

# **Dairy Farms That Touch the Public and Plans for Coping with FMD in New England**

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## SUMMARY

This document was prepared for the [New England Secure Milk Supply \(SMS\) Project](#). It includes assessments of

- 1) The importance of direct-to-consumer commerce with dairy farms in the region,
- 2) Risk attending such commerce in an animal disease emergency (e.g., an outbreak of Foot-and-Mouth Disease), and
- 3) Strategies for reducing the risk.

Exchanges that frequently put the public in touch with New England dairy farms include agri-tourism, direct sales, and trade in unpasteurized (“raw”) dairy products.

These types of commerce are about twice as intense and valuable for New England as for the rest of the United States. Their direct contribution to the total agricultural economy and the food supply remains relatively small when compared to wholesale operations, but it is substantial and growing for participating producers and consumers as well as associated amenities and business in the region (e.g., open space and tourism).

While the [Draft New England SMS Plan](#) and the national [SMS Project](#) focus on wholesale dairy trade (particularly Grade “A” fluid sold to off-premises processors or marketing entities) this document recommends special consideration of risk and remediation strategies in direct farm-to-consumer trade.

The key risk is transmission of highly contagious animal disease via consumer traffic to and from participating dairy farms or their retail outlets.

Recommendations for remediating this risk include adding to state animal disease response plans strategies that specifically address direct-to-consumer operations. Recommendations for action during a FMD outbreak in New England include:

- Agri-tourism – Immediately (during the initial Response Phase) suspend all agri-tourism on farms with FMD-susceptible livestock in the Control Area. This suspension should be among the last of agricultural operations to be restored during the Recovery Phase.
- Direct sales – Immediately suspend all direct sales on farms with FMD-susceptible livestock in the Control Area. In response to a Focal Outbreak, maintain such suspension until the Recovery Phase. In response to a larger outbreak, consider permitting direct-to-consumer trade on select farms in the Control Area (e.g., Producer-handlers) when direct sales are essential for continuity of operations and the premises meets SMS biosecurity performance standards (e.g., maintains biosecure barriers between sales, dairy processing, and livestock operations).
- Trade in unpasteurized dairy products – Immediately prohibit all direct-to-consumer sales of raw milk and milk products in the Control Area. As soon as possible in the Response Phase, insofar as state laws and regulations allow, consider permitting direct-to-consumer sales of “raw” cheese if that cheese meets requirements for maturing or aging and the premises meets SMS biosecurity performance standards (e.g., maintains biosecure barriers between sales, dairy processing, and livestock operations).

Outreach in advance of an incident (e.g., inviting cooperation and feedback on strategies that would affect direct-to-consumer dairy operations) may help regulators earn cooperation from producers that is apt to be essential in an animal disease emergency.

## BACKGROUND

Direct-to-consumer commerce can escape attention in standard measures of U.S. dairy business and therefore skew continuity of operations planning.

State and federal regulatory activities focus on the supply and operation of off-farm processing plants that comprise the main market for dairy farmers and the main supplier for grocers, convenience stores, large institutions, and manufacturers of foods with dairy ingredients. To help assess conditions for pricing milk in U.S. markets, the USDA Agricultural Marketing Service (AMS) tracks input and output of plants that are regulated under the [Federal Milk Order](#) (FMO). According to the Northeast Market Administrator for AMS, there are 60 FMO-regulated, milk-processing plants in New England, plus another 13 plants that are too small or otherwise exempt from FMO provisions. Those 60 plants, in fact, process by far the greatest share (over 90%) of the milk produced in the region.<sup>1</sup> But according to the states in New England, the number of plants that process “raw” milk in the region is actually five times greater (304).

At least one-third of the difference in the plant counts (by AMS vs. by the six states) can be attributed to the treatment of processors that handle milk from goats and sheep (88 and 10, with significant overlap between the two) rather than cattle alone, as in the AMS count. An even larger share of the difference can be attributed to the treatment of “plants” that are also “farms,” operations that produce, process, and market their own milk. State records show that there are at least 100 such farm/processors in the region, though AMS counts just 7 of them.<sup>2</sup> In other words, there are at least ten times more dairy farms engaged in direct sales than AMS tracks.

So, insofar as the aim of SMS Planning is sustaining New England dairy operations, a focus on the traffic to off-farm, Grade “A” plants is significantly short of the full picture, especially if the emphasis is on sustaining farms and farmers as well as food. Likewise, there are other important sources of farm revenue such as agri-tourism that are on the periphery of regulatory oversight and therefore emergency and continuity of operations planning.

A goal of this document is identifying the significance and vulnerability of dairy business that may escape attention when the focus is limited to the main, wholesale supply chain. In particular, this document draws attention to less conventional sources of food for the public and revenue for dairy operations that may be a source of both vitality and risk in New England.

According to the U.S. Agricultural Marketing Service (2009):

***Over the past decade, the growth of direct-to-consumer food marketing across all regions far exceeded the growth of total agricultural sales. From 1997 to 2007 direct-to-consumer food marketing grew by 104.7 percent in the United States, while total agricultural sales increased by only 47.6 percent. . . . The role of direct-to-consumer food marketing in the agricultural sector is most prominent in New England.***<sup>3</sup>

<sup>1</sup> See appended table of “New England Milk Production and Receipts of FMO-Regulated Handlers, 2011.”

<sup>2</sup> “Producer-handler” is the designation for such FMO-regulated, on-farm processing operations, though there are likely also farms/processors among the 13 “Exempt Plants.” 7 CFR [§ 1000.08](#) and [§ 1001.10](#).

<sup>3</sup> Adam Diamond and Ricardo Soto, [Facts on Direct-to-Consumer Food Marketing Incorporating Data from the 2007 Census of Agriculture](#), (USDA Agricultural Marketing Service, May 2009), pp. 3-4.

## COMMERCE THAT INCREASES PUBLIC CONTACT WITH DAIRY FARMS IN NEW ENGLAND

Dairy farms in New England are unique in their connection to the public. They share a traffic pattern: the more movement to and from the farm, the tighter the ties between producers and local consumers. In New England the traffic is frequent and valuable, and the ties are tight, indeed. Many citizens are pleased to visit and see for themselves that farmers have pride (or at least little to hide) in their herds, and many farmers appreciate the compliments and cash that direct, local commerce affords.

But in a disease emergency – particularly when the agent is extremely contagious like the virus that causes Foot-and-Mouth Disease (FMD) in susceptible livestock – openness also poses a risk. Each visitor and vehicle that comes to a farm may also carry pathogens from infected to uninfected sites. In an outbreak, the same traffic that was a source of economic security becomes a vulnerability.

In recent outbreaks around the world, FMD has chiefly spread indirectly (via tankers or other traffic) rather than directly (via contact between herds or abutting farm lands). Contrary to long-standing expectation, the usual agent of new infection has been a visitor such as a service truck that unknowingly carried pathogens from more than a mile away, rather than a neighbor, shared winds, fence rows, or waterways. For example, in the Cumbrian epidemic (Great Britain, 2001) about 80% of infected premises were apparently first exposed to FMD virus by contaminated vehicles that passed through the farm gate.<sup>4</sup>

A service vehicle, moving from farm to farm, is distinctly vulnerable to contamination, but so is every vehicle that crosses its path. The more open and welcoming the farm, the greater the risk that it will become a victim and vector of contagion.

According to figures from the most recent Census of Agriculture, premises with milk cows, sheep, and goats (species that are milked and susceptible to FMD) are about twice as likely to host traffic with the public in New England as in the United States as a whole. Contact between the two may be immediate (as in agri-tourism or sales from the milk parlor) or one step removed (as in home delivery or farm stands). In all of these forms, public traffic to and from FMD-susceptible sites is unusually direct, prevalent, and valuable in the everyday life of the region.

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<sup>4</sup> Nick Honhold, [The Impact of Farm Gate Biosecurity on the Transmission of FMD in UK in 2001](#), International Control of Foot-and-Mouth Disease: Tools, Trends and Perspectives, 2006 Session of the Research Group of the Standing Technical Committee of the European Commission for the Control of Foot-and-Mouth Disease (EuFMD), Paphos, Cyprus (October 16-20, 2006), Appendix 3, p. 32; Nick Honhold, *et al.*, “The Involvement of Milk Tankers in the Spread of Foot and Mouth Disease in Cumbria,” 2001, Report for Veterinary Science Directorate (October 2004), and International Symposia on Veterinary Epidemiology and Economics Proceedings 11: *Proceedings of the 11th Symposium of the International Society for Veterinary Epidemiology and Economics* (ISVEE), Cairns, Australia, Theme 6 – Global Response and Emerging Diseases: Foot and Mouth Disease Session (August 2006), p. 396.; N. M. Taylor, *et al.*, Risk of Foot-and-Mouth Disease Associated with Proximity in Space and Time to Infected Premises and the Implications for Control Policy during the 2001 Epidemic in Cumbria,” *Veterinary Record* 154 (2004), pp. 617-626; Nick Honhold, *et al.*, Evaluation of the Application of Veterinary Judgement in the Preemptive Cull of Contiguous Premises during the Foot-and-Mouth Disease Epidemic in Cumbria in 2001,” *Veterinary Record* 155, (2004), pp. 349-355. See also: University of Minnesota Center for Animal Health and Food Safety and USDA-APHIS-VS-CEAH “Risk Assessment for the Transport of Raw Milk Into, Within, and Out of a Control Area during a Foot and Mouth Disease Outbreak” (Draft, October 31, 2012).

The share of truly commercial operations that literally touch the public is even larger. The Census tracks direct-to-consumer contacts on *all* “agricultural premises” and sorts them by their North American Industry Classification. Hence, the Census count of “Dairy Farms” (NAICS #1121) includes “gentleman” or “hobby farms” that are not “farms” in a stricter sense of the word. Success or failure (say, in avoiding livestock disease) on many of these premises would have relatively little effect on livestock health, the fortunes of their owners, or the food supply. Certainly, the share of working farms that touch consumers is larger than the share of “agricultural” premises that the Census counts. Hence, too, trade with the New England public is even more common and important in dairy business continuity and biosecurity requirements than the Census tally (double the national norm) suggests.<sup>5</sup>

Furthermore, these contacts with the public are distinctly valuable in New England. Revenue from direct, farm-to-consumer commerce varies greatly among producers, states and commodities. Most New England dairy farms do not participate at all, but the minority that does participate gains as much as 10-15 times more money from it than counterparts in the rest of the U.S. Per farm gross revenue from direct marketing among New England participants averages twice the national norm.

The high frequency and value of this commerce can be considered a consequence of regional history and geography. New Englanders are uniquely concentrated in urban areas that are within driving distance of relatively scarce and precious farmland. As consumers have seized this opportunity to visit farms, some dairy producers have welcomed them and the cash that they leave behind.

Chief among the forms of this commerce are:

- Agri-tourism
- Direct sales
- Trade in unpasteurized dairy products.

The following is an estimate of the importance of each of these attractions, as they relate to plans for coping with an outbreak of a livestock disease like FMD, when farm traffic may be more perilous and require more stringent control.

**By most estimates, commerce directly with the public is at least twice as important for dairy farms in New England as in the rest of the U.S.**

More detailed “Measures of Public Contact with New England Dairy Farms” are appended to this document.

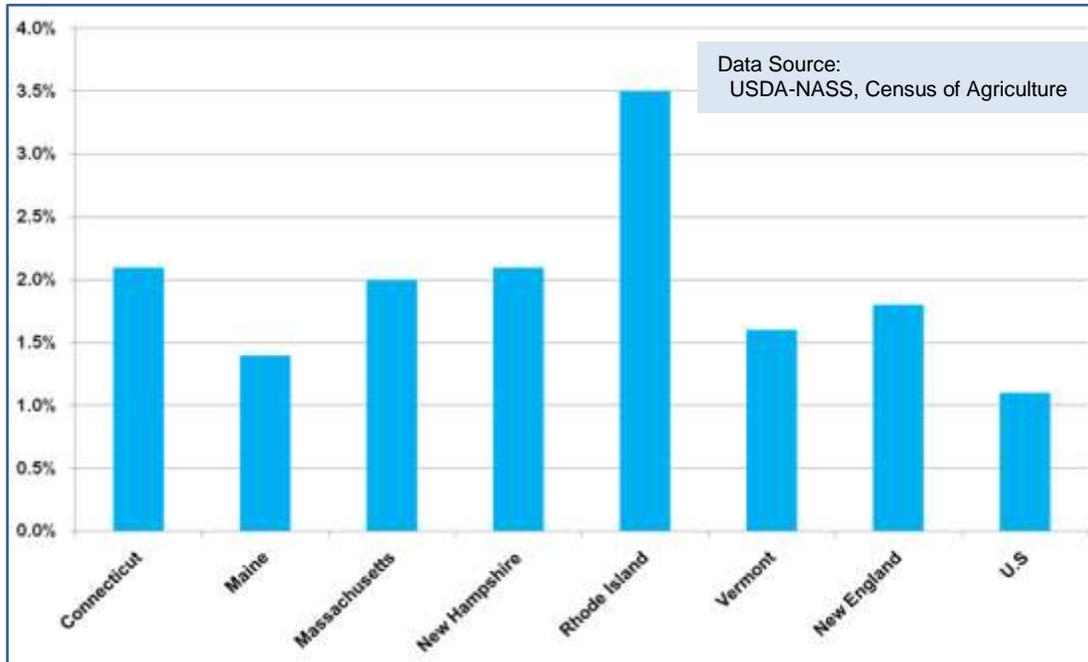
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<sup>5</sup> The Census compiles statistics on *all* “agricultural land” and “agricultural activities.” States and commodity groups, on the other hand, generally limit their counts to commercial operators and operations. See U.S. Department of Agriculture, National Agricultural Statistics Service (USDA/NASS), [2007 Census of Agriculture, Volume 1, Chapter 1: State Level Data](#), Table 62: Summary by North American Industry Classification System, and [Appendix B: General Explanation and Census of Agriculture Report Form](#), pp. B-10 and B-51. “Dairy farms” refers to the North American Industry Classification “Dairy Cattle and Milk Production” (1121) which NAICS defines as “establishments primarily engaged in milking dairy cattle.” The difference between the two latest counts (e.g., for dairy farms, 1,787 by the states vs. 2,228 by the Census, 20% higher) requires interpretation, both because of a difference in the operative definition of a “farm” and because of a difference in the year of the counts (2012 for the states versus 2007 for the Census). Since the number of dairy farms has probably dropped over the course of the five years, state and Census figures may not be as far apart as they seem.

