

The Value of Raw Milk as a Healthy Food

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Reasons People Buy our Milk

- Taste - creamy, but not heavy and has amazing flavor
- Health – use to treat cases of lactose intolerance, allergies, IBS, skin conditions, inflammation, depression, obesity and autism.
(Recommended by health care professionals)
- Treat animals well –first hand view of clean, healthy, grass-fed cows
- Whole, real, unprocessed, grass-based food
- Trust – Have a connection with us and see our immaculate barn and sanitary conditions. Customers always comment on how nicely our barn smells.
- Support local – they like knowing their money is going directly to

Raw Milk has been a human staple for 6,000 years!

- Raw milk has been long been a staple in many cultures across the world.
- Evidence of early dairy farming in Northern Europe, India, Egypt, North Africa and elsewhere.
- Raw milk is mentioned more than 50 times in the bible. ‘*A land that floweth with milk and honey*’ was the fertile and all providing land of ancient Palestine.

What went wrong with raw milk?

- The industrial revolution spawned the first confinement farms
- “Swill dairies” associated with alcohol distilleries were disease-filled, manure pits and very profitable!
- Milk watered down with contaminated water, sick dairy workers and diseased cows spread illness
- Many people (especially babies) got sick or died

Quote from an observer of the day:

“Confined to filthy, manure-filled pens, the unfortunate cows gave a pale, bluish milk so poor in quality, it couldn’t even be used for making butter or cheese.” Schmid, Ron. *The Untold Story of Milk*. Winona Lake, Indiana: New Trends Publishing, 2003, p.232.

Raw Milk's Regulatory Crossroads

Put cows back on the farm and
go back to making safe milk?

or

Pasteurize swill milk so it
wouldn't kill people???

Widespread Pasteurization

- Kept low cost, low quality milk on the market
- Standardized Milk Ordinance Enacted in 1924, today this is called the Pasteurized Milk Ordinance (PMO)

This set of regulations, (now adopted by all states) has improved milk production from the days of swill dairies, but it still allows ...

- large, crowded confinement dairy operations
- feeding of concentrates, industrial food wastes and GMO's
- regular use of hormones
- co-mingled milk from many large farms and many thousands of cows
- allows milk from sick cows (acidosis, mastitis) to enter the food supply

Historic vs Modern Milk Risks

- Major communicable diseases associated with swill milk have largely been eradicated from the US¹
(TB, Brucellosis and Typhoid)
- Scientific understanding and technological advances have made milk (raw and pasteurized) a relatively safe food^{2,3,4}
- Testing, vaccinations, water chlorination, and pasteurization of contaminated milk have greatly increased milk safety

References for Previous Slide

- 1. Schmid, Ron. *The Untold Story of Milk*. Winona Lake, Indiana: New Trends Publishing, 2003, p.232.
- 2. Elmoslemany, A.M. et. al. (2009) “Risk factors for bacteriological quality of bulk tank milk in Prince Edward Island dairy herds. Part 1: Overall risk factors” *J. Dairy Sci.* 92:2634-2643
- 3. Millogo, V., et. al. (2010) “Raw milk hyginene at farms, processing units and local markets in Burkina Faso” *Food Control*. Doi:10.1016/j.foodcont.2009.12.029.
- 4. Centers for Disease Control. (2007). “FOIA 06-0819 Line list of foodborne illness reoported to CDC’s National Foodborne Outbreak Surveillance System from 1973 to 2005” Available online at <http://www.davidgumpert.com/files/Cdc-foodborne-i.pdf> (accessed April 27, 2010)

CDC's Current Milk Safety Data

- FOIA request from FTCLDF outlines 33 years (1973-2005) of data on raw and pasteurized milk outbreaks in the U.S.¹
- 1,585 total illnesses attributed to **raw** milk (average of 48 illnesses per year in the US)
- 19,835 total illnesses attributed to **pasteurized** milk (average of 601 illnesses per year in the US)

“Raw milk’s contribution to the nation’s foodborne illness problem [is] miniscule.”

