

JOSH GREEN, M.D.
Governor

SYLVIA LUKE
Lt. Governor



SHARON HURD
Chairperson, Board of Agriculture

MORRIS M. ATTA
Deputy to the Chairperson

State of Hawai'i
DEPARTMENT OF AGRICULTURE
KA 'OIHANA MAHI'AI
1428 South King Street
Honolulu, Hawai'i 96814-2512
Phone: (808) 973-9600 FAX: (808) 973-9613

**TESTIMONY OF SHARON HURD
CHAIRPERSON, BOARD OF AGRICULTURE**

BEFORE THE HOUSE COMMITTEE ON FINANCE

**MONDAY, FEBRUARY 27, 2023
10:00 AM
CONFERENCE ROOM 308 & VIDEOCONFERENCE**

**HOUSE BILL NO. 521
RELATING TO RAW MILK**

Chairperson Yamashita and Members of the Committee:

Thank you for the opportunity to testify on House Bill 521. This measure authorizes and decriminalizes the sale of raw milk and raw milk products directly from producers to consumers, for human consumption, with certain restrictions. Authorizes the sale of raw goat milk for pet consumption. Establishes labeling requirements. Requires the Board of Agriculture and Department of Health to adopt rules no later than 7/1/2024. The Department of Agriculture (DOA) respectfully opposes this bill.

The State of Hawaii currently prohibits the sale of raw milk in any form. Hawaii Administrative Rules, Title 11, Chapter 15, "Milk", Section 11-15-46, Milk and milk products which may be sold, states in part that "Only Grade "A" pasteurized milk and milk products shall be sold to the final consumer."

The consumption of raw milk and raw milk products is a public health and milk safety issue. As such, the placement of this bill under Chapter 157 HRS is not appropriate. Raw milk is unsafe because it can contain disease causing pathogens according to Food and Drug Administration, Centers for Disease Control and American



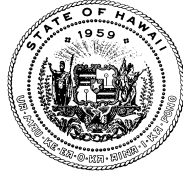
Academy of Pediatrics. This bill states that a label is required that warns about the risks of consuming raw milk by stating that raw milk “Contains pathogens that may be unsafe to consume.”

In addition to food safety issues, there are concerns with licensing and enforcing the maximum ten-cow requirement on these many small producer-distributors, given that there are also provisions where producers may share cows for the purposes of producing raw milk or raw milk products. There are also potential problems with determining and collecting licensing fees. The revenues collected from monitoring the small producer-distributors containerizing their own raw milk and raw milk products for sale directly to consumers will be insufficient to sustain operations. Consequently, the DOA will be unable to enforce the proposed amendments to Chapter 157 HRS in this measure.

The DOA notes that the regulation of foods such as raw goat milk for pet consumption, is ordinarily within the purview of federal agencies.

Thank you for the opportunity to testify on this measure.

JOSH GREEN, M.D.
GOVERNOR OF HAWAII
KE KIA'AINA O KA MOKU'AINA 'O HAWAII



KENNETH S. FINK, MD, MGA, MPH
DIRECTOR OF HEALTH
KA LUNA HO'OKELE

STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P. O. Box 3378
Honolulu, HI 96801-3378
doh.testimony@doh.hawaii.gov

**Testimony in OPPOSITION on HB0521
RELATING TO RAW MILK**

REPRESENTATIVE KYLE T. YAMASHITA, CHAIR
HOUSE COMMITTEE ON FINANCE

Hearing Date: 2/27/2023 10:00 am Room Number: 308

1 **Fiscal Implications:** This measure has substantial fiscal implications that are not included in the
2 executive budget.

3 **Department Testimony:** The Department of Health (department) opposes this measure.

4 The Department opposes this measure due to serious public health concerns.

5 Following the first sentence in Section 1 of the measure, regarding some people's desire to drink
6 raw milk, the rest of the text in Section 1 are misconceptions and false statements that have been
7 perpetuated over many years by those that confuse the ideology of "food freedom" and profit at
8 the expense of placing the public at undue risk of serious illness or death by possible exposure to
9 pathogenic organisms. Our Keiki, Kupuna, and the immunocompromised face even greater risk
10 than the general public, as they will face much greater difficulty fighting off any pathogens
11 ingested and will have a much higher mortality rate for almost all pathogens associated with
12 consuming raw dairy products. The U.S. Food and Drug Administration (FDA) and the U.S.
13 Centers for Disease Control and Prevention (CDC) have published many science-based articles
14 debunking every statement in Section 1 and is included in this testimony.

15 Based on CDC data, literature, and state and local reports, FDA compiled a list of outbreaks that
16 occurred from 1987 to September 2010 in the United States (US). During this period, there were
17 at least 133 outbreaks due to the consumption of raw milk and raw milk products. These
18 outbreaks caused 2,659 cases of illnesses, 269 hospitalizations, 3 deaths, 6 stillbirths and 2
19 miscarriages. The numbers of outbreaks and illness cases were likely higher than the above
20 estimates due to underreporting.