## Agri-Tourism

Agri-tourism is distinctly popular in New England. It is a priority both in government policy and plans for the weekendening public.

Percentage of Farms with Agri-tourism in New England and the U.S., 2007 <sup>6</sup>



The draw is especially strong to dairy farms, not only because they are the most common kind of farm in these six states, but also because they are central to the region's sense of itself, its economy, cherished landscapes and legacies.<sup>7</sup>

People who milk livestock for a living are often considered hard-working, wholesome and welcoming neighbors, the kind of folks that diverse citizens could join in emulating and aspire to visit. Tourists look forward to trips down winding, wooded roads to pastoral reserves. They snap pictures of old barns or introduce youngsters to earthy sights and smells, a better understanding of where food comes from or the facts of life. They enjoy a hayride, a corn maze, a chance to see some grazing heifers and tapped maples, to bottle-feed a lamb or touch a calf.

In fact, dairy farms have been more than twice as likely to host agri-tourists in New England as in the rest of the country. When last surveyed (2007) for the Census of Agriculture, such tourists were pumping about \$400,000 dollars per year directly into the dairy economy of the six states, an average of \$5,000 to \$10,000 per farm with tourist revenue.

But as a share of total dairy business, the scale may still be considered small, even in New England. In the last Census (when there were more dairy farms to count), fewer than 2% of dairy farms reported income from tourism, and its cash value was a tiny fraction (less than

<sup>6</sup> Gary Keough, [Trends in New England Agriculture](#), Presentation for the New England Field Office of USDA National Agricultural Statistics Service (USDA/NASS, 2010), slide 15.

<sup>7</sup> Richard P. Horwitz, [FMD as a Hazard for New England Dairies](#) (2012), pp.32-58.

0.1%) of their gross farm sales for the year. Judging from farm count and revenue alone, agri-tourism is a prized but secondary part of the region's dairy business.

Of course, these counts may understate current practice. In the five years since the last Census, more operations may have added tourist attractions or found ways to earn more money from them. When, as here, the "farm" count is so inclusive (counting all premises with "agricultural" land or activity), calculations of relative (per premises) frequency and income is minimized.<sup>8</sup> The share of genuinely commercial operations is surely higher.

Likewise, once costs (rather than gross revenue alone) are considered, the margin and hence the profit in tourism is likely much higher than in other dairy operations. And it may better multiply benefits to the surrounding state and community.

Furthermore, even if their number and average proceeds are small, farms that attract agri-tourists may be among the showplaces that are crucial to consumer demand for local produce and for government supports, including help in preventing and coping with livestock disease.

Nevertheless, by ready measures of frequency and scale, agri-tourism seems short of crucial for continuity of the vast majority of dairy operations, at least in the short run. So, its suspension during a disease emergency could be among the more tolerable ways to restrict farm traffic in a Control Area and thereby also to reduce risks of spreading infection.

It is advisable, then, to add agri-tourism to the list of activities – like garbage feeding or livestock shipment (which are probably more critical to operations but also more hazardous) – that are suspended in a Control Area during the first phase of response to a highly contagious disease, such as FMD.

Recommendation to Reduce Risk in  
**Agri-tourism**

During an Outbreak of Highly Contagious Animal Disease

Immediately (during the initial Response Phase) suspend all agri-tourism on farms with FMD-susceptible livestock in the Control Area. This suspension should be among the last of agricultural operations to be restored during the Recovery Phase.

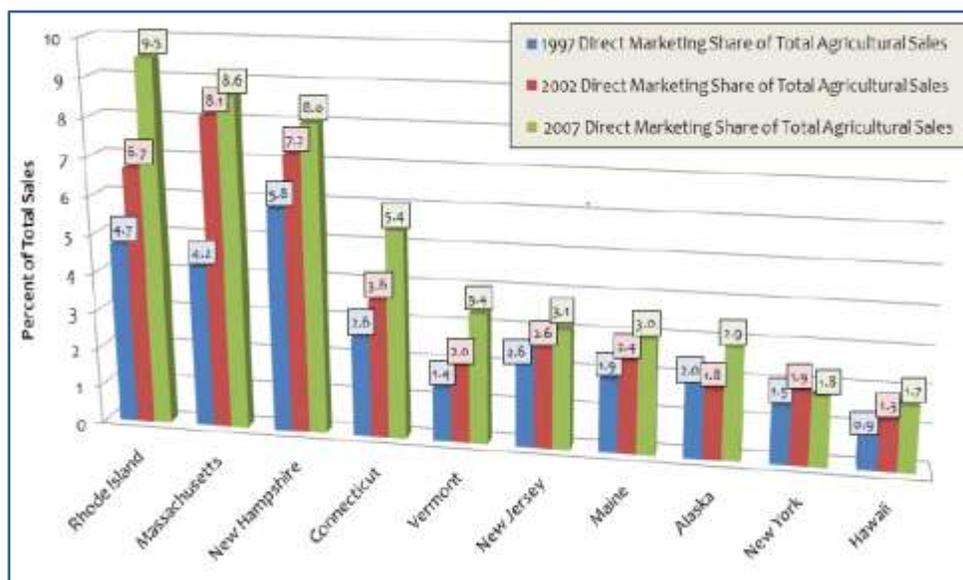
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<sup>8</sup> In particular, using the Census to calculate the share of "farms" that do (vs. do not) participate in a particular practice (e.g, agri-tourism or Direct Sales) is apt to yield a lower percentage than using the number of farms regulated under the Federal Milk Order or licensed by the states. The Census also, however, offers a more complete, accurate, and comparable snapshot of the absolute number, and environmental and financial condition of premises with FMD-susceptible livestock.

## Direct Sales

Direct-to-consumer sales are also distinctly important for New England farmers, policymakers, and the public. The region's leadership in this sector has persisted and grown for more than a decade.

Top 10 States in Direct-to-Consumer Food Sales as a Share of Agricultural Sales, 1997-2007<sup>9</sup>



The Director of the New England Field Office of the USDA National Agricultural Statistical Service (NASS), Gary Keough, has shown that the region leads the country by nearly every ready measure of exchange between local-food consumers and producers. New England states uniformly dominate the nation's top ten. In 2007 (depending on the state), each participating farm gained an average of \$10,000 to \$30,000 in revenue.

National Rank of New England States in Direct-to-Consumer Marketing, 2007<sup>10</sup>

	Percentage of all farms with direct sales	Direct market sales as a percentage of all farm sales	Average value of direct market sales per farm
<b>Connecticut</b>	#2	#4	#1
<b>Maine</b>	#6	#7	#12
<b>Massachusetts</b>	#4	#2	#2
<b>New Hampshire</b>	#1	#3	#5
<b>Rhode Island</b>	#7	#1	#3
<b>Vermont</b>	#5	#5	#8

<sup>9</sup> Adam Diamond and Ricardo Soto, [Facts on Direct-to-Consumer Food Marketing Incorporating Data from the 2007 Census of Agriculture](#), (USDA Agricultural Marketing Service, May 2009), p. 4.

<sup>10</sup> Gary Keough, [Trends in New England Agriculture](#), Presentation for the New England Field Office of USDA National Agricultural Statistics Service (USDA/NASS), 2010, slides 9-10. Note that this presentation deals with farms of all types and sizes.

Given dairy's dominant role in local agriculture, it should be no surprise that the region is a national leader of direct sales of dairy products, in particular. According to the 2007 Census, farms with dairy cows, sheep or goats are twice as likely to engage in direct sales in New England as in the rest of the U.S., and it provides about \$8 million in revenue (about \$6 million to dairy-cow operations plus about \$2 million to sheep and goat farms).

Caution is again required, though, in interpreting these NASS numbers, not only because they are five years old and so inclusive but also because in-state totals remain too small to disaggregate for some finer analysis.<sup>11</sup>

Nevertheless, it is clear that the scale and value of direct sales vary greatly among states and commodities. For example, in 2007 Vermont dairy farms (many of which are distant from the region's largest cities) were the least likely in the region to have direct sales (9.3%), but they gained the most from it (an average of nearly \$50,000 per farm reporting such sales). In every New England state, sheep and goat operations were much more likely to engage in direct sales than those with milk cows (33% vs. 16%), but the average value of those sales was much lower (\$1,000-4,000 vs. \$10,000-50,000 per farm).

In a FMD outbreak – when susceptible livestock, their contribution to the food supply, and farm survival will be most at-risk – it may be wise to discourage or bar direct sales entirely. Suspending this public traffic to farms with susceptible livestock would certainly reduce the number and scale of vectors of contagion and the difficulty of tracking and controlling them. However, it may also be wise to adjust the response to the scale and stage of the incident.

If an outbreak was well-confined (a “focal” incident), suspension of direct sales in a small Control Area would yield large disease-control gains at relatively little cost. Continuity of direct-sales operations on a few farms could, in effect, be sacrificed to better protect dairying as a whole.

However, in a larger outbreak with a vast Control Area, such sacrifice may be intolerable, comparable with disease itself. Finer distinctions may be more effective in striking a balance between continuity of operations and disease protection. The aim would be to reduce interruption of operations in excess of what is absolutely necessary for disease control: sustain relatively safe and essential operations and thereby preserve prospects for their subsequent recovery throughout the region.

In a large outbreak, investments in business continuity during an emergency (for example, public- or private-sector assistance to increase biosecurity on select farms) might target the subset of direct-sales farms that are best able to benefit. These would be farms that:

- depend on direct-to-consumer sales, and
- are prepared to meet SMS biosecurity performance standards.

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<sup>11</sup> As when distinguishing “farms” from all “agricultural” premises,” distinguishing production of “edible foods for human consumption” from all “agricultural” products tends to increase estimates of their relative size. With that adjustment, for example, “Nationally, direct-to-consumer food marketing would appear to be at least twice as significant to the food system as non-adjusted total agricultural sales data would indicate.” In the Northeast, the estimated share of sales increases from about three percent (already more than twice the national norm) to four. Adam Diamond and Ricardo Soto, [Facts on Direct-to-Consumer Food Marketing Incorporating Data from the 2007 Census of Agriculture](#), (USDA Agricultural Marketing Service, May 2009), p. 8.

In particular, these operations would have to sustain an effective, biosecure barrier between production, processing, and sales operations. Farms with such needs and protections may be eligible for exemption from suspension of direct sales in the Control Area.

Creating such a distinction (between farms that are and are not eligible for permits to move milk) is difficult, not only because selection criteria are inherently contestable, but also because there is no simple, clear and consistent relationship to pre-existing oversight. For example, direct-sales operations have not been regularly monitored for vulnerability to Foreign Animal Disease infection or for emergency-response capacity, nor are they regulated by uniform procedures or organizational counterparts in the six New England states.

One group of direct-sales farms, though, are clearly, consistently identified and monitored as “Producer-handlers.” These dairies are so designated by the Agricultural Marketing Service under the Federal Milk Order (the national price-regulating mechanism) to process and sell their own Class I milk (Grade “A” fluid for people to drink). Rather than (or in addition to) selling unpasteurized milk to another handler (a coop, processing or marketing company), these Producer-handlers sell directly to people who come to the farm or a farmer’s market, to permitted grocers or restaurants, or to households that arrange for delivery service. Among dairy farms with direct sales, Producer-handlers provide a distinctly dependable supply of food to consumers and income to farms. In 2010-12, the Agricultural Marketing Service counted fewer than ten such operations in the region.<sup>12</sup>

Given the small number of Producer-handlers and their dependence on direct sales, the relative rewards for business continuity for them is particularly high and the risks for disease transmission could be manageable, especially since they would not necessarily be exposed to the challenge of sanitizing tankers, as on other sorts of farms that have to ship raw milk to an off-premises plant. Presumably, in the event of a FMD outbreak, Producer-handlers would be required to fortify the biosecurity barriers between areas for livestock, for processing, and for sales. Where such barriers are impractical, Direct Sales should be suspended indefinitely.

**Recommendation to Reduce Risk in  
Direct Sales of Dairy Products on Dairy Farms  
During an Outbreak of Highly Contagious Animal Disease**

Immediately suspend all direct sales on farms with FMD-susceptible livestock in the Control Area. In response to a Focal Outbreak, maintain such suspension until the Recovery Phase. In response to a larger outbreak, consider permitting direct-to-consumer trade on farms in the Control Area (e.g., Producer-handlers) when direct sales are essential for continuity of operations and the premises meets SMS biosecurity performance standards (e.g., maintains biosecure barriers between sales, dairy processing, and livestock operations).

