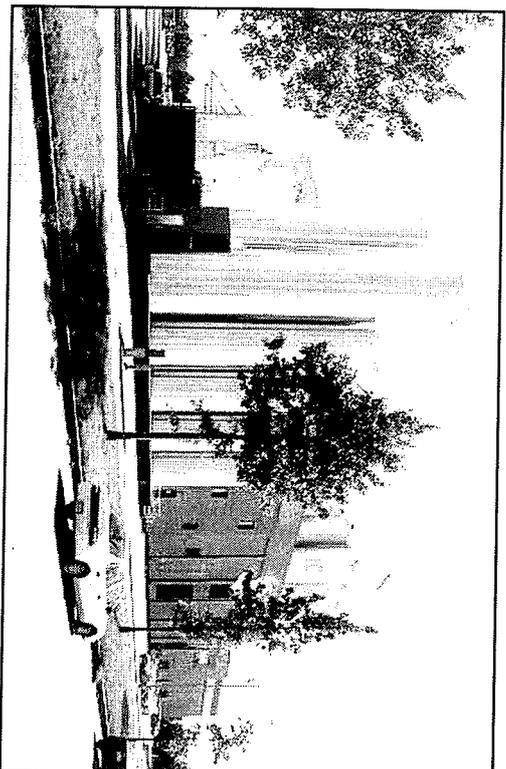
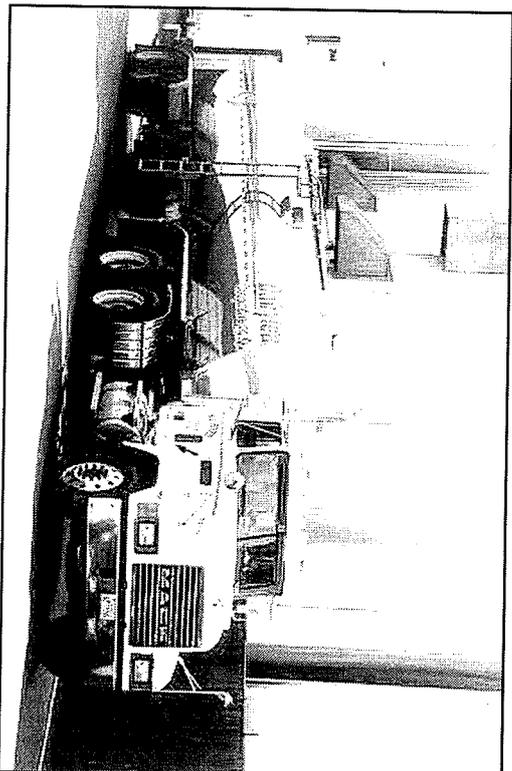
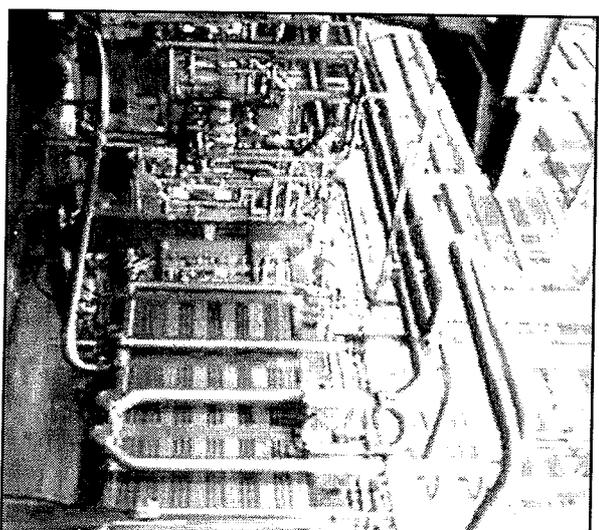


Modern Milk Production



Highly industrialized, with many possibilities for contamination in the feedlots, and during and after processing.



Harsh solvents must be used to clean miles of pipes in the processing plant; impossible to prevent residues from contaminating the milk.