21 Of the 133 outbreaks occurring from 1987 to September 2010, 5 were multistate outbreaks with
22 cases from at least two states. The remaining 128 outbreaks occurred in 30 states. Of these 30
23 states, 20 allowed some type or raw milk sale for direct human consumption according to the
24 National Association of State Departments of Agriculture survey of 2008 (NASDA, 2008).

1 Outbreaks from these 20 states accounted for 80% of all outbreaks in the US during this period.
2 The three states that had the highest frequencies of outbreaks are California, Washington, and
3 Utah, accounting for about 12%, 12%, and 8% of all outbreaks, respectively.

4 In addition, the CDC reported that consuming unpasteurized milk is 150 times more likely to
5 cause foodborne illness and 13 times more hospitalizations than drinking pasteurized milk
6 products.

7 The State of Hawaii currently prohibits the sale of raw milk in any form. Hawaii Administrative
8 Rules, Title 11, Chapter 15, "Milk", Section 11-15-45, Milk and Milk Products which may be
9 sold. , states in part that "Only Grade "A" pasteurized milk and milk products shall be sold to the
10 final consumer"...

11 Please be advised that FDA and other federal and state health agencies have documented a long
12 history of the risks to human health associated with the consumption of raw milk. Clinical and
13 epidemiological studies from FDA, state health agencies, and others have established a direct
14 causal link between gastrointestinal disease and the consumption of raw milk. The microbial
15 flora of raw milk may include human pathogens present on the cow's udder and teats. Further,
16 the intrinsic properties of milk, including its pH and nutrient content, make it an excellent media
17 for the survival and growth of bacteria.

18 On August 10, 1987, FDA published in 21 CFR Part 1240.61, a final regulation mandating the
19 pasteurization of all milk and milk products in final package form for direct human consumption.
20 This regulation addresses milk shipped in interstate commerce and became effective September
21 9, 1987.

22 In this Federal Register notification for the final rule to 21 CFR Part 1240.61, FDA made a
23 number of findings including the following:

24 "Raw milk, no matter how carefully produced, may be unsafe."

25 "It has not been shown to be feasible to perform routine bacteriological tests on the raw
26 milk itself to determine the presence or absence of all pathogens and thereby ensure that
27 it is free of infectious organisms."

28 "Opportunities for the introduction and persistence of *Salmonella* on dairy premises are
29 numerous and varied, and technology does not exist to eliminate *Salmonella* infection
30 from dairy herds or to preclude re-introduction of *Salmonella* organisms. Moreover
31 recent studies show that cattle can carry and shed *S. dublin* organisms for many years and
32 demonstrated that *S. dublin* cannot be routinely detected in cows that are mammary gland
33 shedders."

1 During this rulemaking process, the American Academy of Pediatrics and numerous others
2 submitted comments in support of the proposed regulation to pasteurize milk.

3 In deciding upon mandatory pasteurization, FDA determined that pasteurization was the only
4 means to assure the destruction of pathogenic microorganisms that might be present. This
5 decision was science-based involving epidemiological evidence. FDA and the CDC have
6 documented illnesses associated with the consumption of raw milk, including "certified raw
7 milk" and have stated that the risks of consuming raw milk far outweigh any benefits.

8 In light of research showing no meaningful difference in the nutritional value of pasteurized and
9 unpasteurized milk, FDA and CDC have also concluded that the health risks associated with the
10 consumption of raw milk far outweigh any benefits derived from its consumption.

11 There are numerous documented outbreaks of milk-borne disease involving *Salmonella* and
12 *Campylobacter* infections directly linked to the consumption of unpasteurized milk in the past
13 20 years. Since the early 1980's, cases of raw milk-associated campylobacteriosis have been
14 reported in the states of Arizona, California, Colorado, Georgia, Kansas, Maine, Montana, New
15 Mexico, Oregon, and Pennsylvania. An outbreak of Salmonellosis, involving 50 cases was
16 confirmed in Ohio in 2002. Recent cases of *E. coli* O157:H7, *Listeria monocytogenes* and
17 *Yersinia enterocolitica* infections have also been attributed to raw milk consumption.

18 State health and agricultural agencies including the State of Hawaii routinely use the U.S. Public
19 Health Service/FDA Pasteurized Milk Ordinance (PMO) as the basis for the regulation of
20 Grade "A" milk production and processing. The PMO has been sanctioned by the National
21 Conference on Interstate Milk Shipments (NCIMS) and provides a national standard of uniform
22 measures that is applied to Grade "A" dairy farms and milk processing facilities to assure safe
23 milk and milk products. Section 9 of the PMO specifies that only Grade "A" pasteurized milk be
24 sold to the consumer.