<sup>12</sup>[Producer-handler](#), 7 CFR § 1131.10 (January 1, 2012), pp. 181-183. Although AMS reported just 7 “Producer-handlers” in 2012, some of the 13 “Exempt Plants” were likely also farms/processors. They may well have been conducting business in the same manner as a Producer-handler, but they were processing/bottling a smaller volume (i.e., had route dispositions and packaged sales of fluid milk products to other plants of 150,000 pounds or less during the month) and thus fell under the Exempt Plant definition of the Federal Milk Order.

## Reloading Facilities

If only because they are difficult to classify (sharing some of the properties of producer and handler, seller and buyer), Reloading Facilities are also among the nodes of dairy-farm traffic that may require special consideration. These are collection and pick-up sites for raw milk, but they are sites of neither production nor processing. Hence their place in the dairy supply chain is unusual, a distinct waypoint between farms and the marketplace. Two types are worth distinguishing: Community Milk Rooms and Transfer Stations.<sup>13</sup>

Community Milk Rooms (a.k.a. “receiving stations”) are collection and pick-up sites for raw milk from small groups of cooperating nearby producers. There are currently only two such stations in New England. Both are in Maine and are affiliated with Agri-Mark and Amish farms. (The producers buy the land and build the facility; Agri-Mark leases the facility, installs and then pays for electrical service.) Each Community Milk Room normally serves four or five farms. Each producer hauls unpasteurized milk twice per day to a bulk tank in the Community Milk Room. The distance from an associated farm to the Community Milk Room is not more than three miles along paved roadway and may be as short as 500 feet. More Amish families are expected to move to New England, and they will probably also store and ship unpasteurized milk via Community Milk Rooms.

In effect, the movement of milk from farm to Community Milk Room may be treated as a variety of “direct sales” (in this, case, to the cooperative). In deciding how to secure traffic to and from Community Milk Rooms in a FMD outbreak, Incident command might well treat each such station as, in effect, a single, large “producer premises,” encompassing the area bounded by the most distant associate of the station. Incident Command might well require that Community Milk Rooms meet the [SMS Performance Standards for Dairy Premises](#).

Another type of Reloading Facility is a Transfer Station. It is a site reserved for consolidating shipments. Milk from short-haul tankers is collected and transferred to a smaller number of larger trailers on their way to market. Within memory such sites were common, but none is currently operating in New England, at least off the premises of an existing processing plant.

In effect, for biosecurity purposes in an animal-disease Control Area, a Transfer Station might be treated as either a farm or a processor. It is both a recipient and a source of raw milk shipments. Since it would also be an intensely congregate site, Incident Command might well require that Transfer Stations meet the [SMS Performance Standards for Dairy Processing Plants](#).<sup>14</sup>

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<sup>13</sup> According to the USDA Agricultural Marketing Service, Dairy Programs a “Receiving Station” is “Any place, premise, or establishment where milk or dairy products are received, collected or handled for transfer to a processing or manufacturing plant” and a “Transfer Station” is “Any place, premise, or establishment where milk or dairy products are transferred directly from one transport tank to another.” [General Specifications for Dairy Plants Approved for USDA Inspection and Grading Service](#) (June 29, 2012), p. 5.

<sup>14</sup> See [The Secure Milk Supply Project](#) (2013), and especially [SMS Plan Executive Summary with Supporting Documents](#) (January 2012).

## Trade in Unpasteurized Dairy Products

In addition to sharing fresh produce with family and friends, many New England farms sell unpasteurized dairy products (“raw” milk or cheese) directly to retail outlets or – more often – to individual consumers who visit the farm or a farm stand or who arrange for delivery.

Such sales represent a significant risk for spreading disease during an outbreak, mainly because the number of visitors, vehicles and routes of their travel could be very large (certainly more than a single tanker every day or two), tough to control or even identify. In an outbreak the products themselves (with the exception of properly acidified or aged cheese) could carry FMD virus, yielding yet more opportunities for contagion (e.g., if raw milk were spilled or fed to susceptible animals) that would be even more difficult to monitor or control.

Given a complex, variable, and contentious regulatory environment, much of the retail raw-milk trade is secret, informal, “underground.” Its scale is impossible to estimate with confidence, but it is surely substantial. Many raw-milk sellers and buyers are determined to evade, change, or simply ignore official restraints, public-health warnings notwithstanding.<sup>15</sup>

Nearly every major U.S. organization of food-safety and public-health professionals discourages human consumption of raw milk. Defenders of mandatory pasteurization include not only the U.S. Food and Drug Administration (FDA) but also:

- The American Academy of Family Practitioners
- The American Academy of Pediatrics
- The American Medical Association
- The American Veterinary Medical Association
- The Association of Food and Drug Officials
- The Centers for Disease Control (CDC)
- The Council of State and Territorial Epidemiologists
- The National Association of State Departments of Agriculture
- The National Association of State Public Health Veterinarians
- The National Environmental Health Association.<sup>16</sup>

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<sup>15</sup> An analysis of 1993-2006 data from the CDC Foodborne Disease Outbreak Surveillance System found that outbreaks of dairy-associated disease were much more likely to occur, to require hospitalization, and to afflict children in states that permitted raw-milk sale than in states that forbid it. Likewise, disease was more likely and more severe for consumers of non-pasteurized than pasteurized milk. They conclude: “Consumption of nonpasteurized dairy products cannot be considered safe under any circumstances.” Adam J. Langer, *et al.*, [Nonpasteurized Dairy Products, Disease Outbreaks, and State Laws – United States, 1993-2006](#), *Emerging Infectious Diseases* 18:3, (March 2012), pp. 385-391. See also Marcia L. Headrick, *et al.*, [The Epidemiology of Raw Milk-Associated Foodborne Disease Outbreaks Reported in the United States, 1973-1992](#), *American Journal of Public Health* 88:8 (August, 1998), pp. 1219-21.

<sup>16</sup> See, for example: Centers for Disease Control and Prevention, [Raw Milk Questions and Answers](#) (March 22, 2012); Robert Tauxe, [The Ongoing Public Health Hazard of Consuming Raw Milk](#), letter from CDC to State and Territorial Epidemiologists and State Veterinarians (July 18, 2012); and U.S. Food and Drug Administration, [The Dangers of Raw Milk: Unpasteurized Milk Can Pose a Serious Health Risk](#) (August 22, 2012), [Raw Milk May Pose Health Risk](#) (May 15, 2012), and [Raw Milk Misconceptions and the Danger of Raw Milk Consumption](#) (November 1, 2011). For a sample of the skeptical public reception see the [Rebuttal](#) of these FDA findings by the Weston A. Price Foundation (March, 2012). Or contrast [Raw Milk Cons: Review of the Peer-Reviewed Literature](#) by “Food Safety Advocate and Food Poisoning Attorney” Bill Marler (June 28, 2008) and the response from the Price Foundation, [Raw Milk: What the Scientific Literature Really Says](#).

FDA Prohibition of Interstate Sales of Unpasteurized Dairy Products: <sup>17</sup>

**Only Grade ‘A’ pasteurized, ultra-pasteurized or aseptically processed milk and milk products shall be sold to the final consumer, to restaurants, soda fountains, grocery stores or similar establishments.**  
 – Section 9 of the *Pasteurized Milk Ordinance*

Summary of Conditions Allowing for Raw Milk Sales in New England States:<sup>18</sup>

	<b>But raw milk sales may be permitted within New England states, if . . .</b>									
	Sold on-farm direct-to-consumer	Delivered from farm direct-to-consumer	Retailed off-farm by a store or eating establishment	From Goat (vs. Cow)	Prescribed by doctor	Proper label or signage	Correct Sales or Production volume	Quality Sufficient (Bacteriological chemical, or temperature)	State license, registration or permit	Local license, registration or permit
<b>Connecticut</b>	✓		✓			✓		✓	✓	✓
<b>Maine</b>	✓		✓			✓		✓		
<b>Massachusetts</b>	✓					✓	✓	✓	✓	✓
<b>New Hampshire</b>	✓	✓	✓			✓		✓	✓	
<b>Rhode Island</b>	✓			✓	✓					
<b>Vermont</b>	✓	✓				✓	✓	✓	✓	

<sup>17</sup> U.S. Department of Health and Human Services, Public Health Services, and Food and Drug Administration (USPHS/FDA). [Grade “A” Pasteurized Milk Ordinance](#) [PMO] (2011 Revision), p. 119.

<sup>18</sup> Note that these conditions are nuanced and vary from state to state, even when they share check marks here. For example, Massachusetts, New Hampshire, and Vermont permitting requirements depend on the location and volume of sales, but the boundaries and thresholds differ. For more specific statutory and regulatory requirements, see “New England State Laws and Regulations,” appended to this document.

So, through the *Pasteurized Milk Ordinance*, the FDA explicitly prohibits interstate sales and distribution of unpasteurized dairy products for human consumption.<sup>19</sup> In-state sales and distribution, however, are governed by the states, and most states regulate commerce that they are unwilling or unable to prohibit. In New England, all of the states maintain codes or rules that require compliance with the PMO – including Section 9, and hence a ban on distribution of unpasteurized products for human consumption – but all of them also allow some retail sales under conditions and with enforcement policies and resources that are ever-evolving and that vary from state to state.<sup>20</sup>

Nevertheless, wherever they reside, some consumers and producers consider raw milk not only safe and tasty but also a “right,” essential for their health, individual liberty, and community “food sovereignty.” Under ordinary circumstances, a constituency can be expected to resist or evade raw milk regulations. In an emergency, they may be hard to identify and reluctant to endorse or join in control measures, despite or in defiance of government and industry endorsement.<sup>21</sup>

A very rough, conservative count, cobbled from a mix of current official and unofficial sources, suggests that at least 300 farms in New England sell unpasteurized dairy products to the public. Of course, a much larger number irregularly offer a gallon or two of raw milk to family and friends, but for these 300, it is apparently a business.<sup>22</sup> (See attached “Rough Count of Farms that Sell ‘Raw’ Milk or Cheese Direct-to-Consumers, 2012”)

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<sup>19</sup> The U.S. Food and Drug Administration prohibits interstate (but not intrastate) sales of raw milk for human consumption. FDA, [Food Safety and Raw Milk](#) (November 1, 2011). The agency’s authority to do so has been challenged in recent judicial and legislative initiatives. Most notably in 2011, U.S. Representative Ron Paul introduced [H.R. 1830](#) and Senator Rand Paul introduced [S. 1955](#), “to authorize the interstate traffic of unpasteurized milk and milk products that are packaged for direct human consumption.” As introduced, both bills stipulate that “a Federal department, agency, or court may not take any action (such as administrative, civil, criminal, or other actions) that would prohibit, interfere with, regulate, or otherwise restrict the interstate traffic of milk, or a milk product, that is unpasteurized and packaged for direct human consumption, if such restriction is based on the determination that, solely because such milk or milk product is unpasteurized, such milk or milk product is adulterated, misbranded, or otherwise in violation of Federal law.” According to GovTrack.US, neither [H.R. 1830](#) nor [S. 1955](#) is likely to receive passage. With or without this change of federal law, regulation of in-state sales and distribution of raw milk remains a state power.

<sup>20</sup> See “Statutes, Regulations, and Guidance Documents on FMD Response and Sales of Unpasteurized Dairy Products,” particularly the section on “New England State Laws and Regulations,” appended to this document.

<sup>21</sup> Some of the strongest advocacy of unregulated or local (vs. state or federal) control of milk sales comes from New England. See, for example: David Gumpert, [Raw Deal: Maine Residents’ Fight for Unregulated Food Draws Crackdown](#), *Grist* (June 29, 2012) and Alli Condra, [Balancing the Scales: Food ‘Sovereignty’ and Food Safety](#), *Food Safety News* (December 19, 2011).

<sup>22</sup> This tally comes from public records (e.g., state permits or licenses) plus searchable Internet postings (e.g., farm webpages, consumer blogs, and advocacy websites) that name specific farms that sell unpasteurized milk or cheese directly to the public. See, for example, [Where Can I Find Real Milk?](#), maintained on-line by [RealMilk.com](#), a project of the Weston A. Price Foundation. Inaccuracy in these sources (variation between the number of farms that actually retail raw milk and the number identified on-line or in public records) and hence error in the total count defy ready measure. But, since only specific, publicly named sources are counted here, the total is certainly conservative, erring on the low side. Note, for example, some states discourage advertising and others, in effect, assure anonymity. New Hampshire, for example, exempts farms from raw-milk regulations unless retail sales exceed an average of 80 quarts of unpasteurized product per day. Surely, all New England states host some farms that are identified only by word-of-mouth or a hand-lettered placard, “Raw Milk for Sale,” nailed to a post by the farm gate. These sorts of operations are likely to have escaped count here.

On the one hand, this rough count (300 premises) likely under-represents risk, certainly missing unpublicized and unregulated, small-scale commerce among family members or friends. Regulatory thresholds vary substantially from state to state, and some leave significant room for trade to escape official notice. New Hampshire, for example, exempts farms from raw-milk regulations unless retail sales exceed an average of 80 quarts of unpasteurized product per day, and Vermont permit requirements do not apply unless production exceeds 50 quarts per day.

On the other hand, the total may over-represent risk, especially because many of the farms that sell unpasteurized products are for goats (which have been weaker vectors of contagion) and because many of them sell only cheese (vs. fluid milk). For example, about a quarter of the premises counted in Vermont sell raw-milk cheeses. If these cheeses are matured at a pH less than 6.0 or if they are aged at least sixty days, FMD virus would be inactivated.<sup>23</sup> When sold direct-to-consumer, such “raw cheese” sales (that is, the product, though not necessarily the premises) would present no greater risk than pasteurized Grade “A” milk from Producer-handlers.

