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Details:

(FORM UPDATED: 07/12/2010)

**WISCONSIN STATE LEGISLATURE ...
PUBLIC HEARING - COMMITTEE RECORDS**

2005-06

(session year)

Assembly

(Assembly, Senate or Joint)

**Committee on ... Public Health
(AC-PH)**

COMMITTEE NOTICES ...

- *Committee Reports ... CR*
- *Executive Sessions ... ES*
- *Public Hearings ... PH*
- *Record of Comm. Proceedings ... RCP*

INFORMATION COLLECTED BY COMMITTEE FOR AND AGAINST PROPOSAL

- *Appointments ... Appt*
- *Clearinghouse Rules ... CRule*
- *Hearing Records ... bills and resolutions*
(ab = Assembly Bill) (ar = Assembly Resolution) (ajr = Assembly Joint Resolution)
(sb = Senate Bill) (sr = Senate Resolution) (sfr = Senate Joint Resolution)
- *Miscellaneous ... Misc*

**“Caution Biohazardous Material:
The Truth about Raw Milk Consumption”**

Kristi Orchard, DVM

Dr. Orchard is a graduate student in the Masters of Public Health Program at the UW School of Medicine and Public Health. This work was conducted as part of a class project in the Masters of Public Health Program.

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Raw milk consumption creates the potential for numerous human health risks. Raw milk is often consumed by dairy farm families and by people who are members of cow-share programs. Currently, Wisconsin law prohibits the sale of raw milk. However, it is legal to drink raw milk if you own the cow. This law led to the formation of cow-share programs in which people buy “shares” in cows and pay for their share when they pick up their raw milk from the farm. This in turn creates a niche market for dairy farms that are trying to diversify to remain in business. Assembly Bill 453 is currently being debated in the Wisconsin State Assembly. This bill proposes to allow the sale of raw milk in cow-share programs to remain legal.

Raw milk causes many food-borne illnesses every year. The risk factors are bacteria can be shed in milk or milk can be contaminated by the environment. This creates potential for human disease. These bacteria are killed or inactivated by pasteurization. Outbreaks are usually not life-threatening. However, in some patients, typically young children and the immunocompromised, these food-borne pathogens can create life-threatening disease. The organisms of most concern are *Listeria monocytogenes*, *Campylobacter jejuni*, *Escherichia coli*, *Salmonella species*, *Staphylococcus aureus*, *Cryptosporidium parvum*, *Mycobacterium tuberculosis*, *Yersinia enterocolitica*, *Coxiella burnetti*, *Brucella species*, and potentially *Mycobacterium avium subspecies paratuberculosis*.^{1,2} Often times, these diseases will cause outbreaks affecting many people when raw milk is consumed. According to the Centers for Disease Control and Prevention more than 300 people in the United States fell ill from drinking raw milk or eating cheese made from raw milk in 2001, and nearly 200 became ill from these products in 2002.³ These figures represent cases that were actually reported. However, there are many more cases of a person becoming ill from raw milk that may not be attributed to raw milk consumption. These numbers also represent the acute cases of food-borne illness acquired from raw milk; it is difficult to establish a relationship of possible chronic disease that may develop from this practice.

To prevent future food-borne illness outbreaks, raw milk consumption should be discouraged, especially since pasteurization is a safe procedure that does not alter the taste or nutritional values of milk. Raw milk consumers need to be more aware of the potential consequences of this practice and the safety of pasteurized products. The purpose of this paper is to document the hazards of raw milk consumption among consumers by identifying evidence against its safety and Assembly Bill 453. Finally, strategies to reduce access to raw milk through policy will be addressed in attempt to decrease raw milk consumption for a healthier society.

Multiple food-borne outbreaks have been documented as directly caused by the consumption of raw milk. Examples from Wisconsin are because of the law that allows people to have access to raw milk through cow-share programs. In 2001 an outbreak of *Campylobacter jejuni* enteritis infections occurred among people drinking raw milk accessed through a cow-share program in Wisconsin. A total of 75 people, ranging from 2 to 63 years of age, had illness which met the case definition of *C. jejuni* enteritis.⁴ Seventy of those people reported drinking raw milk from a local dairy farm. Investigators obtained a milk sample from this dairy’s bulk tank and cultured *C. jejuni* with a pulsed-field gel electrophoresis pattern that matched the outbreak strain that was isolated from the ill humans.⁴

Escherichia coli O157:H7 first became a reportable disease in 2000. From 1992 to 1999 1,333 cases of *E coli* O157:H7 were reported to the Wisconsin Division of Public Health.⁵ The highest incidence of cases occurred in children from three to five years of age. From these reported cases, seven percent of patients reported consumption of raw milk as a risk factor for disease.⁵ These cases are likely underreported as it was not mandatory to report the disease

during this time period. Since Wisconsin law is established to stop the direct sale of raw milk, this reduces the amount of people having access to this unsafe product and potential for less disease outbreak. However, disease potential still exists for consumers having access to raw milk.

The potential for chronic disease being acquired through raw milk consumption is uncertain, however evidence does exist that potential for disease transmission is possible. *Mycobacterium avium subspecies paratuberculosis* (MAP) commonly infects dairy cattle and causes Johne's disease.⁶ Johne's is a chronic debilitating disease of dairy cattle. Infected cows have rapid weight loss, diarrhea, and fail to respond to treatment.⁷ As the infection in cattle progresses, the bacterium spreads through the blood to internal organs. Therefore, raw products such as milk and meat from these cattle can carry MAP.⁶

Studies have shown that a high percentage of people with Crohn's disease, a chronic intestinal inflammatory disease, are infected with MAP. However, no definite conclusion has been reached on the potential association of MAP with Crohn's disease.⁶ The bacterium has been cultured, or its DNA has been identified, from tissue biopsies of Crohn's disease patients.⁸ Crohn's disease patients also have very similar symptoms to cases of Johne's disease in cattle.

Children are the most at risk for consuming raw milk and having the most potential for chronic disease. This is unfortunate because children often do not have options in food choice as their parents are making choices for them. The etiology of Crohn's disease is not known. However, epidemiologic evidence suggests that exposure to a genetically susceptible individual during childhood to an unknown microbial or chemical factor in the environment leads to the disease.⁶

In Wisconsin, the number of cases of Crohn's disease in children is increasing. The incidence rate for Crohn's disease in Wisconsin children is 4.56 per 100,000.⁹ This study reports the highest incidence rate of pediatric inflammatory bowel disease (IBD) reported in the world to date.⁹ Of the IBD cases, Crohn's is double the rate of ulcerative colitis in Wisconsin. This was an occurrence found equally among all ethnic groups and population bases.⁹ This study strongly suggests that environmental factors are involved in Crohn's disease. With evidence of a possible link of Crohn's disease in people and Johne's disease in cattle, it creates a case that raw milk consumption is a very dangerous health hazard. The current evidence on the effect of pasteurization on MAP is conflicting. Pasteurization does significantly reduce the number of MAP organisms, but it may not eliminate them.⁸

According to a variety of studies, raw milk consumption is not a widely accepted practice among the general population. However, prevalence among dairy farm families and cow-share owners is very high. A study performed in Kansas on the general population reported 1.8 percent of people self-reported consuming raw milk.¹⁰ A telephone survey including people from California, Connecticut, Georgia, Minnesota, and Oregon conducted between July 1, 1996, and June 30, 1997, reported 1.5 percent of people drank raw milk.¹¹ California is one state that allows the sale of raw milk. In 1994, the prevalence of raw milk consumption was 3.2 percent among the general public in California. The raw milk drinkers in this study were more likely to be male, less than 40, Hispanic, and have less than a high school education.¹² The actual prevalence of raw milk consumption could be significantly underreported in these studies because people may not want to report a health behavior that is known to be hazardous.

Among dairy farm families, the prevalence of raw milk consumption is significantly higher. Milk samples from Tennessee and Virginia bulk tanks were analyzed for food-borne bacteria in a study establishing risk of human exposure to these pathogens. Among the dairy

producers 34.9 percent reported drinking raw milk from their tank. Of the producers drinking raw milk, 25 percent of their milk was contaminated with one or more species of pathogenic bacteria.¹³ A questionnaire-based survey in eastern South Dakota and western Minnesota reported nearly 60 percent of dairy producers consume raw milk.¹⁴ Among these dairy producers 26.6 percent had one or more pathogenic organisms in their bulk tank.¹⁴ Current data for prevalence of raw milk consumption among Wisconsin dairy farmers is not established. Establishing the magnitude of raw milk consumption among populations is important for targeting solutions to impact this problem.

The populations most at risk of raw milk consumption are dairy farm families and people who are able to purchase raw milk through cow-share programs. Dairy producers are likely to drink raw milk because of convenience and less expense. People who are purchasing milk through cow-share programs are consuming raw milk for the perceived health benefits. However, there are no scientifically proven health benefits of raw milk over pasteurized milk. There is a substantial amount of scientific evidence against raw milk and the health benefits of pasteurized milk.

In Wisconsin, the sale of raw milk became prohibited in 1957 by the enactment of Chapter 443, which created ss97.046.¹⁵ Currently, Representative Gronemus in the Wisconsin State Legislature has introduced Assembly Bill 453. This bill initially would allow the legalization of the sale of raw milk in Wisconsin. The Committee on Public Health had a public hearing in September 2005 and raised concerns about the safety of this bill to the public's health. In response, Representative Gronemus has amended the bill in October 2005 to restrict the sale of raw milk to cow-share programs in Wisconsin.¹⁶ The bill is currently scheduled to be reported out of the Assembly Committee on Health in mid-January and be sent to the full Assembly for a vote shortly thereafter.¹⁵

There are multiple concerns with public policy allowing behaviors that are proven to pose a human health hazard especially with the healthy alternative of pasteurized milk. The policy is being introduced to address concerns for people claiming there are more health benefits to raw milk and that it is allowing for more dairy farms to stay in business. There is no scientific evidence that supports these claims.

In the 1994 California Behavioral Risk Factor Surveillance System Survey, respondents were asked whether they drank raw milk and their reasons for doing so. The number one reason was the taste of raw milk.¹² Raw milk drinkers also stated it was the less expensive alternative and it was identified that health reasons were important in choosing to drink raw milk. More research is needed in profiling raw milk drinkers to establish true reasons behind the health fetish.¹²

Raw milk drinkers claim that pasteurization destroys nutrients and enzymes and that it kills beneficial bacteria associated with allergies, arthritis, and other diseases. However, research has shown that there is no significant difference in pasteurized milk's nutritional value.³ Pasteurization destroys some enzymes, but they are unavailable to humans regardless. These enzymes are broken down in the gastric acid of the human stomach.³ Milk provides vitamins, thiamine, folate, B-12, and riboflavin which are only marginally reduced in the pasteurization process.³ The benefits of pasteurization far outweigh the risks to continue to drink raw milk.

Assembly Bill 453 is a policy that is not evidence-based and is actually being proposed against all established scientific evidence. The only value to the program is to allow people who favor their claimed benefits to receive a product they choose to consume. The dairies selling raw milk may have niche market for their product. However, there are very few dairies in Wisconsin

selling raw milk through cow-share programs. It should not have a large impact on the dairy industry as an entity. These producers would still have a market for their milk, but it would have to be pasteurized.

The danger of this policy is the transmission of food-borne disease in acute and chronic cases as stated previously. It is difficult to address what the costs of future public health outbreaks would create. The main concern is for children who are at risk from this practice and do not have an opportunity to have a pasteurized alternative. Assembly Bill 453 is not supported by scientific evidence and is only supported by anecdotal evidence as stated by the consumers of the product.