Feedlot vs. Pastured Cattle

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

Peck, John E. "Spinach Crisis Reflects Need For Smaller Farms,"
The Capital Times, A8, October 2, 2006

Swill Milk

49

- During 1800s, the death rate was 50% among urban children drinking “Swill Milk,” that is, milk produced in inner city confinement dairies, from cows fed brewery swill and raised in unimaginable filth.
- Water (usually from a well or dam) was often added to milk to make it go further; chalk was sometimes added.
- Called “the oldest food fraud” in 1860 and still a problem today. There is a case before the courts in Australia of water deliberately added to milk in 2007!

Schmid, Ron, *The Untold Story of Milk*, NewTrends Publishing.

Solution to the “Milk Problem”

The “Milk Problem” was solved by:

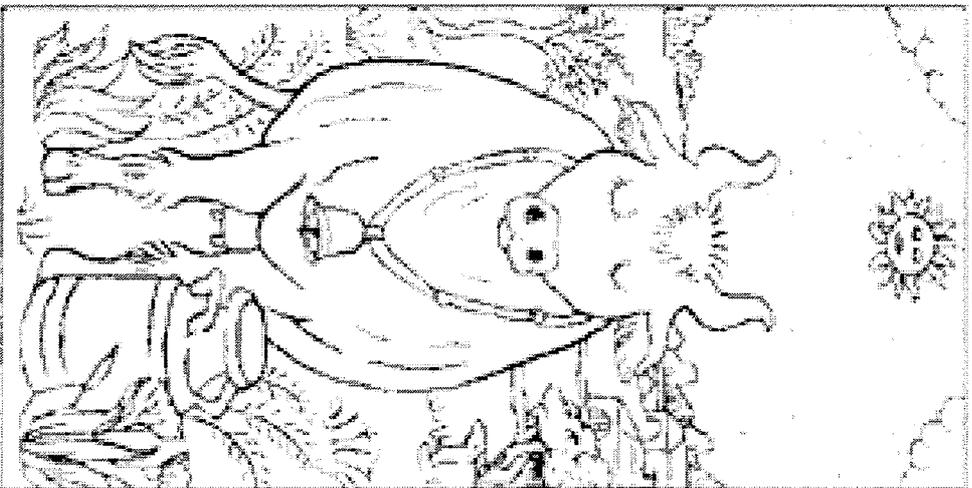
- Outlawing inner city swill dairies
- Improved hygiene
- Replacement of the horse with the car
- The Certified Milk Movement
- Increased consumer access to refrigeration

...NOT by milk pasteurization laws

Summary of Raw Milk Safety

- **SAFEST FOOD:** Raw milk is safer than any other food. It is, after all, the only food suitable for the newborn, and the newborn has no immunity yet.
- **BUILT-IN SAFETY MECHANISMS:** Raw milk is the ONLY food that has built in safety mechanisms.
- **40-YEAR-OLD SCIENCE:** Claims that raw milk is unsafe are based on 40-year-old science.
- **COURT OF LAW:** Claims that raw milk is unsafe would not hold up in a court of law.
- **RUSSIAN ROULETTE?** Drinking raw milk from grass-fed animals is like playing Russian roulette-- with no bullets in the chamber.

Part 2: Is Raw Milk More Nutritious?



“Research has shown that there is no significant difference in the nutritional value of pasteurized and unpasteurized milk.”

—*John F. Sheehan, Director,
US Food and Drug Administration,
Division of Dairy and Egg Safety*

FDA Consumer, Sept/Oct 2004

Proteins in Milk

53

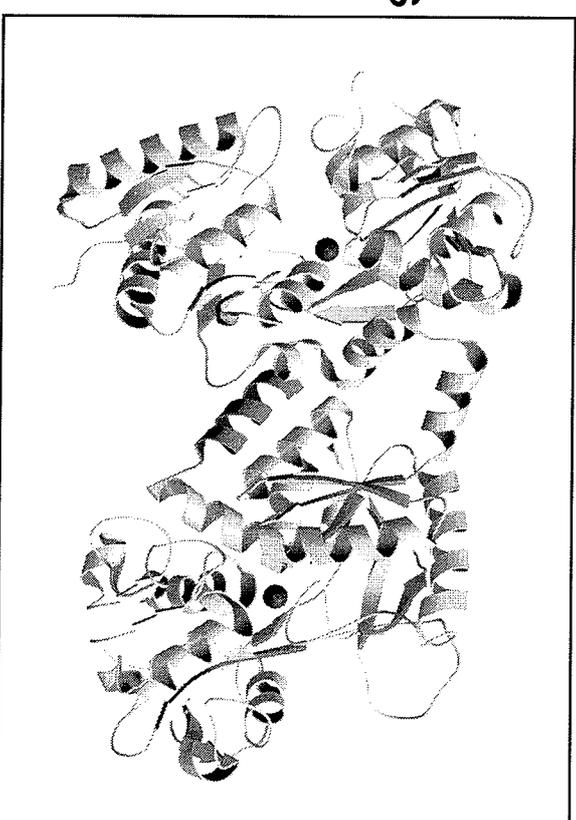
MILK PROTEINS: Three dimensional, like tinker toys, very fragile