Nevertheless, increased restrictions on raw-milk sales would seem to be essential in a FMD outbreak, not only to control infection but also to protect the very livestock that are the source of the products that people seek.

Restrictions, though, may be difficult to achieve, especially since state regulation of direct-to-consumer sales of “raw” products is less uniform and more controversial than it is for Grade “A” fluid dairy products. In many cases, state authorities will find it difficult to contact, much less persuade farmers and consumers to comply with emergency measures.

Outreach in advance of an incident (e.g., inviting cooperation and feedback on plans that would affect dairy operations) may help regulators earn cooperation from producers that is apt to be essential in an animal disease emergency.

Recommendation to Reduce Risk in  
Trade In **Unpasteurized Dairy Products**  
During an Outbreak of Highly Contagious Animal Disease

Immediately prohibit all direct-to-consumer sales of raw milk and milk products in the Control Area. As soon as possible in the Response Phase, insofar as state laws and regulations allow, consider permitting direct-to-consumer sales of “raw” cheese if that cheese meets requirements for maturing or aging and the premises meets SMS biosecurity performance standards (e.g., maintains biosecure barriers between sales, dairy processing, and livestock operations).

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<sup>23</sup> A.I. Donaldson, [Risks of Spreading Foot and Mouth Disease through Milk and Dairy Products](#), *Scientific and Technical Review* (OIE) 16:1 (1997), pp. 119-121; Anwar Ahmad, *et al.*, [Risk of FMD-virus Introduction into the U.S. via Cheese Importation](#) University of Veterinary and Animal Sciences, Lahore, Pakistan, May 2012. See also [Raw Milk Cheeses](#), maintained on-line by the Vermont Cheese Council.

## APPENDIX 1: Measures of Public Contact with New England Dairy Farms

### Agri-tourism: Number of Dairy Farms and the Value of Their Agri-tourism in 2007

	Agri-tourism <sup>24</sup>		Total Farm-Related Sales <sup>25</sup>		Agri-tourism as a Share of the Farm Total	
	Dairy Farms (Milk Cows)	Goat and Sheep Farms	Cow's Milk and Dairy Products	Sheep, Goats and Their Products	Dairy Farms (Milk Cows)	Goat and Sheep Farms
<b>Connecticut<sup>26</sup></b>						
Number of Farms	4	2	212	180	1.89%	1.11%
Gross Sales (\$ K)	95	(D)	70,773	845	0.13%	(D)
Per Farm (\$ K)	23.8	(D)				
<b>Maine<sup>27</sup></b>						
Number of Farms	6	4	389	342	1.54%	1.17%
Gross Sales (\$ K)	(D)	(D)	124,990	1,572	(D)	(D)
Per Farm (\$ K)	(D)	(D)				
<b>Massachusetts<sup>28</sup></b>						
Number of Farms	4	-	258	266	1.55%	-
Gross Sales (\$ K)	21	-	49,056	1,131	0.04%	-
Per Farm (\$ K)	5.3	-				
<b>New Hampshire<sup>29</sup></b>						
Number of Farms	7	4	194	228	3.61%	1.75%
Gross Sales (\$ K)	(D)	(D)	58,421	(D)	(D)	(D)
Per Farm (\$ K)	(D)	(D)				
<b>Rhode Island<sup>30</sup></b>						
Number of Farms	3	-	34	52	8.82%	-
Gross Sales (\$ K)	(D)	-	4,570	102	(D)	-
Per Farm (\$ K)	(D)	-				
<b>Vermont<sup>31</sup></b>						
Number of Farms	11	19	1,141	352	0.96%	5.40%
Gross Sales (\$ K)	238	(D)	492,444	(D)	0.05%	(D)
Per Farm (\$ K)	21.6	(D)				
<b>New England</b>						
Number of Farms	35	29	2,228	1,420	1.57%	2.04%
Gross Sales (\$ K)	354 (+D)	(D)	800,254	3,650 (+D)	>0.04%	(D)
Per Farm (\$ K)	>10.1	(D)				
<b>United States<sup>32</sup></b>						
Number of Farms	387	768	57,237	57,406	0.68%	1.34%
Gross Sales (\$ K)	4,076	11,162	30,872,020	474,920	0.01%	2.35%
Per Farm (\$ K)	10.5	14.5				

<sup>24</sup> "Agri-tourism and recreational services . . . includes income from recreational services such as hunting, fishing, farm or wine tours, hay rides, etc." USDA, NASS, [2007 Census of Agriculture, Appendix B](#), p. B-24.

<sup>25</sup> "Total income from farm-related sources, gross before taxes and expenses . . . includes gross income from farm-related sources received in 2007 before taxes and expenses from the sales of farm byproducts and other sales and services closely related to the principal functions of the farm business. The data exclude income from employment or business activities which were separate from the farm business." USDA, NASS, 2007 [Census of Agriculture, Appendix B](#), p. B-23.

<sup>26</sup> USDA, NASS, 2007 [Census of Agriculture, Connecticut Data, Table 62](#), pp. 161 and 167.

<sup>27</sup> USDA, NASS, 2007 [Census of Agriculture, Maine Data, Table 62](#), pp. 161 and 167.

<sup>28</sup> USDA, NASS, 2007 [Census of Agriculture, Massachusetts Data, Table 62](#), pp. 161 and 167.

<sup>29</sup> USDA, NASS, 2007 [Census of Agriculture, New Hampshire Data, Table 62](#), pp. 151 and 157.

<sup>30</sup> USDA, NASS, 2007 [Census of Agriculture, Rhode Island Data, Table 62](#), pp. 151 and 157.

<sup>31</sup> USDA, NASS, 2007 [Census of Agriculture, Vermont Data, Table 62](#), pp. 161 and 167.

<sup>32</sup> USDA, NASS, 2007 [Census of Agriculture, United States Data, Table 62](#), pp. 181 and 187.

## Direct Sales: Number of Dairy Farm and the Value of Their Direct Sales in 2007

	Direct Sales <sup>33</sup>		Total Farm-related Sales <sup>34</sup>		Direct Sales as a Share of Farm Total	
	Dairy Farms (Milk Cows)	Goat and Sheep Farms	Cow's Milk and Dairy Products	Sheep, Goats and Their Products	Cow's Milk and Dairy Products	Sheep, Goats and Their Products
<b>Connecticut<sup>35</sup></b>						
Number of Farms	28	54	212	180	13.2%	30.0%
Gross Sales (\$ K)	(D)	166	70,773	845	(D)	19.6%
Per Farm (\$ K)	(D)	3.1				
<b>Maine<sup>36</sup></b>						
Number of Farms	47	109	389	342	12.1%	31.9%
Gross Sales (\$ K)	185	421	124,990	1,572	0.1%	26.8%
Per Farm (\$ K)	3.9	3.9				
<b>Massachusetts<sup>37</sup></b>						
Number of Farms	52	100	258	266	20.2%	37.6%
Gross Sales (\$ K)	682	400	49,056	1,131	1.4%	35.4%
Per Farm (\$ K)	13.1	4.0				
<b>New Hampshire<sup>38</sup></b>						
Number of Farms	51	79	194	228	26.3%	34.6%
Gross Sales (\$ K)	(D)	317	58,421	(D)	(D)	(D)
Per Farm (\$ K)	(D)	4.0				
<b>Rhode Island<sup>39</sup></b>						
Farms	4	9	34	52	11.8%	17.3%
Gross Sales (\$ K)	(D)	13	4,570	102	(D)	12.7%
Per Farm (\$ K)	(D)	1.4				
<b>Vermont<sup>40</sup></b>						
Number of Farms	106	119	1,141	352	9.3%	33.8%
Gross Sales (\$ K)	5,212	412	492,444	(D)	1.1%	(D)
Per Farm (\$ K)	49.2	3.5				
<b>New England</b>						
Number of Farms	288	470	2,228	1,420	12.9%	33.1%
Gross Sales (\$ K)	6,079 (+D)	1,729	800,254	3,650 (+D)	>0.8%	<47.4%
Per Farm (\$ K)	>21.1	3.7				
<b>United States<sup>41</sup></b>						
Number of Farms	3,221	9,127	57,237	57,406	5.6%	15.9%
Gross Sales (\$ K)	52,594	16,613	30,872,020	474,920	0.2%	3.5%
Per Farm (\$ K)	16.3	1.8				

<sup>33</sup> "Value of agricultural products sold directly to individuals for human consumption . . . represents the value of agricultural products produced and sold directly to individuals for human consumption from roadside stands, farmers' markets, pick-your-own sites, etc. It excludes non-edible products such as nursery crops, cut flowers, and wool but includes livestock sales. Sales of agricultural products by vertically integrated operations through their own processing and marketing operations were excluded." USDA, NASS, [2007 Census of Agriculture, Appendix B](#), p. B-25.

<sup>34</sup> "Total income from farm-related sources, gross before taxes and expenses . . . includes gross income from farm-related sources received in 2007 before taxes and expenses from the sales of farm byproducts and other sales and services closely related to the principal functions of the farm business. The data exclude income from employment or business activities which were separate from the farm business." USDA, NASS, 2007 [Census of Agriculture, Appendix B](#), p. B-23.

<sup>35</sup> USDA, NASS, 2007 [Census of Agriculture, Connecticut Data, Table 62](#), pp. 161 and 167.

<sup>36</sup> USDA, NASS, 2007 [Census of Agriculture, Maine Data, Table 62](#), pp. 161 and 167.

<sup>37</sup> USDA, NASS, 2007 [Census of Agriculture, Massachusetts Data, Table 62](#), pp. 161 and 167.

<sup>38</sup> USDA, NASS, 2007 [Census of Agriculture, New Hampshire Data, Table 62](#), pp. 151 and 157.

<sup>39</sup> USDA, NASS, 2007 [Census of Agriculture, Rhode Island Data, Table 62](#), pp. 151 and 157.

<sup>40</sup> USDA, NASS, 2007 [Census of Agriculture, Vermont Data, Table 62](#), pp. 161 and 167.

<sup>41</sup> USDA, NASS, 2007 [Census of Agriculture, United States Data, Table 62](#), pp. 181 and 187.

**Unpasteurized Dairy Products: Rough, Conservative Count of Farms that Sell “Raw” Milk or Cheese Direct-to-Consumers, 2012<sup>42</sup>**

	<b>Farms that Sell Raw Milk or Cheese</b>
Connecticut	21
Maine	82
Massachusetts	42
New Hampshire	30
Rhode Island	0
Vermont	119
<b>New England</b>	<b>294</b>

**New England Milk Production and Receipts of FMO-Regulated Handlers, 2011**

	<b>Milk Produced (million pounds)<sup>43</sup></b>	<b>Handler Receipts (million pounds)<sup>44</sup></b>	<b>Share of Production Received by FMO-regulated Handlers</b>
<b>Connecticut</b>	361.0	348.3	96.5%
<b>Maine</b>	598.0	585.9	98.0%
<b>Massachusetts</b>	220.0	191.2	86.9%
<b>New Hampshire</b>	286.0	273.0	95.5%
<b>Rhode Island</b>	19.7	14.6	74.1%
<b>Vermont</b>	2,538.0	2,510.6	98.9 %
<b>New England</b>	<b>4,022.7</b>	<b>3,923.6</b>	<b>97.5%</b>

<sup>42</sup> This tally comes from public records (e.g., state permits or licenses) plus searchable Internet postings (e.g., farm webpages, consumer blogs, and advocacy websites) that name specific farms that sell unpasteurized milk or cheese directly to the public. See, for example, [Where Can I Find Real Milk?](#), maintained on-line by [RealMilk.com](#), a project of the Weston A. Price Foundation. Inaccuracy in these sources (variation between the number of farms that actually retail raw milk and the number identified on-line or in public records) and hence error in the total count defy ready measure. But, since only specific, publicly named sources are counted here, the total is certainly conservative, erring on the low side. Note, for example, some states discourage advertising and others, in effect, assure anonymous permission. New Hampshire, for example, exempts farms from raw-milk regulations unless retail sales exceed an average (!) of 80 quarts of unpasteurized product per day. Surely, all New England states host some farms that are identified only by word-of-mouth or a hand-lettered placard, “Raw Milk for Sale,” nailed to a post by the farm gate. These sorts of operations are likely to have escaped count here.

<sup>43</sup> “Annual Milk: Production and Value, 2002-2011,” [Milk Production](#), Annual Bulletin, New England Agricultural Statistics (USDA National Agricultural Statistics Service, 2011), pp. 79-80.

<sup>44</sup> “Receipts of Milk from Producers, by State, 2011,” [The Market Administrator’s Annual Statistical Bulletin](#), Northeast Milk Marketing Area, Federal Area No. 1 (USDA Agricultural Marketing Service, 2011), p. 11.

## APPENDIX 2: Statutes, Regulations, and Guidance Documents on FMD Response and Sales of Unpasteurized Dairy Products

### International Guidance Documents

- Food and Agriculture Organization of the United Nations (FAO). [Milking, Milk Production Hygiene and Udder Health](#), FAO Animal Production and Health Paper 78 (1989).
- Food and Agriculture Organization (FAO) of the United Nations, Agriculture and Consumer Protection Department, Animal Production and Health Division, [Guidelines: Progressive Control Pathway \[PCP\] for Foot and Mouth Disease](#)
- World Health Organization (WHO), Cluster on Health Security and Environment, Department of Food Safety, Zoonoses and Foodborne Diseases. [Terrorist Threats to Food: Guidelines for Establishing and Strengthening Prevention and Response Systems](#), Revised version (May 2008).
- World Organization for Animal Health / Office International des Epizooties (OIE), "[Foot and Mouth Disease](#)," *Manual of Diagnostic Tests and Vaccines For Terrestrial Animals* ("Terrestrial Manual"), Chapter 2.1.5 (2009).
- World Organization for Animal Health / Office International des Epizooties (OIE). "[Foot and Mouth Disease](#)," *Terrestrial Animal Health Code* Chapter 8.5, Article 8.5.46 (2009).

