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DEPARTMENT OF HEALTH
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**Testimony in OPPOSITION on HB521
RELATING TO RAW MILK**

REPRESENTATIVE MARK M. NAKASHIMA, CHAIR
HOUSE COMMITTEE ON CONSUMER PROTECTION AND COMMERCE
Hearing Date: 2/16/2023 2:00pm Room Number: Rm 329
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 In doing so, the public could be exposed to undue risk of serious illness or death by possible
8 exposure to pathogenic organisms. Our Keiki, Kupuna, and the immunocompromised face even
9 greater risk than the general public, as they will face much greater difficulty fighting off any
10 pathogens ingested and will have a much higher mortality rate for almost all pathogens
11 associated with consuming raw dairy products. The FDA and the CDC have published many
12 science based articles debunking every statement in Section 1, and is included in this testimony.

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

19 Of the 133 outbreaks occurring from 1987 to September 2010, 5 were multistate outbreaks with
20 cases from at least two states. The remaining 128 outbreaks occurred in 30 states. Of these 30
21 states, 20 allowed some type or raw milk sale for direct human consumption according to the
22 National Association of State Departments of Agriculture survey of 2008 (NASDA, 2008).
23 Outbreaks from these 20 states accounted for 80% of all outbreaks in the US during this period.

1 The three states that had the highest frequencies of outbreaks are California, Washington, and
2 Utah, accounting for about 12%, 12%, and 8% of all outbreaks, respectively.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

1 **Raw Milk Misconceptions and the Danger of Raw Milk Consumption**

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

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

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

9 Lactose is a unique disaccharide found in milk. Lactose concentration in bovine milk is about
10 4.8%. People with lactose intolerance lack the enzyme, beta-galactosidase or lactase, to break
11 down lactose into glucose and galactose during digestion. All milk, raw or pasteurized, contains
12 lactose and can cause lactose intolerance in sensitive individuals. There is no indigenous lactase
13 in milk.

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

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

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

27 The PARSIFAL study (Waser et al., 2007) has been misused by raw milk advocates ever since it
28 was published. The PARSIFAL study found an inverse association of **farm**
29 **milk** consumption, **not raw milk consumption**, with asthma and allergy. The authors of the
30 PARSIFAL study clearly indicated in the paper that the “*present study does not allow evaluating*
31 *the effect of pasteurized vs. raw milk consumption because no objective confirmation of the raw*
32 *milk status of the farm milk samples was available.*” In fact, in the study, about half of the farm
33 milk was boiled (Waser et al., 2007). The authors of the PARSIFAL study concluded that “*raw*
34 *milk may contain pathogens such as salmonella or EHEC, and its consumption may therefore*

1 *imply serious health risks... At this stage, consumption of raw farm milk cannot be recommended*
2 *as a preventive measure.” (Waser et al., 2007)*

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

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

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

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

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

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

32 Bifidobacteria have been mentioned by raw milk advocates as the “good bugs” in raw milk.
33 Bifidobacteria are bacteria commonly found in human and animal gastrointestinal track and they
34 are bacteria that make up the gut flora (Arunachalam, 1999). Since bifidobacteria are found in
35 cow’s GI track, they are present in cow’s fecal matter. Raw milk collected with proper hygiene

1 should not contain bifidobacteria. In fact, the presence of bifidobacteria in raw milk indicates
2 fecal contamination and poor farm hygiene (Beerens et al., 2000; Beerens and Neut, 2005).

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

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

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

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

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

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

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

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

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

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

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
Deputy to the Chairperson

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TESTIMONY OF SHARON HURD
CHAIRPERSON, BOARD OF AGRICULTURE

BEFORE THE HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

THURSDAY, FEBRUARY 16, 2023
2:00 P.M.
CONFERENCE ROOM 329 & VIDEOCONFERENCE

HOUSE BILL NO. 521
RELATING TO RAW MILK

Chairperson Nakashima 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.



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February 16, 2023

HEARING BEFORE THE
HOUSE COMMITTEE ON CONSUMER PROTECTION & COMMERCE

TESTIMONY ON HB 521
RELATING TO RAW MILK

Conference Room 329 & Videoconference
2:00 PM

Aloha Chair Nakashima, Vice-Chair Sayama, 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: 2/14/2023 2:13:53 PM

Testimony for CPC on 2/16/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|---------------------------|
| Tish Rothwell | The Pet Depot | Support | Written Testimony Only |

Comments:

The benefits of raw Goat milk for pets is unmatched. This helps not only young animals, but senior pets as well, to maintain a quality of life in their later years. Please let our pets have this beneficial meal supplement back in place. As carnivores, dogs and cats are designed to consume raw foods. Goat milk is known as the "universal milk" so it can be easily digested by a wide variety of mammals. This benefit could and has saved many animals from death. Goat milk provides, protein, enzymes, probiotics, minerals, electrolytes and fatty acids. Hydrating dehydrated animals, with all they need!