The scientific evidence against Assembly Bill 453 is substantial. This bill is encouraging hazardous health behavior among Wisconsin families. The only effective way to put an end to raw milk-associated disease is to stop people from drinking it.¹⁷ It is well established that drinking raw milk puts humans at risk of contracting food-borne illness from a multitude of possible pathogenic species. There are multiple documented cases of outbreaks from these pathogens being associated with raw milk consumption. Unlike most food-borne illness, raw milk outbreaks have potential to persist because cases will occur intermittently and unpredictably.¹⁷ Dairy cattle always have the potential to be shedding potentially pathogenic organisms and environmental contamination is consistently present.¹⁷

Policy that makes raw milk sales illegal has proven to be effective in many states. Raw milk-associated outbreaks were found to be higher in states that allowed raw milk to be legally sold as compared to states where it was banned.² This suggests making it illegal to sell raw milk could reduce the number of raw milk-associated outbreaks.² This comparison of outbreaks among states with legal raw milk sales and illegal raw milk sales illuminates the continuing role of raw milk as a vehicle for infectious disease in humans.

Policy against raw milk sales has decreased the amount of food-borne outbreaks in association with raw milk consumption. It is with much concern that a policy is being introduced into the Wisconsin Legislature with no scientific evidence to support a benefit to the population. In fact, this policy will only increase the risk of exposure of humans to food-borne pathogens. The potential costs of this proposed bill far outweighs any type of benefit to the health of Wisconsin residents.

Currently, more research is needed to provide evidence why the advocates of raw milk are seeking benefits from this product. Research is also needed to establish the magnitude of this problem in Wisconsin. Many people, for example dairy farmers, may not be strong advocates of raw milk, but drink it for convenience. The prevalence of raw milk consumption needs to be established in Wisconsin. This is especially important among dairy producers who may not be fully aware of the risk of consumption of this product for their families. It is particularly concerning for the children in these families because their health is at risk by choices made by their parents. Unfortunately, these children may be suffering the consequences long term.

In conclusion, it is imperative to stop Assembly Bill 453 from becoming law. Strong scientific research evidence is documented against this policy. If a policy is introduced into the legislature, it should be creating cow-share programs to be illegal based on the established human health hazards of raw milk consumption. Awareness among dairy farm families should also become a priority due to the multiple risks associated with raw milk consumption. Therefore, raw milk consumption needs to be decreased in Wisconsin by stopping Assembly Bill 453 and raising awareness to these consumers of the health hazards of raw milk.

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Raw milk bill debated

By Anita Weier
September 8, 2005

Should Wisconsin farmers be able to sell raw - unpasteurized - milk to consumers?

A bill proposed by Rep. Barbara Gronemus, D-Whitehall, would allow farmers to do so, and the issue was debated hotly during a hearing by the Assembly public health committee Wednesday at the State Capitol.

Steve Steinhoff, administrator of the state Division of Food Safety, warned that the Food and Drug Administration has determined that "raw milk, no matter how carefully produced, may be unsafe." He added that the bill could allow non-standard treatment of milk, and purchasing it would be "like Russian roulette."

"We have 380 families playing Russian roulette," including cancer patients, responded Wayne Brunner, a farmer from Arkansas, Wis. "I don't think they'd take kindly to that."

Brunner uses a "farm share" arrangement, in which he sells shares for \$10 so that the buyer will have a milk producer license and be able to buy raw milk. The Department of Agriculture, Trade and Consumer Protection has challenged that arrangement, as the department did a previously used "cow share" plan that was ultimately deemed illegal, Brunner said.

Kathleen Vinehout, a consultant to the Wisconsin Farmers Union, also testified for Assembly Bill 453.

"The bill provides an opportunity for Wisconsin family farms to market a product directly to consumers," she said. "The Wisconsin Farmers Union and its members are searching for ways to remain viable as agricultural producers in a world that is rapidly changing. We support examining the feasibility of changes to regulations that inhibit small-scale and on-farm production and direct sales to consumers."

Judy Vana of Reeseville said her family has consumed raw milk for 16 months and that her children are in much better health than they were with pasteurized milk.

"The enzymes in the milk take care of E. coli and salmonella," she said.

"I respectfully disagree," said committee chairman Rep. "Doc" Hines, a veterinarian from Oxford.

Dr. Jeffrey Davis, chief medical officer for communicable diseases in the state Division of Public Health, also disagreed.

He warned that consumers of unpasteurized milk could be subject to serious diseases.

"Nationwide, between 1998 and 2005, the Centers for Disease Control and Prevention documented 39 outbreaks for which consumption of unpasteurized milk or cheese was implicated in transmission of disease," Davis said. "These outbreaks involved 22 states, 831 cases of disease, 66 hospitalizations and one death."

Conditions that can result from consumption of unpasteurized dairy products include diarrhea, high fever, headache, nausea and vomiting, meningitis, kidney failure and miscarriages, he said.

"There is no current scientific evidence supporting the benefits of drinking raw milk, and examples of the benefits of raw milk from decades ago have been scientifically disproven," he said.

Davis also tried to dispel what he called myths about pasteurization and health benefits of raw milk. He said pasteurization does not significantly decrease the vitamins, beneficial enzymes or nutritional value of milk, and that raw milk does not enhance disease resistance or fertility.

<#="cm added.#="EP=#-RD" he="" deq="#" individuals,#="cm" intolerant="" lactose="" on="" effect="" same="" the="" have="" products="" dairy="" unpasteurized="" and="" dsq="#Pasteurized">Gronemus, who was previously a farmer and represents a largely rural district in western Wisconsin, staunchly defended her bill.

"We raised our kids on raw milk," she said, referring to a common farm practice. "There is a growing market for the product. Wisconsin cannot continue to lose dairy farmers."

She noted that only farmers with a grade A dairy farm permit would be allowed to sell raw milk under the bill, and that the farm would have to be tested annually for TB and brucellosis.

Hines said he was troubled by a clause in the bill that says farmers would not be liable for death or injury caused by raw milk that the farmer is authorized to sell, except in cases of willful or wanton acts or omissions.

"Lawyers would have a lot of fun with that," Hines said.

Darryll Farmer, director of environmental health for the Eau Claire City-County Health Department, submitted a letter to Hines stating that raw milk can become contaminated with dangerous microorganisms such as E. coli and campylobacter.

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Jahnke, Carolyn

From: Parrott, Douglas
Sent: Wednesday, September 14, 2005 12:02 PM
To: Jahnke, Carolyn
Subject: FW: California raw milk consumption

From: Brad Legreid [mailto:bal@wdpa.net]
Sent: Wednesday, September 14, 2005 10:44 AM
To: Rep.Hines
Subject: Fw: California raw milk consumption

----- Original Message -----

From: jrbishop@cdr.wisc.edu
To: bal@wdpa.net
Sent: Tuesday, September 13, 2005 4:48 PM
Subject: Fw: California raw milk consumption

Brad,

Can you forward this email to the Chair of the Committee we testified to about raw milk sales. They asked this question and I promised to get back to them, but I have no contact info.

Thank you.

Rusty Bishop
Director, Wisc. Center for Dairy Research
Professor, Dept. Food Science
Univ. Wisconsin - Madison
608-265-3696
FAX 262-1578

----- Forwarded by Rusty Bishop/CDR on 09/13/2005 04:47 PM -----

"John C. Bruhn" <jcbruhn@ucdavis.edu>

To <jrbishop@cdr.wisc.edu>

cc

Subject RE: California raw milk consumption

09/12/2005 04:26 PM

Rusty: I am not aware of any sales data on fluid raw milk. There is relatively little being produced today, primarily because the major producer of fluid raw milk, *Alta Dena Dairy*, now owned by Dean Foods, no longer produces the product. They do have raw milk products under another label, *Steuve's Natural*

One reason for the decline of raw milk sales to consumers was the frequent finding of *salmonella* in the milk, which resulted in recalls and "negative publicity" in the various news media. The state routinely monitored liquid raw milk products and would find positive samples for salmonella about

09/26/2005

every other month.

All raw milk products today must have a conspicuous label indicating that the product may contain pathogenic bacteria that can cause illness and/ or death. The requirement for a label resulted from court action brought by the Consumers Union several decades ago against dairy processors producing and selling raw milk products. It was not action of the state legislative body or dairy safety branch in the California Department of Food and Agriculture.

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From: jrbishop@cdr.wisc.edu [mailto:jrbishop@cdr.wisc.edu]
Sent: Wednesday, September 07, 2005 2:11 PM
To: John C. Bruhn
Subject: California raw milk consumption

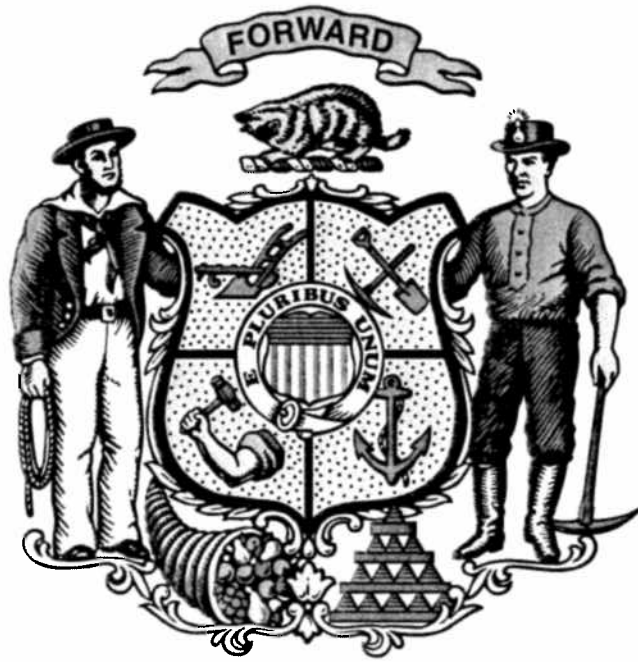
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There is a legislative bill in process here in Wisconsin that would allow the direct sale of raw milk, with the farmer being immune to legal action due to illness, etc.

One of the Representatives asked if there was info from California on the incidence of illness due to raw milk consumption, before and after the legalization of it's sale. Do you have a report or any data on this?

Thank you in advance.

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09/14/2005



REP. J. A. HINES
CHAIR: COMMITTEE ON PUBLIC HEALTH
ROOM 10 W STATE CAPITAL
MADISON, WI. 53708

OCTOBER 5, 2005
W1046 VASCHEAU RD.
GLEASON, WI. 54435

RE: AB-453

DEAR REP. HINES,

I AM VERY INTERESTED IN THIS BILL MOSTLY FOR HEALTH REASONS. I SENT YOU AN EMAIL WHEN YOU HAD THE HEARING SEPTEMBER 7TH . AND AM NOW SENDING YOU A FEW BITS OF INFORMATION I HAVE FOUND AND CONTINUE TO FIND THAT SUPPORTS THE USE OF RAW DAIRY VS PROCESSED DAIRY!!!

I HAVE HIGHLIGHTED THE 2 PAPERS AND FIND LOTS OF REASONS FOR THE COMMITTEE TO RECONSIDER THE LAW THAT REQUIRES PASTURIZATION OF MILK.

YOU WERE QUOTED IN A NEWS ARTICLE AS SAYING YOU HAD MANY CONCERNS ABOUT THE HEALTH ISSUE WITH RAW DAIRY. THESE PAPERS SORT OF BLOW THAT PROBLEM OUT OF THE WATER. THERE ARE MANY MORE PAPERS WRITTEN IN FAVOR .