### National Regulations and Guidance Documents

- Center for Food Security and Public Health, Iowa State University. [Prevention Practices for Foot-and-Mouth Disease \(FMD\)](#) (2006).
- Dairy Practices Council (DPC). [Guidelines](#) No. 1-108 (1991-2012).
- Secure Milk Supply Project. [SMS Plan Executive Summary with Supporting Documents](#) (January 2012).
- U.S. Animal Health Association (USAHA). [Vehicle Restrictions in Foot-and-Mouth Disease Quarantine Regions of High Density Food Animal Populations, Resolution Number 33 and Responses](#) (October, 2007).

#### [U.S. Code](#) (USC).

- Title 7: Agriculture. Chapter 109: Animal Health Protection, Sections 8301-8321, also known as The Animal Health Protection Act (AHPA). [7 USC 8301 et seq.](#)

#### [U.S. Code of Federal Regulations](#) (CFR).

- Title 7: Agriculture, Chapter I: Agricultural Marketing Service, Department of Agriculture, Part 58: Grading and Inspection, General Specifications for Approved Plants and Standards for Grades of Dairy Products. [7 CFR 58](#) (2010).
- Title 7: Agriculture, Chapter I: Agricultural Marketing Service, Department of Agriculture, Part 331: Possession, Use, and Transfer of Select Agents and Toxins. [7 CFR Part 331](#) (2010).
- Title 9: Animals and Animal Products, Chapter I: Animal and Plant Health Inspection Service, Department of Agriculture, Part 53: Foot-And-Mouth

Disease, Pleuropneumonia, Rinderpest, and Certain Other Communicable Diseases of Livestock or Poultry. [9 CFR 53](#) (2010).

Title 9: Animals and Animal Products, Chapter 1: Animal and Plant Health Inspection Service, Department of Agriculture, Subchapter C: Interstate Transportation of Animals (Including Poultry) and Animal Products, Part 71: General Provisions. [9 CFR 71](#) (2010)

Title 21: Food and Drugs, Chapter I: Food and Drug Administration, Department of Health and Human Services, Part 110: Current Good Manufacturing Practice in Manufacturing, Packing, or Holding Human Food. [21 CFR 110](#) (2010).

Title 21: Food and Drugs, Chapter I: Food and Drug Administration, Department of Health and Human Services, Part 133: Cheeses and Related Cheese Products. [21 CFR 133](#) (2010).

- U.S. Department of Agriculture, Agricultural Marketing Service (AMS). [Grading, Certification, and Verification: Dairy Standardization](#) (2010).
- U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS). [Import and Export: U.S. State and Territory Animal Import Regulations](#) (2010).
- U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS), National Animal Health Emergency Management System (NAHEMS). [Foot-and-Mouth Disease Response Plan: The Red Book](#) (June, 2012). Comprehensive plans and guidance documents for U.S. response to Foreign Animal Diseases (FAD, such as FMD), and continuity of operations (including SMS) are available on-line at the NCAHEM website, [FAD PReP](#).
- U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Veterinary Services (USDA-APHIS-VS). [Procedures for the Investigation of Potential Foreign Animal Disease / Emerging Disease Incidents \(FAD/EDI\)](#), Veterinary Services Memorandum No. 580.4 (October 22, 2008).
- U.S. Department of Health and Human Services (HHS), Public Health Service, U.S. Food and Drug Administration (FDA) and the National Conference on Interstate Milk Shipments (NCIMS). [Procedures Governing the Cooperative State-Public Health Service/Food and Drug Administration Program of the National Conference on Interstate Milk Shipments](#) (2009 Revision).
- U.S. Department of Health and Human Services (HHS), Public Health Service, U.S. Food and Drug Administration (FDA), Center for Food Safety and Applied Nutrition, Food Defense Oversight Team. [Guidance for Industry: Dairy Farms, Bulk Milk Transporters, Bulk Milk Transfer Stations and Fluid Milk Processors: Food Security Preventive Measures Guidance](#) (October 2007).
- U.S. Department of Health and Human Services (HHS), Public Health Service, U.S. Food and Drug Administration (FDA), Milk Safety Branch. [Biosecurity Guidance for the Food and Drug Administration's \(FDA\) Regional Milk Specialists \(RMS's\), Milk Safety Branch \(MSB\) and State Training Team \(STT\) Staff when Visiting Dairy Farms \(M-I-03-2\)](#) (March 19, 2003, updated June 18, 2009).
- U.S. Department of Health and Human Services (HHS), Public Health Service, U.S. Food and Drug Administration (FDA), National Conference on Interstate Milk Shipments (NCMIS). [Model Documents: Procedures Governing the Cooperative](#)

[State-Public Health Service/Food and Drug Administration Program of the National Conference on Interstate Milk Shipments](#) (2007 Revision). See especially discussion of Certified Sampling Surveillance Officer (SSO).

U.S. Department of Health and Human Services, Public Health Services, and Food and Drug Administration (USPHS/FDA). [FDA Food Code](#) (2009).

U.S. Department of Health and Human Services, Public Health Services, and Food and Drug Administration (USPHS/FDA). [Grade “A” Pasteurized Milk Ordinance \[PMO\]](#) (2011 Revision). Available online with other [National Conference on Interstate Milk Shipments \(NCIMS\) Model Documents](#).

U.S. Department of Health and Human Services, Public Health Services, and Food and Drug Administration (USPHS/FDA). [Methods of Making Sanitation Ratings of Milk Shippers](#) (2011 Revision). Available online with other [National Conference on Interstate Milk Shipments \(NCIMS\) Model Documents](#).

U.S. Department of Homeland Security, Federal Emergency Management Agency (FEMA), [National Response Framework \(NRF\)](#) (2012).

U.S. Department of Homeland Security, Federal Emergency Management Agency (FEMA). [National Incident Management System \(NIMS\)](#) (2012)).

Wehr, H. Michael and Joseph F. Frank, eds. [Standard Methods for the Examination of Dairy Products](#), 17<sup>th</sup> Ed. New York: American Public Health Association, 2004.

## State Laws and Regulations Regarding Sales of Unpasteurized Dairy Products

Summary of Results of the [2011 Raw Milk Survey](#) Conducted by the National Association of State Departments of Agriculture<sup>45</sup>

Summary of Results of the [2011 Raw Milk Survey](#)  
Conducted by the National Association of State Departments of Agriculture

*Of the 50 respondents, 30 states authorize the legal sale of raw milk, in some specified manner, for direct human consumption. The remaining 20 states prohibit the sale of raw milk to consumers.*

*The following data represents the 30 states that allow raw milk sales in some form.*

*Sales of raw milk restricted to the farm:*

- *13 states restrict legal sales to occur only on the farm where the milk is produced (AR, IL, KS, KY, MA, MN, MS, NE, NY, OK, RI, TX, WI)*
  - *Four of these states (MN, WI, OK, IL) further restrict sales to only incidental occurrences (i.e., occasional; not as regular course of business; no advertising)*
  - *Kansas allows sales directly to the consumer on the farm with minimal on-farm advertising.*

<sup>45</sup> National Association of State Departments of Agriculture (NASDA), [2011 Raw Milk Survey](#) (July 19, 2011). The report found very little change since the [2008 Raw Milk Survey](#) (April 21, 2008). The number of states forbidding and permitting raw milk sales for human consumption was unchanged, but restrictions were increased in 5 of the 30 permitting states.

- Four states (AR, KY, MS, RI) restrict sales to goat milk only, with two states (KY, RI) also requiring a prescription from a physician
  - AR allows 100 gallons of raw, liquid goat milk to be sold from the farm each month.
- 5 states have a coliform standard for milk sold only on-farm (ID, MA, NY, OR, TX)

*Sales of raw milk at retail stores separate from farm:*

- 12 states allow the sale of raw milk at retail stores separate from the farm (AZ, CA, CT, ID, ME, NH, NM, NV, PA, SC, UT, WA)
  - One of the 12 (UT), requires the store to be owned by the producer, even though it can be located off of the farm.
  - Another state (SC) allows the sale of raw milk both on and off the farm and at farmers' markets if a permit is obtained. Further, farmers must provide retail stores with a warning plaque to be displayed in front of the raw milk.
- Of these 12 states, all 12 have a total coliform standard.
  - 9 states have a coliform standard of < 10/mL (AZ, CA, ME, NH, NV, PA, SC, UT, WA)
  - 1 state has a coliform standard of < 25/mL (ID)
  - 2 states have a coliform standard of < 50/mL (CT, NM)

*Sales of raw milk at farmers' markets and states with compound regulations:*

- 5 states have unique regulations that do not fit in either of the categories above. (CO, MO, OR, SD, VT)
  - One state (OR) allows on-farm sales of raw cow's milk only from farms with no more than two producing cows, nine producing sheep and/or 9 producing goats; Only goat milk is allowed at retail off farm.
  - Of the five states, one state (CO) prohibits all sales of raw milk; however, raw milk may be legally obtained through "share" operations.
  - Another state (VT), allows raw milk to be sold on the farm and if farmers comply with further standards they are also allowed deliver to retail stores.<sup>46</sup> Raw milk sales are prohibited at farmers' markets and advertising is not restricted.
  - Two states (SD, MO,) allow farmers to deliver to farmers' market but not to stores.
  - Of these five states, 4 have minimum standard requirements (MO, OR, SD, VT)
  - 1 state has a coliform standard of < 10/mL (VT, OR)<sup>47</sup>
  - 1 state has a coliform standard of < 100/mL (MO)
  - 1 state requires the same standards for raw milk as pasteurized milk (SD)

**The Sale of Raw Milk is prohibited in 20 States:** AL, AK, DE, FL, GA, HI, IN, IA, LA, MD, MI, MT, NJ, NC, ND, OH, TN, VA, WV, WY

<sup>46</sup> This sentence in the summary of the 2011 NASDA survey contains an error. Vermont allows delivery of raw milk to consumers' homes under certain conditions, but the state does not allow the sale of raw milk to or in stores.

<sup>47</sup> In Vermont the coliform standard is less than 10cfu/ml (cattle and goats); total bacterial count less than 15,000 cfu/ml (cattle and goats); somatic cell count less than 225,000/ml (cattle) and 500,000/ml (goats).

**Introduction to [An Overview of U.S. State Milk Laws](#)  
for “A Campaign for Real Milk” by Pete Kennedy<sup>48</sup>**

*In 1924, the United States Public Health Service (USPHS), a branch of the Food and Drug Administration, developed the Standard Milk Ordinance, known today as the Pasteurized Milk Ordinance (PMO). This is a model regulation helping states and municipalities have an effective program to prevent milk borne disease. The PMO contains provisions governing the production, processing, packaging and sale of Grade "A" milk and milk products. It is the basic standard used in the Voluntary Cooperative State-USPHS/FDA Program for the Certification of Interstate Milk Shippers, a program all 50 states, the District of Columbia and U.S. Territories participate in.*

*Forty-six of the 50 have adopted most or all of the PMO for their own milk safety laws with those states not adopting it passing laws that are similar. California, Pennsylvania, New York and Maryland have not adopted the PMO.*

*Section 9 of the PMO states in part that, "only Grade 'A' pasteurized, ultra-pasteurized or aseptically processed milk and milk products shall be sold to the final consumer, to restaurants, soda fountains, grocery stores or similar establishments." In spite of 46 states adopting the PMO, it is at least technically possible at the present time to legally sell or distribute raw milk for human consumption in 32 states.*

*States legalizing raw milk sales or distribution have done so through:*

- 1. Statute. Any state statute conflicting with Section 9 of the PMO overrides it.*
- 2. Administrative rule or regulation. Any state regulation conflicting with Section 9 of the PMO overrides it.*
- 3. Policy. This would include cowshare programs in states where even though there is a prohibition on the sale of raw milk, state regulatory agencies have made a policy decision not to shut down cowshare programs they know of that comply with state guidelines. State policy sometimes does conflict with and override state statutes, administrative rules or other written guidelines in the regulation of milk and milk products.*