TESTIMONY ON HAWAII HB 521
In Support of Hawaii Raw Milk Sales
House Consumer Protection & Commerce Committee

Presented on behalf of the
Weston A. Price Foundation
by Pete Kennedy, Esq.
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Sarasota, FL 34239
Phone: 941-34-4984
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Hearing: February 16, 2023

Honorable Members of the Consumer Protection and Commerce Committee,

My name is Pete Kennedy. I am an attorney with the Weston A. Price Foundation (WAPF), an international nonprofit whose primary mission is to restore nutrient-dense foods to the American diet through research, education and activism. WAPF has members in all 50 states, including Hawaii, and is the leading raw milk advocacy organization in the U.S. I have worked on legal issues governing raw milk distribution for the past 20 years. I have consulted on state and federal milk legislation and have drafted raw milk bills as well (including Hawaii). I am familiar with the raw milk laws in every state.

At this time forty-five (45) states have legalized the sale and/or distribution of raw milk through statute, regulation or policy.

- Eleven (11) states allow the sale of raw milk for human consumption in retail stores: AZ, CA, CT, ID, ME, NH, NM, PA, SC, UT, and WA.
- Seventeen (17) states allow the sale of raw milk for human consumption direct from the producer to the consumer: AR, IL, KS, MA, MN, MS, MO, MT, NE, NY, OK, OR, SD, TX, VT, WI, and WY.
- Ten (10) states allow distribution raw milk through herdshare agreements: AK, CO, KY, MI, NC, ND, OH, TN, VA, and WV. A herdshare agreement is an arrangement where an individual purchases an ownership interest in a dairy animal or herd of dairy animals and obtains a percentage of the raw milk production proportionate to that ownership interest.
- The remaining seven (7) states allow the sale of raw pet milk by farmers: AL, DE, FL, GA, IN, MD, and NJ.

Hawaii is clearly an outlier. There is significant demand for raw milk in Hawaii; for many years, bills legalizing its sale or distribution have been before the legislature but rarely, if ever, have received a fair hearing. Consumption of raw milk is legal in Hawaii (as it is in all 50 states) but most consumers do not have the resources and/or know-how to own and board their own dairy animal(s), leaving them with no way to legally exercise that right.

It is far past time for Hawaii to legalize raw milk sales or distribution. Raw milk has a good track record for safety; there is documentation that, as demand for raw milk has increased over the last 15 to 20 years, the number of foodborne illnesses attributed to raw milk consumption has declined.

WAPF supports the passage of HB 521.

Regarding the provision in the bill allowing the sale of raw pet goat milk, the *Official Publication* of the Association of American Feed Control Officials (AAFCO) consists of model regulations governing the production and sale of commercial feed for animal consumption, including pet food. All 50 states have adopted part or all of the AAFCO *Official Publication*; the publication allows the sale of raw milk. Even though there is an ill-conceived interstate ban on raw milk for human consumption, there is no federal ban on raw milk for pet consumption.

There are national manufacturers complying with federal and state regulations who are selling raw pet milk in nearly every state in the U.S.; in summer 2021, raw pet milk products of two of these manufacturers were confiscated in 20 Hawaii pet food stores that were trying to meet strong demand by

pet owners. There is substantial evidence that raw milk is healthier than pasteurized milk for pets. Here is a quote from Dr Pitcairn's *Complete Guide to Natural Health for Dogs and Cats* (page 21):

THE POTTENGER CAT STUDIES

One of the most fascinating sources of information about the importance of raw foods has come from what is now known as the Pottenger Cat Studies. Dr. Pottenger did not set out to study cat nutrition, but he became intrigued by differences in the health of cats he was using in experimental studies. Turning his attention to this topic, he did a series of nutritional comparisons. For several generations, one group of cats was fed completely raw (meat, bones, milk, and cod liver oil). Other groups of cats were fed the same foods either partially or completely cooked. What he found is of definite importance to anyone who wants to raise a truly healthy pet:

- Cats on the entirely raw food diet were completely healthy, never needing veterinary attention.
- The more the food was cooked, the less healthy were the cats that ate it.
- The health problems evident in the experimental cats on the cooked diet were remarkably like those commonly seen in cats today--mouth and gum problems, bladder inflammation, skin disorders, and the like.
- Over a period of three generations, the cats on the cooked food diet continue to deteriorate until they can no longer reproduce.
- When the cats were put back on a raw food diet, it took *three generations* for the animals to totally recover from the effects of the cooked food.

Passage of HB 521 can help improve food security and self-sufficiency in Hawaii; the state currently has no dairy legally producing milk for sale. It would lead to more of the food dollar staying in the state and would expand consumer choice by the enabling consumers to purchase not only raw milk but other raw dairy products as well. It would enable family farmers to further diversify their operations; in other states raw milk is often the food that draws the consumer to the farm, leading to increased sales of other farm products such as meat, poultry, eggs, and produce.

