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**Testimony in OPPOSITION on HB521 HD1**  
**RELATING TO RAW MILK**

SENATOR JOY A. SAN BUENAVENTURA, CHAIR,  
COMMITTEE ON HEALTH AND HUMAN SERVICES; AND  
SENATOR MIKE GABBARD, CHAIR,  
COMMITTEE ON AGRICULTURE AND THE ENVIRONMENT

Hearing Date: 3/20/2023 1:30pm

Room Number: Rm 224

VIDEO CONF

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

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

4 The department opposes this bill due to serious public health concerns.

5 Section 1 of the bill finds that people in Hawaii desire to drink raw milk. However, the  
6 Department urges the legislature to weigh the potential health risk allowing raw milk to be sold.  
7 Based on CDC data, literature, and state and local reports, FDA compiled a list of outbreaks that  
8 occurred from 1998 through 2018 in the US. During this period, there were at least 202  
9 outbreaks due to the consumption of raw milk and raw milk products. These outbreaks caused  
10 2,645 cases of illnesses, 269 hospitalizations, 3 deaths, 6 stillbirths and 2 miscarriages. The  
11 numbers of outbreaks and illness cases were likely higher than the above estimates due to  
12 underreporting.

13 If this measure is passed, the public could be exposed to undue risk of serious illness or death by  
14 possible exposure to pathogenic organisms. Our Keiki, Kupuna, and the immunocompromised  
15 face even greater risk than the general public, as they will face much greater difficulty fighting  
16 off any pathogens ingested and will have a much higher mortality rate for almost all pathogens  
17 associated with consuming raw dairy products. The FDA and the CDC have published many  
18 science based articles debunking every statement in Section 1, and is included in this testimony.

19 According to the CDC's most recent study, states/counties where raw milk was legally sold had  
20 3.2 times more outbreaks than areas where the sale of raw milk was illegal. Areas where raw  
21 milk was allowed to be sold in retail stores had 3.6 times more outbreaks than areas where sale

1 was allowed only on farms. The study shows that laws that increase the availability of raw milk  
2 are associated with more illnesses and outbreaks. In addition, the CDC reported that consuming  
3 unpasteurized milk is 150 times more likely to cause foodborne illness and 13 times more  
4 hospitalizations than drinking pasteurized milk products.

5 Of the 133 outbreaks occurring from 1987 to September 2010, 5 were multistate outbreaks with  
6 cases from at least two states. The remaining 128 outbreaks occurred in 30 states. Of these 30  
7 states, 20 allowed some type or raw milk sale for direct human consumption according to the  
8 National Association of State Departments of Agriculture survey of 2008 (NASDA, 2008).  
9 Outbreaks from these 20 states accounted for 80% of all outbreaks in the US during this period.  
10 The three states that had the highest frequencies of outbreaks are California, Washington, and  
11 Utah, accounting for about 12%, 12%, and 8% of all outbreaks, respectively.

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

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

23 On August 10, 1987, FDA published in 21 CFR Part 1240.61, a final regulation mandating the  
24 pasteurization of all milk and milk products in final package form for direct human consumption.  
25 This regulation addresses milk shipped in interstate commerce and became effective September  
26 9, 1987.

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

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

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

33 "Opportunities for the introduction and persistence of *Salmonella* on dairy premises are  
34 numerous and varied, and technology does not exist to eliminate *Salmonella* infection  
35 from dairy herds or to preclude re-introduction of *Salmonella* organisms. Moreover

1 recent studies show that cattle can carry and shed *S. dublin* organisms for many years and  
2 demonstrated that *S. dublin* cannot be routinely detected in cows that are mammary gland  
3 shedders."

4 During this rulemaking process, the American Academy of Pediatrics and numerous others  
5 submitted comments in support of the proposed regulation.

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

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

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

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

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

33 Section 6. is also objectionable from a public health standpoint as the handling of any raw milk  
34 product may expose persons to the same pathogens of public health concerns. Children relish in

1 the act of feeding pets and their health will also be placed at undue risk if this measure passes.  
2 The department also opposes any cow sharing and raw milk for animal/pet consumption as that  
3 milk is frequently diverted as raw milk consumption to humans.

4 The following is the most current scientific thought from the FDA on

#### 5 **Raw Milk Misconceptions and the Danger of Raw Milk Consumption**

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

10 In this document, the FDA provides a close examination of the myths associated with drinking  
11 raw milk. The review below is based on scientific literature.