IT IS NOT MY STYLE TO OVER WHELM YOU WITH PILES OF LITERATURE BUT THERE ARE MANY THAT FAVOR USE OF RAW DAIRY VS PROCESSED THAT ARE WELL QUALIFIED TO DO SO.

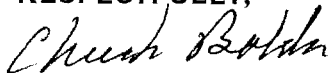
WITH MODERN DAY MILKING EQUIPMENT AND REFRIGERATION MILK SAFETY IS HARDLY AN ISSUE. I THINK CARE AS TO WHERE WE BUY OUR RAW DAIRY NEEDS TO COME IN TO PLAY AS THERE ARE FARMS I WOULD NOT TOUCH WITH A 10 FOOT POLE . MANY OF WHOM SEND TRUCK-LOADS A DAY TO THE CONSUMER CHANNELS LOADED WITH ANTIBIOTICS, GROWTH HORMONES,& OMEGA 6 FATTY ACIDS THAT CAN'T BE REMOVED WITH PASTURIZATION. THESE ALSO ARE NOT HEALTHY FOR US.

I WOULD HOPE THE COMMITTEE WILL NOT HOG- TIE THIS LEGISLATION TO THE POINT THAT JUST A FEW WILL DEAL WITH THE RESTRICTIONS AND CONTINUE TO SELL RAW DAIRY LEGALLY. THERE ARE MANY FARMS THAT WOULD SELL DIRECT IF THERE WEREN'T AS MANY LAWS AGAINST IT AS WE HAVE NOW.

I WOULD LIKE TO BE KEPT INFORMED AS TO THE INTENTIONS OF THE COMMITTEE ON THIS MATTER IF POSSIBLE. IT IS ONE OF MY PASSIONS. IF LOCATING MORE DATA TO SUPPORT IT I WILL DO WHAT EVER IS NEEDED.

I DO APPRECIATE YOU TIME AND CONSIDERATION OF THIS MATTER. THANK YOU FOR YOUR TIME.

RESPECTFULLY,



CHUCK BOLDER

CC: REP. DON FRISKE ROOM 312 N STATE CAPITAL
PO BOX 8952
MADISON, WI. 53708

The Newest Pasteurized Milk Myth

The popularity of milk may start to boom, considering research found a milk-heavy diet does not increase the risk of heart disease and stroke, and may even be protective against it.

Throughout the 20-year study -- which spanned from 1979-1983 -- researchers asked 764 male patients, ages 45-59, to weigh and record every food and drink they consumed for seven consecutive days. Participants received comprehensive check-ups four times over the two decades.

Over time, 54 men had a stroke, 139 developed symptomatic ischemic heart disease (heart attack or angina) and 225 died.

But what about milk consumption?

When the study began, almost all of the men drank whole (full-fat) milk; however, a random sampling in 2000 of the surviving participants showed almost all of them had switched to low-fat skim milk (or semi-skimmed milk) within the previous eight years. Further:

- Men who drank the most milk -- a pint or more a day -- had a higher energy intake, meaning they were likely more active.
- Cholesterol levels and blood pressure readings were similar in both high- and low-milk drinkers.
- Men who consumed the most milk had a reduced risk of ischemic heart disease or stroke compared to those who drank the least (less than half a pint).

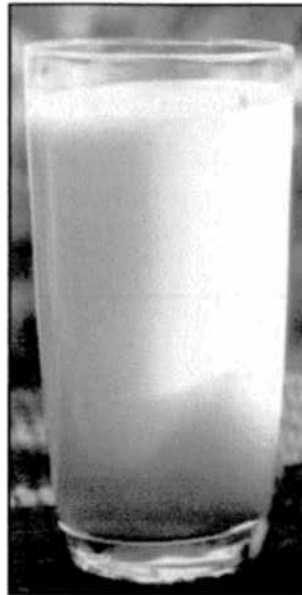
Journal of Epidemiology and Community Health June 2005, Vol. 59, Number 6: 502-505

Science Daily May 24, 2005

Dr. Mercola's Comment:

Now, I stopped watching TV many years ago and I don't listen to the radio, but I suspect many of you were confused by this report when it hit the media. Don't you just love the confusion that the media gives you?

You really do have to be a full-timer in health to even start to sort through the variety of conflicting messages out there -- OR you could just simply subscribe



First of all, I wouldn't be surprised if there was some element of truth to this finding. After all, milk is a wonderful, natural food, and it contains one of the finest sources of calcium for humans.

In fact, the first article I had published was 20 years ago, and that was on the association between calcium and hypertension. My review 20 years ago supported this association.

But is that the whole truth?

I don't think so. Twenty years ago I didn't realize there were negative health effects when consuming pasteurized milk (even if it's organic).

These effects occur regardless of whether it's full-fat or not, and there are diseases you can acquire other than heart disease. **For instance, drinking up to two glasses of pasteurized milk daily was recently blamed for doubling a middle-aged man's risk of Parkinson's disease later in life.**

Pasteurization is a destructive process that changes the physical structure of the fragile proteins in milk (especially casein) and converts them into proteins your body was never designed to handle – and that can actually harm you. Additionally, the pasteurization process virtually eliminates the good bacteria normally present in the milk and radically reduces the micronutrient and vitamin content of this healthy food.

It is equally important to consider that reduced-fat, low-fat, or fat-free versions of milk are virtually void of metabolically beneficial vitamin D and calcium. These milks are also typically homogenized, a process that keeps the milk from naturally separating. The homogenization process creates a substance known as xanthine oxidase, which is thought to play a role in oxidative stress by acting as a free radical in the body.

If you want to drink milk, I'm all for it, but I recommend finding an authentic raw-milk source, whose cows are pasture-fed. I have seen so many of my patients recover their health with raw milk that I actually believe it to be one of the most profoundly healthy foods you can consume (if you can tolerate it based on your body's unique metabolic type).

If you are unable to find a local dairy farmer in your area who sells raw milk, I encourage you to visit the Real Milk site to locate a source close to you. I am happy to say that we are making a dent when it comes to informing the public about milk. If you type in "raw milk" on Google, the Real Milk link comes up #1 and Mercola.com comes up #2. We are finally starting to spread the truth about this vital food.

Finally, if you have a difficult time digesting milk, especially if you are lactose intolerant, I would recommend obtaining some raw milk and making kefir out of it. Kefir is a cultured milk beverage that tastes a lot like yogurt. It is made by adding kefir starter, a powdered probiotic mixture, to fresh milk and allowing it to ferment for a day or so. This process not only eliminates most of the lactose present in the milk, it also predigests the milk protein casein, another common culprit in milk sensitivities, making it easier for you to digest

Related Articles:

The Real Reasons Why Raw Milk is Becoming More Popular

Why You Don't Want to Drink Pasteurized Milk

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More Reasons Why You Don't Want to Drink Pasteurized Milk

"Pasteurization was also found to affect the hematogenic and growth-promoting properties of the special milk (raw milk from specially fed cows, whose milk did not produce nutritional anemia—whereas commercially pasteurized milk did) ..."

-Krauss, W. E., Erb, J.H. and Washburn, R. G., Studies on the nutritive value of milk II. The effect of pasteurization on some of the nutritive properties of milk," Ohio Agricultural Experiment Station Bulletin 518, page 11, January, 1933.

"Resistance to tuberculosis increased in children fed raw milk instead of pasteurized, to the point that in five years only one case of pulmonary TB had developed, whereas in the previous five years, when children had been given pasteurized milk, 14 cases of pulmonary TB had developed."

-The Lancet, page 1142, May 8, 1937

"Human or cow milk added to an equal volume of agar did not support the growth or allowed only slight growth of B. diphtheriae Staph. aureus, B. coli, B. prodigiosus, B. pyocyaneus, B. anthracis, streptococci, and unidentified wild yeast. The factors in human milk inhibiting bacterial growth ('inhibins') were inactivated by heating at 56 degrees C. (pasteurization temperatures of 60 to 70 degrees C.) for 30 minutes or by standing 12 to 24 days at 5 degrees C., but not by repeated freezing and thawing. The 'inhibins' in cow's milk were not inactivated by heating at 80 degrees C. for seven minutes but were destroyed by heating at 85 degrees C. for seven minutes. Attempts have not been made to identify the natural antiseptics."

-Dold, H., Wizaman, E., and Kleiner, C., Z. Hyt. Inf., "Antiseptic in milk," The Drug and Cosmetic Industry, 43,1:109, July, 1938.

"Milk, an animal product, is the essential food of all infant mammals. Mammals are so classified in the scale of living things because of the common characteristic of the female nursing her young. The infant mammal is accordingly carnivorous in his natural habits irrespective of whether the adult of the species is herbivorous or carnivorous.

If the adults on a carnivorous diet show conditions of deficiency on cooked meat, is it not reasonable to suppose that growing infants on entirely cooked carnivorous diets will do likewise? Many experimenters, such as Catel, Dutcher, Wilson, and others, have shown such to be the case in animals fed on pasteurized milk ...

Can human infants be born of mothers who are deficient, and yet attain a fair degree of skeletal development if given a proper raw milk supply? The three infants in figure 4 were born of mothers known to be hypothyroid. Prior to the birth of the infants shown, all three mothers had given birth to children within three years. Each of the previous children was asthmatic, showed

The first child shown in Figure 4 was breastfed from birth, with the mother living under excellent health-promoting conditions. The second child was on powdered milk for four weeks, and on raw certified milk after that without cod-liver oil or orange juice. Both the first and second child began supplemental feedings when they were about five months old and were very healthy babies. The third baby was always sickly and had been on formulae since birth.

These formulae included powdered milk, pasteurized milk, boiled milk, boiled certified milk and canned milk. She had suffered from severe gastric distress during her entire infancy and when eight months old she developed asthma. She is very small though her parents are of larger build than the parents of the other two children.

The strictest bacteriologic standards for milk must always be maintained. The feeding of cattle should receive greater attention. It should be determined experimentally, if possible, whether health and resistance are undermined by pasteurization. **If so, in our attempt to protect the child from milk-borne infections, we may be denying his heritage of good health by removing from his milk vitamins, hormones, and enzymes that control mineral assimilation and promote body development and general resistance to disease.** Is it also possible that these same elements are as important to the adult invalid who needs milk as to the infant?

Let us have closer cooperation between raw-milk producers and public-health officials so that the growth-producing factors of raw milk can be studied. We cannot afford to pasteurize milk if it is found that pasteurization diminishes the potency of the growth-promoting factors that determine the skeletal development of our children. We cannot afford to lessen the resistance of our children to respiratory infection, asthma, bronchitis and the common cold when factors preventing them are present in greater amounts in properly clean raw milk than in pasteurized milk."

-Pottenger, F. M. Jr., "Clinical and experimental evidence of growth factors in raw milk," *Certified Milk*, January, 1937.

"Some have questioned whether pasteurized milk is really involved in the production of scurvy. The fact, however, that when one gives a group of infants this food for a period of about six months, instances of scurvy occur, and that a cure is brought about when raw milk is substituted, taken in conjunction with the fact that if we feed the same number of infants on raw milk, cases of scurvy will not develop--these results seem sufficient to warrant the deduction that pasteurized milk is a causative factor.

The experience in Berlin, noted by Newmann (Newmann, H., *Deutsch. Klin.*, 7:341, 1904) and others, is most illuminating and convincing in this connection. In 1901 a large dairy in that city established a pasteurizing plant in which all milk was raised to a temperature of about 60 degrees C. After an interval of some months, infantile scurvy was reported from various sources throughout the city. Neumann writes about the situation as follows:

'Whereas Heubner, Cassel and myself had seen only 32 cases of scurvy

so that the same observers--not to mention a great many others--treated 83 cases in 1901 and 1902.'