-David Gumpert (journalist, author, in response to CDC’s Report on Raw Milk Outbreaks)

1. Centers for Disease Control. (2007). “FOIA 06-0819 Line list of foodborne illness rereported to CDC’s National Foodborne Outbreak Surveillance System from 1973 to 2005” Available online at <http://www.davidgumpert.com/files/Cdc-foodborne-i.pdf> (accessed April 27, 2010)

CDC Food Borne Illness Data

- CDC data show that 27,645 foodborne illnesses were reported in 2006¹
- According to CDC statistics, 48 out of 27,645 total foodborne illnesses each year in the US are attributed to raw milk ²
- This means 0.17% of foodborne illnesses are caused by raw milk in the U.S.
- In 2006, the food commodities associated with the largest number of illnesses were poultry (21%), leafy vegetables (17%) and fruits or nuts (16%).

1. Medicine.net "Foodborne Illness Underreported" Online at <http://www.medicinenet.com/script/main/art.asp?articlekey=101137> (Accessed April 27, 2010)
2. Centers for Disease Control. (2007). "FOIA 06-0819 Line list of foodborne illness reoported to CDC's National Foodborne Outbreak Surveillance System from 1973 to 2005" Available online at <http://www.davidgumpert.com/files/Cdc-foodborne-i.pdf> (accessed April 27, 2010)

Raw Milk Consumption Rates

- 2002 CDC Survey of consumers in 9 states, estimates the percentage of raw milk drinkers to be between 2.5% and 4%¹
- Extrapolating nationally, there are 7-12 million raw milk drinkers in the U.S.²
- Largest retail raw milk farm is Organic Pastures Dairy in Fresno, Ca. which provides raw milk and raw milk products to 35,000 regular consumers²
- Survey of Vermont dairy farmers estimates that over 175,000 gallons of raw milk will be sold in Vermont in 2010.³

1. Centers for Disease Control and Prevention. *Foodborne Diseases Active Surveillance Network (FoodNet): Population Survey Atlas of Exposures, 2002*. Atlanta: Centers for Disease Control and Prevention, 2004, pp.204-205.

2. Gumpert, David *The Raw Milk Revolution*. White River Junction, Vermont: Chelsea Green Publishing, 2009. pp243.

3. Moyer, Brian (2010) "Unpasteurized (Raw) Milk Report" Submitted to Vermont House Agriculture Committee.

Risks Adjusted for Consumption of Milk (raw and pasteurized) Compared With Other Foods