#### 12 **Raw milk does not cure lactose intolerance.**

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

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

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

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

31 The PARSIFAL study (Waser et al., 2007) has been misused by raw milk advocates ever since it  
32 was published. The PARSIFAL study found an inverse association of **farm**  
33 **milk** consumption, **not raw milk consumption**, with asthma and allergy. The authors of the

1 PARSIFAL study clearly indicated in the paper that the “*present study does not allow evaluating*  
2 *the effect of pasteurized vs. raw milk consumption because no objective confirmation of the raw*  
3 *milk status of the farm milk samples was available.*” In fact, in the study, about half of the farm  
4 milk was boiled (Waser et al., 2007). The authors of the PARSIFAL study concluded that “*raw*  
5 *milk may contain pathogens such as salmonella or EHEC, and its consumption may therefore*  
6 *imply serious health risks... At this stage, consumption of raw farm milk cannot be recommended*  
7 *as a preventive measure.*” (Waser et al., 2007)

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

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

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

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

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

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

1 Bifidobacteria have been mentioned by raw milk advocates as the “good bugs” in raw milk.  
2 Bifidobacteria are bacteria commonly found in human and animal gastrointestinal track and they  
3 are bacteria that make up the gut flora (Arunachalam, 1999). Since bifidobacteria are found in  
4 cow’s GI track, they are present in cow’s fecal matter. Raw milk collected with proper hygiene  
5 should not contain bifidobacteria. In fact, the presence of bifidobacteria in raw milk indicates  
6 fecal contamination and poor farm hygiene (Beerens et al., 2000; Beerens and Neut, 2005).

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

9 Children are typically more vulnerable than adults to the pathogens than can occur in raw milk.  
10 In 2005, an *E. coli* O157:H7 outbreak in Washington and Oregon was linked to raw milk sold in  
11 Washington state (CDC, 2007). Among the 18 patients, the 5 hospitalized were all children aged  
12 1-13; 4 of them developed Hemolytic Uremic Syndrome (HUS) (CDC, 2007).

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

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

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

22 In May 2008 in Missouri, four people became sick after drinking raw goat milk contaminated  
23 with *E. coli* O157: H7. The two severely ill were children and both were hospitalized (CDC,  
24 2008).

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

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

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

32 The predominant fraction of immunoglobulins in bovine milk is IgG (about 85-90%). IgG is  
33 quite heat stable. In one study, LTLT pasteurization (63°C for 30 min) had no impact on the

1 level of IgG, and HTST pasteurization (72°C/15s) resulted in only 1% denaturation of IgG  
2 (Mainer et al., 1997).

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

## 6 **Raw milk is not nutritionally superior to pasteurized milk.**

7 Numerous studies have indicated that pasteurization has minimal impact on milk nutritional  
8 quality.

### 9 ***Milk proteins***

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

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

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

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

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

### 29 ***Milk vitamins***

30 Milk contains both fat soluble and water soluble vitamins. Fat soluble vitamins include A, D, E,  
31 and K. Water soluble vitamins included B1 (thiamin), B2 (riboflavin), niacin, pantothenic acid,  
32 B6, biotin, folic acid, B12, and vitamin C (Renner et al., 1989). In general, pasteurization has a  
33 little effect on milk vitamin levels (Bendicho et al., 2002; Renner et al., 1989). Vitamins that are  
34 present at high levels in milk, such as riboflavin, B6 and B12, are relatively heat stable. Other

1 factors, such as storage temperature, dissolved oxygen, light exposure, packaging, and length of  
2 storage can have a much greater impact on milk vitamin stability (Gaylord et al., 1986; Kon,  
3 1972; Lavigne et al., 1989; Pizzoferrato, 1992; Renner et al., 1989; Scott et al., 1984a; Scott et  
4 al., 1984b).

5 The only vitamin that is significantly heat labile is vitamin C but milk is an insignificant source  
6 for vitamin C. A cup of milk (240 ml) only provides about 5 mg of vitamin C (Renner et al.,  
7 1989).

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

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

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

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

#### 25 **Folate binding protein (FBP) is not denatured during pasteurization and folate** 26 **utilization is not reduced in pasteurized milk.**

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

31 Pasteurization has a limited impact on milk folate level. Folate remains bound to folate binding  
32 protein (FBP) after pasteurization (Wigertz et al., 1996). Andersson and Oste (1994) observed no  
33 change in milk folate content after pasteurization at 75°C for 16s. Wigertz and Jägerstad (1993)  
34 reported a slight decrease of folate content from 8µg/100 g to 6.4µg/100g after pasteurization at  
35 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  $211 \pm 7$  nmol/l in raw milk. After pasteurization (74°C/15s), FBP concentration was about  $168$   
5  $\pm 20$  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 Attached is an FDA fact sheet Titled "THE DANGERS OF RAW MILK"

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

**JOSH GREEN, M.D.**  
Governor

**SYLVIA LUKE**  
Lt. Governor



**SHARON HURD**  
Chairperson, Board of Agriculture

**MORRIS M. ATTA**  
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**TESTIMONY OF SHARON HURD  
CHAIRPERSON, BOARD OF AGRICULTURE**

**BEFORE THE SENATE  
COMMITTEE ON AGRICULTURE AND ENVIRONMENT  
AND  
COMMITTEE ON HEALTH AND HUMAN SERVICES**

**MONDAY, MARCH 20, 2023  
1:30 PM  
CONFERENCE ROOM 224 & VIDEOCONFERENCE**

**HOUSE BILL NO. 521 HD1  
RELATING TO RAW MILK**

Chairpersons Gabbard and San Buenaventura and Members of the Committees:

Thank you for the opportunity to testify on House Bill 521 HD1. 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.



