that relates to the issues that have been raised by the current proposal P1007.

In conclusion, we have touched on the many benefits that Raw Goats Milk has provided for my wife and I. The FSANZ proposal regarding the concerns of Raw Goats Milk, and how this affects the consumer, needs to focus more on how safety & hygienic systems can be placed as is currently with the dairy corporations.

For the FSANZ's Raw milk products – questions and answers, refer to:

<http://www.foodstandards.gov.au/foodstandards/primaryproductionprocessingstandardsaustraliaonly/dairyrawmilkproducts/rawmilkproductsquest5235.cfm>

### **3. Evidence from various sources**

**Below are highlighted extracts from various sources of information:**

<http://www.slowfood.com/international/23/raw-milk>

Raw milk avoids the process of pasteurization – essentially the cooking of milk – which kills the potentially harmful microorganisms that proliferate in milk left at unsuitable temperatures or lurk in milk from unhealthy animals. The pasteurization of milk is a consequence of the change in farming methods in the last half century, which led to a poorer quality of life of the animals and therefore an increase in the risk of disease. But when cheese is made carefully, usually on a small-scale, pasteurization is unnecessary and avoided since it kills the beneficial microflora that contribute to the unique flavour of a cheese. It's no coincidence that great cheeses such as Parmigiano-Reggiano, Roquefort and Emmentaler are made from raw milk.

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[http://www.raw-milk-facts.com/raw\\_milk\\_safety.html](http://www.raw-milk-facts.com/raw_milk_safety.html)

...make no mistake, ANY food can be contaminated. It usually boils down to how it was produced, handled and packaged.

Take the pasteurization process, for instance. While it certainly destroys bacteria, good and bad (and thus reduces the potential for infection), it's far from flawless (4).

Pasteurized milk still sickens people, and in far greater numbers than the more heavily regulated raw product (5). The real question ought to be, how are pathogens getting anywhere near cows to begin with.

The Swedes have practically eliminated *Salmonella* from their herds. At one dairy feeding organic grass to their cows, the very manure is pathogen-free (6)!

Raw milk from cows fed diets heavy in grain (7), soybeans (8) and cottonseed meal (9), etc., apparently cannot effectively protect itself from pathogenic infection. Everyone agrees, it *must* be pasteurized.

Heating milk renders its immunoglobulins less capable of bacterial self-defense (10). With the destruction of its tiny bacterial lactic acid factories and other heat-sensitive anti-microbial substances, it can no longer protect itself as effectively (11)(12).

To repeat: without the minerals and nutrients from a diet of fresh green grass that millions of years of evolution have coded for, the milk is just not made with the normal bevy of bactericidal ingredients designed by Nature to stifle unwanted microbial growth.

References:

(1) <http://en.wikipedia.org/wiki/Probiotic>

(2) <http://aem.asm.org/cgi/content/abstract/72/5/3314>

(3) <http://www.sciencedaily.com/releases/2009/02/090216131153.htm>

(4) Fahey, T., Morgan, D., et al, 1995. An outbreak of *Campylobacter jejuni* enteritis associated with failed milk pasteurization. J of Infection 31:137-43

(5) [http://findarticles.com/p/articles/mi\\_m1370/is\\_v20/ai\\_4119044](http://findarticles.com/p/articles/mi_m1370/is_v20/ai_4119044)

(6) <http://www.organicpastures.com/faq.html> (Question #9)

(7) <http://www.thecattlesite.com/diseaseinfo/193/rumen-acidosis>

(8) <http://www.realmilk.com/soy.html>

(9) <http://ids.fass.org/cgi/reprint/68/10/2608>

(10) [www.dairyscience.info/inhibitors-in-milk/51-inhibitors-in-milk.html](http://www.dairyscience.info/inhibitors-in-milk/51-inhibitors-in-milk.html)

(11) [Effect of heat treatment on camel milk proteins with respect to antimicrobial factors: a comparison with cows' and buffalo milk proteins](#)

(12) <http://aac.asm.org/cgi/reprint/45/4/1298>

(13) <http://www.lipidworld.com/content/6/1/25>

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<http://www.realmilk.com/soy.html>

I have followed for many years the sickening effect of soy on ruminants. Cows that formerly could easily reach the age of 15 years and have 12 calves have on average now less than three calves and reach hardly the age of six. One main reason is the high percentage of soy in the rations. It works into the build up of ammonia in the rumen. This affects negatively the liver and then shows up in mastitis and sterility. Off they go to the butcher. Only there can a vet identify the defective livers. The soybean, bringing about high milk yields in the first two lactations, is the curse of our cattle herds. And the milk achieved through it is not health promoting either. . . If awake consumers, environmentalists, nutritionists and farmers do not work concretely together in the future there will not be any healthy farms nor healthy foods.

