Vet's Corner : Seven Food Borne Illness Pathogens that are killed by Pasteurization

Since 1987, US FDA has prohibited interstate sale of raw milk, and currently 26 states ban sales inside their borders. Recently a few states have revised state law to allow more sales of raw milk directly from the farm to the consumer. Last year, Vermont state law was changed to allow 50 quarts to be sold daily, and now the House Ag committee is considering a bill to allow unlimited sales.

Advocates of raw milk claim health benefits and relief of lactose intolerance. Most of these claims are based on conflicting personal testimonies and little scientific investigation supports the health claims. The question before the House Ag committee is to weigh these possible benefits against the known food borne illnesses that have been transmitted in raw milk.

1. Q Fever causes chills, fever, headache, and endocarditis is caused by Coxiella brunetti. Coxiella b is found in 94% of bulk tank samples and is the standard measure of success for the pasteurization process.

2. Salmonellosis causes enteritis and serious flu symptoms. Salmonella is the second most common pathogen and is found in 9% of bulk tank samples. In a 2005 Cornell study on our practices' herd health clinic farms, Salmonella spp was found on the premises of over 60% of the farms, so it presents a major risk in our area.

3. Campylobacter causes intestinal flu symptoms and is especially tough on new raw milk drinkers. In Kansas in 2007, 87 people were sickened by two separate cases and last year another Campylobacter outbreak occurred in California from raw milk shipped into the state under a "cow share" program designed to beat the FDA interstate shipment ban.

4. E. coli 0157:H7 causes hemolytic uremic syndrome which has led to death due to kidney failure in the very young.

5. Listeriosis causes abortion and death in humans. It is a common soil inhabitant in Vermont and along with Salmonella is the subject of premises environmental monitoring at milk processing plants. Listeria spp. only causes 0.02% of food borne illnesses, but 27.6% of all deaths due to food borne illness are from Listeria, so it is an extremely dangerous pathogen. In 1985, 48 deaths occurred in Los Angeles from eating Mexican style cheese made from unpasteurized goat milk.

6. Mycobacterium tuberculosis causes respiratory disease in humans and has been largely controlled in the USA by an 80 year old test and cull program. A recent flare up in valuable Michigan herds originated from contact with deer and reminded us that surveillance must continue.

7. Undulant Fever is caused by Brucella abortis and is checked at the milk plant on a quarterly basis with the Ring test. As the name implies victims suffer recurring fever and exhaustion. Raw milk sold directly from the farm would not be monitored with the Ring test.

End-product testing of raw milk for food borne illness pathogens as recommended by the proposed Vermont law, will not provide the bullet proof protection that pasteurization has done. Pathogens are secreted sporadically and may not be present in sufficient numbers to find on test day. So no practical testing procedure can be as reliable to prevent food borne illness as pasteurization.

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