An investigation was made as to the cause, and the pasteurization was discontinued. The result was that the number of cases decreased just as suddenly as they had increased ..."

-Hess, A. F., "Infantile Scurvy, V. A study of its pathogenesis," Am. J. Dis. Child., November, 1917.

"Although pasteurized milk is to be recommended on account of the security which it affords against infection, we should realize that it is an incomplete food. Unless an antiscorbutic, such as orange juice, ... or potato water is added, infants will develop scurvy on this diet. This form of scurvy takes some months to develop and may be termed subacute. It must be considered not only the most common form of this disorder, but the one which passes most often unrecognized. In order to guard against it, infants fed exclusively on a diet of pasteurized milk should be given antiscorbutics far earlier than is at present the custom, even as early as at the end of the first month of life."

-Hess, A. F., "Infantile Scurvy. III. Its influence on growth (length and weight)," Am. J. Dis. Child., August, 1916.

"One of the most striking clinical phenomenon of infantile scurvy is the marked susceptibility to infection which it entails--the frequent attacks of 'grippe,' the widespread occurrence of nasal diphtheria, the furunculosis of the skin, the danger of pneumonia in advanced cases ..."

-Hess, A. F., "Infantile Scurvy. V. A study of its pathogenesis," Am. J. Dis. Child., November, 1917.

"... Recently, Minot and his colleagues came to the conclusion that adult scurvy can be precipitated by infectious processes; in other words, that latent scurvy can by this means be changed to manifest scurvy. In general, therefore, investigations in the laboratory as well as clinical observations are in agreement in stressing the interrelationship of scurvy and bacterial infection."

-Hess, A. F., "Recent advances in knowledge of scurvy and the antiscorbutic vitamin," J.A.M.A., April 23, 1932.

This illustrates the futility of pasteurization of milk to prevent infection from diseases the cows may sometimes have, such as undulant fever. The infant is then made subject to the common infectious diseases, and deaths from these common diseases are not attributed, as they should be, to the defective nature of the milk.

Effects of Pasteurization of Milk on Tooth Health

The Lancet, page 1142, May 8, 1937 says that in children the teeth are less likely to decay on diet supplemented with raw milk than with pasteurized

"Dr. Evelyn Sprawson of the London Hospital has recently stated that in certain institutions children who were brought up on raw milk (as opposed to pasteurized milk) had perfect teeth and no decay. Whether this was due actually to the milk being unheated, or possibly to some other, quite different and so far unrecognized cause, we cannot yet say; but we may be sure of one thing, that the result is so striking and unusual that it will undoubtedly be made the subject of further inquiry."

-Harris, L.J., Vitamins in Theory and Practice, page 224, Cambridge, University Press, 1935.

Effect of Pasteurization of Milk on Growth

... Fisher and Bartlett "point out by statistical treatment that the response in height to raw milk was significantly greater than that to pasteurized milk. Their interpretation of the data led to the assertion that the pasteurized milk was only 66 percent effective as the raw milk in the case of boys and 91.1 percent as effective in the case of girls in inducing increases in weight, and 50.0 percent as effective in boys and 70.0 percent in girls in bringing about height increases."

-Krauss, W. E., Erb, J. H. and Washburn, R.G., "Studies on the nutritive value of milk, II." "The effect of pasteurization on some of the nutritive properties of milk," Ohio Agricultural Experiment Station Bulletin 518, page 8, January 1933.

"... Daniels and Loughlin observed that young rats fed long heat-treated milks, evaporated, condensed, and pasteurized by the 'hold' method failed to grow normally, but if the precipitated calcium salts were incorporated into the various milk, growth was normal ..."

-Daniels, A.L., and Loughlin, R., Journal of Biological Chemistry, 44:381, 1920, as abstracted by Holmes and Pigott, "Factors that influence the anti-rachitic value of milk in infant feeding," Oil & Soap, 12:9:202-207, September, 1935.

Calcium Availability in Pasteurized Milk

"Kramer, Latzke and Shaw (Kramer, Martha M., Latzke, F., and Shaw, M.M., A Comparison of Raw, Pasteurized, Evaporated and Dried Milks as Sources of Calcium and Phosphorus for the Human Subject, Journal of Biological Chemistry, 79:283-295, 1928) obtained less favorable calcium balances in adults with pasteurized milk than with 'fresh milk' and made the further observation that milk from cows kept in the barn for five months gave less favorable calcium balances than did 'fresh milk' (herd milk from a college dairy)."

-Krauss, W. E., Erb, J.H., and Washburn, R.G., "Studies on the nutritive value of milk, II. The effect of pasteurization on some of the nutritive properties of milk," Ohio Agricultural Experiment Station Bulletin 518, page 8, January, 1933.

"Guinea pigs fed raw milk with an addition of skim milk powder, copper and

abnormalities at autopsy. When pasteurized whole milk was used, deficiency symptoms began to appear, wrist stiffness being the first sign. The substitution of skim milk for whole milk intensified the deficiency, which was characterized by great emaciation and weakness before death ... At autopsy the muscles were found to be extremely atrophied, and closely packed, fine lines of calcification ran parallel to the fibers. Also calcification occurred in other parts of the body. When cod liver oil replaced carotene in the diet, paralysis developed quickly. The feeding of raw cream cured the wrist stiffness."

-Annual Review of Biochemistry, Vol. 18, Page 435. (1944).

In The Lancet, page 1142, May 8, 1937 it is shown that chilblains are practically eliminated (result of higher calcium values of raw milk or improved assimilation of calcium) when raw milk rather than pasteurized milk is used in the diet of children.

Pasteurization Destroys Vitamin A

"... According to S. Schmidt-Nielsen and Schmidt-Nielsen (Kgl. Norske Videnskab. Selsk. Forhandl., 1:126-128, abstracted in Biological Abstracts, 4:94, 1930), when milk pasteurized at 63 degrees C. (145 degrees F.) was fed to mature rats, early death or diminished vitality resulted in the offspring. This was attributed to the destruction of vitamin A."

-Krauss, W.E., Erb, J.H. and Washburn, R.G. Studies on the nutritive value of milk, II. The effect of pasteurization on some of the nutritive properties of milk," Ohio Agricultural Experiment Station Bulletin 518, page 9, January, 1933.

Pasteurization Destroys Vitamin B Complex

"Pasteurization of milk destroys about 38 percent of the B complex according to Dutcher and his associates ..."

-Lewis, L.R., The relation of the vitamins to obstetrics, American Journal of Obstetrics and Gynecology, 29.5:759. May, 1935.

"Mattick and Golding's "Relative value of Raw and Heated Milk in Nutrition, in The Lancet (220:662-667), reported some preliminary experiments which indicated that pasteurization destroys some of the dietetic value of milk, including partial destruction of Vitamin B1. These same workers found the raw milk to be considerably superior to sterilized milk in nutritive value."

-Krauss, W. E., Erb, J. H. and Washburn, R.G., Studies on the nutritive value of milk, II. The effect of pasteurization on some of the nutritive properties of milk," Ohio Agricultural Experiment Station Bulletin 518, page 7, January, 1933.

"... On the 7.5 cc. level two rats on raw milk developed mild polyneuritis toward the end of the trial; whereas three rats on pasteurized milk developed polyneuritis early, which became severe as the trial drew to a close. On the 10.0 cc. level none of the rats on raw milk developed

-Ibid, page 23.

"Using standard methods for determining vitamins A, B, G and D, it was found that pasteurization destroyed at least 25 percent of the vitamin B in the original raw milk."

-Ibid, page 30.

Pasteurization Destroys Vitamin C

"... The pasteurization of milk has been found to destroy 20 percent to 50 percent [of the vitamin C] the first month of life. The reasonable procedure, therefore, appears to be to use pasteurized milk to insure protection against disease germs of various kinds and to supply the vitamin deficiency through other foods. The success in infant feeding based on this principle is evinced especially in the amazing reduction in infant mortality in the summer months."

-Jordan, E.O., A Textbook of General Bacteriology, Twelfth Edition, Revised, page 691, W. B. Saunders Co., 1938.

"Within the past few years an increasing number of patients affected with scurvy have been brought to the Oregon Children's Hospital. As the prophylactic amount of vitamin C (15 mg. daily) is contained in 300 cc. of breast milk, scurvy is rarely found in breastfed babies. The vitamin C of cow's milk is largely destroyed by pasteurization or evaporation."

-Overstreet, R.M., Northwest Medicine, June, 1938, as abstracted by Clinical Medicine and Surgery, "The Increase of Scurvy," 42, 12:598, December, 1938.

"Samples of raw, certified, certified Guernsey and certified vitamin D milks were collected at the different dairies throughout the city of Madison. These milks on the average are only a little below the fresh milks as recorded in Table I, indicating that commercial raw and certified milks as delivered to the consumer lose only a small amount of their antiscorbutic potency. Likewise, samples of commercial pasteurized milks were collected and analyzed. **On an average they contained only about one-half as much ascorbic acid as fresh raw milks and significantly less ascorbic acid than the commercial unpasteurized milks.**

It was found that commercial raw milks contained an antiscorbutic potency that was only slightly less than fresh raw milks and that pasteurized milks on the average contained only one-half the latter potency. **Mineral modification and homogenization apparently have a destructive effect on ascorbic acid.**"

-Woessner, Warren W., Evehjem, C.A., and Schuette, Henry A., "The determination of ascorbic acid in commercial milks," Journal of Nutrition, 18,6:619-626, December, 1939.

RealMilk.com

Dr. Mercola's Comment

So don't waste your money on "organic" milk anymore. This is a waste of your resources. Redirect your energy to find real raw milk sources.

Ideally, you can find a local farmer who will be willing to sell that to you. If you find one you will want to encourage him to consider restricting grains from the cows' feed to improve the quality of the milk.

Check out this link to find out what states, according to the surveys they cite, permit (and prohibit) the sale of raw milk:

- www.magma.ca/~ca/rawmilk/sale.htm

Related Articles:

[Why You Don't Want to Drink Pasteurized Milk](#)

[Major Confusion Between Organic and Healthy](#)

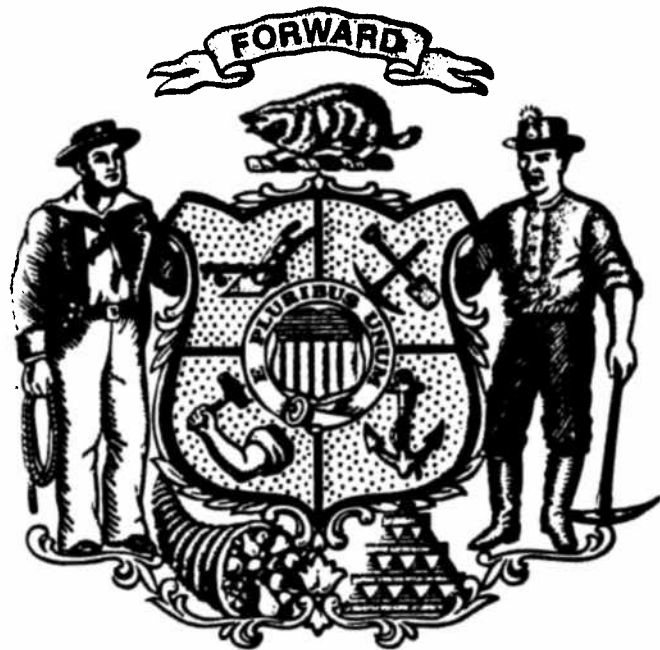
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Swan officials said Friday that the dairy produced nearly 5,000 gallons of milk from Dec. 4 to Dec. 19. They said the infected cow's milk was mixed with the milk of up to 70 other healthy cows, therefore diluting any infected milk that could have been present.