CARRIERS: Carry vitamins and minerals through the gut into the blood stream; comprise enzymes; enhance the immune system; protect against disease

IMMUNE DEFENSE: Pasteurization and ultra-pasteurization flatten (de-nature) the three-dimensional proteins, destroying their biological activity; the body thinks they are foreign proteins and mounts an immune defense.

DISEASES: Immune attacks lead to juvenile diabetes, asthma, allergies and other disorders later in life.

ALLERGIES: More and more people unable to tolerate pasteurized milk; one of the top eight allergies; some have violent reactions to it.



Lactoferrin Molecule

Raw Milk and Children - 1926

224 Children at the Boston Dispensary were fed either:

- Raw Certified Milk, or
- Grade A pasteurized milk, or
- Grade A pasteurized milk plus cod liver oil, or
- Raw Certified Milk plus cod liver oil and orange juice

Groups receiving Raw Certified Milk did better than groups on pasteurized milk.

Arch Ped 1926 JUN; 43:380

Raw Milk and Children - 1929

- **COMPARISON** of 2 groups of babies.
 - Group I (122 babies) received raw milk
 - Group II (112 babies) received pasteurized milk.
- **WEIGHT GAIN** was much better in group receiving raw milk
- **RICKETS** occurred more frequently in the group receiving pasteurized milk; cases of rickets in the raw milk group were milder.
- **DIARRHEA**
 - 24 cases with 9 deaths in raw milk group
 - 36 cases with 15 deaths in pasteurized milk group
- **MORTALITY**

Group I Raw Milk	10%
Group II Pasteurized Milk	16%

Raw Milk and Children - 1931

Bias in Reporting Health Benefits

- **STUDY:** 20,000 poor children (ages 5-12) in Lanarkshire schools in Scotland, funded in part by individuals in the dairy industry.
- **THREE GROUPS:** 5,000 given $\frac{3}{4}$ pint raw milk per day; 5,000 given $\frac{3}{4}$ pint pasteurized milk per day; 10,000 received nothing.
- **“NO DIFFERENCE”:** Published final report (*Nature*, March 21, 1931) stated that those receiving milk had increase in rate of growth and that “the effects of raw and pasteurized milk on growth in weight and height are, so far as can be judged from this experiment, equal.”
- **“RAW MILK BETTER”:** Bias caught by two scientists (Fisher and Bartlett) who published a critical evaluation of the original authors’ conclusions (*Nature*, April 18, 1931). Growth, especially in boys, was actually better in those receiving raw milk.

Rat Studies of Scott & Erf - 1931

By Dr. Ernest Scott and Professor Lowell Erf,
Ohio State University, 1931

Whole Raw Milk	Good growth; sleek coats; clear eyes; excellent dispositions; enjoyed being petted.
Whole Pasteurized Milk	Rough coats; slow growth; eyes lacked luster; anemia; loss of vitality and weight; very irritable, often showing a tendency to bite when handled.

Raw Milk and Children - 1937

“The child on raw milk is very fit.

Chilblains are practically eliminated.

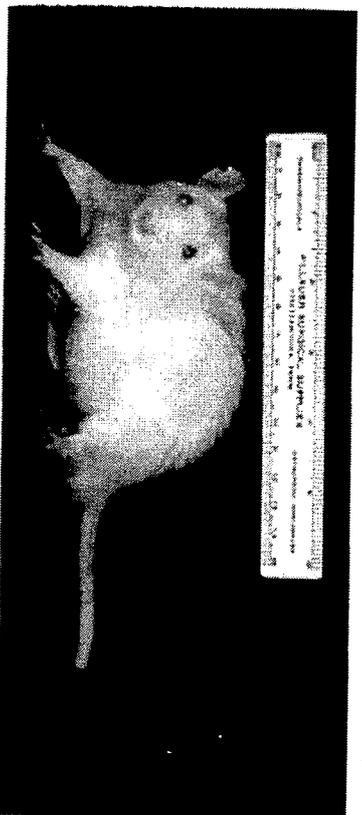
The teeth are less likely to decay.