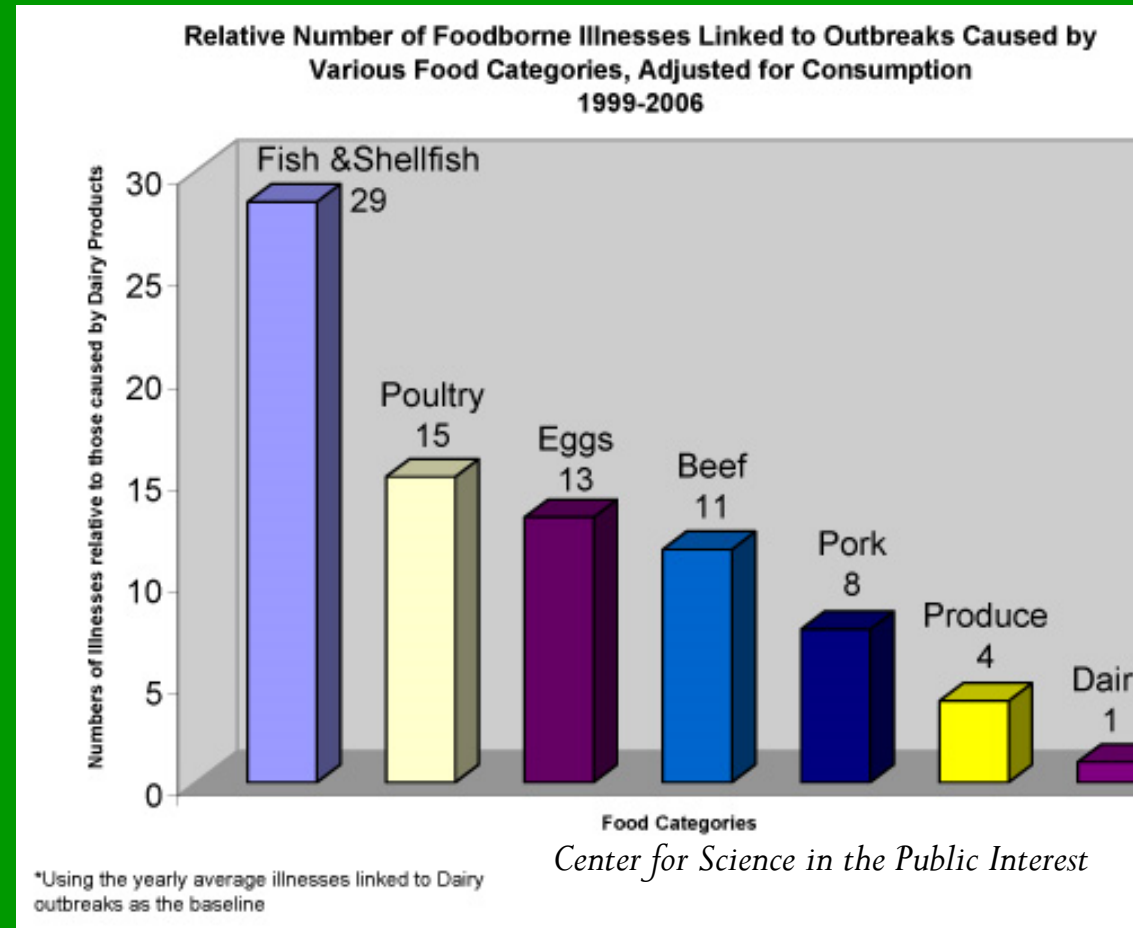


Chart data provided by Weston A. Price Foundation. "Raw Milk PowerPoint--NOVEMBER 2009 Update" (2009). Available online at <http://realmilk.com/ppt/index.html> (Accessed April 27, 2010.)

Statistical Evidence that Raw Milk is Not More Dangerous than Other Foods

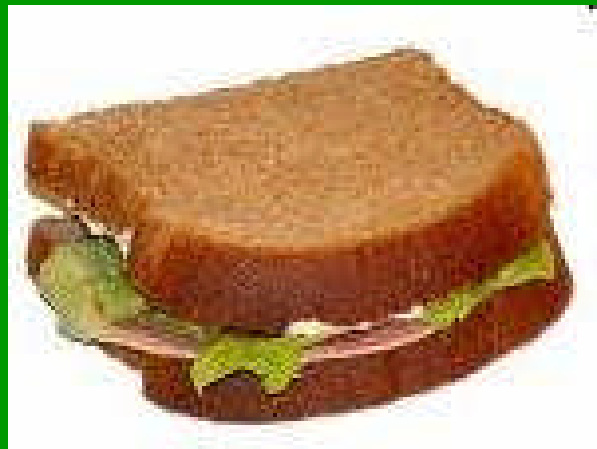
- In a 2003 USDA/FDA report: Compared to raw milk
 - 515 times more illnesses from *Listeria* due to deli meats
 - 29 times more illnesses from *Listeria* due to pasteurized milk¹

When adjusted for consumption rates, deli meats present a 10x greater risk of listeriosis than raw milk.

1. *Interpretive Summary – Listeria Monocytogenes Risk Assessment*, Center for Food Safety and Applied Nutrition, FDA, USDHHS, USDA, Sept. 2003, page 17

Data provided by Weston A. Price Foundation. “Raw Milk PowerPoint--NOVEMBER 2009 Update” (2009). Available online at <http://realmilk.com/ppt/index.html> (Accessed April 27, 2010.)

You are ten times more likely to get listeriosis from your turkey sandwich than from drinking a glass of raw milk.



Two Raw Milks, All Raw Milk is *NOT* Created Equally

- Scientific evidence shows that pasture based animal products are safer and of superior nutritional quality than food from confinement systems.
- The following is a conclusion reached in Dr. Cathy Donnelly's recent paper in the Journal of Dairy Science.

“Our results indicated that most raw milk intended for small-scale artisan cheesemaking in Vermont was of high microbiological quality with no detectable target pathogens despite the repeat sampling of farms. This suggests that factors inherent to small herds and flock sizes, the lack of extended milk holding, seasonal milking, and pasture-based feeding play a role in the overall quality of milk.”¹

1. D'Amico, D.J., and C.W. Donnelly. 2010 Microbiological quality of raw milk used for small-scale artisan cheese production in Vermont: Effect of farm characteristics and practices. *J. Dairy Sci.* 93:134-147

This milk is produced specifically to
be consumed *without* pasteurization.