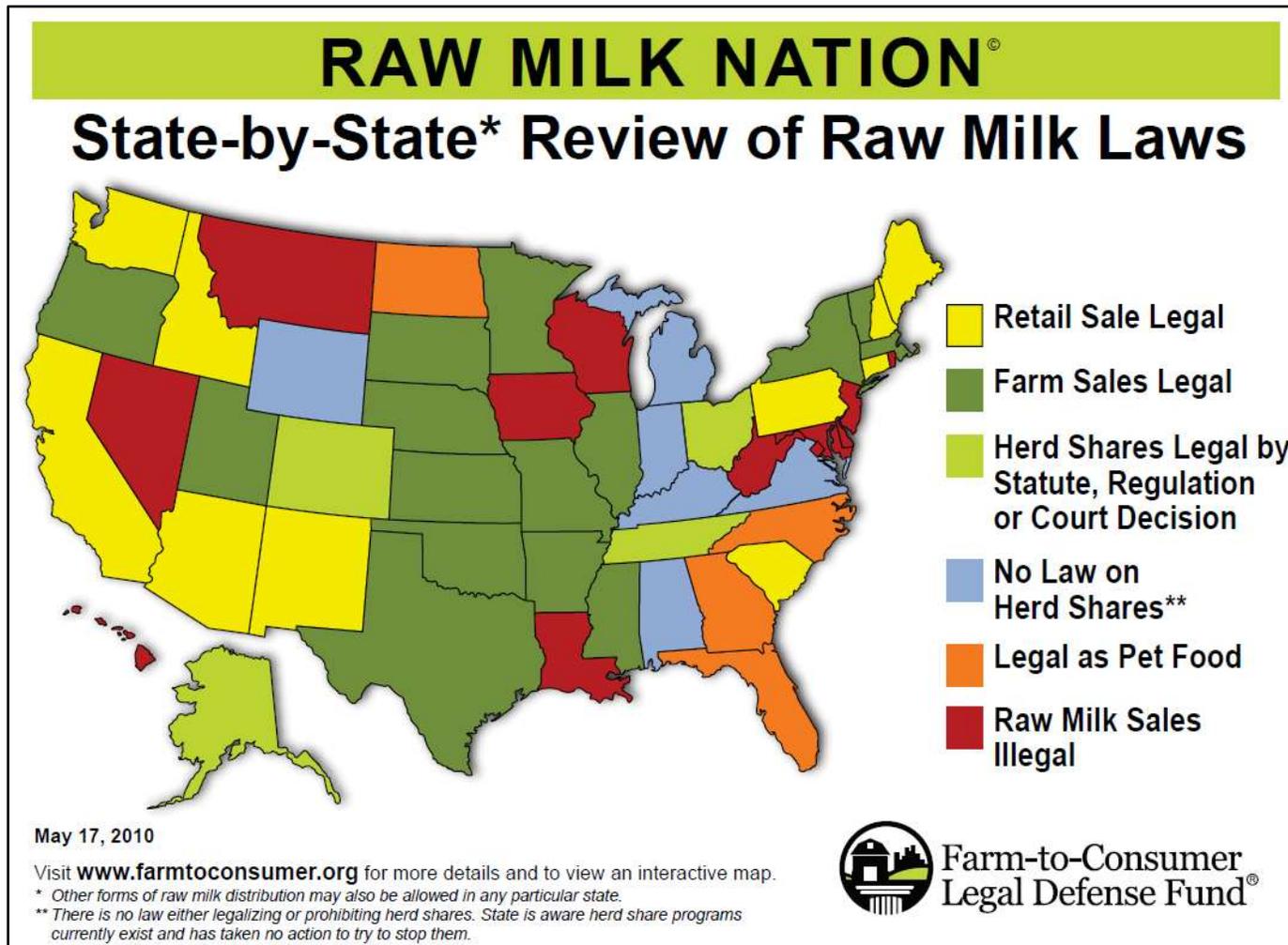
*Raw milk sales for animal consumption are at least potentially legal in all states but one under commercial feed licensing laws. Except for Michigan, not a single state law expressly prohibits the sale of raw milk for animal consumption. The variables are the states' willingness to grant licenses to producers of raw milk for animal feed and how strictly state agencies would monitor licensees to make sure that raw milk sales did*

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<sup>48</sup> The Overview (2004) has been published by “A Campaign for Real Milk,” a project of The Weston A. Price Foundation. The Weston A. Price Foundation is a small, dedicated non-profit organization that promotes food production and consumption ideals that are generally dismissed by the public-health and nutrition establishment. Its endorsement of local, minimally processed food suits popular trends, but some of its positions (e.g., condemnation of soy milk and advocacy of “nutrient-dense” and fatty foods such as red meat and raw milk, especially for infants) have drawn sharp attacks from both the scientific and vegetarian mainstreams. Among the Foundation’s key projects are the “Campaign for Raw Milk” and the “Farm-to-Consumer Legal Defense Fund.”

*only go for animal consumption. The PMO regulations do not apply to the sale of raw milk for animal feed.*

*Many states permitting the sale of raw milk for human consumption prohibit the sale of most or all raw milk products. With yogurt providing the highest profit margins of any raw dairy product, the benefits to farmers of expanding state legalization of raw milk to include raw milk products are obvious. Butter and cheese fall outside the PMO's definition of milk products. They are manufactured milk products, not Grade "A" milk products, and are generally regulated under a state's dairy manufacturing laws. Farmers can typically sell raw cheese (at least raw cheese produced according to federal guidelines) if they have obtained a manufacturing plant license.*



<sup>49</sup> From the [Farm-to-Consumer Legal Defense Fund](#) (May 17, 2010). See also Real Raw Milk Facts, [Recently Proposed Raw Milk Legislation](#) (June 10, 2012) and Adam J. Langer, *et al.*, [Nonpasteurized Dairy Products, Disease Outbreaks, and State Laws – United States, 1993-2006](#), *Emerging Infectious Diseases* 18:3, (March 2012), pp. 385-391.

## New England State Laws and Regulations

### CONNECTICUT

#### Connecticut General Statutes

Title 22 - Agriculture. Domestic Animals

Chapter 430 - Milk and Milk Products

Section 129 - Prohibitions on sale, offering for sale, barter, exchange, distribution or processing. Exceptions. Penalties.

#### [CGSA § 22-129](#)

- (a) The Commissioner of Agriculture or the commissioner's duly authorized agent shall prohibit the sale or offering for sale or distribution of any cheese, milk or other milk product which is insanitary or detrimental to health, and which has not been produced, processed, cared for or handled in the manner prescribed in this chapter and in chapter 431 and by the regulations of the Milk Regulation Board.
- (b) The following are prohibited:
  - 1) The sale, offering for sale or offering for barter or exchange any milk, milk product or cheese that is adulterated,
  - 2) The adulteration of any milk, milk product or cheese,
  - 3) The sale, offering for sale, offering for barter or exchange, manufacturing, distributing or processing any milk, milk product or cheese from any facility not licensed pursuant to section 22-229, or
  - 4) The sale, offering for sale, distributing, offering for barter or exchange any milk for pasteurization, retail raw milk or retail raw milk cheese from any dairy farm not registered pursuant to section 22-172 or 22-173a
- (c) The provisions of this section shall not apply to the production of milk, milk products, raw milk or raw milk products and the manufacture of cheese for personal consumption or for consumption by immediate family members
- (d) Nothing in this section shall prevent the commissioner from seeking any other remedy provided by law.
- (e) Any person who violates any order issued by the commissioner or the commissioner's duly authorized agent pursuant to this section shall, for a first violation, have committed an infraction and, for a second or subsequent violation committed within one year of a prior violation, be guilty of a class A misdemeanor.

Title 22 - Agriculture. Domestic Animals

Chapter 430 - Milk and Milk Products

Section 167 - Local regulations for the sale of milk

#### [CGSA § 22-167](#)

No provision of section [22-133](#) shall affect the authority of any town, city or borough to enact ordinances concerning the sale or distribution, within its limits, of milk which may be detrimental to public health. In any town, city or borough where no local system of milk and cream control is provided for by charter, the local director of health or board of health may present, at a meeting of the electors warned and held for such purpose, proposed rules and regulations concerning the inspection of dairies and the production, care, handling, marketing or sale of milk or cream, the protection of the public from the use of milk or cream which may be detrimental to the public health and the granting of licenses to milk dealers.

Title 22 - Agriculture. Domestic Animals  
Chapter 430 - Milk and Milk Products  
Section 172 - Registration of producers. Permits. Penalty  
[CGSA § 22-172](#)

- a) Any person, firm or corporation engaged in the production of milk in Connecticut, which milk or the products thereof are to be used or disposed of elsewhere than on the premises where such milk is to be produced, and any person, firm or corporation engaged in the production of milk outside Connecticut for sale within Connecticut, shall register with the Commissioner of Agriculture in a manner prescribed, and on forms furnished, by the commissioner for such registration. Such registration shall be renewed annually, during the first six months of the calendar year.
- b) Milk shall not be used, sold or disposed of away from the dairy farm located in Connecticut without a permit from the commissioner. Milk shall not be sold directly or indirectly into Connecticut from a dairy farm located outside Connecticut without a permit from the commissioner.
- c) Such permits shall be designated "Dairy Farm or Milk Producer Permit" and may be suspended or revoked by the commissioner for cause

Title 22 - Agriculture. Domestic Animals  
Chapter 430 - Milk and Milk Products  
Section 173a - Registration of retail raw milk producers and retail raw milk cheese manufacturers. Denial, suspension and revocation of permits. Cheese manufacturing. Regulations.  
[CGSA § 22-173a](#)

- a) No person, firm or corporation shall engage in the production of retail raw milk or the manufacture of retail raw milk cheese, which milk or retail raw milk cheese or the products thereof are to be used or disposed of elsewhere than on the premises where such milk or retail raw milk cheese is produced, without first registering with the Commissioner of Agriculture in a manner prescribed and on forms furnished by the commissioner for such registration. Such registration may be renewed annually not later than the thirtieth day of June. The commissioner shall establish fees for such registration pursuant to section 22-128a.
- b) Registrations required pursuant to subsection (a) of this section shall be designated "Retail Raw Milk Producer Permit" or "Raw Milk Cheese Manufacturer Permit" and may be denied, suspended or revoked by the commissioner for cause.
- c) Retail raw milk shall only be offered for sale in its unprocessed state, with no ingredients added or removed.
- d) The manufacturing of cheese from unpasteurized milk shall be conducted only on premises and by firms or individuals authorized by the commissioner to produce retail raw milk.
- e) The Milk Regulation Board shall adopt regulations, in accordance with the provisions of chapter 54, establishing standards for sanitation, production, sale, labeling, handling and storage of retail raw milk and the manufacture of raw milk cheeses.

Title 22 - Agriculture. Domestic Animals  
Chapter 430 - Milk and Milk Products  
Section 193 - Milk and cream sold at retail or served in public eating places.  
[CGSA § 22-193](#)

No person shall bottle, pour, dip or measure any milk, cream, low-fat milk, skimmed milk or buttermilk for sale at retail in any vehicle upon any street, or in any other place than a milk room or place approved by the commissioner. Milk, when served by any hotel,

restaurant, lunchroom, fountain or other place of public entertainment, shall be served in the original bottle, the cap of which shall not be removed except in the presence of the consumer or patron, but this provision shall not apply to cream so served or to mixed beverages of which milk forms a part, or to pasteurized homogenized milk or cream with or without flavoring dispensed from a refrigerated dispensing machine approved by the commissioner, if the location, maintenance and operation of the machine, in the opinion of the commissioner, provide full and adequate sanitary protection for the milk. Only pasteurized milk and milk products shall be served to consumers in any hotel, restaurant, cafeteria, hospital, lunchroom, school, public eating place or at any fountain or public eating place, whether served as milk and low-fat milk and cream or as a part of a mixed beverage.

## Regulations of the Connecticut Department of Agriculture

### Section 133-113c - Quality standards for retail raw milk

#### *CT ADC § 22-133-113c*

Testing shall be administered in order to determine whether a producer's retail raw milk meets quality standards as set by the Commissioner. All such testing shall be conducted in accordance with procedures described in the latest edition of Standard Methods for the Examination of Dairy Products, published by the American Public Health Association. Such testing shall demonstrate that a producer's milk has met the following standards:

- a) Bacteria count. Retail raw milk shall not exceed thirty thousand (30,000) colonies standard plate count' per milliliter and fifty (50) coliform count per milliliter.
- b) Standard quality. The standard quality of retail raw milk shall comply with the requirements of Sec. 22-152 of the Connecticut General Statutes.
- c) Somatic Cells. The somatic cell count shall be no more than one million per milliliter of retail raw milk.
- d) Sediment. A milk sediment test shall be conducted by a State approved laboratory. Such test results shall comply with the Number 2 USDA sediment standard and shall be reported to the Commissioner.

### Section 22-133-124. Retail raw milk, production, cooling, storage and cleaning. Standards.

#### *CT ADC § 22-133-124*

- (a) The procedures, handling, equipment and facilities used in the production and handling of retail raw milk shall comply with section 22-133-115(a) of the Regulations of Connecticut State Agencies, except as modified by sections 22-133-124 through 22-133-131 inclusive of the Regulations of Connecticut State Agencies.
- (b) Retail raw milk shall be cooled to forty degrees (40) Fahrenheit or less within three hours of the completion of milking. The blend temperature after the first milking and subsequent milkings shall not exceed fifty (50) degrees Fahrenheit.
- (c) Retail raw milk shall be kept cooled to a temperature of forty degrees (40) Fahrenheit or less until delivered to the consumer.
- (d) Each tank or bulk storage container shall be cleaned and sanitized every forty-eight hours.

### Sec. 22-133-125. Retail raw milk. Herd health. Standards.

#### *CT ADC § 22-133-125*

- (a) Retail raw milk producers shall maintain a current and ongoing patient/client relationship with an accredited large animal veterinarian licensed to practice in the State of Connecticut.
- (b) Herds shall be tested annually for brucellosis and tuberculosis. Such testing shall be conducted in accordance with sections 22-287, 22-298 and 22-304 of the Connecticut General Statutes.
- (c) The milk ring test for the detection of *Brucella* spp. shall be administered monthly to each herd.
- (d) Each herd producing retail raw milk shall be enrolled in the Connecticut Plan for the Eradication of Mastitis.
- (e) The results of all herd testing required by this section shall be reported to the Commissioner.

Section 22-133-126. Retail raw milk handler. Health standards.