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<http://www.sciencedaily.com/releases/2011/05/110518092146.htm>

University of Granada researchers have found that goat milk has many nutrients -as casein- that make it similar to human milk. Goat milk contains less casein alpha 1 -as human milk-, which is responsible for most allergies to cow milk. Therefore, goat milk is hypoallergenic. "For this reason, in some countries it is used as the basis for the development of infant formula in place of cow milk,"

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<http://www.realmilk.com/documents/SheehanPowerPointResponse2009Oct.pdf>

### Biased Studies Fail to Indict Raw Milk

As shown in the table below, *all* of the 15 reports associating outbreaks of foodborne illness with raw milk that the FDA cites are seriously flawed. Not one of the studies showed that pasteurization would have prevented the outbreak.

#### The Failure of Pasteurization

The most important flaw in the reports that the FDA cites is that none of them generates any evidence that pasteurization would have prevented the outbreak. In reality, pasteurization is not in any way a foolproof means of eliminating pathogens.

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<http://www.realmilk.com/rawmilkoverview.html>

### The Safety of Raw Milk:

PROTECTIVE COMPONENTS: Raw milk contains numerous components that assist in:

Killing pathogens in the milk (lactoperoxidase, lactoferrin, leukocytes, macrophages, neutrophils, antibodies, medium chain fatty acids, lysozyme, B12 binding protein, bifidus factor, beneficial bacteria);

Preventing pathogen absorption across the intestinal wall (polysaccharides, oligosaccharides, mucins, fibronectin, glycomacropeptides, bifidus factor, beneficial bacteria);

Strengthening the Immune System (lymphocytes, immunoglobulins, antibodies, hormones and growth factors) (*Scientific American*, December 1995; *British J of Nutrition*, 2000:84(Suppl. 1):S3-S10, S75-S80, S81-S89).

PASTEURIZATION HARMFUL: Many of these anti-microbial and immune-enhancing components are greatly reduced in effectiveness by pasteurization, and completely destroyed by ultra-pasteurization (*Scientific American*, December 1995; *British J of Nutrition*, 2000:84(Suppl. 1):S3-S10, S75-S80, S81-S89).

DANGERS EXAGGERATED: Although raw milk, like any food, can become contaminated and cause illness, the dangers of raw milk are greatly exaggerated. In an analysis of reports on 70 outbreaks attributed to raw milk, we found many examples of reporting bias, errors and poor analysis resulting in most outbreaks having either no valid positive milk sample or no valid statistical association

([ResponsetoMarlerListofStudies.pdf](#)).

OUTBREAKS DUE TO PASTEURIZED MILK: Due to high-volume distribution and its comparative lack of anti-microbial components, pasteurized milk when contaminated has caused numerous widespread and serious outbreaks of illness, including a 1984-5 outbreak afflicting almost 200,000 people. In 2007, three people died in Massachusetts from illness caused by contaminated pasteurized milk ([Real Milk PowerPoint](#), slide 30).

MODERN ADVANTAGES: Compared to 30-50 years ago, dairy farmers today can take advantage of many advancements that contribute to a dramatically safer product including pasture grazing, herd

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testing, effective cleaning systems, refrigeration and easier, significantly less expensive, more accessible and more sophisticated milk and herd disease testing techniques.

**BENEFITS IN EARLY ANIMAL STUDIES:** In early animal studies, animals fed raw milk had better growth, denser bones, greater integrity of internal organs, less anemia, fewer signs of anxiety and stress, and fewer signs of nutrient deficiency than animals fed pasteurized milk ([Real Milk PowerPoint](#), slides 57, 59-64).