25 Section 1 (lines 6-9) also has a misleading and false sentence that states, "Raw milk has a unique
26 flavor that may be destroyed by the double pasteurization process generally required for
27 commercial milk sales." Since the demise of Meadow Gold dairies in 2019, there has been no
28 milk on Hawaii's retail shelves that is "double pasteurized," as that has never been required for
29 commercial milk sales where the milk was produced by local dairies in Hawaii.

30 Section 6 is also objectionable from a public health standpoint as the handling of any raw milk
31 product may expose persons to the same pathogens of public health concerns. Children relish in
32 the act of feeding pets and their health will also be placed at undue risk if this measure passes.
33 The department also opposes any cow sharing and raw milk for animal/pet consumption as that
34 milk is frequently diverted as raw milk consumption to humans.

1 The following is the most current scientific thought from the FDA on **Raw Milk**
2 **Misconceptions and the Danger of Raw Milk Consumption** (also found at
3 <https://www.fda.gov/food/buy-store-serve-safe-food/raw-milk-misconceptions-and-danger-raw->
4 [milk-consumption](https://www.fda.gov/food/buy-store-serve-safe-food/raw-milk-misconceptions-and-danger-raw-milk-consumption)).

5 Raw milk can contain a variety of disease-causing pathogens, as demonstrated by numerous
6 scientific studies. These studies, along with numerous foodborne outbreaks, clearly demonstrate
7 the risk associated with drinking raw milk. Pasteurization effectively kills raw milk pathogens
8 without any significant impact on milk nutritional quality.

9 In this document (portions which are copied below), the FDA provides a close examination of
10 the myths associated with drinking raw milk. The review below is based on scientific literature.

11 **Raw milk does not cure lactose intolerance.**

12 Lactose is a unique disaccharide found in milk. Lactose concentration in bovine milk is about
13 4.8%. People with lactose intolerance lack the enzyme, beta-galactosidase or lactase, to break
14 down lactose into glucose and galactose during digestion. All milk, raw or pasteurized, contains
15 lactose and can cause lactose intolerance in sensitive individuals. There is no indigenous lactase
16 in milk.

17 Raw milk advocates claim that raw milk does not cause lactose intolerance because it contains
18 lactase secreted by “beneficial” or probiotic bacteria present in raw milk. As discussed in a later
19 section (claim 4), raw milk does not contain probiotic organisms.

20 Fermented dairy products, especially yogurt, have been reported to ease lactose mal-absorption
21 in lactose intolerant subjects (McBean and Miller, 1984; Lin et al., 1991; Onwulata et al., 1989;
22 Savaiano et al., 1984). This enhanced digestion of lactose has been attributed to the intra-
23 intestinal hydrolysis of lactose by lactase secreted by yogurt fermentation microorganisms (Lin
24 et al., 1991; Savaiano et al., 1984). However, raw milk does not contain the same types of
25 microorganisms at the similar levels that are found in yogurt. Yogurt that showed a benefit
26 towards lactose intolerance typically contained 10^7 cfu/ml or higher levels of *Streptococcus*
27 *thermophilus* and *Lactobacillus bulgaricus*, and these microorganisms were **purposely**
28 inoculated during yogurt manufacturing (Lin et al., 1991; Savaiano et al., 1984).

29 **Raw milk does not cure or treat asthma and allergy.**

30 The PARSIFAL study (Waser et al., 2007) has been misused by raw milk advocates ever since it
31 was published. The PARSIFAL study found an inverse association of **farm milk** consumption,
32 **not raw milk consumption**, with asthma and allergy. The authors of the PARSIFAL study
33 clearly indicated in the paper that the “*present study does not allow evaluating the effect of*
34 *pasteurized vs. raw milk consumption because no objective confirmation of the raw milk status of*

1 *the farm milk samples was available.*” In fact, in the study, about half of the farm milk was
2 boiled (Waser et al., 2007). The authors of the PARSIFAL study concluded that “*raw milk may*
3 *contain pathogens such as salmonella or EHEC, and its consumption may therefore imply*
4 *serious health risks... At this stage, consumption of raw farm milk cannot be recommended as a*
5 *preventive measure.*” (Waser et al., 2007)

6 Regarding allergy, research has shown that raw milk and pasteurized milk do not differ in their
7 anaphylactic-sensitizing capacity when tested in both animal models (Poulsen et al., 1987;
8 McLaughlan et al., 1981) and in human clinical trials (Host and Samuelsson, 1988).
9 Pasteurization conditions have little impact on casein structure and only cause limited whey
10 protein denaturation. Therefore, it is not surprising that pasteurization does not change the
11 allergenicity of milk proteins.