The resistance to tuberculosis and other infections is raised.”

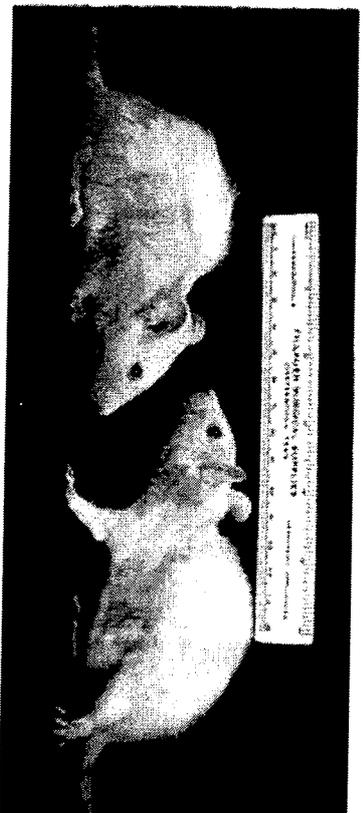
Lancet, May 8, 1937:1142

Randleigh Farm Rat Studies – 1935-1940

HISTORY OF RANDLEIGH FARM



Rat fed only raw milk from cows fed dry ice grass silage and grain. Notice absence of acrodynia.



Rats fed only pasteurized milk from cows fed dry ice grass silage. Hairless areas (acrodynia) are due to a deficiency of Vitamin B₆.

**Raw vs. Pasteurized Milk
at Randleigh Farm,
1935-1940**

**Above: Rat fed only raw
milk. Good development,
healthy fur.**

**Below: Rats fed only
pasteurized milk. Poor
development. Hairless
areas (acrodynia) due to
deficiency of vitamin B-6.**

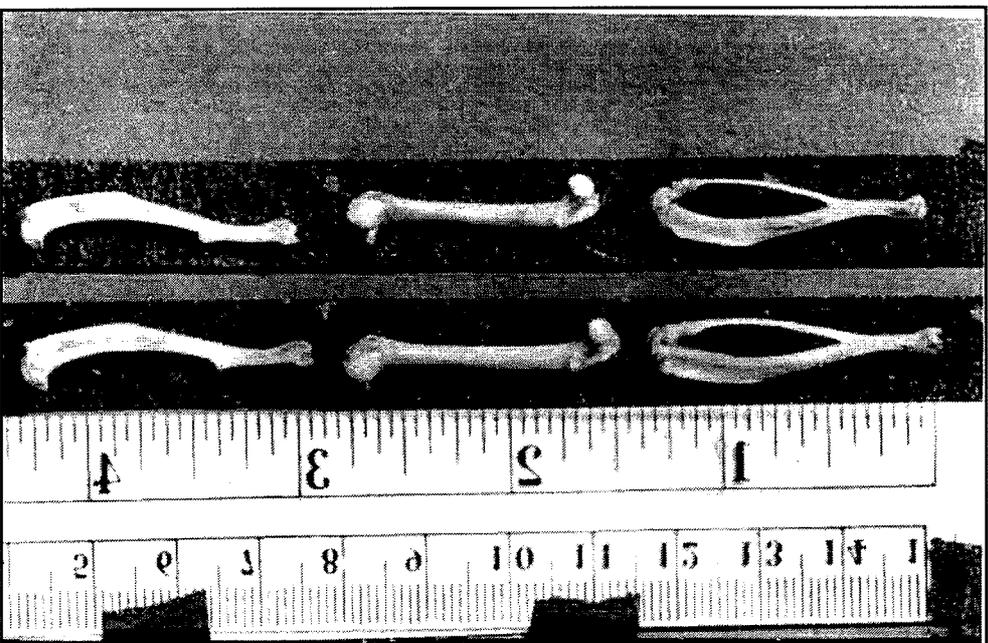
Bone Development

Randleigh Farm Study

**PASTEURIZED-
Milk-Fed Rat**

**Weighed 146
grams**

**Bones shorter
and less dense**



**RAW-Milk-Fed
Rat**

**Weighed 206
grams**

**Bones longer
and more dense**

One-to-One Exposure of Femur, Tibia and Fibula

Internal Development

61

Randleigh Farm Study

Rat fed pasteurized milk had poor color and compromised integrity of internal organs.