**DANGERS OF PASTEURIZED MILK:** Many studies have linked consumption of pasteurized milk with lactose intolerance, allergies, asthma, frequent ear infections, gastro-Intestinal problems, diabetes, auto-Immune disease, attention deficit disorder and constipation. During a period of rapid population growth, the market for fluid pasteurized milk has declined at 1% per year for the past 20 years. Fewer and fewer consumers can tolerate pasteurized (and ultrapasteurized) milk (*Don't Drink Your Milk*, Frank Oski, MD, 1983).

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<http://www.realmilk.com/ppt/index.html> - refer to power point for more details

- Fivefold Protective System in Raw Milk
- Destroys pathogens in the milk.
- Stimulates the Immune system.
- Builds healthy gut wall.
- Prevents absorption of pathogens and toxins in the gut.
- Ensures assimilation of all the nutrients.

What is Pasteurization?

PASTEURIZATION is a process that slows microbial growth in food.

NOT INTENDED TO KILL ALL PATHOGENS: Pasteurization is not intended to kill all pathogenic micro-organisms in the food or liquid, but aims to reduce the number of viable pathogens so they are unlikely to cause disease.

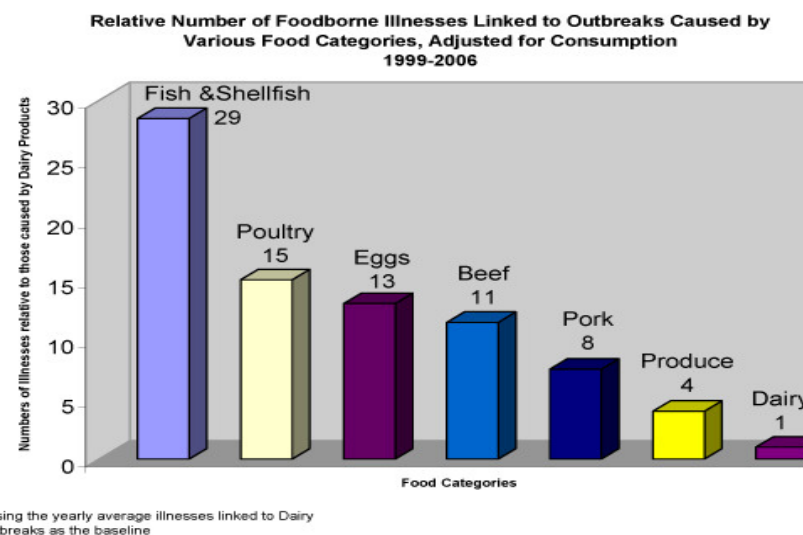
TWO MAIN TYPES of pasteurization used today:

1. High Temperature/Short Time (HTST): 161° F (72° C) for 15-20 seconds
2. Ultra-Heat Treated (UHT): 280° F (138° C) for fraction of second

RAPID HEATING: Both treatments involve rapid heating by forcing the milk between super heated stainless steel plates.

<http://en.wikipedia.org/wiki/Pasteurization>

### Food-Borne Illness 1999-2006



While raw milk often gets the blame for food-borne illnesses, *Campylobacter* is the most common cause and is best known for contaminating meats.

*Applied and Environmental Microbiology*, 2001:67(12):5431-5436



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### ***Listeria monocytogenes* – Deadly food pathogen**

Raw milk is often blamed for causing infection with *Listeria Monocytogenes*, a deadly food pathogen that can cause severe illness and fetal death, premature birth or neonatal illness and death.

In a 2003 USDA/FDA report: Compared to raw milk

515 times more illnesses from *L-mono* due to deli meats

29 times more illness from *L-mono* due to pasteurized milk

On a PER-SERVING BASIS, deli meats were TEN times more likely to cause illness

FDA: “Raw milk is inherently dangerous and should not be consumed.”

Where are the FDA’s charges that deli meats are “inherently dangerous and should not be consumed?”

Where is the FDA’s exhortation to “everyone charged with protecting the public health” to “prevent the sale of deli meats to consumers”?

*Interpretive Summary – Listeria Monocytogenes Risk Assessment*,

Center for Food Safety and Applied Nutrition,

FDA, USDHHS, USDA, Sept. 2003, page 17

### **Raw Milk from Conventional Dairies – Not Recommended**

Even though populations of pathogens are reduced and even eliminated when added in very large quantities to raw milk, we do NOT recommend consumption of raw milk from confinement dairies.