P.O. Box 253, Kunia, Hawai'i 96759  
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March 20, 2023

HEARING BEFORE THE  
SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT  
SENATE COMMITTEE ON HEALTH AND HUMAN SERVICES

**TESTIMONY ON HB 521, HD1  
RELATING TO RAW MILK**

Conference Room 224 & Videoconference  
1:30 PM

Aloha Chairs Gabbard and San Buenaventura, Vice-Chairs Richards and Aquino, and Members of the Committees:

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, HD1**, 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" The 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-HD-1**

Submitted on: 3/19/2023 8:17:44 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Susan LancSTER	Testifying for Mione Ranch	Support	Written Testimony Only

Comments:

Please pass HB521 and allow Hawaii people to enjoy the benefits of raw milk, that they can produce and sell raw milk as well as obtain for personal use.

**HB-521-HD-1**

Submitted on: 3/16/2023 1:03:29 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Andrew Crossland	Individual	Support	Written Testimony Only

Comments:

I support this Bill.



**HB-521-HD-1**

Submitted on: 3/16/2023 6:13:18 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
B.A. McClintock	Individual	Support	Written Testimony Only

Comments:

The nutrition value of raw milk is vastly different from that which has been pasteurized. Please support this important bill. Mahalo.

**HB-521-HD-1**

Submitted on: 3/16/2023 11:16:57 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Louise Simrell	Individual	Support	Written Testimony Only

Comments:

One of my fondest memories of a stay in the Catskills in the early 70s was going to a neighbor's barn and getting 1/2 gallons of the freshest and most delicious milk I've ever had. it. Would be wonderful to hsrve it availsble on the Big Island. There is no comparison to store bought milk, including all the organic brands. Please allow it, allow us to enjoy it.

Mahslo,

Louise Simrell

**HB-521-HD-1**

Submitted on: 3/17/2023 4:59:46 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Jonathan Dworkin	Individual	Support	Written Testimony Only

Comments:

I am a doctor on the Big Island, submitting testimony as a private citizen.

I support 521 on behalf of my neighbors and for the sake of developing the state's self-sufficiency and it's agriculture.

The DOH has done a fine job of describing the potential risks with unpasteurized dairy, and I accept their understanding of the science. I treat infections all the time, and there's no doubt that raw or unpasteurized food has some risk.

The problem with Hawaii law is the selective criminalization of some activities but not others. We have known for decades, for example, that raw seafood is associated with a higher risk of foodborn outbreaks. The CDC wrote an exhaustive overview of this topic in 2010. However raw seafood is legal, subject to appropriate warnings and regulation. This begs the question - why don't we criminalize the sale of raw seafood?

The answer is obvious. People like seafood, and we don't want to hurt our restaurant industry. So we accept some risk and do our best to minimize it.

We also allow the sale of products with absolutely no health or nutritional benefit, such as tobacco, that kill thousands of our residents each year.

Small dairy farmers don't have the power of the restaurant or tobacco industries, so their businesses are criminalized while others (equally or more dangerous) are simply regulated.

Prior to the pandemic, I didn't fully appreciate the down side of our hypocritical approach to agriculture. But after experiencing shortages in healthcare, and moving to the Big Island, supply chain disruptions and inflation woke me up. I hope everyone in the legislature now understands the cardinal importance of promoting Hawaii's self-sufficiency. We need small farmers to succeed here, because we need food made locally that's healthy, available, and affordable. That should be a top priority coming out of the pandemic, because the odds of additional supply chain shocks are close to 100%.

Because the concerns around unpasteurized dairy are legitimate, I favor working with the DOH on appropriate labeling and education. This should be targeted in particular at the highest risk groups (children, pregnant women, immune suppressed people). Instructions on pasteurization of

raw milk (easy to do at home) can be included in labeling. But individual choice and the success of small farmers should be values we care about, and the legislature should get out of the business of turning productive citizens into criminals.

Thank you for your time!