Dairy officials also said before this incident the dairy didn't vaccinate their herd for rabies, but will start doing so this week.





Wisconsin Dairy Products Association, Inc.

To: Members of the Assembly Committee on Public Health

From: Wisconsin Dairy Products Association

It has come to our attention there may be an executive session held on AB 453 on Wed., January 11, 2006. Wisconsin Dairy Products Association strongly encourages committee members to vote against AB 453.

The sale of raw (unpasteurized) milk is a public health hazard. No matter how many warning labels are put on the product or how sale transactions are arranged, raw milk is a safety risk.

Included with this faxed letter are a couple of important articles. Please note how the federal Food and Drug Administration (FDA) has issued warnings against consuming raw milk.

Please do not expose Wisconsin citizens to potential health risks. Please do not allow a small group of individuals who wish to sell and consume raw milk to bring potential negative publicity and damage to Wisconsin's \$1.4 billion dairy industry.

Please vote "no" on AB 453.

Thank you.

Brad Legreid
Executive Director
Wisconsin Dairy Products Association

FDA, States Warn Against Drinking Raw Milk In Wake Of E. Coli, Other Outbreaks

Washington—Following potentially deadly outbreaks in Arizona and Washington, the Food and Drug Administration (FDA) is warning consumers against drinking raw milk because it may contain harmful bacteria that can cause life-threatening illnesses.

On Thursday, less than a week after FDA issued that warning, Oklahoma State Department of Health (OSDH) officials announced that anyone who drank raw, unpasteurized milk or cream sold by Swan Bros. Dairy in Claremore, OK, earlier this month may have been exposed to rabies.

One dairy cow at the farm has been confirmed to have rabies and its milk was combined with milk from healthy cows and sold from Dec. 4-19. Health officials say most healthy persons who drank the milk or cream are not at risk, but people with certain medical conditions should contact their doctor to determine if rabies shots are needed.

Rabies is a viral disease that is usually transmitted through a bite or saliva into an opening in the skin. There are no documented cases of human rabies due to drinking milk from a rabid animal, but a small risk is thought to exist. Only the raw milk and cream sold

the health concern, the OSDH said. Cheese products from Swan Brothers Dairy do not pose a risk for rabies exposure because none of the rabies-contaminated milk was used in cheese production, the company reported.

Last week, meanwhile, state health officials in Arizona and Washington issued warnings concerning Salmonella and E. coli outbreaks linked to the sale of raw milk. In Woodland, WA, an outbreak of E. coli bacteria that has sickened 11 or more people, four critically, has been linked to a dairy that was ordered by the state in August to stop selling raw milk.

Dee Creek Farm, accused of defying the order, is being investigated by at least four state and local agencies, and investigators asked that all of those who consumed milk from the dairy contact their local health departments, regardless of whether they are or have recently been ill.

Cowlitz County prosecutors said last week that misdemeanor charges could be filed if the owners, Anita and Michael Puckett, don't provide a list of customers who purchased the milk.

The Pucketts canceled an inspection by the state Agriculture Department last Wednesday, telling officials

Eight E. coli sickness cases were confirmed in Clark and Cowlitz counties, all in children aged five to 14, and three apparent but unconfirmed cases were reported in nearby Clatsop County, OR. Four of the Washington state children were listed in critical condition in area hospitals last week.

Selling raw milk is illegal in many states, including Oregon, and is legal in Washington only with a license and warning labels on bottles containing raw milk. Six Washington dairies hold licenses to sell raw milk, five issued this year.

State Agriculture Department officials read in the Portland Tribune in August that Dee Creek was distributing raw milk, then sent the operators a license application and a letter in August telling them to stop unless they had a license, agency spokesman Michael W. Louisell said.

Dee Creek responded that the farm was not selling raw milk but was distributing the product under a cow-share program in which consumers buy shares in an animal in exchange for part of the milk, Louisell said.

Claudia G. Coles, the state agency's food safety officer, said a license is required to distribute raw milk through a cow-share program. Otherwise, she said, "they are violating Washington state law."

The department publishes a brochure about raw milk that states cow shares "may not be used as a means to avoid meeting state requirements for milk producers and milk processors, including obtaining the required license."

Hilary Gillette-Walch, a Cowlitz County Health Department epidemiologist, said the Pucketts told her they have cow contracts with 45 families.

Two agriculture safety officers went to the farm last Tuesday but spent little time with the Pucketts, who said they were leaving to get themselves tested for E. coli.

State officials are also warning the public about tanned raw milk from an Arizona dairy.

Inspectors from the Arizona Department of Health Services found Salmonella bacteria in a sample of unpasteurized raw milk taken from a retailer in Yavapai County.

The milk was produced by Meadowayne Dairy of Colorado City and has a use-by date of Dec. 12, 2005.

The levels of Salmonella in the sample couldn't be measured, so it isn't known if there was enough bacteria to cause illness. County health departments have been ordered to remove all the potentially tainted milk from store shelves. •

TO: 2823642

FROM: 902-6-2006 02:32

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issue of reining in illegal immigration is more significant than accommodating business concerns." He added that he did not think the guilty plea of former representative Randy "Duke" Cunningham (R-Calif.) or other lobbying-related scandals recently have anything to do with the spat.

In the meantime, corporate organizations will be pushing to defeat the basic Republican bill or to amend it in ways that add a guest worker program or ease its verification and penalty requirements. They also will be looking to the Senate for a comprehensive measure that is more to their liking.

"It's not over till it's over," Josten said. 12-14-05

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2. SW Wash. E.coli Outbreak From Raw Milk Grows To 11 Cases
(kgw.com)

VANCOUVER, Wash. -- Some drink unpasteurized milk because they say it tastes better while others claim it's healthier.

But the Clark County Health Dept. asks how can it be healthier if there have now been 11 confirmed cases of E. coli, nine of them in children between the ages of five and 13. The rash of apparent E. coli poisonings in southwestern Washington is linked to unpasteurized milk, officials said.

According to doctors, five of the children remain hospitalized -- four of them in serious condition.

Officials said as of Wednesday evening that at least eight of the e.coli victims drank unpasteurized milk bought in adjacent Cowlitz County from the Dee Creek Dairy Farm, which the state Agriculture Dept. said is not licensed to distribute unpasteurized milk.

As a result, Cowlitz County authorities obtained a cease and desist order to shut the dairy down. Authorities are also suing to force the dairy to release their customer list -- something officials said Dee Creek's owners have refused to do.

Doctors are urging anyone who may have consumed unpasteurized milk in the past ten days or have had bloody diarrhea to seek medical attention. They also urged people to only consume pasteurized milk products.

"Milk is pasteurized for a reason," said Clark County health officer Justin Denny. Pasteurization uses heat to destroy the bacteria in milk, he explained.

"While some people regularly consume raw milk products with no ill effects, illnesses and deaths associated with the consumption of raw milk occur each year," Denny warned.

aside from consuming only pasteurized milk products, doctors also advise to wash your hands after handling livestock and preparing food as well as cook your meat thoroughly to avoid other common causes of E.coli 12-14-05

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3. Salmonella Confirmed In Raw Milk (Arizona Republic)

The Pima County Health Department said Wednesday that it had received confirmation of salmonella contamination in nonpasteurized, raw milk produced by Colorado City's Meadowayne Dairy.

The milk was sold at several natural- and health-food stores in the Tucson area. Patti Woodcock, a spokeswoman for the Health Department, said no cases of salmonella poisoning related to the milk have been reported to the department.

Health officials are asking that anyone who purchased the raw milk with an expiration date of Dec. 12 not to drink it. Salmonella is a bacterial disease that can cause abdominal pain, diarrhea and vomiting. Anyone who drank the milk and developed these symptoms should seek medical help.

Consumers should return the Meadowayne milk with the Dec. 12 expiration date to the store where it was purchased or contact the Health Department at 740-2760. Anyone who may have gotten sick from drinking the raw milk should call the Health Department at 740-8315. 12-15-05

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4. Dairy Farmers, American Protectionists, May Embrace Trade Deal (Bloomberg)

U.S. dairy farmers, the largest recipients of government agricultural aid, are jettisoning their protectionist past and cautiously embracing a plan to cut price supports in world trade talks.

The World Trade Organization negotiations in Hong Kong this week are aiming for wholesale cuts in payments to dairy farmers and import restrictions. U.S. dairy industry representatives, who stayed away from the previous round of WTO talks a decade ago, are active participants this time --primarily because Europe has agreed to phase out its export subsidies, Japan is offering to reduce import restrictions and a new WTO accord would provide greater access to foreign markets.

"For many, many years dating back to the 1960s, the dairy industry was very protectionist, said Clayton Yeutter, a former U.S. agriculture secretary who is now adviser to the Food Trade Alliance, a Washington-based group that favors free trade. "Now they are beginning to tilt towards an acceptance."

For food makers such as Northfield, Illinois-based Kraft Foods Inc. and dairy processors such as Kilkenny, Ireland-based cooperative Glanbia Foods Ltd., which is opening a plant in New Mexico, ending government supports is a key goal of the WTO talks. For farmers like Peter Kappelman of Manitowoc, Wisconsin, who is also chairman of the Land O'Lakes Inc. cooperative in St. Paul, Minnesota, "the challenge is going to be giving up what you know in the current programs, for what you don't know" in competitive trade.

NMPF Dairy Industry News Alert

12/16/2005



Parrott, Douglas

From: Leslie Grendahl [grendahl@wvma.org]
Sent: Tuesday, January 10, 2006 1:10 PM
To: Rep.Hines
Cc: Kelly McDowell; Bob Klostermann; Ehlenfeldt, Robert G DATCP; Bob Leder; 'Charles Brown (E-mail)'; 'Chris Olsen (E-mail)'; Danielle Davignon; 'Diane Rodman (E-mail)'; 'Guy Jodarski (E-mail)'; 'Jerry Gaska (E-mail)'; Kazmierczak, James; 'John Been'; 'Kristi Orchard (E-mail)'; Wilbur, Linn A DATCP; Matt Feirer; McGraw, Paul J DATCP; 'Rebecca Morris (E-mail)'
Subject: Raw milk and rabies

Dear Dr. Hines,

I just received this email from Dr. Linn Wilbur, USDA veterinarian in Wisconsin. Thought you would be interested in it. Also, it looks like Dr. David Rhoda will be able to testify tomorrow against AB 837.

Leslie

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RABIES, BOVINE, HUMAN EXPOSURE - USA (OKLAHOMA)

Date: 1 Jan 2006 From: Dee Hadorn <bluemohair@earthlink.net>
 Source: Tulsa World, Tulsa, Oklahoma, 25 Dec 2005, [edited]
 <<http://www.tulsaworld.com/News.asp>>

At least 45 begin rabies treatments

The Rogers County Health Department held a special clinic Saturday [31 Dec 2005] to begin treating people identified as at risk for contracting rabies after drinking raw milk from a rabid cow. Oklahoma State Department of Health officials announced last week that people who drank raw, un-pasteurized milk or cream sold by Swan Bros. Dairy in Claremore from 4-19 Dec 2005 may have been exposed. So far, 45 people have begun receiving a regimen of rabies vaccinations, officials said.

A Claremore resident and father took his 2 children to the Rogers County Health Department before going to their grandmother's house. A 15-year-old victim said she did not like having to spend part of her Christmas Eve receiving shots, but that the injection was not too painful. Her brother, a 13-year-old, said he was a little nervous before receiving the shot, but said the experience was not as bad as he thought it would be. The Health Department is normally not open, but 17 employees worked at Saturday's clinic.