This milk is produced specifically to be consumed *after* pasteurization.



*I DO NOT recommend
consumption of this milk, raw
or pasteurized!*

Confinement Dairy Production

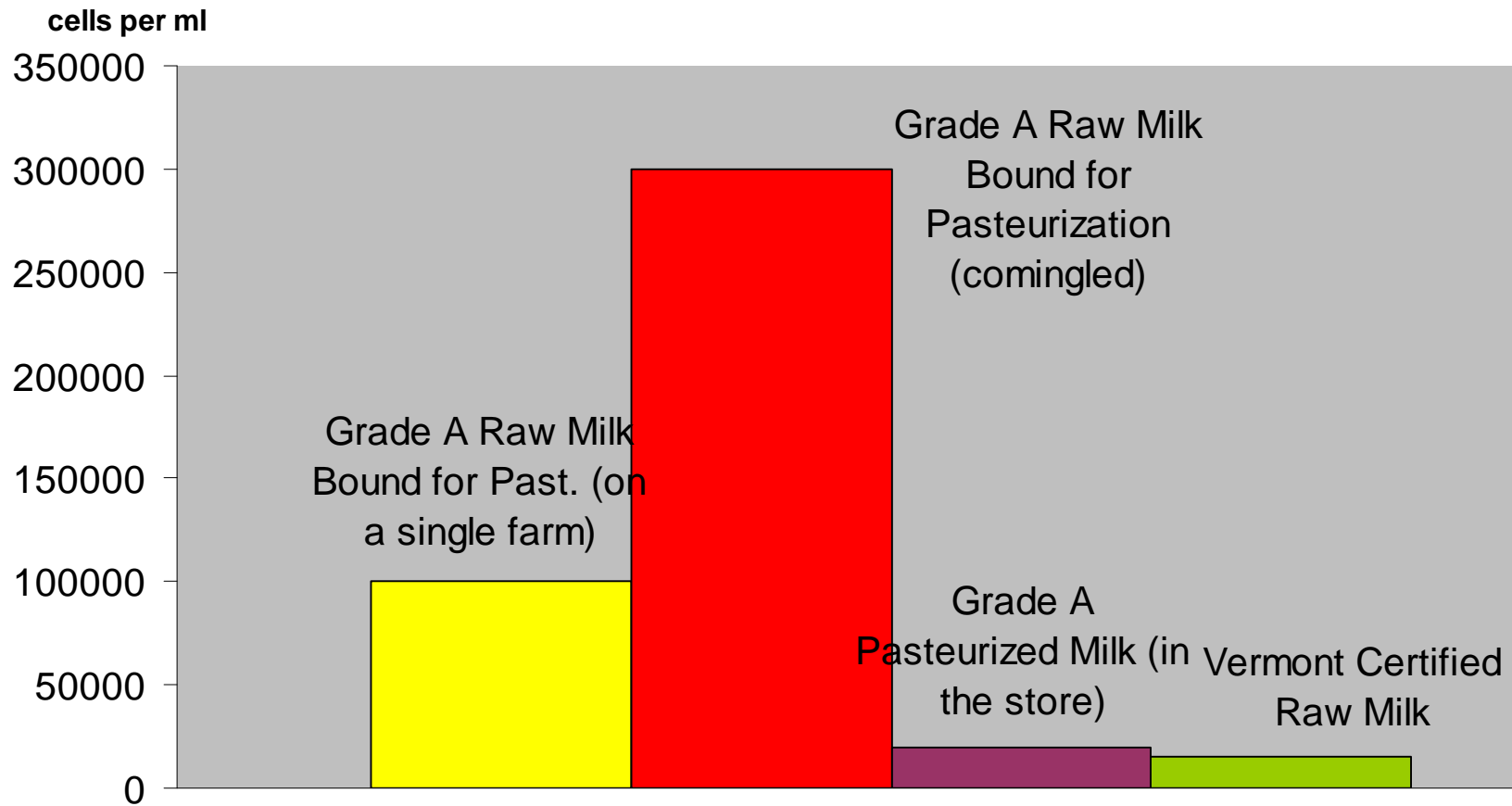
- 95% of US milk is from confinement operations
- Confinement animals are many times more likely to harbor human pathogens^{1,2,3}
- Development of antibiotic resistant pathogens linked to sub-therapeutic use of antibiotics in animals in confinement⁶
- Udder infections, acidic rumens, lameness, high cull rates are more prevalent than in pasture-based systems^{4,5}
- Quality of food produced from confined animals has been shown to have unhealthy proportions of Omega 3,6,9 ratios⁷