Cat Studies of Francis Pottenger, 1935-1940

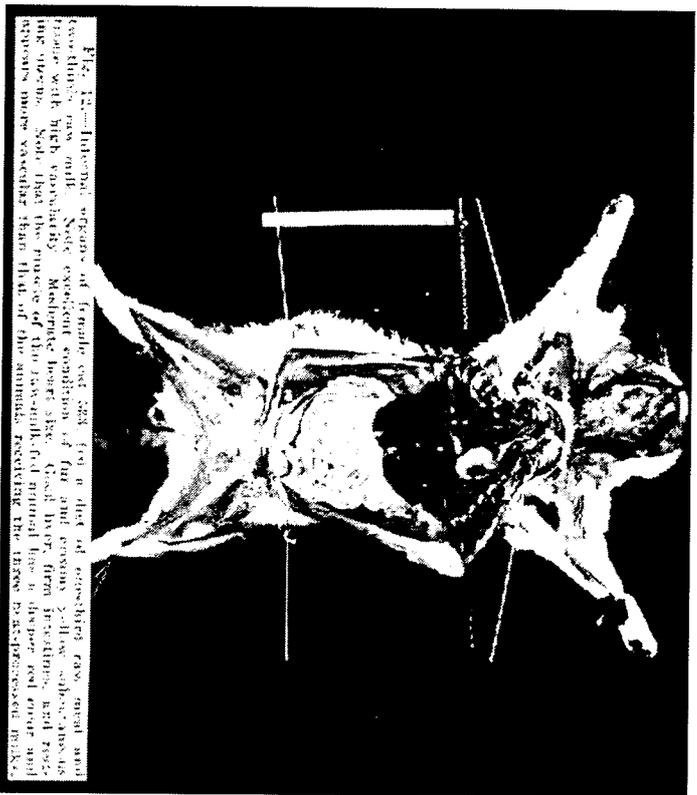


Fig. 12.—Internal organs of female cat fed a diet of one-third raw meat and two-thirds raw milk. Note excellent condition of fat and creamy yellow subcutaneous tissue with high vascularity. Moderate heart size. Good liver, firm resting, and resting uterus. Note that the muscle of the jaw-milk fed animal has a deeper red color and appears more vascular than that of the animal receiving the thermally processed milk.

Fig 12. Internal organs of a female cat fed diet of one-third raw meat and two-thirds raw milk. Note excellent condition of fat and creamy yellow subcutaneous condition of fur and creamy yellow subcutaneous tissue with high vascularity. Moderate heart size. Good liver, firm intestines and resting uterus.