Most healthy people who drank the milk or cream are not at risk for contracting rabies, Garner said. However, people with certain medical conditions, including suppressed immune systems or oral sores, should call the Health Department to determine whether post-exposure treatment is needed.

01/10/2006

Families flowed into the Rogers County Health Department on Saturday [31 Dec 2005] morning, and people continually called. Many appeared concerned that recent dental work coupled with raw milk consumption put them at risk for contracting the virus. Garner said each person who contacts the department is evaluated either in person or via telephone to determine his or her level of risk. The preventive shots range from USD 2500 - 4000 for the course of treatment. The post exposure injections can cause side effects, including redness, fever and fatigue, so shots are given only to those who are at high risk for rabies.

Humans are usually exposed to rabies, a potentially fatal viral infection that attacks the nervous system, when they are bitten by infected animals such as bats, said Kim Rayno, an epidemiologist for the Health Department. There have been no documented cases of human rabies because of consumption of milk from a rabid animal, Rayno said. However, because there is a chance for transmission, the Health Department decided to issue a public health alert.

The milk that may have been infected was not pasteurized. Pasteurization, a heating-and-cooling treatment that kills organisms in the milk, would have killed the rabies virus, Garner said. Un-pasteurized milk can also contain E. coli and salmonella. Milk sold at commercial stores and restaurants must be pasteurized, and none of the possibly infected milk was used to make Swan Bros. cheese, which is shipped across the country.

Swan said Friday [30 Dec 2005] that the dairy produced nearly 5000 gallons of milk from 4-19 Dec 2005. The infected cow's milk was mixed with the milk of up to 70 other healthy cows, therefore diluting any infected milk that could have been present. Additional tests are being run to determine whether there was any of the virus in the milk. Before this incident, Swan said, he did not vaccinate his herd for rabies, but he will start doing so this week.

For information on potential rabies exposure from un-pasteurized Swan Bros. milk, call the State Health Department hotline at (405) 271-0980 or visit <<http://www.health.state.ok.us/program/hpromo/news/rabies3.html>>.

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97.22 FOOD REGULATION

(c) The availability of safe and adequate water supplies for milk production.

(d) The sanitary construction, maintenance and cleaning of equipment and utensils used in milk production.

(e) Personnel sanitation related to milk production.

(f) Sanitary procedures for the production of milk, including but not limited to the handling, transfer and storage of milk on a dairy farm.

(10) CONFIDENTIALITY. Any information obtained and kept by the department under this section, under s. 97.24 or 97.52, or under rules promulgated under those sections, that pertains to individual milk producer production, milk fat and other component tests and quality records is not subject to inspection under s. 19.35 except as required under s. 126.70 or except as the department determines is necessary to protect the public health, safety or welfare.

History: 1975 c. 39; 1987 a. 27, 399; 1989 a. 31; 1991 a. 39; 1993 a. 114; 2001 a. 16.

Cross Reference: See also ch. ATCP 80, Wis. adm. code.

97.23 Drug residues in milk. (1) In this section:

(a) "Dairy plant" has the meaning given in s. 97.20 (1) (a).

(b) "Milk" has the meaning given in s. 97.22 (1) (e).

(c) "Milk producer" has the meaning given in s. 97.22 (1) (f).

(2) (a) If, in accordance with a rule promulgated by the department under s. 93.07 (1), 97.09 (4), 97.20 (4), 97.22 (8), 97.24 (3) or 97.52, a dairy plant operator rejects a bulk milk shipment because it is adulterated with a drug residue and if the dairy plant operator incurs a monetary loss as a result of the rejection of the bulk milk shipment, the dairy plant operator may recover the amount of the monetary loss from the milk producer who caused the bulk shipment to be adulterated with the drug residue. A dairy plant operator may deduct the amounts recoverable by him or her under this paragraph from the proceeds of milk sold to or through the dairy plant operator by the milk producer who caused the adulteration.

(b) 1. Except as provided in subd. 2., the department may, by rule, require a dairy plant operator who rejects a bulk milk shipment because it is adulterated with a drug residue and who suffers a monetary loss as a result of the rejection of the bulk milk shipment to recover all or part of the monetary loss from the milk producer who caused the adulteration by deducting from the proceeds of milk sold by the milk producer an amount that is specified by the department by rule.

2. The department may not require a dairy plant operator who rejects a bulk milk shipment because it is adulterated with a drug residue to recover an amount that exceeds the dairy plant operator's actual monetary loss.

History: 1991 a. 231.

97.24 Milk and milk products. (1) DEFINITIONS. In this section:

(a) "Dairy farm" means any place where one or more cows, sheep or goats are kept for the production of milk.

(am) "Dairy plant" has the meaning given in s. 97.20 (1) (a).

(ar) "Fluid milk product" means cream, sour cream, half and half, whipped cream, concentrated milk, concentrated milk products, skim milk, flavored milk, buttermilk, cultured buttermilk, cultured milk, vitamin and mineral fortified milk or milk products and any other product made by adding any substance to milk or any of these products.

(b) "Grade A milk" means milk which is produced, processed and distributed in compliance with grade A standards established by the department by rule under this chapter.

(c) "Grade A milk product" means a fluid milk product which is produced, processed and distributed in compliance with grade A standards established by the department by rule under this chapter.

(cm) "Milk" means the lacteal secretion of cows, sheep or goats, and includes skim milk and cream.

(d) "Milk distributor" has the meaning given under s. 97.21 (1) (e).

(e) "Milk hauler" means any person, other than a milk producer hauling his or her own milk only, who transports milk or fluid milk products to or from a dairy plant or a collecting point.

(f) "Milk producer" means any person who owns or operates a dairy farm, and sells or distributes milk produced on that dairy farm.

(2) REQUIREMENTS FOR MILK AND FLUID MILK PRODUCTS; GRADE A REQUIREMENT. (a) No person may sell or distribute any milk unless that milk is produced, processed and distributed in compliance with standards established by the department by rule under this chapter.

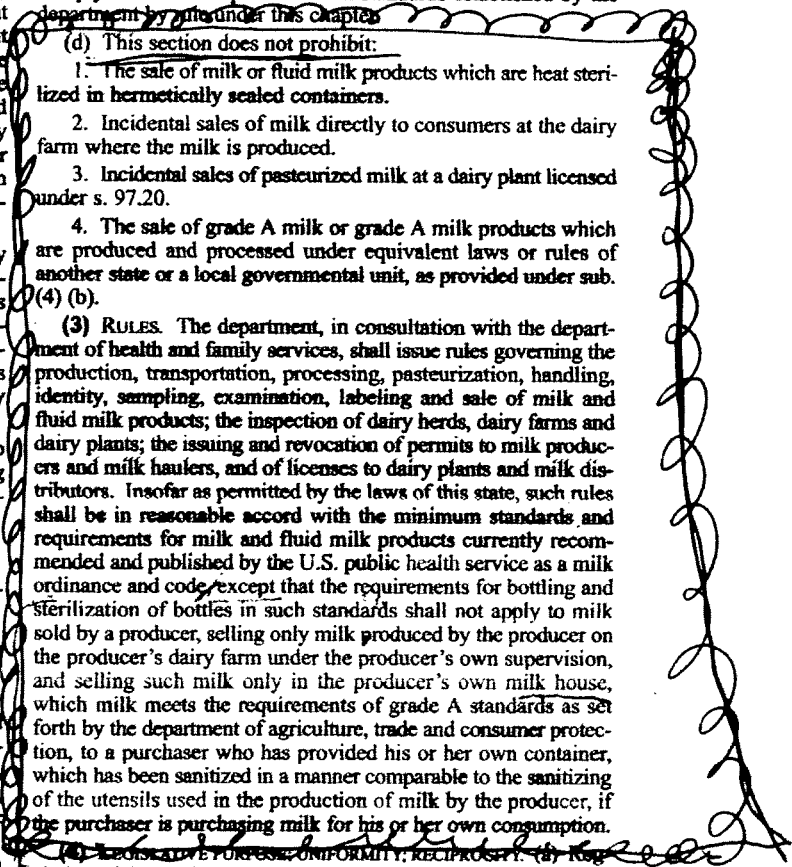
(b) No person may sell or distribute any milk or fluid milk products which are not grade A or grade A milk products to consumers, or to any restaurant, institution or retailer for consumption or resale to consumers. Grade A milk and grade A milk products shall be effectively pasteurized, and shall be produced, processed and distributed in compliance with standards established by the department by rule under this chapter.

(c) No person may sell or distribute milk or fluid milk products which are labeled or otherwise represented as grade A milk or grade A milk products unless the milk and fluid milk products comply with this chapter and with standards established by the department by rule under this chapter.

(d) This section does not prohibit:
1. The sale of milk or fluid milk products which are heat sterilized in hermetically sealed containers.
2. Incidental sales of milk directly to consumers at the dairy farm where the milk is produced.
3. Incidental sales of pasteurized milk at a dairy plant licensed under s. 97.20.
4. The sale of grade A milk or grade A milk products which are produced and processed under equivalent laws or rules of another state or a local governmental unit, as provided under sub. (4) (b).

(3) RULES. The department, in consultation with the department of health and family services, shall issue rules governing the production, transportation, processing, pasteurization, handling, identity, sampling, examination, labeling and sale of milk and fluid milk products; the inspection of dairy herds, dairy farms and dairy plants; the issuance and revocation of permits to milk producers and milk haulers, and of licenses to dairy plants and milk distributors. Insofar as permitted by the laws of this state, such rules shall be in reasonable accord with the minimum standards and requirements for milk and fluid milk products currently recommended and published by the U.S. public health service as a milk ordinance and code, except that the requirements for bottling and sterilization of bottles in such standards shall not apply to milk sold by a producer, selling only milk produced by the producer on the producer's dairy farm under the producer's own supervision, and selling such milk only in the producer's own milk house, which milk meets the requirements of grade A standards as set forth by the department of agriculture, trade and consumer protection, to a purchaser who has provided his or her own container, which has been sanitized in a manner comparable to the sanitizing of the utensils used in the production of milk by the producer, if the purchaser is purchasing milk for his or her own consumption.

(4) LEGISLATIVE PURPOSE; UNIFORMITY; RECIPROCALITY. (a) Regulation of the production, processing and distribution of milk and fluid milk products under minimum sanitary requirements which are uniform throughout this state and the United States is essential for the protection of consumers and the economic well-being of the dairy industry, and is therefore a matter of statewide concern; however, nothing in this section shall impair or abridge the power of any municipality or county to regulate milk or fluid milk product.



97.24(2)(d)4



The following statement was made by Janis Sowerby of Saranac, Michigan, at a November 4, 1993, hearing on "Reinventing the Federal Food Safety System" conducted by the U. S. House of Representatives Subcommittee on Human Resources and Intergovernmental Relations, Governmental Operations Committee, in Washington, D. C. My three-year old son Scott Hinkley passed away July 30th, 1993, from Hemolytic Uremic Syndrome (HUS) nine days after eating a sloppyjoe made from ground beef contaminated with E. coli 0157:H7.

His illness began with painful stomach cramps, vomiting and diarrhea. Soon, though, his diarrhea became bloody. We took him to the doctor's office where he was immediately referred to the hospital. His final days in the hospital were the most horrible of my life. I could only stand by and watch while my son's precious little body was destroyed inch by inch.

At first the doctors thought Scott had an intestinal blockage, so he was given a barium enema which eased his pain for a while. The next day, the pain and diarrhea reoccurred so he was given another enema. This time it didn't help. The doctors started to suspect other causes. Salmonella and various other organisms were ruled out after a stool sample was taken. The doctors began to suspect E. coli.