References from Previous Slide

1. Russell, J. B., F. Diez-Gonzalez, and G. N. Jarvis. "Potential Effect of Cattle Diets on the Transmission of Pathogenic Escherichia Coli to Humans" *Microbes Infect* 2, no. 1 (2000): 45-53.
2. Bailey, G. D., B. A. Vanselow, *et al.* (2003). "A study of the food borne pathogens: Campylobacter, Listeria and Yersinia, in faeces from slaughter-age cattle and sheep in Australia." *Commun Dis Intell* 27(2): 249-57.
3. "Influence of Diet on Total and Acid Resistant E. coli and Colonic pH." Tony Scott, Klopfenstein, T., *et al.*" 2000 Nebraska Beef Report, pages 39-41.
4. Bramley, E. *et al.* (2008) "The Definition of Acidosis in Dairy Herds Predominantly Fed on Pasture and Concentrates" *J. Dairy Sci.* 91:308-321.
5. Goldberg, J. J., *et al.* (1991) "The Influence of Intensively Managed Rotational Grazing, Traditional Continuous Grazing, and Confinement Housing on Bulk Tank Milk Quality and Udder Health" *J. Dairy Sci* 75:96-104.
6. Kennedy, Donald "Cows on Drugs" (April 17, 2010) *New York Times*. Available online at <http://www.nytimes.com/2010/04/18/opinion/18kennedy.html>. (Accessed April 27, 2010.)
7. Couvreur, S., *et al.* "The Linear Relationship between the Proportion of Fresh Grass in the Cow Diet, Milk Fatty Acid Composition, and Butter Properties" *J. Dairy Sci.*, 2006. 89:1956-1969.