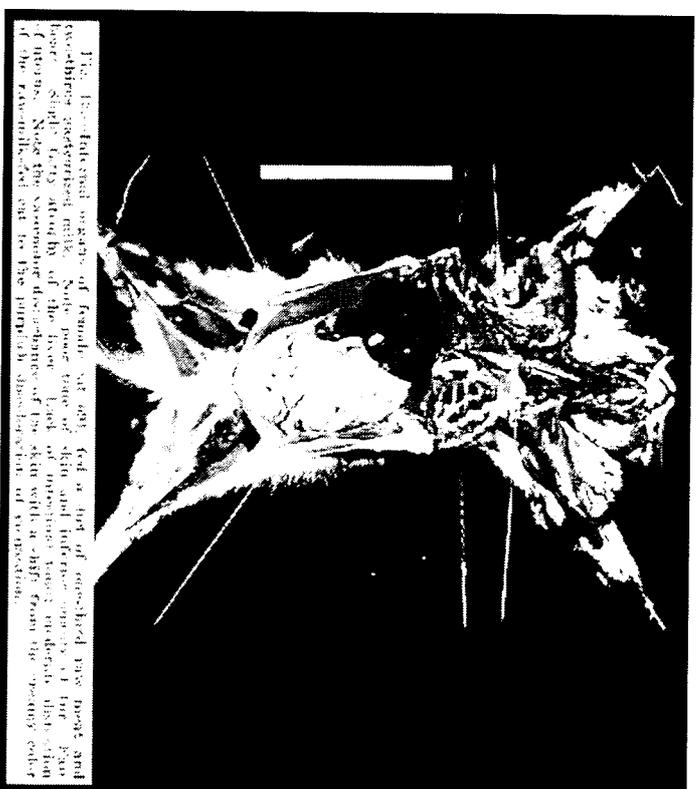


Fig. 13.—Internal organs of female cat fed a diet of one-third raw meat and two-thirds pasteurized milk. Note poor tone of skin and inferior quality of fur. Fair heart. Slight fatty atrophy of the liver. Lack of intestinal tone; moderate distention of the uterus. Skin has a purplish discoloration due to congestion.

Fig 13. Internal organs of female cat fed diet of one-third raw meat and two-thirds pasteurized milk. Note poor tone of skin and inferior quality of fur. Fair heart. Slight fatty atrophy of the liver. Lack of intestinal tone; moderate distention of the uterus. Skin has a purplish discoloration due to congestion.

Francis Pottenger lecture for Randleigh Farms.

Guinea Pig Studies of Wulzen & Bahrs

By Dr. Rosalind Wulzen and Alice Bahrs, Department of
Zoology, Oregon State College 1941

Whole Raw Milk	Excellent growth; no abnormalities
Whole Pasteurized Milk	Poor growth; muscle stiffness; emaciation and weakness; death within one year. Autopsy revealed atrophied muscles streaked with calcification; tricalcium deposits under skin, in joints, heart and other organs.

Am J Physiology 1941, 133, 500

Infants on Pasteurized Human Milk - 1986

- Did not gain weight as quickly compared to those fed raw human milk. *J Pediatr Gastroenterol Nutr.* 1986 Mar-Apr;5(2):248-53.
- More rapid weight gain in premature babies given raw human milk compared to pasteurized human milk. Problems attributed to destruction of lipase. *J Pediatr Gastroenterol Nutr.* 1986 Mar-Apr;5(2):242-7.
- CDC website notes that breast milk is best protection to infants “against salmonellosis and many other health problems.” Yet the agency warns against raw milk as a cause of salmonellosis. [Cdc.gov/ncidod/dbmnd/diseasesinfo/salmonellosis_g.htm](http://cdc.gov/ncidod/dbmnd/diseasesinfo/salmonellosis_g.htm).

The Milk Cure

- **ANCIENT:** Since ancient times, an exclusive raw milk diet has been used to cure many diseases.
- **MAYO CLINIC:** In the early 1900s, the “Milk Cure” was used at the Mayo clinic to successfully treat cancer, weight loss, kidney disease, allergies, skin problems, urinary tract problems, prostate problems, chronic fatigue and many other chronic conditions.
- **ONLY WITH RAW MILK:** The Milk Cure only works with raw milk; pasteurized milk does not have these curative powers.

Crewe, JR. “The Milk Cure,” <http://www.realmilk.com/milkcure.html>

Pasteurized Milk=Increasing Health Problems in Children

- Allergies
- Asthma
- Frequent Ear Infections
- Gastro-Intestinal Problems
- Diabetes
- Auto-Immune Disease
- Attention Deficit Disorder
- Constipation

During a period of rapid population growth, the market for fluid pasteurized milk has declined at 1% per year for the past 20 years. Fewer and fewer consumers can tolerate pasteurized (and ultrapasteurized) milk.

Asthma Crisis

- According to the CDC, asthma is the second most prevalent chronic condition among children. It results in approximately **14 million days of missed school** each year. Asthma in children increased from 3.6% in 1980 to 7.5% in 1995, or approximately 5 million children.
- What if we could prevent most of these cases through something as simple as offering raw milk in childhood?

Asthma & Raw Milk - 2001

68

- **Exposure to farming in early life and development of asthma and allergy: a cross-sectional survey.**
- **Summary: Long-term and early-life exposure to stables and [raw] farm milk induces a strong protective effect against development of asthma, hay fever, and atopic sensitization [rashes].**

Lancet. 2001 Oct 6;358(9288):1129-33

Asthma & Raw Milk - 2006

Researchers in London concluded that children who even *infrequently* drank raw milk had significantly less current eczema symptoms and a greater reduction in atopy (allergic hypersensitivity).