Under extreme conditions, the multiple anti-microbial components of raw milk may be overwhelmed.

ORGANIC PASTURES: Since 1999, over 40 million servings of Organic Pastures raw milk, not one confirmed illness; in over 1,300 tests, not one proven illness and no pathogens found in the milk or milking area, or in any of the dairy cows being milked on the farm.

CLARAVALE: In Claravale Farm’s 80-year history, no consumers of their milk have ever gotten sick from milk-borne pathogens and no pathogens have ever been detected in the milk.

PASTEURIZED OUTBREAKS: Since 1999, several pasteurized milk products recalled and one publicized outbreak of illness due to pasteurized milk during the same period, an outbreak of *Campylobacter* that sickened 1,300 inmates in 11 state prisons.

<http://www.campylobacterblog.com/2006/06/articles/campylobacter-watch/spoiled-milk-apparently-sickened-1300-inmates-at-11-prisons/>

### **Feedlot vs. Pastured Cattle**

Studies show that factory-farmed cattle have 300 times more pathogenic bacteria in their digestive tracts than cattle that are allowed to openly graze in pastures.

Peck, John E. “Spinach Crisis Reflects Need For Smaller Farms,”

*The Capital Times*, A8, October 2, 2006

### **Summary of Raw Milk Safety**

SAFEST FOOD: Raw milk is safer than any other food. It is, after all, the only food suitable for the newborn, and the newborn has no immunity yet.

BUILT-IN SAFETY MECHANISMS: Raw milk is the ONLY food that has built in safety mechanisms.

40-YEAR-OLD SCIENCE: Claims that raw milk is unsafe are based on 40-year-old science.

COURT OF LAW: Claims that raw milk is unsafe would not hold up in a court of law.

### **Asthma & Raw Milk – 2007**

In a study of 14,893 children aged 5-13, consumption of raw milk was the strongest factor in reducing the risk of asthma and allergy, whether the children lived on a farm or not.

The benefits were greatest when consumption of farm milk began during the first year of life.

*Clinical & Experimental Allergy*. 2007 May; 35(5) 627-630.

### **Raw Milk Digests Itself!**

ACTIVATED ENZYMES: The enzymes in raw milk, when activated by the appropriate pH of the digestive tract, become activated and digest all the components in the milk.

NO WORK: The body’s digestive apparatus does not need to do any work to digest raw milk.

CURATIVE, ENERGIZING: This is a major reason raw milk has such extraordinary healing and energizing powers.

OVERBURDEN: Pasteurized milk puts a huge burden on the digestive apparatus and for many is impossible to digest.

### Lactose Intolerance

Results from a survey by Opinion Research Corporation (commissioned by the Weston A. Price Foundation) indicate that about 29 million Americans are diagnosed lactose intolerant. Results from a private survey carried out in Michigan indicate that 82 percent of those diagnosed as lactose intolerant can drink raw milk without problem.

Thus, almost 24 million Americans diagnosed as lactose intolerant could benefit from raw milk.

[www.realmilk.com/documents/LactoseIntoleranceSurvey.doc](http://www.realmilk.com/documents/LactoseIntoleranceSurvey.doc)

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<http://www.realmilk.com/documents/SheehanPowerPointResponse2009Oct.pdf>

### Biased Studies Fail to Indict Raw Milk

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<http://www.realmilk.com/documents/ResponsetoMarlerListofStudies.pdf>

### Raw Milk: What the Scientific Literature Really Says

In reality, very few of these papers provide convincing evidence that raw milk causes foodborne illness. In fact, a number of these citations are reports of outbreaks traced to *pasteurized milk*, reviews focusing on the dangers of *pasteurized milk*, or letters to the editor supporting the right of consumers to purchase raw milk.

Aside from these exceptions, however, most of the cited literature does purport to implicate raw milk. A few of these are convincing. However, most of them represent a rush to judgment in which the investigators blamed raw milk without sufficient evidence or even in the face of contrary evidence. The occasional use of derogatory phrases, boasts of interference with the commercial success of raw milk farmers, and praise for the centralization and commercial exploits that the pasteurization movement has brought to the dairy industry constitute further evidence that the raw milk literature is often dominated by politics instead of science.