12 For example, Host and Samuelsson (1988) compared the allergic responses caused by raw,
13 pasteurized (75°C/15 s), and homogenized/pasteurized milk in five children who are allergic to
14 cow milk (aged 12 to 40 months). All children developed significant and similar allergic
15 reactions from the consumption of the above three types of milk (Host and Samuelsson, 1988).
16 The authors concluded that children with proven milk allergy can not tolerate milk, raw or
17 pasteurized (Host and Samuelsson, 1988).

18 **There are no beneficial bacteria in raw milk for gastrointestinal health.**

19 Bacteria found in raw milk are not probiotic. Probiotic microorganisms must be non-pathogenic
20 (Teitelbaum and Walker, 2000). In contrast, raw milk can host various human pathogens,
21 including *E. coli* O157:H7, *Salmonella*, *Streptococcus spp.*, *Yersinia enterocolitica*,
22 *Campylobacter jejuni*, *Staphylococcus aureus*, *Listeria monocytogenes*, *Mycobacterium*
23 *tuberculosis*, and *Coxiella burnetti* to name a few (Oliver et al., 2005; Hayes and Boor, 2001).

24 Probiotic microorganisms must be of human origin in order to have an impact on human health
25 (Teitelbaum and Walker, 2000). Bacteria present in raw milk are from infected udder tissues
26 (e.g., mastitis causing bacteria), the dairy environment (e.g., soil, water, and cow manure), and
27 milking equipment. High bacteria counts in raw milk only indicate poor animal health and poor
28 farm hygiene.

29 Bacteria in raw milk are typically not of human origin. An exception is *Streptococcus pyogenes*.
30 *S. pyogenes* that has adapted to humans can be transmitted to animals. Once *S. pyogenes* is
31 colonized in animals, it can be re-transmitted to humans as a **human pathogen** that causes strep
32 throat. For example, *S. pyogenes* can infect a cow udder to cause mastitis. The infected cow
33 udder can subsequently shed *S. pyogenes*, a pathogen, into raw milk.

34 Bifidobacteria have been mentioned by raw milk advocates as the “good bugs” in raw milk.
35 Bifidobacteria are bacteria commonly found in human and animal gastrointestinal track and they
36 are bacteria that make up the gut flora (Arunachalam, 1999). Since bifidobacteria are found in

1 cow's gastrointestinal track, they are present in cow's fecal matter. Raw milk collected with
2 proper hygiene should not contain bifidobacteria. In fact, the presence of bifidobacteria in raw
3 milk indicates fecal contamination and poor farm hygiene (Beerens et al., 2000; Beerens and
4 Neut, 2005).

5 **Raw milk is not an immune system building food and is particularly unsafe for**
6 **children.**

7 Children are typically more vulnerable than adults to the pathogens than can occur in raw milk.
8 In 2005, an *E. coli* O157:H7 outbreak in Washington and Oregon was linked to raw milk sold in
9 Washington state (CDC, 2007). Among the 18 patients, the 5 hospitalized were all children
10 aged 1-13; 4 of them developed Hemolytic Uremic Syndrome (HUS) (CDC, 2007).

11 In September 2006 in California, two children developed HUS from drinking raw milk
12 contaminated with *E. coli* O157:H7. Three weeks later, four more children acquired the same
13 infection from raw milk or raw colostrum produced by the same dairy (CDC, 2008).

14 In Sep 2006, two children became sick after drinking unpasteurized milk from a licensed dairy in
15 Washington State. The raw milk was contaminated with *E. coli* O157:H7. One child was
16 hospitalized (WSDH, 2006).

17 In July 2008 in Connecticut, 14 people were sickened by raw milk contaminated with *E.*
18 *coli* O157: H7. The three most seriously ill were children; two of them developed HUS
19 (FoodHACCP.com, 2008).

20 In May 2008 in Missouri, four people became sick after drinking raw goat milk contaminated
21 with *E. coli* O157: H7. The two severely ill were children and both were hospitalized (CDC,
22 2008).

23 In July 2010 in Colorado, eight people became sick after drinking raw goat milk contaminated
24 with both *Campylobacter* and *E. coli* O157: H7. Two children were hospitalized (Boulder
25 County Public Health, 2010a, b)

26 **There are no immunoglobulins in raw milk that enhance the human immune system.**

27 The concentration of immunoglobulins in bovine milk is low, typically about 0.6-1.0 mg/ml
28 (Hurley, 2003). At these low concentrations, bovine immunoglobulins, when consumed directly
29 from milk, are physiologically insignificant to humans (Fox, 2003).

30 The predominant fraction of immunoglobulins in bovine milk is IgG (about 85-90%). IgG is
31 quite heat stable. In one study, LTLT pasteurization (63°C for 30 min) had no impact on the
32 level of IgG, and HTST pasteurization (72°C/15s) resulted in only 1% denaturation of IgG
33 (Mainer et al., 1997).