For all these reasons, I urged the committee to pass HB 521.

Respectfully submitted on behalf of the

Weston A. Price Foundation

by Pete Kennedy, Esq.

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HB-521

Submitted on: 2/13/2023 5:54:06 PM

Testimony for CPC on 2/16/2023 2:00:00 PM

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

Comments:

Enzymes in raw milk are destroyed with pasteurization. Many of us who have health problems could use these enzymes. It's time to stop making criminals of people trying to help us. Please support this important bill.

HB-521

Submitted on: 2/14/2023 5:28:53 PM

Testimony for CPC on 2/16/2023 2:00:00 PM

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

Comments:

Aloha Chair and Committee members,

Thank you for hearing this bill!

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 milk 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 Nakashimas 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 packag. 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: 2/15/2023 2:01:00 AM

Testimony for CPC on 2/16/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|---------------------------|
| Ruth Love | Individual | Oppose | Written Testimony Only |

Comments:

Milk was pasteurized for a reason people.

Thank you,

Mrs Ruth Love

HB-521

Submitted on: 2/15/2023 7:37:08 AM

Testimony for CPC on 2/16/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|------------------------|
| Nicole Brown | Individual | Support | Written Testimony Only |

Comments:

I've got allergies to milk that is from the grocery store. I tried raw milk while visiting the mainland and it was delicious and I had no reaction. Every person should have a choice as to what they want to eat, drink and put in their body.

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.

Let people choose for themselves!

HB-521

Submitted on: 2/15/2023 7:52:37 AM

Testimony for CPC on 2/16/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|------------------------|
| Geoffrey Kern | Individual | Support | Written Testimony Only |

Comments:

This bill, if enacted, could be the beginning of a resurgence of dairy in Hawaii. We watched with sadness the dying of this industry on the Hamakua coast, which once provided Hawaii with locally-produced nutrient-dense animal-based food for our breakfast tables. Hawai'i's year-round green grasses, in certain bioregions, provide the ideal opportunity to regeneratively tap cows for food that is now imported at great cost and insecurity. Intensively rotated properly, such operations can build soil, sequestering carbon, and such a natural diet for cattle minimizes their greenhouse gas emissions. Taken raw, this milk and its products is a part of a wholesome diet, rich in enzymes and fat-soluble vitamins and much less likely to stimulate allergies or congestion than its pasteurized counterpart; raw milk has been shown to be therapeutic in treating a number of medical conditions including eczema and dysbiosis. At a scale of less than ten head, Hawai'i will proliferate with producers who will tend to be low-impact in their methodology, using small-scale mechanical milking machines or milking by hand, minimizing refrigeration with direct and timely distribution, and obviating the expense of mechanical homogenization and pasteurization. This bill is a win-win for Hawaii's food security goals!

HB-521

Submitted on: 2/15/2023 7:59:44 AM

Testimony for CPC on 2/16/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|---------------------------|
| Bobbie Konkel | Individual | Support | Written Testimony Only |

Comments:

I am in support of having access to raw milk. The benefits of having raw milk far outweigh anything else. For those of who have land and cows/goats it will be a source of income much needed by the community. Thank you for reading my testimony.

HB-521

Submitted on: 2/15/2023 8:26:09 AM

Testimony for CPC on 2/16/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|------------------------|
| Gwyn Griffiths | Individual | Support | Written Testimony Only |

Comments:

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; state residents should not have to be part of an illegal transaction to exercise their legal right.

HB-521

Submitted on: 2/15/2023 9:54:42 AM

Testimony for CPC on 2/16/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|---------------------------|
| Jenny Caban | Individual | Support | Written Testimony Only |

Comments:

Please support this bill. Hawaii is one of the last 5 states remaining that still bans the sale of raw milk. It's time to move forward and join the other 45 states that have legalize the sale of raw milk.

HB-521

Submitted on: 2/15/2023 10:10:14 AM

Testimony for CPC on 2/16/2023 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---------------------|---------------------|---------------------------|------------------------|
| Hans Kleinert | Individual | Support | Written Testimony Only |

Comments:

Aloha Valied Consumer Protection Comitee!

1. I have successfully recuperated from severe mineral deficancies manifesting as tooth and gum decay and fatigue by consuming raw milk prodcuts from Switzerland, Germany, California and New York.

The feeling of regulating canlcium metabolicing correctly and my teeth are rock solid now, is amazing.

2. 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.

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

4. 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.

5. 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.

I feel that Hawaii, as Costumer Care Stae can create added benifits by allowing raw milk prodcuts in the state.

Mahalo Nui Loa

Hans Kleinert

808-256-8874

HB-521

Submitted on: 2/15/2023 1:50:38 PM

Testimony for CPC on 2/16/2023 2:00:00 PM

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

Comments:

I support this bill