Ultimately, there are two questions that Marler's review fails to adequately address. First, is raw milk uniquely dangerous, such that it should be singled out for prohibition or damaging regulation? Second, is there a reason that producers and consumers should not have the liberty to engage in voluntary exchanges without lawyers and bureaucrats telling them what to eat and drink?

**1997. Bielaszewska, M., J. Janda, K. Blahova, H. Minarikova, E. Jikova, M. A. Karmali, J. Laubova, J. Sikulova, M. A. Preston, R. Khakhria, H. Karch, H. Klazarova, and O. Nyc. 1997. Human Escherichia coli O157:H7 infection associated with the consumption of unpasteurized goat's milk. Epidemiol Infect 119:299-305.**

This report describes five cases of hemolytic uremic syndrome (HUS) associated with *E. coli* O157:H7 contracted by four children living in Northern Bohemia of the Czech Republic, three of whom drank raw goats' milk from a single farm. One of the three was a resident of the farm. One of the two goats heavily shed the matching organism in its feces for a period of time coinciding with the outbreak, but its milk tested negative. The mother of one of the cases had evidence of infection, suggesting person-to-person contact. The investigators ruled out person-to-person contact between the cases, but they did not investigate the possibility of transmission through person-to-person contact with the farmer at, for example, the farmers' markets at which the milk was purchased, or contact with any objects associated with the farmer, any of which could have been contaminated due to the heavy fecal contamination present on the farm. Evidence of exposure to the organism was higher in 15 drinkers of raw goats' milk than in controls, but the farmer could only provide contact information for relatives and their neighbors who likely had contact with the farm and could not provide contact information for people who purchased his milk at local markets. Consumption of milk could therefore have acted as a proxy for contact with the farm, farm residents, or objects associated with the farm in both parts of the study.

VERDICT: There is no conclusive evidence in this report linking illness to raw milk.

**2005. Ikeda, T., N. Tamate, K. Yamaguchi, and S. Makino. Mass outbreak of food poisoning disease caused by small amounts of staphylococcal enterotoxins A and H. Appl Environ Microbiol 71:2793-5.**

This outbreak, affecting more than 10,000 people, was attributed to milk reconstituted from skim milk powder, not to raw milk. The fact that the abstract refers to the skim milk powder as the "raw material"



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from which the milk was reconstituted may have made the study turn up in a keyword search for “raw milk,” but that does not mean the milk implicated was unpasteurized!

VERDICT: This is by far the largest outbreak cited in this entire list and the authors of the report clearly attribute it to a pasteurized and processed milk product, not to raw milk.

Finally, raw milk advocates point out that *pasteurized milk* also causes disease, and that while it is possible to get sick from raw milk, raw milk does not pose a unique threat.

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<http://www.realmilk.com/documents/MarlerResponse.pdf>

...Marler judges the evidence in favor of raw milk by whether it can be “recommended” for certain uses. Raw milk advocates, however, are not currently fighting for governmental or other official agencies to recommend raw milk. Rather, they are fighting for the right of the producers and consumers of raw milk to engage in voluntary exchange and make their own decisions about what types of products to sell, buy, and consume.

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... it may be premature for a government agency or scientific body to make an evidence-based recommendation to use raw milk to prevent allergic disease, but parents and others should have the legal right to make informed decisions to act on the reasonably supported but yet-unproven hypothesis that raw milk consumption supports proper immune development and lowers the risk of allergies.

There is anecdotal evidence that raw milk may be useful in treating autism in some cases. While controlled experimental evidence may not exist, parents of autistic children should have the right to try what *may* work for their own children and autistic children deserve to possibility of what good may come.

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<http://www.realmilk.com/documents/ResponsetoMarlerBlogFinal.pdf>

These arguments miss the basic point. We identified the following as the two most important questions:

First, is raw milk uniquely dangerous, such that it should be singled out for prohibition or damaging regulation?

Second, is there a reason why producers and consumers should not have the liberty to engage in voluntary exchanges without lawyers and bureaucrats telling them what to eat and drink?