**HB-521-HD-1**

Submitted on: 3/17/2023 7:05:26 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Beth winder	Individual	Support	Written Testimony Only

Comments:

I support HB 522 related to raw milk. I think it's important that we get to decide for ourselves what kind of milk we want to drink. Many studies show raw milk is better for you! Let the people decide

**HB-521-HD-1**

Submitted on: 3/17/2023 9:06:34 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Barbara L Franklin	Individual	Support	Written Testimony Only

Comments:

I support HB 521 and allowing responsible dairy practitioners to provide raw milk, island milk, to customers who understand the risks, but want to use raw milk for various reasons such as improved health, for making household cheese, to support local dairies, or just to bath in as Marie Antoinette did.

**HB-521-HD-1**

Submitted on: 3/17/2023 10:16:27 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
nicole tergeoglou	Individual	Support	Written Testimony Only

Comments:

I support HB 521 pertaining to the sale of raw milk directly from producer to consumer.

**HB-521-HD-1**

Submitted on: 3/17/2023 11:05:42 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
kimberly ino	Individual	Support	Written Testimony Only

Comments:

Passage of the raw milk bill is extremely important for those of us in the farm community. We believe that people must be given the freedom and the responsibility to choose the food they want to eat.



**HB-521-HD-1**

Submitted on: 3/17/2023 11:28:33 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Georgia Cawley	Individual	Support	Written Testimony Only

Comments:

A dear friend of mine had to get her own goats to have access to fresh goat milk. It was the only thing she could digest for a very long period of time. It kept her from being put on a feeding tube. Please open your hearts and minds to the folks who advocate for raw milk access. Safety regulations can still and should be put in place.

**HB-521-HD-1**

Submitted on: 3/17/2023 11:55:59 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
David Sheehan	Individual	Support	Written Testimony Only

Comments:

We are long time homesteaders and raw milk drinkers(30 years). This bill would give more small ranchers the choice of working from home and providing their neighbors with one of the most useful and necessary foods! From cafe au lait to yogurt to cheese, raw milk is the crucial ingredient.

**HB-521-HD-1**

Submitted on: 3/17/2023 1:03:57 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
William Murphy	Individual	Support	Written Testimony Only

Comments:

I would love to buy and run a farm on any of the islands. Between the tax laws and the difficulty of running a farm it makes it near impossible to do so. If you want to have sustainable, healthy organic working with the work agriculture, farmers need help. This is not all about making money. It is part of survival and having a healthy life and supporting the community. Being a farmer should not be made more difficult by government regulations. Government should be a partner and should work with the farmers. If farmers succeed. Government and people will as well. As will the environment. This bill is a step in the right direction, but there is a huge stigma being pushed that cows cause global warming. I think all legislators should watch Kisstheground documentary and see how agriculture can work with the environment to regenerate our top soil and feed humans with healthy food.

**HB-521-HD-1**

Submitted on: 3/17/2023 3:15:50 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Noemi Hermling	Individual	Support	Written Testimony Only

Comments:

I'm in full support of HB 521. As new residents of Hawaii, we anticipated being able to buy and consume raw milk as we did in our previous state; however, we were surprised to find that was not the case in Hawaii. Without delving into the immense nutritional benefits and associated positive outcomes from raw milk consumption, I can testify that raw milk is healthier, far more nutritious, and a human right to consume. As with anything, there needs to be quality assurance and food safety precautions. Raw chicken isn't outlawed even though there's a salmonella risk-- neither should raw milk! Thank you for taking HB521 into consideration for legalization!

## **Testimony in STRONG support of HB521 regarding raw milk sales**

**Aloha,**

**I am submitting testimony in strong support of HB521 regarding the sale of raw milk in the state of Hawaii. You can readily find raw milk in the refrigerators of retail stores in Arizona, California, Connecticut, Idaho, Maine, Nevada, New Hampshire, New Mexico, Pennsylvania, South Carolina, and Washington. Let's add Hawaii to this list.**

**Legalizing raw milk sales can make raw milk safer than ever through oversight and testing and it will allow consumers in Hawaii an opportunity to purchase raw milk and raw milk products which have been proven to be more nutritious than pasteurized milk.**

**I have been consuming raw milk for years and have NEVER had an adverse reaction to it.**

**Mahalo,**

**Donna Mitts**

**HB-521-HD-1**

Submitted on: 3/18/2023 7:55:12 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Grant Gerrish	Individual	Support	Written Testimony Only

Comments:

Aloha,

I am a small scale food producer that, with my family, have run a farm that feeds us and provides a small amount of produce that we sell on the Big Island. It is my desire to expand opportunities in farming so that young people, such as my children, will have greater economic possibilities to remain on the farm. It is also my desire to see sustainable, healthy food to become more abundant in our state. To achieve those goals, I urge the passage of HB 521 and the decriminalization of the direct sale of raw milk to informed consumers.