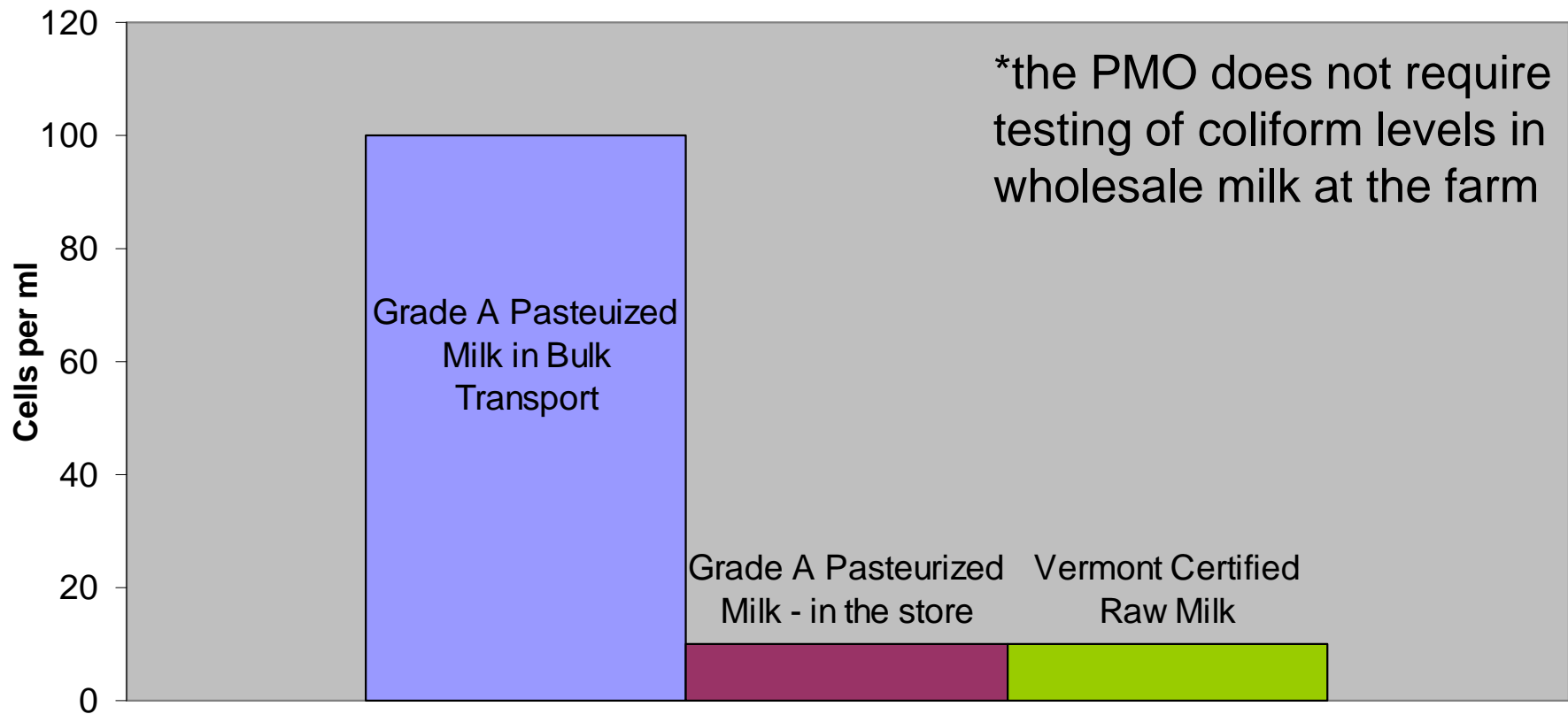
PMO vs Vermont Raw Milk Standards

Bacterial Limits Allowed by Law



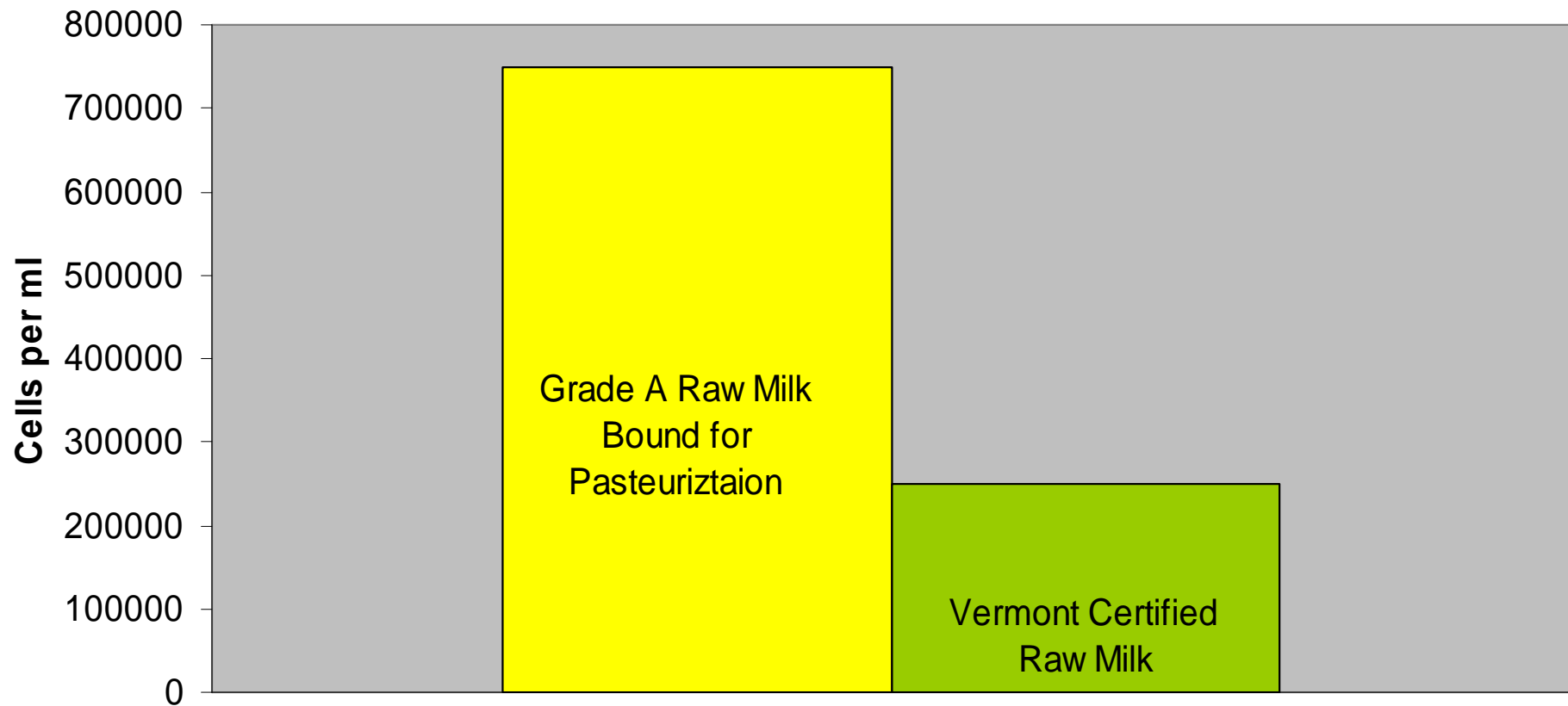
PMO vs Vermont Raw Milk Standards

Coliform Limits Allowed by Law



PMO vs Vermont Raw Milk Standards

Somatic Cell Count (Herd Average) Limits Required by Law



The Health Enhancing Properties of Grass-Fed Raw Milk

- Probiotics – maintains healthy gut flora which enhances immune function and reduces chronic inflammation
- Intact Enzymes – enables complete protein digestion and mineral absorption
- CLA's – shown to decrease risk of chronic illness
- Healthy fats - Omega 3,6,9 in balance
- Full compliment of vitamins and minerals

Probiotics, Necessary for a Functioning Immune System

Dr. Robert Luby, is a Colombia trained, 20 year practitioner of family medicine, with teaching appointments at UVM, the University of Massachusetts and Tufts University medical schools. Dr. Luby recommends patients replace pasteurized milk with pasture-based raw milk as a first line therapy. He has had good results, especially in patients with asthma, seasonal allergies and eczema. Below is a quote from him.

“I challenge you to consider that there are 5 macronutrients rather than three; fat, protein, carbohydrates PLUS fiber and beneficial bacteria as well. Beneficial bacteria are the most important nutrient in milk and are destroyed during pasteurization. We are the first society in history to not regularly consume large amounts of probiotic, beneficial bacteria laden foods. The results are shockingly increasing rates of chronic disease such as heart disease, diabetes and cancer.”