Scott could not eat or drink because it aggravated his pain. The first days in the hospital the doctors would not prescribe any pain medication for him because they were afraid medication would mask the symptoms.

I stayed by Scott's bedside afraid to leave him alone. I spent hours stroking his little forehead and hugging him as I listened to his tiny little voice cry "owie, Mommie, owie. "His pain was so severe he could not sleep for days on end.

The first two days, when he had to urinate, Scott was able to stand at the toilet, but by the third day his pain was so severe he could no longer stand. He was just potty trained and so proud that he was a big boy. Every time he experienced the wrenching pain from his diarrhea he would cry and ask, "Mommy, can I poop my pants?" By this time the doctors started Scott on morphine to alleviate some of the pain and allow Scott to get some rest. On the fourth day, Scott's kidney's started to fail. The pediatrician told me the results from the stool culture were confirmed for E. coli 0157. H7. I was terrified, having no idea what affect this organism could have on my son's body. The doctor recommended that Scott be transferred by ambulance to a larger hospital where there was a special pediatric unit and around the clock medical care. While we were waiting for the ambulance to arrive, Scott tried to speak to me. It was very hard to understand him because his teeth were clenched together so hard he couldn't open his mouth. I kept asking him to repeat himself and finally I heard him say, "Mommie, will you please hug me?" Those were the last words my son spoke to me. I will never forget the terror in his eyes as we were riding in the ambulance to the other hospital. I held back my tears, knowing if I cried it would only frighten him more.

When we arrived at the next hospital, the doctors told us Scott had Hemolytic Uremic Syndrome (HUS). I had never heard of this disease. I asked them if they would get me a reference book so I could read about HUS. Not much information was available but there was enough to tell me that this was an extremely serious condition. By then Scott was so pale he had no color in his lips. I was told he needed to have blood transfusions and be put on kidney dialysis. He was given a sedative. Then we were asked to leave the room so the doctors could insert tubes down his nose and I. V. lines through both shoulders and his groin area. Little did we know that this would be the last time we would ever see Scott conscious.

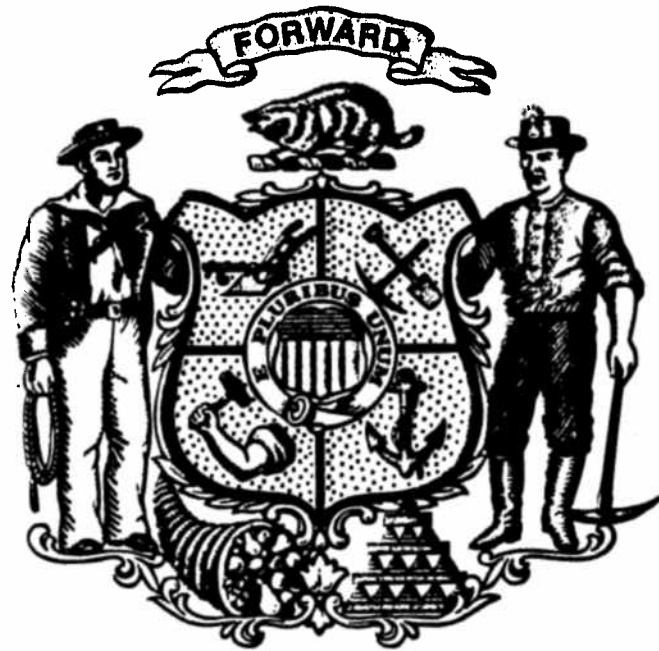
I kept telling myself that he would be all right. He had to be. But each day new problems would arise. His stomach became very swollen. He became diabetic and had to be injected with insulin. He began having seizures. He was put on an artificial respirator. CAT Scans revealed that his brain was beginning to be affected. His thalamus, the part of the brain that controls all body functions, was now permanently damaged. He had to be put on medication to control his seizures, heart rate, breathing and temperature. He was placed on heating blankets, but still his body was extremely cold. On the evening of the seventh day I stood by Scott's bed. As I spoke, his head turned towards me as if he could hear me. I was elated. I thought for sure he would come out of his coma and be all right. Early the next morning I received a phone call informing me that Scott was having more seizures so they were taking him in for another CAT Scan.

When I arrived at the hospital the doctors told me this time the results revealed no brain activity at all -- only the machines were keeping his tender little body alive. I will never forget the doctor telling me it was time to make a decision to take away the life support and let him die with dignity. I was in total shock. I screamed, "No, I can't do this now! Not yet. I need time to think." Hours went by. I prayed that he would come back to us. I asked to hold him in my arms. His little body was so heavy and so tangled with all the tubes.

As I held him, I lifted up his eyelid and I knew that he was no longer with us. My son would never come home where he belonged. My mother, Scott's stepfather and all my friends wanted a chance to hold him one last time before we shut off the life support. Finally, I told the doctor we were ready. We left the room so they could shut off the equipment and remove the tubes. Then I went back in and held him one last time. The next few minutes I spent crying and watching his little body turn blue.

We had been defeated. I miss my son. Not a day goes by without tears shed for my precious boy. The holiday season will be a sad and stressful one for our family. Christmas Eve we are going to the cemetery where Scott is buried to give him his present, a small artificial tree with battery operated lights. I don't look forward to this at all. I can't begin to tell you what a terrible feeling it is to watch your child deteriorate in front of your eyes and not be able to save him. I never knew my child could die from eating a sloppy joe. God have mercy on this inadequate meat inspection system.

SCOTT A. RANKIN (UW-MADISON)





Extension Extra

ExEx 14047
February 1998
Food Safety

COLLEGE OF AGRICULTURE & BIOLOGICAL SCIENCES / SOUTH DAKOTA STATE UNIVERSITY / USDA

Health Risks of Drinking Raw (Unpasteurized) Milk

by Kelly Namminga, SDSU nutrition and food science graduate student,
with review by Dr. E. Kim Cassel, SDSU Extension dairy specialist

Why be concerned about drinking raw milk?

All milk and milk products have the potential to transmit pathogenic (disease-causing) organisms to humans. All the nutritional components that make milk and milk products an important part of the human diet also support the growth of these pathogenic organisms. People who prefer, for whatever reason, to drink raw milk face the greatest risk of contact with these pathogens. Dairy producers selling or giving raw milk to friends and relatives put them at risk for foodborne illness.

Worldwide, illness from contaminated milk and milk products has occurred since cows have been milked. Milk is an ideal medium for the growth of many microorganisms, including food pathogens. Early in this century, milk was discovered to transmit tuberculosis, brucellosis, diphtheria, scarlet fever, and Q fever to humans. Fortunately, over the decades, the threat of these diseases and the incidence of outbreaks involving milk and milk products have been greatly reduced due to improved sanitary milk production practices and pasteurization.

However, a variety of microorganisms still contribute to isolated illnesses and outbreaks. Raw (unpasteurized) milk has been associated with illness caused by microorganisms such as *Listeria*, *Campylobacter*, *Yersinia*, *Salmonella*, *Staphylococcus*, and *Escherichia coli*.

What is pasteurization?

Pasteurization destroys most disease producing organisms and limits fermentation in milk, beer, and other liquids by partial or complete sterilization. The pasteurization process heats milk to 161°F (63 °C) for 15 seconds, inactivating or killing organisms that grow

rapidly in milk. Pasteurization does not destroy organisms that grow slowly or produce spores.

While pasteurization destroys many microorganisms in milk supplies, improper handling after pasteurization can recontaminate milk.

Many dairy farms have a home-pasteurizing machine to pasteurize small amounts of milk for personal use. Raw milk can also be pasteurized on the stovetop. Microwaving raw milk is not an effective means of pasteurization because of the oven's uneven heat distribution. For more information on purchasing and caring for home pasteurization machines, contact your county Extension agent.

Ultra-high temperature (UHT) processing destroys organisms more effectively as the milk essentially becomes sterile and can be stored at room temperature for up to 8 weeks without any changes in flavor.

How do microorganisms enter the milk supply?

The environment contains a wealth of microorganisms that find their way to the hair, udder, and teats of dairy cows and migrate up the teat canal. Some cause an inflammatory disease of the udder known as mastitis. Others enter the milk without causing any disease symptoms in the animal.

Yet more organisms can also enter the milk supply during the milking process when equipment used in milking, transporting, and storing the raw milk is not properly cleaned and sanitized.

Cold storage of milk (< 40°F) slows the growth of most microorganisms.

The Issue is Food Safety: Raw Milk is Unsafe



Jennifer M. Granholm
Governor

State of Michigan
Department of Agriculture
Lansing

Dan Wyant
Director

The Michigan Department of Agriculture's No. 1 priority is assuring that the food grown, transported and processed in Michigan is safe and wholesome. And as scientific studies from major research institutions and agencies like the U.S. Centers for Disease Control (CDC) and Food and Drug Administration (FDA) have shown time and time again, raw milk is unsafe.

Milk, as an animal product, is fundamentally different from other agricultural commodities sold off the farm such as fruits and vegetables. Unpasteurized (raw) milk can serve as a vehicle for the transmission of many organisms like *E. coli* O157:H7 and *Salmonella* that cause serious and sometimes deadly foodborne illness in humans. These emerging pathogens can unfortunately cause much more than vomiting and diarrhea, especially in those – children, senior citizens and immunocompromised individuals – known to be at the highest risk levels for foodborne illnesses. In 2001, an illness outbreak in Wisconsin was linked to the consumption of unpasteurized milk from a dairy farm. A total of 75 people were identified with *Campylobacter jejuni* infections and severe symptoms of diarrhea, abdominal cramps and/or fever. There are many other examples of similar incidents.

Michigan was the first state to require, in 1948, that all milk sold to consumers be pasteurized. The pasteurization process heats milk for a defined period of time to a specific temperature, effectively killing most or all of the harmful pathogens that are present in raw milk. Because of this practice, the spread of diseases such as diphtheria, streptococcal infections, typhoid fever, brucellosis, tuberculosis, listeriosis, and campylobacteriosis through the milk supply have been virtually eliminated. The Michigan Legislature reaffirmed this important food safety principle in early 2002 when it continued the prohibition on the sale of raw, unpasteurized milk to consumers through a rewrite and update of the state's dairy laws. The FDA banned the interstate shipment of raw, unpasteurized milk to consumers in 1987, giving the United States worldwide recognition as having the gold standard for milk safety and has reduced the annual number of raw milk-related illness outbreaks by about half. For more information about raw milk and milk pasteurization, please visit the CDC at www.cdc.gov or the FDA's Center for Food Safety and Applied Nutrition at www.cfsan.fda.gov.

Michigan's dairy laws do not prohibit dairy farmers from selling milk directly to consumers, provided pasteurization requirements are met. Additionally, MDA has worked diligently to help farmers add value to their products and to establish on-farm pasteurization plants for safely bottling milk and making cheese and/or selling directly to the public. In fact, in August of 2002, a dairy farmer located in Michigan's Upper Peninsula started production of "Juustoa," an ethnic Finnish cheese; and in June of 2000, another dairy farmer in northern Lower Michigan opened a small, pasteurized milk bottling plant. As you see, on-farm pasteurization plants and direct sales to consumers are allowed and in fact encouraged, when products are safe and wholesome.

Michigan consumers deserve the public health benefits provided by safe and wholesome pasteurized dairy products. The state's pasteurization requirements have successfully protected our consumers for over 50 years and the Michigan Department of Agriculture strongly urges all consumers to drink only milk that has been safely pasteurized.