There are three parts to my testimony, I will be as brief as possible:

1. Response to Public Health Concerns
2. Personal Choice and Food Sovereignty
3. Agricultural Diversification and Food Security

**Response to Public Health Concerns**

It appears to me that the only significant grounds given to oppose HB 521 is concern about the possibility of food borne illness, also known as “food poisoning”.

The Hawaii State Department of Health (DOH) has submitted an 11 page document opposing HB 521. Almost half of this statement (pages 4 to 9) are under a section called “Raw Milk Misconceptions and the Danger of Raw Milk Consumption.” In my opinion, their efforts to “debunk” statements that others have made about the benefits of raw milk is not relevant to the decision to decriminalize raw milk. Concerns about “Dangers of Raw Milk Consumption” is relevant.

It is my position that the data of incidence of food borne illness, presented by DOH, do not show significant elevated risk compared to consuming the pasteurized milk that is in fact available in

Hawaii's supermarkets. **I will submit published, peer-reviewed scientific evidence that the pasteurized milk available in Hawaii's supermarkets is of low quality and does not meet the regulatory standards for bacterial content set by FDA.**

Outbreaks of Illness From Raw Milk are Few

The DOH, citing CDC and FDA records, states 133 outbreaks of illness attributed to consumption of raw milk nationwide, in the 23 years between 1987 and 2010. I think this is not a worrisome level of outbreaks compared to large nationwide outbreaks of food poisoning that occur every year from commercially produced foods such as hamburger, cantaloupe and sprouts. I note that not every case of food poisoning is known, especially when the symptoms are mild. I also believe that there is a bias against raw milk such that all cases of food poisoning in people that drink raw milk will be presumed to be caused by the milk.

HB 521 mitigates against large scale outbreaks of illness. The bill allows milk from no more than 10 cows to be sold from a single farm. This will limit the likelihood of a large outbreak. Second, the bill requires a warning label on containers stating, "Contains pathogens that may be unsafe to consume" and that milk can only be sold directly from the farm. Purchasers of raw milk will have to make a deliberate effort to contact a dairy farmer and will be warned of the danger that DOH asserts they face.

### **Pasteurized Milk in Hawaii's Supermarkets Does Not Meet Regulatory Standards**

Researchers at the University of Hawaii found that at 5 days prior to the expiration date, 90% of samples from processed mainland milk and 80% of samples from locally processed milk had bacterial counts higher than the legal limit set by the FDA. This study was published by *Pacific Agriculture and Natural Resources*, a peer-reviewed, scientific journal. I note that it was published in 2010, the same year as most of the data in the DOH testimony about incidences of food borne illness from milk.

Need I say more? It is a disservice to the people of Hawaii for the legislature to maintain the illusion that processed foods are always safer than fresh, locally produced foods.

The abstract of the article is below. The full article can be accessed with this link <https://hilo.hawaii.edu/panr/writing.php?id=278>

**Microbiological Quality of Pasteurized Milk in Hawai'i** HONGFEI HE, YONG LI\*, ALFRED L. CASTRO, JIN DONG and C. N. LEE\* Department of Human Nutrition, Food and Animal Sciences, 1955 East-West Road University of Hawaii at Manoa, Hawaii 96822 USA

*Abstract: Complaints of spoilage of pasteurized milk purchased from Honolulu groceries highlighted the need to address the emerging milk quality issues for the consumer's*

*consumption. The objective of this study was to evaluate the microbiological quality of pasteurized milk available in Hawaii's market. Bacterial counts of different types of milk samples (imported-M, locally produced-L and imported organic-O) were compared during refrigerated storage. Imported bulk milk from mainland are re-pasteurized in Hawaii and packaged under different brands. Hawaii locally produced milk are marketed with the "Island Fresh" label. The expiration or sell by date is based on the pasteurization. Imported organic milk from the mainland were prepackaged and shipped by air freight. At 5d before the expiration date, 70% of the mainland samples and 62% of the local samples had aerobic bacteria count exceeding the regulatory limit of 20,000 cfu/ml for grade 'A' pasteurized milk set by the United States Food and Drug Administration (FDA). Local raw milk samples from the farms supplying the processor were examined and results indicated good microbiological quality. High levels of psychrotrophic bacteria were identified as a major contributor to the pasteurized milk spoilage before the expiration date. The implications of this study were further discussed.*

## **Personal Choice and Food Sovereignty**

Up to this point I have been rebutting the negative comments from the DOH. What I really want to be talking about is the positive aspect of decriminalization of raw milk.

“Food Sovereignty” can mean several things. The inherent right of individuals to produce food for their families, the right of a community to produce and distribute food, and certainly the right of sovereignty over one’s own body.