Allergies and Asthma

- European study involving 15,000 children shows a direct link to raw milk and decreased rates of allergies and asthma¹
- Ruled out other factors such as exposure to the farm environment
- Concludes that protective effect may be transferred to non-farm populations through raw milk consumption

1. Waser, M., et al. "Inverse Association of Farm Milk Consumption with Asthma and Allergy in Rural and Suburban Populations Across Europe." *Clinical and Experimental Allergy* 37.5 (2007): 661-670.

Lactose Intolerance

- Caused by insufficient levels of the lactase enzyme in the gut¹
- Raw milk contains bacteria which produces the enzyme lactase^{2,3}
- Survey of lactose intolerant, raw milk drinkers finds that 83% can digest raw milk with no problem
- Very common reason consumers seek out raw milk

References from Previous Slide

- 1. US FDA “Problems Digesting Dairy Products?” FDA Consumer Health Information Update series (2009). Available online at www.fda.gov/consumer/updates/lactose032508.html.
- 2. Schmid, Ron. *The Untold Story of Milk*. Winona Lake, Indiana: New Trends Publishing, 2003, p.232.
- 3. “What’s in Raw Milk” (2009). Available online at www.real-milk-facts.com/what_is_in_raw_milk.html.
- 4. Gumpert, David *The Raw Milk Revolution*. White River Junction, Vermont: Chelsea Green Publishing, 2009. pp243.

**“Raw milk is good food. Raw milk is good medicine.
Access to raw milk is access to health care.”**



-Dr. Robert Luby

Thank you!