J Allergy Clin Immunol. 2006 Jun;117(6):1374-81.

Asthma & Raw Milk – 2007

- **In a study of 14,893 children aged 5-13, consumption of raw milk was the strongest factor in reducing the risk of asthma and allergy, whether the children lived on a farm or not.**
- **The benefits were greatest when consumption of farm milk began during the first year of life.**

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

Asthma & Foodborne Illness – Relative Risk

71

- About 5,500 people in the US die from asthma each year.
- About 1250 people in the US die from food-borne pathogens from ALL sources. (No deaths from raw milk).
- Thus, the risk of dying from asthma is over 4 times greater than the risk of dying from food-borne pathogens from ALL sources, and infinitely greater than the risk of dying from raw milk.

Raw Milk Digests Itself!

- **ACTIVATED ENZYMES:** The enzymes in raw milk, when activated by the appropriate pH of the digestive tract, become activated and digest all the components in the milk.
- **NO WORK:** The body's digestive apparatus does not need to do any work to digest raw milk.
- **CURATIVE, ENERGIZING:** This is a major reason raw milk has such extraordinary healing and energizing powers.
- **OVERBURDEN:** Pasteurized milk puts a huge burden on the digestive apparatus and for many is impossible to digest.

Lactose Intolerance

- Results from a survey by Opinion Research Corporation (commissioned by the Weston A. Price Foundation) indicate that about 29 million Americans are diagnosed lactose intolerant.
- Results from a private survey carried out in Michigan indicate that 85 percent of those diagnosed as lactose intolerant can drink raw milk without problem.
- Thus, almost 25 million Americans diagnosed as lactose intolerant could benefit from raw milk.

Raw Milk and Casein Intolerance

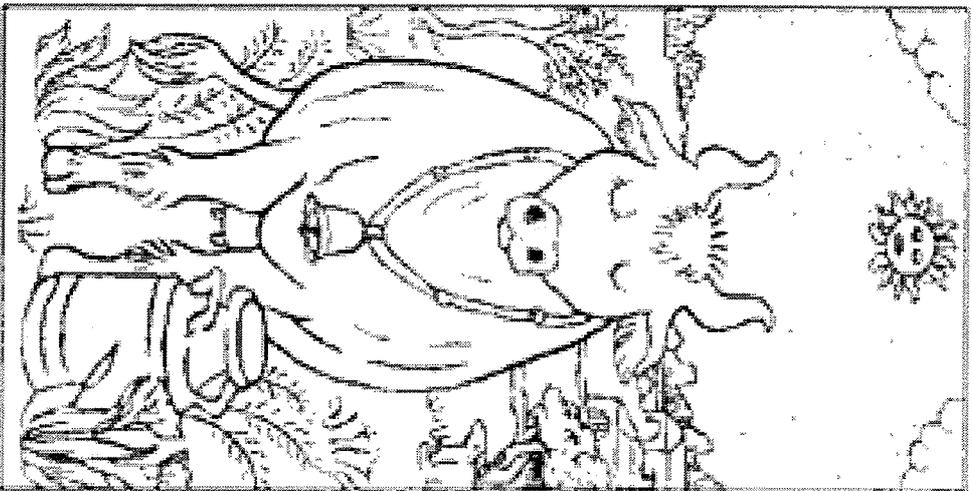
- Milk allergy is usually attributed to casein intolerance.
- Pasteurization destroys *L. lactis* and other lactic-acid bacteria indigenous to milk.
- These bacteria produce enzymes that break down the casein molecule.
- These findings suggest that raw milk could be consumed by those with milk allergy, including autistic children.
- We have received testimonials indicating that raw milk can be used to treat and even completely reverse symptoms of autism.