In order to show that raw milk is uniquely dangerous, its safety should be compared to that of all foods, including deli meats, hot dogs, spinach, and other foods to which outbreaks of foodborne illness are often attributed but whose rightful place in the free market no one ever questions. **Unless raw milk is unique among all foods in the supposed danger it presents, it should not be singled out.** Informed consumers, moreover, must have the basic freedom to choose for themselves what foods to consume.

Any food, whether raw or pasteurized, carries some risk of contamination. To protect these victims from such pernicious effects and to protect the general population and our society from wasted time and resources due to milder and more common forms of foodborne illness, we thus consider it imperative that farmers produce raw milk and raw milk products in accordance with the most conscientious standards, from grass-feeding to proper sanitation of bottling equipment. While raw milk contains numerous built in safety mechanisms (most of which are compromised or destroyed by pasteurization), this safety system can be overwhelmed in extreme situations, such as in confinement dairies where cows are fed a diet based on grains, or where large amounts of pathogens from contaminated water or manure inadvertently get into the milk.

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Furthermore, while we believe that raw milk is itself protective against systemic infection, we still have the responsibility as a society to further investigate how individuals can maximize their immunity to foodborne illness.

The fact that pasteurized milk, deli meats, spinach, and many other commonly consumed foods present as great a risk or perhaps an even greater risk than raw milk does not excuse farmers from bearing responsibility for their own raw milk products.

To claim that the percentage of *reported* outbreaks traced to raw milk represents the percentage of *actual* outbreaks truly caused by raw milk when the reported outbreaks are estimated to represent such a small sample of the total denies all the basic principles of statistics and experimental science.

In order to determine how often illnesses are truly attributable to raw milk, pasteurized milk, and the many other foods to which illnesses can be attributed, we would need quality scientific data for the other 99.9 percent of foodborne illnesses that the CDC estimates go unreported.

Even among the outbreaks reported, we have demonstrated that most of the outbreaks investigators have attributed to raw milk have lacked sufficient evidence to implicate raw milk.

There is no scientific evidence to justify the singling out of raw milk from among other foods for prohibition or damaging regulation, and there is no legitimate constitutional or philosophical basis on which Americans or anyone else should be deprived of the basic human right to determine what to eat and drink.

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<http://www.healthnews-nz.com/infants.html>

***This article refers to infants that are unable to be breastfed, or those being weaned from the breast. Breastfeeding remains the first choice in all other cases.***

Goat's milk is the ideal food for babies, children and adults. Beneficial for the treatment of asthma, eczema, migraines, stomach ulcers, liver complaints and chronic catarrh, goat's milk also helps babies with colic, habitual vomiting and those not gaining weight.

How do you prepare an infant's feeds when using goat's milk? The simple procedure I use, has resulted in the rearing of many happy, healthy infants and has rendered complicated preparation instructions unnecessary. First, check that the milk production methods are hygienic, so that the milk can be given raw - that is, without heat treatment by boiling or pasteurisation. Goat's milk changes constitution when boiled. The curds are likely to be of different physical properties, the fat is apt to separate from the curds and the lactalbumin is coagulated or solidified to form a skin which may delay the rapid digestion - the most important advantage of goat's milk.

The almost universal recommendation by the medical profession to boil all milk fed to babies, is prompted by the fear of tuberculosis infection. I am confident that the danger of this is extremely minimal from milk obtained from healthy goats.

There are a number of possible changes that take place on boiling the milk and even possibly on pasteurisation. Vitamin C levels may be depleted.

Many infants suffering digestive upsets from cow's milk have been switched to goat's milk at my recommendation, and in nearly every instance that the baby has not promptly improved, it has been necessary to admit the baby to hospital for surgical treatment of a physical narrowing of the far end of the stomach (congenital pyloric stenosis). Repeatedly have I found that infants which have failed to thrive for no apparent reason have regained health when given goat's milk, many cases with the child eventually weaning itself from all milk feeds when in full and normal health. Many of these infants have not tolerated cow's milk, possibly because it was either not palatable or it caused indigestion. Summarising the usefulness of goat's milk for infants, I believe that fresh, raw, hygienically-produced, undiluted, slightly-sweetened, blood temperature goat's milk will overcome most digestive upsets and rear healthy strong infants to weaning stage and after - provided that the usual vitamin supplements are given. Iron and folic acid may be necessary when on milk alone but will be unnecessary after weaning. Infant feeding with goats milk is just so simple!