All of our supermarkets have aisles of beer and liquor and shelves of tobacco products. Everybody knows these substances can be very injurious to our health. The stores are also filled with foods high in sugar and salt. It is well established that these foods lead to diabetes, hypertension and other serious disease. Supermarket foods often contain additives and are low in healthy nutrients. Why are stores allowed to sell these things? Because the consumption of such items is considered a matter of free choice by the buyer.

Milk is not injurious like these items and, also unlike these items, fresh, unadulterated milk cannot be legally bought and sold. I think people should be allowed to make their own decisions about the purchase of milk, too.

My wife has always said that marijuana would be legal before milk. Please prove her wrong!

## **Agricultural Diversification and Food Security**

85-90% of Hawaii’s food is imported. Nearly all of our milk is imported. Food security, food insecurity, resilience and sustainability are all phrases we hear and are incorporated in the mission statements of many of our agencies and institutions. Allowing small farmers to produce



and sell small amounts of milk will help decentralize milk and food production. **But it will do much more!**

The decriminalization of milk could be a game changing event for the very many young people (and some of us not-so-young people) that want to live and make their living on the land. Hawaii, and especially the Big Island, has a large amount of under-utilized grazing lands. Many of these were once sugarcane fields that have not been converted to other viable agricultural uses. Grazing is the most appropriate use for much of this land which has been depleted and would be subject to soil erosion, if tilled.

Where I live in Hamakua, in addition to the sugar plantations, many ranching families own, or did own, viable ranches and livestock farms of several hundred acres. There were numerous small, commercial dairies. With the passing of the generations, many farms were divided among the heirs and now there are many parcels of 20 or maybe 50 acres. These farms are not large enough for a viable beef cattle ranch. In too many cases, the descendants of these ranching families will sell their holdings and in too many cases they become “gentleman farms” with a few sheep or steers to maintain agricultural assessments for the property tax, thus contributing nothing to the community.

I know many young people growing vegetable and other crops trying to make a living. The return on all this hard work is meager without capital and the ability to hire workers. Yet, many of our people are joyfully dedicated to making a go of it.

Raw milk is a high value product. A quick search of the internet shows legal raw milk prices of \$16 a gallon and more, such as \$12 or a quart of raw milk yogurt. A couple of milk cows could supply a young family with an income stream that would make the farm economically viable. If milk sales were legal here.

Decriminalization of raw milk will help young farmers stay on the farm. It will develop agricultural capacity at the community level. It will help preserve and increase in our people the traditional knowledge and skills of livestock husbandry and milk production. Grazing is very suited to our under-utilized grasslands and is an alternative superior to confinement dairies with serious environmental waste disposal problems.

**In Conclusion** The milk cow is said to be the heart of a small farm. She feeds the family. Excess milk can be fed to pigs and chickens and is used by Korean Natural farmers to make many of their soil amendments. And if it were legal, it would make a badly needed cash income for hardworking farmers.

Finally, I want to tell you that I have been drinking raw milk from the Big Island for 40 years. I will not hesitate to state my opinion that fresh milk is far superior in flavor. We say it tastes like melted ice cream, not like the cardboard carton or the plastic jug that store milk comes in! Thank you for reading my testimony.

Grant Gerrish, Ph.D

Instructor of Biology UHH (retired)

**HB-521-HD-1**

Submitted on: 3/18/2023 8:02:04 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Hattie Gerrish	Individual	Support	Written Testimony Only

Comments:

Aloha Chair and members of the Committee,

I am a farmer from Senator Tim Richard’s district. 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. Every year, some people get sick from eating a variety of foods that were contaminated with E. Coli or salmonella. I got salmonella from eating cut melon, and my mother got it from eating peanuts. Egg salad is a common source of food poisoning, but we don’t ban eggs, cut melon, or any of the other foods that sometimes make people sick.

Small and mid-size farms in Hawai`i are allowed to produce eggs and meat for market. Why is milk different? Milk is not inherently more dangerous than other foods. Why in this age, when we have a better scientific understanding of food safety, is raw milk still being singled out for this unfair and arbitrary treatment?

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. I am frequently asked if I have raw milk for sale just because I have milk cows. People moving from the mainland are often surprised to find that legal raw milk is not available here.

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-HD-1**

Submitted on: 3/18/2023 9:34:44 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Sharon Gerrish	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Gabbard and Chair San Buenaventura

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 other cows milk from many dairies so pasteurization was needed. Getting it from your own cow is safe using stainless steel milk equipment, pouring it through a milk filter and drinking it cold or fresh. 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 Nakashimas office.

We drink our own milk since 1978, make cheeses and butter and maintain many milk cultures like yogurt. I come from an unbroken line of people who milk cows and maintain the knowledge from my parents and grandparents on care of cows and milk uses. Ask our Veterinarian!

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-HD-1**

Submitted on: 3/19/2023 9:52:03 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Kate Gentile	Individual	Support	Written Testimony Only

Comments:

I support HB 521. It is essential that families are able to make their own decisions on where their food comes from, including raw milk.