Meisel and others. *Antonie Van Leeuwenhoek*. 1999;76(1-4):207-15

Lowered Nutrient Availability in Pasteurized Milk

Vitamin C	Raw milk but not pasteurized can resolve scurvy. "... Without doubt. . . the explosive increase in infantile scurvy during the latter part of the 19 th century coincided with the advent of use of heated milks. . . ." Rajakumar, <i>Pediatrics</i> . 2001;108(4):E76
Calcium	Longer and denser bones on raw milk. Studies from Randleigh Farms.
Folate	Carrier protein inactivated during pasteurization. Gregory. <i>J Nutr</i> . 1982, 1329-1338.
Vitamin B12	Binding protein inactivated by pasteurization.
Vitamin B6	Animal studies indicate B6 poorly absorbed from pasteurized milk. Studies from Randleigh Farms.
Vitamin A	Beta-lactoglobulin, a heat-sensitive protein in milk, increases intestinal absorption of vitamin A. Heat degrades vitamin A. Said and others. <i>Am J Clin Nutr</i> . 1989;49:690-694. Runge and Heger. <i>J Agric Food Chem</i> . 2000 Jan;48(1):47-55.
Vitamin D	Present in milk in protein-bound form, assimilation possibly affected by pasteurization. Hollis and others. <i>J Nutr</i> . 1981;111:1240-1248.
Iron	Lactoferrin, which contributes to iron assimilation, destroyed during pasteurization.
Iodine	Lower in pasteurized milk. Wheeler and others. <i>J Dairy Sci</i> . 1983;66(2):187-95.
Minerals	Lactobacilli, destroyed by pasteurization, enhance mineral absorption. MacDonald and others. 1985.

Part 3: Is Milk from Pastured Cows More Nutritious?



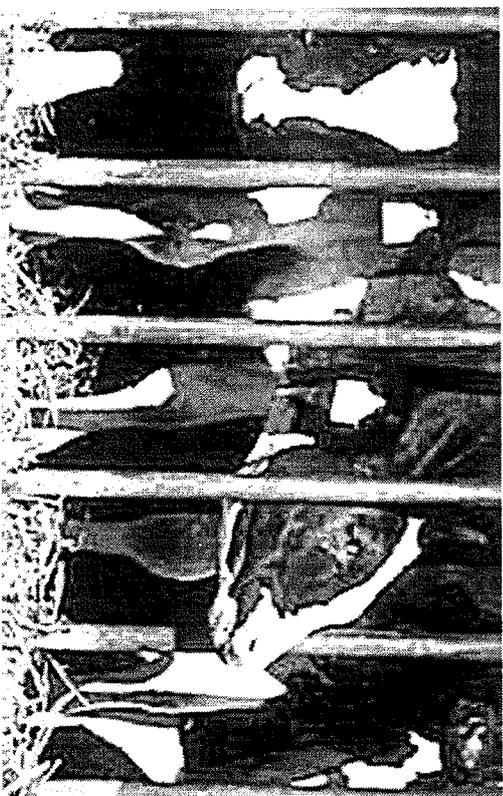
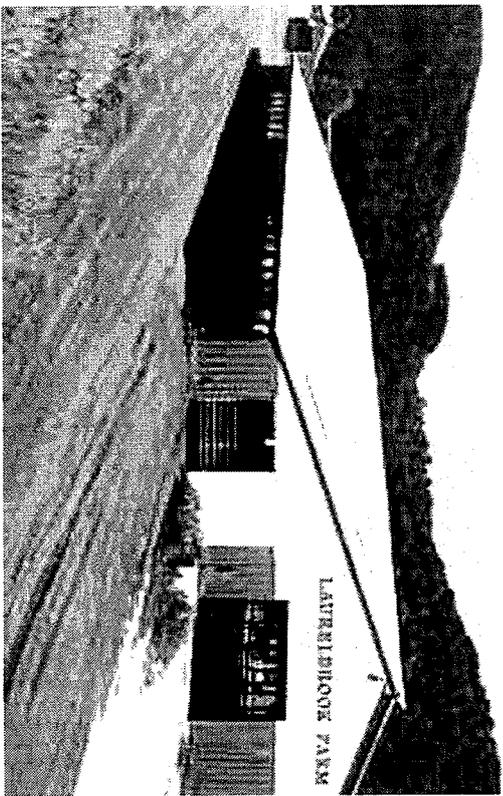
“Milk is Milk and it’s all produced
the same way--by cows. . .”¹

—Dennis T. Avery,
Center for Global Food Issues

Global Food Quarterly, December 2002.

Confinement Dairy System

Cows never leave stalls; life span averages 42 months.



Confinement Dairy System