1 Kulczychi (1987) hypothesized that the heat-aggregated immunoglobulins may actually have
2 better immunological function because aggregation can amplify the binding affinity of IgG to
3 receptor sites.

4 **Raw milk is not nutritionally superior to pasteurized milk.**

5 Numerous studies have indicated that pasteurization has minimal impact on milk nutritional
6 quality.

7 ***Milk proteins***

8 Normal bovine milk contains about 3 to 3.5% total protein. The two major groups of milk protein
9 are casein (about 80%) and whey proteins (about 20%). The protein quality of pasteurized milk
10 is not different from that of raw milk (Andersson and Oste, 1995).

11 Using *in vitro* method, Carbonaro et al (1996) found no difference in protein digestibility
12 between raw milk (80.2%), milk pasteurized at 75°C/15s (80.02%), and milk pasteurized at
13 80°C/15s (80.3%).

14 In an animal study (weaning Holtzman male rats), Efigenia et al (1997) evaluated the nutritional
15 quality of bovine milk after pasteurization. After a study period of 28 days, there was no
16 difference in animal weight gain, food intake, food efficiency ration, protein efficiency ratio, or
17 apparent protein digestibility between the rat group that consumed raw bovine milk and the
18 group that consumed pasteurized bovine milk (Efigenia et al., 1997).

19 Similar results were obtained in another animal study by Lacroix et al (2006). In this study, no
20 difference in protein digestibility was observed between milk protein without heat treatment and
21 the same protein heated at 72°C/20s or 96°C/5s (Lacroix et al., 2006).

22 In a recent human study, Lacroix et al (2008) evaluated the impact of heat treatment on protein
23 quality by studying dietary nitrogen metabolism following a single meal. Human subjects were
24 fed a meal formulated with milk protein with or without HTST pasteurization (72°C/20s). The
25 same metabolic utilization of milk protein nitrogen was observed for both raw and pasteurized
26 milk (Lacroix et al, 2008).

27 ***Milk vitamins***

28 Milk contains both fat soluble and water soluble vitamins. Fat soluble vitamins include A, D, E,
29 and K. Water soluble vitamins included B1 (thiamin), B2 (riboflavin), niacin, pantothenic acid,
30 B6, biotin, folic acid, B12, and vitamin C (Renner et al., 1989). In general, pasteurization has a
31 little effect on milk vitamin levels (Bendicho et al., 2002; Renner et al., 1989). Vitamins that are
32 present at high levels in milk, such as riboflavin, B6 and B12, are relatively heat stable. Other
33 factors, such as storage temperature, dissolved oxygen, light exposure, packaging, and length of
34 storage can have a much greater impact on milk vitamin stability (Gaylord et al., 1986; Kon,

1 1972; Lavigne et al., 1989; Pizzoferrato, 1992; Renner et al., 1989; Scott et al., 1984a; Scott et
2 al., 1984b).

3 The only vitamin that is significantly heat labile is vitamin C but milk is an insignificant source
4 for vitamin C. A cup of milk (240 ml) only provides about 5 mg of vitamin C (Renner et al.,
5 1989).

6 Vitamin C is very susceptible to oxidation. Sample to sample variation can be considerable
7 (Scott et al., 1984a) and degradation can happen immediately after milking due to photo-
8 oxidation (Kon, 1972; Renner et al., 1989; Scott et al., 1984a). Reported values of vitamin C
9 vary depending on seasonality, storage temperature, and elapsed time before analysis.

10 Lavigne et al (1989) reported that HTST at 72°C/16s reduced vitamin C in goat milk by 5%.
11 Haddad and Loewenstein (1983) observed vitamin C level of 23.3 mg/liter in raw milk. After
12 pasteurization at 72°C/16s, vitamin C was reduced by 16.6%. Similarly, Head and Hansen
13 (1979) reported that in whole milk, vitamin C was reduced about 15% (from 24.3 mg/liter to
14 20.7 mg/liter) after pasteurization.

15 The loss of vitamin C increases with heating temperature and time and fits the first order kinetic
16 model (Bendicho et al., 2002; Haddad and Loewenstein, 1983). Substantial loss only occurred
17 after very high temperature heating for long time. For example, heating at 90°C for 10 min can
18 cause 70% reduction in vitamin C (Bendicho et al., 2002).

19 Interestingly, Pizzoferrato (1992) indicated that vitamin C retention during storage is better in
20 heated milk (72°C/15s, 75°C/15s, 80°C/15s) than in raw milk. The better retention was due to
21 the removal of oxygen and the inactivation of peroxidase and microorganisms during heat
22 treatment (Pizzoferrato, 1992).