**HB-521-HD-1**

Submitted on: 3/19/2023 11:32:13 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
James H Braun	Individual	Support	Written Testimony Only

Comments:

I whole heartily support HB 521. In my younger days I worked on a small diary farm, it is a lot of hard work. We must do whatever we can to support these farmers and keep argiculture local !!

Respectfully submitted,

James H. Braun



**HB-521-HD-1**

Submitted on: 3/19/2023 12:26:49 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Robert B Hollander III	Individual	Support	Written Testimony Only

Comments:

To the Senate Committee:

As a family physician, I feel quite sensitive to foods that put the general population at high risk of significant disease. Both in the ER and clinic, I have had to treat victims of food-borne illness from a multitude of sources: *B cereus* from improperly handled rice in bento boxes, *E coli* infections from undercooked ground beef, parasites from sushi and poke, *Staph. aureus* in potato salad, and so on. I cannot say that I have treated anyone with an illness related to raw milk, but I am aware that the CDC reports a modest increase in the very baseline low rates of foodborne illness related to unpasteurized milk consumption in states that have legalized the sale of raw milk. These numbers are, of course, dwarfed by the number of episodes related to outdated, over-travelled, or improperly stored pasteurized dairy.

Unless state government were to aggressively promote a campaign against all possible causes of foodborne illness, I simply fail to see the logic of our clinging to legislation outlawing a consumer's choice to purchase raw milk. Life is never without risk, and government usually seeks to limit liberty only for those activities of the highest risks. Someone eating a rare hamburger concerns me more than someone drinking a quart of locally-sourced unpasteurized milk. Barring a compelling counter-narrative, I favor legislative consistency, maximizing options for the consumer, and minimizing unnecessary legal constraints.

Thank you for your consideration of my testimony.

Sincerely,

Dr Robert B. ("Buzz") Hollander III MD

White Mountain Health LLC, Kamuela, HI

**HB-521-HD-1**

Submitted on: 3/19/2023 1:13:10 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Leila Gerrish	Individual	Support	Written Testimony Only

Comments:

I support

**HB-521-HD-1**

Submitted on: 3/19/2023 3:08:11 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Mary Miho Finley	Individual	Support	Written Testimony Only

Comments: I support Hb521. It is long overdue food freedom. When I came back from OR in 1974, we were leaving a place where we obtained our milk from a state-certified raw milk dairy that delivered milk to our door. Felt pretty primitive that here in Hawaii we were forced to lie that milk we have purchased and consumed from small farmers for the past over 40 years we've had to claim was for our animals! Auwe! Mary Miho Finley

**HB-521-HD-1**

Submitted on: 3/19/2023 8:51:22 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Emma-Lei Gerrish	Individual	Support	Written Testimony Only

Comments:

Aloha,

Please support this bill to legalize and decriminalize raw milk sales. This bill would support small farms and increase local food production and consumer choice.

I'm a young farmer, born and raised in Hawaii. I've been drinking raw milk from my own grass fed cows all my life and I'd love to be able to share it with the community.

Please support farmers and vote in support of HB 521!

Emma

**HB-521-HD-1**

Submitted on: 3/19/2023 10:48:45 PM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Patricia Beekman	Individual	Support	In Person

Comments:

I strongly support this bill. Raw milk is thought to be much more healthful to human health because high heat, as everyone knows, is a killer. It kills toxic germs, but at the same time it kills or makes useless much of the good that is in milk.

I drank raw milk in Florida without ill effects, and babies drink their mothers' raw milk to their great benefit.

While safety measures should be in place, such as no milk from sick animals, raw milk as an option for the people of Hawaii is a welcome step in the right direction of good health and freedom to choose.

**HB-521-HD-1**

Submitted on: 3/20/2023 7:04:25 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Leah Damon	Individual	Support	Written Testimony Only

Comments:

Hawaii residents deserve the right to food choices. Please support raw milk. Thanks so much.  
Leah Damon.

**HB-521-HD-1**

Submitted on: 3/20/2023 7:21:13 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
michelle hillen	Individual	Support	Written Testimony Only

Comments:

- Raw milk has a good track record for safety .
- There is not a single Grade A dairy producing milk in the state. Passage of HB 521 can revive Hawaii's dairy industry.
- Passage of HB 521 would enable family farmers to make a better living.
- It has amazing health benefits.

**HB-521-HD-1**

Submitted on: 3/20/2023 7:49:49 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Madhava Moe	Individual	Oppose	Written Testimony Only

Comments:

I oppose to the legalization of raw milk.