*CT ADC § 22-133-126*

- (a) The personnel health of retail raw milk handlers and the procedures used to prevent the transmission of diseases that are transmissible through food shall conform to sections 13 and 14 of the Pasteurized Milk Ordinance (PMO), Recommendations of the United States Public Health Service/Food and Drug Administration, as amended from time to time.
- (b) Any retail raw milk handler with a communicable disease is prohibited from handling retail raw milk or retail raw milk cheese, equipment that may come in direct contact with retail raw milk or retail raw milk cheese, or from milking aged animals.

Section 22-133-127. Retail raw milk, filling, capping and container. Standards.

*CT ADC § 22-133-127*

- (a) Retail raw milk producers with a daily production of two hundred fifty pounds (250) or less shall comply with the following requirements:
  - 1) All workers filling and capping shall wear hair covering and wash hands immediately prior to starting the filling operation;
  - 2) Multiple use containers shall be washed, sanitized and drained no more than four hours prior to filling. Washing and sanitizing may be done in a three compartment sink or other apparatus acceptable to the commissioner;
  - 3) Single service caps shall be sanitized immediately prior to use;
  - 4) Filling shall be done using suitable stainless steel piping equipped with a positive shutoff valve. No dipping or ladling is permitted;
  - 5) During filling, the pouring lip of the container shall be protected from overhead contamination by the use of a drip deflector installed on the filling device;
  - 6) The exterior of filled and capped containers shall be rinsed with potable water or potable water treated with a sanitizer;
  - 7) Each filled container shall have the label affixed and the last sale date stamped or otherwise applied to the container before being transferred to a cooler or customer;
  - 8) Wet storage of filled containers is not permitted; and
  - 9) The storage and construction of caps and containers shall conform to section 22-133-115(a) of the Regulations of Connecticut State Agencies.
- (b) Retail raw producers with a daily production of greater than two hundred fifty pounds (250) shall comply with the following requirements:
  - 1) Filling and capping shall be done in a sanitary manner using a mechanical device approved by the commissioner;
  - 2) All workers filling and capping shall wear hair covering and wash hands immediately prior to starting the filling operation;

- 3) Multiple use containers shall be washed, sanitized and drained no more than four hours prior to filling. Washing and sanitizing may be done in a three compartment sink or other apparatus acceptable to the commissioner;
- 4) The pouring lip of the container shall be protected from overhead contamination;
- 5) The exterior of filled and capped containers shall be rinsed with potable water or potable water treated with a sanitizer;
- 6) Each filled container shall have the label affixed and the last sale date stamped or otherwise applied to the container before being transferred to a cooler or customer;
- 7) Wet storage of filled containers is not permitted; and
- 8) The storage and construction of caps and containers shall conform to section 22-133-115(a) of the Regulations of Connecticut State Agencies.

Section 22-133-128. Retail raw milk cheese, production and manufacture. Standards.

*CT ADC § 22-133-128*

- (a) The standards, facilities, production and sale of retail raw milk cheese shall comply with the requirements for the manufacture of cheese contained in section 22-133-118 of the Regulations of Connecticut State Agencies, except as modified by sections 22-133-128 through 22-133-130 inclusive, of the Regulations of Connecticut State Agencies.
- (b) All retail raw milk cheese shall be aged a minimum of sixty days at a temperature of not less than thirty five (35) degrees Fahrenheit.
- (c) Salt, acidifying agents, rennet, flavoring ingredients as well as other generally recognized safe and suitable ingredients as defined in 21 CFR 184 may be added to retail raw milk cheese.
- (d) The milk used in the manufacture of retail raw milk cheese shall comply with sections 22-133-124 to 22-133-126, inclusive, and section 22-133-129 of the Regulations of Connecticut State Agencies.
- (e) A clean room shall separate the areas used to process, hold, age and package retail raw milk cheese from milking areas, animal housing areas, toilet facilities and other areas used for domestic purposes. All outside openings shall be screened and all exterior doors and entrances to cheese processing areas shall be equipped with self-closing doors. Toilet facilities shall be equipped with a self-closing door.
- (f) Each retail raw milk cheese manufacturer shall identify each individual cheese made. The system to identify each cheese shall use consecutive numbers and include the date of manufacture as part of the identification. Each retail raw milk cheese manufacturer shall keep records of production. These records shall include the date, the amount of milk used in that day's production, the kind of cheese produced, the amount of each type of cheese produced and the identification number of each individual cheese. The records shall be kept on the premises and shall be available for inspection.

Sec. 22-133-129 - Retail raw milk and retail raw milk cheese. Quality standards

*CT ADC § 22-133-129*

- (a) The standard plate count of retail raw milk shall not exceed thirty thousand (30,000) colonies per milliliter.
- (b) The thermophilic bacteria count (lab pasteurized count) of retail raw milk shall not exceed one thousand (1,000) colonies per milliliter.
- (c) The somatic cell count of retail raw milk shall conform to the standards established in section 7, Pasteurized Milk Ordinance (PMO), Recommendations of the United States Public Health Service/Food and Drug Administration, as amended from time to time.
- (d) The coliform bacteria count of retail raw milk shall not exceed fifty (50) per milliliter.
- (e) There shall be no detectable presence of human pathogens in retail raw milk and retail raw milk cheese, including, but not limited to: *Bacillus cereus*, *Listeria monocytogenes*,

*Yersinia enterocolitica*, *Salmonella* spp., *Escherichia coli* O157:H7, *Clostridium botulinum* and *Campylobacter jejuni*.

- (f) No water shall be added to retail raw milk.
- (g) Retail raw milk shall be kept cooled and stored at a temperature of forty (40) degrees Fahrenheit or less.
- (h) Retail raw milk shall contain no drug residues or other inhibitory substances at or above the tolerance levels for drugs or other inhibitors established by the US Food and Drug Administration. Drug or other inhibitor use shall conform to section 22-203c-8 of the Regulations of Connecticut State Agencies.
- (i) The coliform bacteria count of retail raw milk cheese shall not exceed one hundred fifty (150) per milliliter or gram.

Section 22-133-130. Retail raw milk and retail raw milk cheese. Sampling frequency, notification, investigations, recalls and enforcement.

*CT ADC § 22-133-130*

- (a) The commissioner or the commissioner's designated agent may collect samples of retail raw milk and retail raw milk cheese produced once per month. Sampling frequency may be increased whenever the commissioner or the commissioner's designated agent has a valid reason to increase the sampling frequency or whenever a standard established in section 22-133-129 of the Regulations of Connecticut State Agencies has been violated.
- (b) The tests conducted on retail raw milk and retail raw milk cheese include, but are not limited to, the standard plate count, the direct microscopic cell count, the detection of drugs and other inhibitors, the detection of human pathogens, and the coliform bacteria count.
- (c) Upon receipt of notification that retail raw milk or retail raw milk cheese violates standards established in section 22-133-129 of the Regulations of Connecticut State Agencies, the producer shall investigate the cause of the violation and prepare a written explanation, describing the cause and the corrective action taken. The written explanation and description of the corrective actions taken shall be completed within fifteen (15) days of the notification and kept on file by the retail raw milk producer or retail raw milk cheese manufacturer for one year and shall be available for inspection.
- (d) In addition to section 22-133-130(c) of the Regulations of Connecticut State Agencies, whenever retail raw milk or retail raw milk cheese is found to have a coliform colony count exceeding one hundred fifty (150) colonies per milliliter (ml) the commissioner may prevent the sale and cause to be destroyed all contaminated retail raw milk or retail raw milk cheese in accordance with sections 22-129 and 22-129a of the Connecticut General Statutes, until an investigation by the commissioner or the commissioner's designated agent determines the retail raw milk or retail raw milk cheese produced at that facility complies with sections 22-133-124 through 22-133-129, inclusive, of the Regulations of Connecticut State Agencies.
- (e) The confirmed presence of human pathogens in retail raw milk and retail raw milk cheese shall be considered an imminent public health threat. The commissioner shall prevent the sale and cause to be destroyed all contaminated retail raw milk or retail raw milk cheese in accordance with sections 22-129 and 22-129a of the Connecticut General Statutes. The producer may be required to initiate a product recall. The retail raw milk producer or retail raw milk cheese manufacturer shall make available to the commissioner or the commissioner's designated agent the name

Section 22-133-131. Milk or milk products and cheese. Labeling standards.

*CT ADC § 22-133-131*

- a) Labeling shall comply with 21 CFR 101 Food Labeling.

- b) Products not manufactured, packaged and heat treated in a manner that makes the product safe to store at room temperature shall be conspicuously labeled with a last sale date. The last sale date shall be shown in contrasting color with the background. The last sale date shall be expressed as “sell by”, “last sale date” or “must be sold by”.
- c) Products not packaged and heat treated in a manner that makes the product safe to store at room temperature shall bear the words “Keep Refrigerated”.
- d) Products packaged and heat treated in a manner that makes the product safe to store at room temperature shall bear the words “Keep Refrigerated After Opening”.
- e) No label shall contain false or misleading information.
- f) In the case of cheese manufactured from raw milk, the ingredient listing shall state “made from raw milk” .
- g) All labels shall be submitted to the commissioner for approval a minimum of thirty (30)
- h) days prior to use.

Section 22-133-132. Retail Raw Milk. Labeling.

*CT ADC § 22-133-132*

In addition to section 22-133-131 of the regulations of Connecticut State Agencies, retail raw milk labels shall comply with the following requirements:

- 1) The name of the food “Raw Cow's Milk”, “Raw Sheep Milk” or “Raw Goat's Milk”, as is appropriate, shall be plainly labeled;
- 2) The label shall contain the name, address and zip code of the producing farm;
- 3) The label shall state the net amount of the contents.
- 4) The consumer shall be informed of the risks involved with the consumption of raw or undercooked animal food by conspicuously labeling each container with the following advisory statement “Raw milk is not pasteurized, pasteurization destroys organisms that may be harmful to human health.” The advisory statement shall be legible, in contrasting color from the label or contents and in type of no less one eighth (1/8) of an inch in height. The advisory statement shall be part of the label affixed to the container or printed on hangtags attached to the container;
- 5) The last sale date shall be calculated by adding a maximum of (7) days to the date the milk is bottled; and
- 6) Retail raw milk shall only be sold only in original containers.

*MAINE*

**Maine Revised Statutes**

Title 7 - Agriculture and Animals

Part 7 - Milk and Milk Products

Chapter 601 - Milk and Milk Products

Section 2902-B - Sale of unpasteurized milk and milk products

[7 MRSA § 2902-B](#)

- 1. Sale of unpasteurized milk or milk product. A person may not sell unpasteurized milk or a product made from unpasteurized milk, including heat-treated cheese, unless the label on that product contains the words "not pasteurized."
- 2. Sale of unpasteurized milk or milk product at eating establishment. Except as provided in subsection 5, a person may not sell unpasteurized milk or a product made from unpasteurized milk at an eating establishment as defined in Title 22, section 2491, subsection 7.

3. Exception. This section does not apply to cheese that has been aged at a temperature above 35 degrees Fahrenheit for at least 60 days prior to sale.
4. Testing of unpasteurized milk products. The commissioner shall establish a process by rule for submitting samples of unpasteurized milk products to an independent laboratory for testing when:
  - A. The milk laboratory operated by the department has tested unpasteurized milk products and determined that they do not meet the standards for unpasteurized milk products established by rules adopted pursuant to section 2910; and
  - B. The person operating the milk plant that processed the milk products has requested independent testing.
  - C. The commissioner may require the person requesting the independent testing under paragraph B to pay for that testing. Any restrictions on the sale of unpasteurized milk products pending test results and after receipt of test results must be established by rule. Rules adopted pursuant to this subsection are major substantive rules as defined in Title 5, chapter 375, subchapter 2-A. For the purposes of this subsection, "independent laboratory" means a laboratory that is operated by a private entity or a public entity other than the department.
4. Sale of heat-treated cheese at eating establishment.
5. Sale of heat-treated cheese at eating establishment. Notwithstanding subsection 2, heat-treated cheese may be offered for consumption at an eating establishment as defined in Title 22, section 2491, subsection 7 provided the menu identifies items on the menu that contain or are made with heat-treated cheese and provides notice that heat-treated cheese is not pasteurized using the words "not pasteurized" on the menu.

Title 7 - Agriculture and Animals  
 Part 7 - Milk and Milk Products  
 Chapter 601 - Milk and Milk Products  
 Section 2910 - Standards for milk and milk products  
[7 MRSA § 2910](#)

The commissioner, in a manner consistent with the Maine Administrative Procedure Act, shall establish standards by rule for the inspection and examination, licensing, permitting, testing, labeling and sanitation of milk and milk product production and distribution.

The standards must be consistent with the requirements of the official standards, known as the Pasteurized Milk Ordinance, as issued by the Secretary of the United States Department of Health and Human Services, Food and Drug Administration, except that the standards may not prohibit the sale of unpasteurized milk and milk products in the State.

Amendments to the rules may not prohibit the sale of unpasteurized milk or milk products in the State.

Title 22 - Health and Welfare  
 Subtitle 2 - Health  
 Part 5 - Foods and Drugs  
 Chapter 562 - Camping Areas and Eating Establishments  
 Section 2491 - Definitions  
[22 MRSA § 2491](#)

7. Eating establishment. "Eating establishment" means any place where food or drink is prepared and served, or served to the public for consumption on the premises, or catering establishments, or establishments dispensing food from vending machines, or establishments preparing foods for vending machines dispensing foods other than in

original sealed packages, such as hotels, motels, boarding homes, restaurants, mobile eating places, coffee shops, cafeterias, short order cafes, luncheonettes, grills, tearooms, sandwich shops, soda fountains, bars, cocktail lounges, night clubs, roadside stands, industrial feeding establishments, private or public institutions routinely serving foods, retail frozen dairy product establishments, airports, parks, theaters, vacation camps or any other catering or nonalcoholic drinking establishments or operations where food is prepared and served or served for consumption on the premises, or catering establishments where food is prepared, or where foods are prepared for vending machines dispensing food other than in original sealed packages.