23 **Folate binding protein (FBP) is not denatured during pasteurization and folate**
24 **utilization is not reduced in pasteurized milk.**

25 The concentration of folate in milk is low, about 5 -8µg/100g (Renner et al., 1989; Andersson
26 and Oste, 1994). Dietary reference intake for folate is 400 µg per day for male 19-30 years of age
27 (http://iom.edu/~media/Files/Activity%20Files/Nutrition/DRI/DRI_Vitamins.pdf). Milk is not
28 a folate rich food.

29 Pasteurization has a limited impact on milk folate level. Folate remains bound to folate binding
30 protein (FBP) after pasteurization (Wigertz et al., 1996). Andersson and Oste (1994) observed no
31 change in milk folate content after pasteurization at 75°C for 16s. Wigertz and Jägerstad (1993)
32 reported a slight decrease of folate content from 8µg/100 g to 6.4µg/100g after pasteurization at
33 74°C for 15s.

1 Studies have shown some decrease in the concentration of folate binding protein (FBP) after
2 pasteurization but the decrease is typically small and a substantial amount of residual FBP is still
3 present in the pasteurized milk. For example, Wigertz et al (1996) observed a FBP concentration
4 of 211 ± 7 nmol/l in raw milk. After pasteurization (74°C/15s), FBP concentration was about 168
5 ± 20 nmol/l (Wigertz et al, 1996). In a separate study, Wigertz and Jägerstad (1993) found no
6 difference in FBP concentration before and after pasteurization (74°C/15s).

7 **Pasteurized milk is safer than raw milk.**

8 The outbreaks and illnesses attributed to raw milk are alarming when one considers the
9 extremely low volume of raw milk consumed in the US (< 1% of total milk)
10 (Headrick et al., 2009).

11 Outbreaks due to raw milk and raw milk products continue to occur each year. In 2010 alone,
12 raw milk has been associated with at least 8 documented outbreaks:

- 13 • New York, *Campylobacter* outbreak, 5 illnesses (New York Department of Health, 2010)
- 14 • Michigan, *Campylobacter* outbreak, 12 illnesses (FDA, 2010)
- 15 • Pennsylvania, *Campylobacter* outbreak, 10 illnesses (PRNewswire, 2010)
- 16 • Utah, *Campylobacter* outbreak, 9 illnesses (Utah Department of Health, 2010)
- 17 • Utah, *Salmonella* outbreak, 6 illnesses (Utah Department of Health, 2010)
- 18 • Minnesota, *E. Coli* O157:H7 outbreak, 8 illnesses and 4 hospitalizations (Minnesota
19 Department of Health, 2010)
- 20 • Washington, *E. Coli* O157:H7 outbreak, 8 illnesses (Washington State Department of
21 Health, 2010)
- 22 • Colorado, *Campylobacter* and *E. Coli* O157:H7 outbreak, 30 illnesses, 2 hospitalizations
23 (Boulder County Public Health, 2010a, b)

24 **Raw milk produced under HACCP does not make it safe to drink.**

25 FDA does not believe that HACCP can ensure raw milk safety. The sanitary procedures
26 described in a food safety plan under HACCP might help to reduce the probability of raw milk
27 contamination but they will not ensure that raw milk is pathogen-free.

28 As the preceding discussion demonstrates, raw milk does not naturally kill pathogens of concern.
29 Further, testing raw milk for the various pathogens prior to consumption can not be used as an
30 alternative to pasteurization. The potential pathogens present in raw milk can be diverse,
31 variable, and unpredictable. It is simply impossible to test every single batch of raw milk for
32 every single pathogen prior to human consumption. More importantly, the inability of a method
33 to detect pathogens does not indicate the absence of pathogens (Oliver et al., 2009).

34 There is no visual or sensory indicator for the presence of pathogen. Typical milk quality
35 indicators, such as standard plate counts and somatic cell counts, do not provide information on

1 the presence or absence of pathogens. Seemingly high quality raw milk based on these routine
2 quality indicators can still contain pathogen (Van Kessel et al., 2008). In the Federal Register
3 notification for the final rule to 21 CFR Part 1240.61, FDA made a number of findings including
4 the following:

5 *"It has not been shown to be feasible to perform routine bacteriological tests on the raw milk*
6 *itself to determine the presence or absence of all pathogens and thereby ensure that it is free of*
7 *infectious organisms."*

8 HACCP ensures product safety through process control and not by finished product testing.
9 HACCP has been considered possible for chemical and physical hazard controls in farm settings.
10 However, HACCP is not effective or even possible in farm settings for biological hazards,
11 including pathogens (Cullor, 1997; Sperber, 2005). Cullor (1997) indicated that potential
12 biological hazards that may exist on the dairy farms do not have well-known critical control
13 points. Since establishing critical control points is one of the most important aspects of HACCP,
14 without well-known critical control points, HACCP simply does not work for pathogen control
15 for raw milk production on the farm.