*Reference: British Goat Society and NZ Dairy Goat Breeders' Association Inc.*

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### Further notes courtesy of New Zealand Dairy Goat Breeders' Association Inc:

#### Goat's Milk:-



contains more minerals and vitamins than cow's milk



has smaller fat and protein particles, so is digested easier



is ideal for children with allergies to cows' milk



suffers no loss of vitamins due to pasteurisation



does not form excess mucus



contains ten times more natural fluorine than fresh cow's milk



contains 50% more vitamin B1, important for those with digestive upsets and rheumatism

Goat's milk has the same butterfat and a little more solids (non-fat) than cow's milk. It tastes like smooth, creamy milk, and very palatable yoghurt, butter and cheese can be produced with it. Freshly produced goat's milk has a very low natural bacteria and enzyme count.

Goats in New Zealand are free from tuberculosis, leptospirosis and brucellosis. This also means that goat's milk will keep fresh for up to a week when refrigerated

Frozen goat's milk, when thawed, will reconstitute to the same as fresh milk because the fat particles do not coalesce as does cow's milk. [However note that goat's milk needs to be frozen quickly using a blast freezer.]

The milk and cream are pure white because the carotene content is completely converted into vitamin A.

An average dairy goat will produce 4.5 litres of milk per day, which, in ten days, equals her body weight. Note that good fresh goat's milk should never taste or smell 'goaty' but should have a smooth texture and sweet, creamy taste.

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[http://doularightthing.blogspot.com/2010/07/raw-goats-milk-for-babies\\_24.html](http://doularightthing.blogspot.com/2010/07/raw-goats-milk-for-babies_24.html)

Unlike cow's milk, which takes hours to digest, goat's milk takes just 20 minutes to digest due to smaller fat molecules (about one fifth the size of the molecules in cow's milk.) Goat's milk is also alkaline, like human breastmilk, whereas cows milk is acidic. It has higher evolved carotene (Vitamin A) which is preformed and easily absorbable, does not form phlegm in the body, is easier on the gut and liver, is more easily absorbable by the brain and body due to lower levels of cholesterol, and is milder in taste...

So- how do you 'prepare' goat's milk for an infant? First, check that the milk production methods are hygienic, so that the milk can be given raw- that is, without heat treatment by boiling or pasteurisation. Goat's milk changes constitution when boiled. The curds are likely to be of different physical properties, the fat is apt to separate from the curds and the lactalbumin is coagulated or solidified to form a skin which may delay the rapid digestion- one of the most important advantage of goat's milk. The almost universal recommendation by the medical profession to boil all milk fed to babies, is prompted by the fear of tuberculosis infection. The danger of this is extremely minimal from milk obtained from healthy goats. There are a number of possible changes that take place on boiling the milk and even possibly on pasteurisation. Vitamin C levels may be depleted.

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<http://www.aussiegoats.com/milk.htm>

#### To pasteurise or not to pasteurise

The presence of diseases such as Brucellosis and Tuberculosis in dairy cattle in the early 1900's, lead to the pasteurisation of cows milk to protect people from contracting these diseases.

Before the days of pasteurisation, goats milk was often consumed in the belief it was "healthier". As it turned out this piece of folklore had good foundations, as the diseases brucellosis and tuberculosis have never been known in goats in Australia. For this reason the sale of raw goats milk in some states and territories of Australia is permitted under special permit.

The choice of drinking raw or pasteurised milk is entirely a personal one. Some people feel pasteurisation offers added safety through the lowering of bacteria numbers. Others realize

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pasteurisation does not discriminate between bad bacteria and the good bacteria that can be beneficial to our bodies.

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<http://www.healthnews-nz.com/why.html>

### Why Goat Milk?

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#### Introduction

Why goat milk? This is a critical question for all who are trying to establish a dairy goat business and industry. The value of goat milk in human nutrition has so far received very little factual and academic attention (Haenlein, 1984, 1988, 1992; Park, 1991). However, if facts of the role and superiority in certain instances, of goat milk in human nutrition can not be identified and promoted, it will be difficult justifying growth of the goat business as an industry next to the dairy cattle business. As the milk supply from cows is more plentiful and cheaper, the challenge is to demonstrate why there are good reasons to produce goat milk; if not, dairy goats will be relegated to being only a pet business.