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Diseases From Raw Milk Consumption

Milk is an important part of a person's diet. Unfortunately, it can also carry certain organisms that can cause severe disease in humans (1). One way to prevent this is by pasteurizing the milk. Pasteurization kills the organisms that cause disease without destroying the milk. It also increases the shelf life of milk by destroying proteins and bacteria in the milk that cause it to spoil. Some people do not like the idea of pasteurizing their milk and feel raw milk (unpasteurized milk) is better. With this practice of drinking raw milk comes some increased risks of getting sick. [Click here](#) for one example of a raw milk product causing an *Escherichia coli* O157:H7 outbreak in Wisconsin (United States). Below are some diseases associated with drinking raw milk.

Disease	Organism	Symptoms and Complications
1. Campylobacteriosis	<i>Campylobacter</i> sp.	bloody diarrhea
2. Salmonellosis	<i>Salmonella</i> sp.	bloody diarrhea
3. Hemolytic Uremic Syndrome	<i>E. coli</i> O157:H7	diarrhea, kidney failure, death
4. Yersiniosis	<i>Yersinia enterocolitica</i>	diarrhea
5. Listeriosis	<i>Listeria monocytogenes</i>	meningitis, blood infections
6. Tuberculosis	<i>Mycobacterium tuberculosis</i>	tuberculosis; pneumonia
7. Brucellosis	<i>Brucella</i> sp.	blood infections, heart infections
8. Cryptosporidiosis	<i>Cryptosporidium parvum</i>	diarrhea
9. Staphylococcal enterotoxin poisoning	<i>Staphylococcus aureus</i>	vomiting
10. Q fever	<i>Coxiella burnetti</i>	high fever, severe headache, muscle aches (can infect the liver and/or heart)

For more information on how milk is pasteurized click on the University of Guelph's [Dairy Science and Technology page](#).

1.Potter ME, Kaufmann AF, Blake PA, Feldman RA. Unpasteurized milk: the hazards of a health fetish. JAMA 1984;252:2048--52.

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ASSOCIATION OF FOOD AND DRUG OFFICIALS

Position Statement

Raw Milk and Raw Milk Products

Developed by the AFDO Food Committee

May 2, 2003

For over 106 years, the Association of Food and Drug Officials (AFDO) has endeavored to create uniformity among government regulatory agencies at all levels. By building consensus with program managers at the state and local levels, AFDO is able to establish united positions on national food safety matters that affect all of us. It is in this spirit of uniformity that AFDO is pleased to offer our comments on mandatory pasteurization for milk and milk products.

AFDO supports mandatory pasteurization for all milk and milk products intended for direct human consumption except where alternative procedures to pasteurization are provided (i.e. curing of certain cheese varieties) to ensure the safety of finished products.

Raw milk has been known to be a vehicle for disease organisms for more than 100 years. Medical practitioners and public health officials have documented thousands of illnesses and deaths due to the consumption of tainted milk. Outbreaks associated with the consumption of raw milk routinely occur every year. Pathogenic organisms shed in the milk of apparently healthy cows have caused diseases such as brucellosis, campylobacteriosis, salmonellosis and tuberculosis. Pathogens such as *Listeria monocytogenes* and *E. coli* O157:H7 can also be introduced during and after milking and have been responsible for disease outbreaks.

Although some individuals or consumers extol the health benefits of raw milk, there is no objective evidence that milk pasteurization has any adverse effect on human nutrition or health. These individuals advance a number of arguments that allude to the health benefits of raw milk, but they are either anecdotal or unsupported by scientific fact, while it has been scientifically and repeatedly demonstrated that raw milk consumption represents a substantial risk of infectious disease.

The hazards of raw milk consumption are recognized by most states. Raw milk sold through commercial channels for human consumption is illegal in all or part of 42 states. Public health organizations such as the U.S. Animal Health Association, the National Association of State Public Health Veterinarians, the Conference of State and Territorial Epidemiologists, the American Academy of Pediatrics and the House of Delegates of the American Veterinary Medical Associations have adopted policy statements that milk for human consumption should be pasteurized.

Foodborne illnesses related to the consumption of fresh, soft, raw milk cheeses such as queso fresco and queso cotija point out the hazards of consuming raw milk products. These products are popular among people from societies where milk pasteurization is not as common as in the United States, and the product is distributed mainly through unregulated practices. While mandatory pasteurization requirements will not stop black market distribution, they will curtail mass distribution and facilitate raising the awareness of potential consumers.

Position Statement

Raw Milk and Raw Milk Products

The Wisconsin Environmental Health Association (WEHA) is the professional association representing over 400 environmental and public health professionals, private industry and academia volunteering together to improve the health and well being of Wisconsin's citizens. Our members are involved in a wide variety of activities related to reducing the risks associated with environmental contamination of food, air, water, and housing which may cause human disease or injury. It is within this spirit that WEHA offers our position on the mandatory pasteurization of raw milk and milk products.

As an advocate for food safety, WEHA supports mandatory pasteurization for all milk and milk products intended for human consumption, except where approved barriers exist to ensure the production and distribution of safe dairy products.

Raw milk is classified in the U.S. Food and Drug Administration (FDA) Food Code as a "potentially hazardous food", capable of promoting the rapid and progressive growth of infectious or toxigenic microorganisms. The Wisconsin Departments of Agriculture, Trade and Consumer Protection and Health and Family Services adopted the FDA Food Code as a regulatory standard in 2001. According to the U.S. Centers for Disease Control and Prevention (CDC), and the U.S. Departments of Health and Human Services - FDA Grade "A" Pasteurized Milk Ordinance, raw milk (unpasteurized) is capable of harboring and promoting the growth of pathogens including Campylobacter, Salmonella, Staphylococci, E. coli O157:H7, Streptococci and Listeria monocytogenes. There have been several foodborne illness outbreaks reported as a result of consuming raw milk and/or milk products.

CDC reported there were 1,733 reported foodborne illnesses between 1973 and 1992 from drinking raw milk. More recently in Wisconsin cases included:

- June 1998 - Wisconsin, 12 cases of E. coli O157:H7 illnesses associated with eating fresh cheese curd contaminated with raw milk.
- November 2001 - Wisconsin, 70 cases of Campylobacter illness associated with drinking raw milk as part of a cow-leasing program.

Adverse health effects can range from nausea, vomiting, diarrhea, organ failure to death. Additionally, the economic impact of foodborne illnesses associated with raw milk can be devastating to Wisconsin's Dairy Industry.

There is no evidence of additional health benefits from consuming raw milk and/or milk products, nor is there any evidence of adverse health effects from consuming pasteurized milk and/or milk products. However, there is overwhelming evidence that consuming raw milk and/or milk products is potentially hazardous and represents a very real risk of infectious disease. This parallels the risks of consuming raw or undercooked meat products such as poultry, beef or pork.

Therefore, it is WEHA's obligation to promote the health and safety of Wisconsin's citizens by supporting mandatory pasteurization of milk and milk products and only allowing the sale or distribution of milk and milk products processed in a manner to prevent foodborne illness outbreaks and protect Wisconsin's citizens.



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H-150.980 Milk and Human Health

The AMA reaffirms its policy that all milk sold for human consumption should be required to be pasteurized. (Sub. Res. 67, I-85; Reaffirmed by CLRPD Rep. 2, I-95)

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**PUBLIC HEALTH VETERINARIAN COALITION
COMMITTEE**

**AMERICAN ASSOCIATION OF PUBLIC HEALTH
VETERINARIANS**

VETERINARY PUBLIC HEALTH POLICY STATEMENTS-2000

Position Statement on Raw (Unpasteurized) Milk/Products

Developed by the American Association Of Public Health Veterinarians

Background: All food products of animal origin consumed in the raw state present a potential health threat to consumers. In addition, *Escherichia coli* 0157:H7, first identified in 1982, is now rapidly emerging as one of the most important foodborne pathogens in North America. Undercooked ground beef is the most frequently reported food vehicle for *E. Coli* 0157:H7, but infections have also been linked to the consumption of raw milk. During 1993, the Oregon State Health Division reported two outbreaks of *E. Coli* 0157:H7 associated with the consumption of raw milk. In one of these outbreaks, an infant was provided a bottle of raw milk and was hospitalized after developing severe hemolytic uremic syndrome (kidney damage). *E. Coli* 0157:H7 was isolated from milking cows at the two implicated dairy herds.

Cattle are considered to be the reservoir of this pathogen. The organism is shed in the feces; and may infect the udder (as has been shown with *Salmonella*). Most often, raw milk becomes contaminated with *E. Coli* 0157:H7 when there is poor hygiene at the dairy resulting in fecal contamination of the udder and, subsequently, the milk. Like other pathogens found in raw milk/products, *E. Coli* 0157:H7 is killed by standard pasteurization methods. Although a dairy may strictly adhere to clean procedures in collecting milk, it is impossible to completely eliminate occasional contamination of raw milk by disease-producing organisms carried in bovine feces. Milk can also be intrinsically contaminated if the cow's udder is infected. Pasteurization of milk is the acknowledged, time-honored method to destroy this and other pathogens in milk/products.

Less than 20 states in the United States permit the sale and distribution of packaged raw milk/products intrastate. The FDA banned the interstate shipment of raw milk/products, including certified raw milk, in part because of concerns about contamination with *Salmonella dublin* which it considered a "life-threatening hazard" (FDA Consumer, 1986 Sep; 20(7)). Many pathogens including other *Salmonella* serotypes and *Campylobacter* are well-documented links to the consumption of raw milk/products.

Key Public Health Issues:

- Many human pathogens have been documented in raw milk (e.g., *Salmonella*, *Campylobacter*, *Yersinia*, *Listeria*, *Brucella*, *E. coli*).
- Consumption of raw milk products has been identified as an important risk factors for *E. Coli* 0157:H7.
- Pasteurization of milk/products prior to sale is not required in all states.

Final Position Statement:

The Public Health Veterinarian Coalition Committee recommends that only pasteurized milk/products be consumed or sold.



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June 1, 2005

EXECUTIVE BOARD COVERAGE

Position on pasteurization reaffirmed

As recommended by the Council on Veterinary Service, the Executive Board reaffirmed the AVMA position statement titled Milk Quality—Pasteurization, as originally approved by the House of Delegates in 1980 and 1993. The position states:

Milk Quality — Pasteurization

The House of Delegates resolved that, inasmuch as apparently healthy cows and goats can shed in their milk organisms which are pathogenic to human beings and may cause diseases such as brucellosis, Campylobacter enteritis, salmonellosis, and tuberculosis; and inasmuch as milk handlers may introduce pathogenic agents during the handling of unpasteurized milk (including certified and raw milk), only pasteurized milk and milk products should be sold for human consumption. Be it further RESOLVED that in those states where the sale of unpasteurized milk is authorized, those products should be labeled "Not Pasteurized and May Contain Organisms that cause Human Disease." (HOD-7/80)

The House of Delegates, in July 1993, resolved that the AVMA directly and through each of its state and allied associations should promote passage of state laws requiring pasteurization of all milk to be sold within the state and consumed as fluid milk or to be used in the manufacture of dairy products. (HOD-Resolution 8-1993)

The board referred back to the council for further review the latter's recommendation to approve an updated position statement titled Milk Quality—Quality Assurance, because the board noted the revision included some obsolete information.

The board approved the council's recommendation to rescind the AVMA position on Recommended Minimal Standards of Performance for Practicing Veterinarians Who Offer Milk Quality Control Programs. The statement is elaborate and detailed, the format deviates from that of other AVMA position statements, and similar statements for performance of other veterinary procedures do not exist as AVMA position statements. The council further recognized that standards are readily available from sources closely aligned with the process. ✱

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