16 Organic Pastures is an example of a raw milk producer with a HACCP plan whose milk has been
17 found to contain pathogens. In 2007, raw cream from Organic Pastures was found to be
18 contaminated with *Listeria monocytogenes* (FDA, 2007). In 2006, raw milk contaminated
19 with *E. coli* O157:H7 from Organic Pastures was implicated in an outbreak that resulted in 6
20 illnesses and 3 hospitalizations (CDC, 2008). The median age of this outbreak's victims was 8
21 years (range: 6- 18 years) (CDC, 2008).

22 **Summary**

23 None of the claims made by the raw milk advocates that we have examined for you can
24 withstand scientific scrutiny. Unfortunately, the false "health benefits" claims of raw milk
25 advocates may cause parents to give raw milk to their children and prompt immuno-
26 compromised people, such as pregnant women, the elderly, and hospitalized patients, who want
27 better nutrition, to also start consuming raw milk. It is these very same sub-groups of the
28 population, however, that are most at risk for becoming ill or even dying from foodborne illness
29 as a result of consuming adulterated raw milk. Since raw milk may contain human pathogens,
30 the consumption of raw milk products increases the risk of gastrointestinal illness due to the
31 likelihood that it may contain infective doses of human pathogens. This includes our Keiki,
32 Kupuna, and any person who is immunocompromised due to illness or treatment of illnesses.
33 The only method proven to be reliable in reducing the level of human pathogens in milk and
34 milk products is by those milk products being produced and processed under sanitary conditions
35 and subsequently being properly pasteurized.

36 The FDA fact sheet Titled "THE DANGERS OF RAW MILK" is at
37 <https://www.fda.gov/media/119383/download>.

- 1 Thank you for the opportunity to testify.
- 2 **Offered Amendments:** None



P.O. Box 253, Kunia, Hawai'i 96759
Phone: (808) 848-2074; Fax: (808) 848-1921
e-mail info@hfbf.org; www.hfbf.org

February 27, 2023

HEARING BEFORE THE
HOUSE COMMITTEE ON FINANCE

TESTIMONY ON HB 521
RELATING TO RAW MILK

Conference Room 308 & Videoconference
10:00 AM

Aloha Chair Yamashita, Vice-Chair Kitagawa, and Members of the Committee:

I am Brian Miyamoto, Executive Director of the Hawai'i Farm Bureau (HFB). Organized since 1948, the HFB is comprised of 1,800 farm family members statewide and serves as Hawai'i's voice of agriculture to protect, advocate and advance the social, economic, and educational interests of our diverse agricultural community.

The Hawai'i Farm Bureau opposes HB 521, which authorizes and decriminalizes the sale of raw milk and raw milk products directly from producers to consumers, for human consumption, with certain restrictions, authorizes the sale of raw goat milk for pet consumption, establishes labeling requirements, and requires the Board of Agriculture and Department of Health to adopt rules no later than 7/1/2024.

Farm Bureau policy states: "We support only pasteurized fluid milk being sold or distributed for human consumption"

Farm Bureau policy was developed after intense discussion. Ultimately the decision was made based on FDA's website on raw milk, and studies conducted by the Centers for Disease Control and Prevention showing that the majority of dairy-related disease outbreaks have been linked to raw milk.

We recognize the niche market opportunities associated with raw milk. However, we also have a responsibility to protect the public. The FDA reports that the risk of getting sick from drinking raw milk is greater for infants and young children, the elderly, pregnant women, and people with weakened immune systems, such as people with cancer, an organ transplant, or HIV/AIDS than it is for healthy school-aged children and adults. The CDC finds that foodborne illness from raw milk especially affects children and teenagers. But, it is important to remember that healthy people of any age can get very sick or even die if they drink raw milk contaminated with harmful germs."

Food safety is a priority for HFB. We have seen serious health consequences and successful enterprises fail when food safety issues arise.

Thank you for the opportunity to comment on this measure.

HB-521

Submitted on: 2/24/2023 7:21:09 PM

Testimony for FIN on 2/27/2023 10:00:00 AM

Submitted By	Organization	Testifier Position	Testify
B.A. McClintock	Individual	Support	Written Testimony Only

Comments:

Please support this important health bill for those of us needing the extra nutrients in raw milk.
Mahalo.