Volumes of new scientific data presented at four major, quintannual, international goat conferences have become widely circulated. Thus, it is high time to include in these developments the sanitarians, for establishing quality standards, and the medical profession, for evidence on the medical benefits and values in human nutrition of goat milk.

#### Medical Research Evidence for Goat Milk

Powerful justification for goat milk can come from medical needs - not just desires - of people, especially infants, afflicted with various ailments, including cow milk protein sensitivities. Swedish studies have shown that cow milk was a major cause of colic, sometimes fatal, in 12 - 30 % formula-fed, less than 3-month old infants (Lothe et al., 1982).

Actually, the composition of goat milk fat may be much more important than the prevalence of large numbers of small fat globules, because it too differs significantly from the composition of cow milk fat under average feeding conditions (Haenlein, 1992). The various components of milk fat, fatty acids, differ in carbon chain length and saturation, which has nutritional and medical significance. Goat milk fat normally has 35 % of medium chain fatty acids (C6 - C14) compared to cow milk fat 17 %, and three are named after goats: caproic (C6), caprylic (C8), capric (C10), totalling 15 % in goat milk fat versus only 5 % in cow milk fat. Besides their unique flavor, which has serious consequences in improper handling of goat milk, these medium chain fatty acids (MCT) have become of considerable interest to the medical profession, because of their unique benefits in many metabolic diseases of humans (Babayan, 1981).

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<http://www.healthnews-nz.com/goatcow.html>

To most people today, especially in the more developed countries, the term milk is synonymous with cow milk, as if cows alone possess a singular ability to produce mammary secretions. Perhaps nowhere has the feeling been more prevalent than in the US, where over 10 million cows are maintained to provide an abundant, clean source of nourishment and refreshment to our country, producing more than 125 billion pounds of milk annually. Yet on a world-wide basis, there are more people who drink the milk of goats than from any other single animal. Over 440 million goats (world wide) produce an estimated 4.8 million tons of milk that is predominantly consumed locally, or processed into various types of cheeses.

Diet also plays a large role in the palatability of goat milk, as well as cow milk. While cows are usually rather closely regulated as to what they may eat and when, goats are often allowed to consume a great variety of materials at any time, including browsing. This kind of feeding may allow a certain 'off' taste or smell to be transferred to the milk, just as cows may produce eg a 'garlicky' milk from some spring pastures. What holds true for the cow also holds for the goat, ie what comes out is based on what goes in! If goats and cows are similarly managed, the smell and taste of both milks are quite comparable.

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As the interest in dairy goats and their products continues to rise, it is apparent that many misconceptions, discrepancies and exaggerated claims are being perpetuated. A comparison of cow and goat milk seems to be in order, so that some prejudices against goat milk may be erased. Also, while goat milk is somewhat unique, it is certainly not a magical elixir.

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“The art of Cultured Food” by Mark Gavins, 2010

“Digestive conditions are prevalent in our modern society. The increase in problems such as gas, bloating, constipation, diarrhea, intestinal cramping, overgrowth of Candida and yeast are related to the fact that we have given up almost all healthy practices....”

“The act of pasteurisation kills all bacteria in the milk that were necessary for colonising the gastro-intestinal tract of baby animals as they consume their mother’s milk. The heat used in the pasteurisation process destroys the friendly bacteria as well as two very important essential amino acids, many vitamins, and the mineral phosphorous...”

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In conclusion:

I prefer to use raw goat milk as opposed to pasteurised goat milk for the following reasons:

- Palatability.....
  - Easier digestibility.....
  - Retention of both protective and digestive enzymes.....
  - Retention of the integrity of the protein profile and fat profile: meaning it is healthier for individuals to consume (some proteins and fats are heat sensitive and damaged by the pasteurisation process)
  - Product availability and choice (a basic human right)
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*All truth passes through three stages.*

*First, it is ridiculed.*

*Second, it is violently opposed.*

*Third, it is accepted as self-evident.*

*—Arthur Schopenhauer*