**HB-521-HD-1**

Submitted on: 3/20/2023 8:25:30 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Kianna Ho	Individual	Support	Written Testimony Only

Comments:

Please allow sale of raw milk and a raw milk products. my twin boys can only handle raw milk all other forms of milk cause severe eczema breakouts or digestion issues.

**HB-521-HD-1**

Submitted on: 3/20/2023 8:27:22 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
nancy	Individual	Support	Written Testimony Only

Comments:

Our grandchildren have digestive problems and they can only tolerate raw milk.

**HB-521-HD-1**

Submitted on: 3/20/2023 8:44:07 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Katie Acpal	Individual	Support	Written Testimony Only

Comments:

Hawaii is one of only five states that doesn't allow any sale or distribution of raw milk. On a recent trip to CA, I was able to purchase raw milk in a large chain grocery store.

The ban on sales of raw milk hurts our economy and our farmers. There is not a single Grade A dairy producing milk in the state. Passage of HB 521 can revive Hawaii's dairy industry.

Passage of HB 521 would enable family farmers to make a better living. Raw milk in other states is often the product that first draws the consumer to set foot on the farm, leading to sales of other foods such as meat, poultry, eggs and produce.

I am excited to see HB 521 as a sign that our local government is taking steps to join the other 45 states that allow for raw milk sales. Thank you for your time and commitment to the people of Hawaii.

**HB-521-HD-1**

Submitted on: 3/20/2023 8:44:11 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Julia Wurst	Individual	Support	Written Testimony Only

Comments:

I am a resident of Maui County and would like to submit testimony in support of the distribution and/or sale of raw milk. Raw milk is healthy and citizens should be free to drink it if they choose. According to at least one study, the number of illnesses attributed to raw milk consumption in the U.S. has declined as demand for the product has increased. Maui used to have a thriving dairy industry and this could be a way to bring that back. Passage of HB 521 would enable farmers to make a better living. Raw milk is usually a draw and then families will purchase other items from the farm. Everyone is always talking about how 90% of Hawaii's food is flown here. Let's make a real difference in sustainability and have more grown here. This bill supports consumer choice. Consuming raw milk is legal and unless everyone owns their own cow or goat, residents should not have to be part of an illegal transaction to exercise their legal right. Let's get away from the prohibition era of raw milk and let adults make their own decisions about what is right and healthy for themselves. Mahalo!

**HB-521-HD-1**

Submitted on: 3/20/2023 9:02:27 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Iolani Antonio	Individual	Support	Written Testimony Only

Comments:

Raw milk has a good track record for safety. According to at least one study, the number of illnesses attributed to raw milk consumption in the U.S. has declined as demand for the product has increased.

Further, there is not a single Grade A dairy producing milk in the state. Passage of HB 521 can revive Hawaii's dairy industry.

Passage of HB 521 would enable family farmers to make a better living. Raw milk in other states is often the product that first draws the consumer to set foot on the farm, leading to sales of other foods such as meat, poultry, eggs and produce.

HB 521 supports consumer choice. The consumption of all raw milk products is legal in Hawaii; Hawaiians should not have to be part of an illegal transaction to exercise their legal right.

**HB-521-HD-1**

Submitted on: 3/20/2023 9:31:54 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Jenny Caban	Individual	Support	Written Testimony Only

Comments:

As you may or may not know, Hawaii is the last of 5 states in the US that doesn't allow any sales or distribution of raw milk. I hope this is the year that our legislature can change that and so I kindly ask that you vote yes to HB 521. The bill would legalize the sale of raw milk and raw milk products direct to consumers. The bill if passed, would be a blessing because I love to cook and having raw milk available on Oahu would allow me to experiment with different recipes that call for raw milk like homemade ice cream, yogurt, sour cream and creme fraiche to name a few. I understand that the Department of Health is concerned about safety, but the bill addresses these concerns. Besides, when it comes to safety, Hawaii is one of the biggest consumers of raw fish and seafood and we are fine.

Thank you and I hope you consider supporting HB 521.

**HB-521-HD-1**

Submitted on: 3/20/2023 9:32:02 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
MICHAEL POSTEL	Individual	Support	Written Testimony Only

Comments:

Food security is essential to Hawaii's economic stability. A well diversified agricultural model, one that allows small-scale dairy farms to exist, will increase Hawaii's food security dilemma. Raw milk has been a healing and healthful food for me when I was struggling with eczema, asthma and allergies. Allowing small-scale production/sale of raw milk will give Hawaii the chance it deserves to create a micro-dairy industry, which is wholly absent. Please pass this bill, HB521. - Michael Postel, MS

**HB-521-HD-1**

Submitted on: 3/20/2023 9:33:58 AM

Testimony for AEN on 3/20/2023 1:30:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Michael Bergin	Individual	Support	Written Testimony Only

Comments:

I only drink raw milk as well as all the members in our extended family due to the countless health benefits.