HB-521

Submitted on: 2/25/2023 10:08:19 PM

Testimony for FIN on 2/27/2023 10:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Emma-Lei Gerrish	Individual	Support	Written Testimony Only

Comments:

I strongly support legalizing raw milk sales. This bill supports small farms, consumer choice, and local food sustainability. Please support this bill

HB-521

Submitted on: 2/26/2023 9:19:10 AM

Testimony for FIN on 2/27/2023 10:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Sharon Gerrish	Individual	Support	Written Testimony Only

Comments:

Aloha Chair and members of the Committee,

I am writing in support of HB521 from Paauilo on the Hamakua Coast of Hawaii where once many families earned income from small 10 cow herds. I worked on a dairy here that has since closed. As you must know, almost all dairies in Hawaii have closed. Since 1973 when I graduated from high school, Hawaii has been saying, “We need to grow more of our own food.” Back then milk was one of the few things Hawaii produced 100% of. Now almost all milk is “old” mainland milk that is reprocessed here after a length of time in a bulk tank. Fresh, raw milk can only be had by a person willing to milk your own cow.

In the past milk was processed to preserve it for long distance distribution and mixed with many milks from many dairies so pasteurization was needed. Getting it from your own cow is safe as you can drink it fresh after pouring it through a milk filter. Our own milk has been tested and found to be so clean the tester thought we had boiled it. I submitted the test results from Dr. Chen in the past to Mark Nakashima's office.

I support this bill for these two reasons:

1. Freedom and Choice. Give people a choice to buy fresh, raw cow milk from a trusted source—a farmer that they know and see the conditions on the farm. People have the choice to buy as much alcohol as they want even though it has killed many people. Raw meat is sold with a “safe handling instructions” information on the package. Smoking is very harmful but not illegal and even vaping has been hard to control, flavors etc. so more children are hooked on nicotine. Choice is allowed in all these cases and now I hear that marijuana is being considered for legal recreational use. I met Josh Green when he ran for Lt. governor and joked that drugs would be legalized before milk. He said he would support making raw milk legal.

2. Food Security. Help Hawaii a little ways to food security and encourage local sourced foods. Our farm depends on rain water and the land is former sugar land. It's best use is animal grazing. Decriminalizing milk sales would encourage the next farm generation. Our daughters are tired of waiting for this. I am 67 and my husband 72. It is a little too late for us but our daughters are still here and they want to farm. Is Hawaii going to lose another generation of food producers?

Really support Hawaii agriculture ! Please pass this bill!

Sharon Gerrish

HB-521

Submitted on: 2/26/2023 9:52:26 AM

Testimony for FIN on 2/27/2023 10:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Hattie Gerrish	Individual	Support	Written Testimony Only

Comments:

Aloha Chair and members of the Committee,

I strongly support HB521 to decriminalize direct farm to consumer sales of raw milk. I cannot believe that “decriminalize” can even be used in the same sentence with “milk”. Nearly all states allow the sale of unpasteurized milk in some form, including California, a famously safety conscious state.

Pasteurized milk that is sold in the store is a highly processed food. Heating, homogenization, and long storage and shipping prior to sale alter milk, reducing both the flavor and nutritional content. Big commercial dairies, which often have thousands of cows, must pasteurize milk because they operate on such a large scale that they cannot ensure quality otherwise. Small dairies with just a few cows do not have the cleanliness problem that big dairies have. This bill would allow what I call “micro dairies” with up to 10 cows. I think this is a very good idea. I milk several cows for my family’s use. We keep everything simple and clean. Rules could be written to ensure cleanliness on micro dairies, for example requiring filtration of milk. Filters designed specifically for milk are readily available.

I believe that all consumers should be permitted to make their own decisions about food. People are allowed to buy alcohol and cigarettes if they want. People are also able to choose GMO free or gluten free foods. Hamburger meat could be unsafe if it is not properly cooked or left unrefrigerated, but meat is sold uncooked and consumers are given responsibility for handling it properly. Small and mid-size farms in Hawai`i are allowed to produce eggs and meat for market. Why is milk different?

Another thing I like about this bill is that it would legalize direct farm to consumer sales. If I were allowed to sell milk from my cows, customers could meet the cows and see the facilities for themselves. They would be informed so they could make their own decisions. Transparency and

trust. I am not asking the legislature to be allowed to sell milk in stores. Just please let people who want raw milk buy from people who want to produce raw milk.

When I was a child, I got sick from drinking pasteurized milk from the store. My family's doctor said I was reacting to the antibodies of thousands of cows mixed together. I have been drinking raw milk for almost 30 years now and never gotten sick from it. Ask around, and you will find that some mainstream doctors recommend raw milk for a variety of health problems. Ask Dr. Green, our governor.

Thank you for hearing this bill and please give it your support.

Mahalo,

Hattie Le`a Wheeler Gerrish

Hamakua, Hawai`i

HB-521

Submitted on: 2/26/2023 10:49:06 AM

Testimony for FIN on 2/27/2023 10:00:00 AM

Submitted By	Organization	Testifier Position	Testify
Barbara L Franklin	Individual	Support	Written Testimony Only

Comments:

As a cook and sometimes cheese maker, raw milk would open a whole new horizon for those of us who cannot raise milking animals, as our grandmothers and great grandmothers did for years on end and they survived.