Rule Chapters for the Department of Agriculture, Conservation and Forestry

01-001 Agriculture General

Chapter 329: [Rule Governing Maine Milk and Milk Products](#) (“Maine Milk Rule”)

## Section I - General

### A. Definitions

64. NOT PASTEURIZED – “Not pasteurized” means any milk or milk product that has not been subjected to the temperature and time requirements of pasteurization using equipment designed for pasteurization or has not been aseptically processed and packaged. This does not apply to cheese that has been aged at a temperature above 35°F for at least 60 days prior to sale.

70. RAW MILK – See Definition “Not Pasteurized”.

## Section V - Standards for Milk and Milk Products

All Grade A raw milk for pasteurization, ultra-pasteurization or aseptic processing and all Grade A pasteurized, ultra-pasteurized or aseptically processed milk and milk products shall be produced, processed, and pasteurized, ultra-pasteurized or aseptically processed to conform with the following chemical, bacteriological and temperature standards, and the sanitation requirements of Section VI. Milk and milk products not pasteurized, shall be produced and processed to conform with the following chemical, bacteriological and temperature standards, and the sanitation requirements of Section VI.

No process or manipulation other than pasteurization, ultra-pasteurization or aseptic processing and appropriate refrigeration shall be applied to milk and milk products for the purpose of removing or deactivating microorganisms. Milk for aged cheese is exempt from this requirement. All cheese products, except for aged cheese, shall be made from milk that has been heat-treated. Heat-treated means processed by heating every particle of milk to a temperature of 145 degrees Fahrenheit for at least 30 minutes. All cheese products may list heat-treated milk as an ingredient on the label. All cheese products that are not pasteurized must be labeled as “not pasteurized” in accordance with Section XIV. Provided, that in the bulk shipment of cream, skim milk or low-fat milk, the heating of the raw milk, one time, to temperatures greater than 52°C (125°F), but less than 72°C (161°F), for separation purposes is permitted when the resulting bulk shipments of cream, skim milk or low-fat milk are labeled heat-treated. In the case of heat-treated cream, the cream may be further heated to less than 75°C (166°F) in a continuing heating process and immediately cooled to 7°C (45°F) or less when necessary for enzyme deactivation (such as lipase reduction) for a functional reason.

Table 1. Chemical, Bacteriological And Temperature Standards  
(Continued)

MILK AND MILK PRODUCTS (NOT PASTEURIZED) SOLD TO CONSUMERS	Temperature	Cooled to 7°C(45°F) or less and maintained
	Bacterial limits**	50,000 per ml
	Coliform***	Not to exceed 10 per ml.
	Drugs**	No positive results on drug residue detection Methods as referenced in Section XII Methods of Analysis which have been found to be acceptable for use with not pasteurized milk and milk products.
AGED CHEESE	Temperature	Aged cheese shall be aged at a temperature above 35°F.
SINGLE SERVICE CONTAINER MANUFACTURERS	Bacterial limits	The residual bacteria count shall not exceed 50 per container, except that in containers less than 100 mL, the count shall not exceed ten (10) colonies
	Coliform	0 coliform
MULTI USE CONTAINERS	Bacterial limits	The residual bacteria count shall not exceed 1 per mL of capacity
	Coliform	0 coliform
WATERS: Source Water Recirculating Water	Coliform	<1 by MMO-MUG Presence/Absence Method
	Coliform	<1.1 by Most Probable Number Method

\*Goat Milk 1,000,000/ml, Sheep Milk 750,000/ml

\*\*Not Applicable to acidified or cultured products.

\*\*\*Not applicable to bulk shipped heat-treated milk products.

## Section VI - Sanitation Requirements for Production and Processing

C. Sanitation Requirements for Not-Pasteurized Milk and Milk Products - Guidelines for determining compliance with these requirements may be found in the Grade A Pasteurized Milk Ordinance.

A milk distributor who sells not-pasteurized milk or milk products, in the State of Maine shall comply with: Section VI, B (1), (2), (3), (4), (6), (7), (8), (9), (11), (12), (13), (14), (15), (17) (20), and (22), and

### 1. SEPARATE ROOMS –

a. There shall be separate rooms or areas for:

i. The processing, packaging and cooling of not pasteurized milk and milk products.

ii. The cleaning of milk cans, bottles and cases.

b. Rooms or areas in which not pasteurized milk or milk products are handled, processed or stored, or in which milk containers, utensils and equipment are washed or stored, shall not open directly into any stable or any place where animals are kept, and shall have a self-closing door. All rooms shall be of sufficient size for their intended purpose.

2. MILK PLANT CLEANLINESS - All rooms in which milk and milk products are handled, processed or stored and/or in which containers, utensils or equipment are washed or stored, shall be kept clean, neat and free of evidence of insects and rodents. Only equipment directly related to the processing operations or to handling of containers, utensils and equipment shall be permitted in the processing, cooling, packaging and bulk milk storage rooms.

3. CLEANING AND SANITIZING OF CONTAINERS AND EQUIPMENT - The product-contact surfaces of all multi-use containers used in the transportation, processing and storage of not pasteurized milk and milk products shall be effectively cleaned and shall be sanitized before each use.

4. PROTECTION FROM CONTAMINATION - Milk plant operations, equipment and facilities shall be located and conducted to prevent any contamination of milk or milk products, ingredients, equipment, containers and utensils. All milk or milk products

- or ingredients which have been spilled, overflowed or leaked shall be discarded. The processing or handling of products other than milk or milk products in the plant shall be performed to preclude the contamination of such milk and milk products. The storage, handling and use of poisonous or toxic materials shall be performed to preclude the contamination of milk and milk products, or ingredients of such milk and milk products or the product-contact surfaces of all equipment, containers or utensils.
5. COOLING OF NOT PASTEURIZED MILK - All not pasteurized milk and milk products shall be maintained at 7°C (45°F) or less until processed or sold.
  6. BOTTLING AND PACKAGING - Bottling and packaging of not pasteurized milk and milk products shall be done at the place of processing in a manner approved by the Department.
  7. VEHICLES - All vehicles used in the transportation of not pasteurized milk and milk products shall be constructed and operated so that the milk and milk products are maintained at 7°C (45°F) or less, and are protected from sun, from freezing and from contamination.

## Section VII - Animal Health

### A. Tuberculosis Testing Requirements

All milk shall be from herds in areas that are located in a Modified Accredited Advanced Tuberculosis status or greater as determined by the U.S. Department of Agriculture. Provided, that in an area which fails to maintain such status, any herd shall have been accredited by said Department as tuberculosis free or shall have passed an annual tuberculosis test, or the area shall have established a tuberculosis testing protocol for livestock that assures tuberculosis protection and surveillance of the dairy industry within the area and that it is approved by the Food and Drug Administration, the U.S. Department of Agriculture, and the Department. And also provided, that milk from cow, goat, sheep, water buffalo or other hooved mammal herds used for not pasteurized product production shall be from herds which have been tested every 3 years for tuberculosis with an allowable maximum grace period not exceeding 2 months.

## Section VIII - Transferring; Delivery Containers; Cooling

Except as permitted in this section, no milk producer, milk hauler or distributor shall transfer milk or milk products from one container or milk tank truck to another on the street, in any vehicle, store or in any place except a milk plant, receiving station, transfer station or milkhouse especially used for that purpose. The dipping or ladling of milk or fluid milk products is prohibited.

It shall be unlawful to sell or serve any milk or fluid milk product except in the individual, original container received from the distributor, or from an approved bulk dispenser. Provided, that this requirement shall not apply to milk for mixed drinks requiring less than 236 milliliters (½ pint) of milk, or to cream, whipped cream or half-and-half which is consumed on the premises and which may be served from the original container of not more than 1.9 liter (½ gallon) capacity or from a bulk dispenser approved for such service by the Department.

It shall be unlawful to sell or serve any milk or milk product which has not been maintained at the temperature set forth in Section V of this rule. If containers of pasteurized or not pasteurized milk or milk products are stored in ice, the storage container shall be properly drained.

## Section XII, Examination of Milk and Milk Products

### D. Independent Testing of Not Pasteurized Milk Products

When the official milk laboratory operated by the department has tested not pasteurized milk products and determined that those milk products do not meet the standards for not pasteurized milk products established by this rule, the person operating the milk plant that processed the milk products may request further testing by an independent FDA certified laboratory. The not pasteurized milk products must not be sold pending the completion of the independent testing. Within three (3) business days of receipt by the department of a request for independent testing, the State Dairy Inspector shall obtain duplicate samples of the not pasteurized milk products from the processor. These samples will be delivered by the State Dairy Inspector to the state milk laboratory and shipped by the Department to an independent FDA certified laboratory for testing. The processor shall be responsible for the cost of shipping and testing performed by the independent FDA certified laboratory. The test results will be sent by the Department to the processor within 24-hours of receiving the results.

The not pasteurized products in dispute may be offered for sale only after testing at the official milk laboratory and the independent official laboratory has been completed and the department has received results from either laboratory which are within the established standards set forth in this rule. If the results from both the independent official laboratory and the official milk laboratory do not meet the standards for not pasteurized products, the products must not be sold until they meet the established standards.

## MASSACHUSETTS

### General Laws of Massachusetts

Part I - Administration of the Government

Title XV - Regulation of Trade

Chapter 94 - Inspection and Sale of Food, Drugs and Various Articles

Section 13 - Rules for milk and raw milk products

#### [MGL c 94 § 13](#)

The commissioner shall, subject to the provisions of chapter thirty A, adopt and promulgate rules and regulations governing the production, transportation, receiving, handling, storage, processing, distribution and sale of raw milk for pasteurization and raw products thereof being shipped or offered for shipment into or within the commonwealth, including all pertinent sanitary standards and uniform minimum requirements for the inspection of dairy farms, milk plants and receiving stations, wherever located, and pasteurization plants located outside the commonwealth, and may, in like manner and from time to time, amend, modify or repeal the same. Such rules and regulations shall be consistent with applicable provisions of the Grade "A" Pasteurized Milk Ordinance and related publications of the Food and Drug Administration, Public Health Service, United States Department of Health, Education and Welfare, or any successor agency with like regulatory powers; provided, that requirement by the commissioner of more stringent bacterial and temperature standards shall not be precluded. Any person who violates any rule or regulation duly adopted and promulgated pursuant to this section shall be subject to a fine of not less than twenty-five nor more than one hundred dollars for each offence.

Part I - Administration of the Government

Title XV - Regulation of Trade

Chapter 94 - Inspection and Sale of Food, Drugs and Various Articles  
Section 16 A - Certificate of registration required for sale of milk

[MGL c 94 § 16A](#)

Except as provided in section sixteen H, no person shall sell or offer or expose for sale milk produced on a dairy farm, for use or disposal elsewhere than on such farm, unless as to such farm a certificate of registration has been issued by the commissioner under section sixteen C and is in full force and effect; provided, that one who purchases such milk from a dealer registered under section sixteen F and sells or offers or exposes the same for sale shall not be deemed to have violated this section unless he knows or has reasonable ground to know that the same was not produced on a farm as to which such a certificate has been issued.

Part I - Administration of the Government

Title XV - Regulation of Trade

Chapter 94 - Inspection and Sale of Food, Drugs and Various Articles

Section 16 J - Rules for handling and sale of milk

[MGL c 94 § 16J](#)

Boards of health of cities and towns may establish, amend or repeal rules and regulations for the handling and sale of milk within said cities and towns; provided, that such rules and regulations shall be consistent with those established pursuant to sections twelve and thirteen.

**Code of Massachusetts Regulations**

330 CMR - Department of Food and Agriculture

Section 27 - Standards and Sanitation Requirements for Grade A Raw Milk

[330 CMR 27](#)

27.01: Scope and Purpose

330 CMR 27.00 establishes standards and sanitation requirements for raw milk and milk products for pasteurization, ultra pasteurization or aseptic processing and standards and sanitization requirements for raw milk for retail sale. It is applicable to all regulations filed pursuant to M.G.L. c. 94, § 13. It describes the requirements for producing and processing raw milk by all producers holding a Massachusetts Dairy Farm Certificate of Registration. The purpose of 330 CMR 27.00 is to provide sanitary standards for the production, processing, and sale of fluid milk.

27.02: Definitions

27.03: Animal Health

27.04: Personnel Health

27.05: Standards for Grade "A" Raw Milk for Pasteurization, Ultra Pasteurization and Aseptic Processing

27.06: Standards for Grade "A" Raw Milk for Retail

All Grade "A" raw milk for retail sale shall be produced and handled to conform with the following chemical, bacteriological, and temperature standards, and the sanitation requirements of 330 CMR 27.06.

Grade "A" raw for retail milk

- Temperature: Cooled to 40°F (4.45°C) or less within two hours after milking, provided that the blend temperature after the first and subsequent milkings does not exceed 50°F (10°C).
- Bacterial Limit: Individual producer milk shall not exceed 20,000 per ml.
- Coliform: Not to exceed 10 per ml.

- Drugs: No zone greater than or equal to 16mm with *Bacillus Sterothermophilus* disc assay method specified in Appendix G of the most recent edition of the PMO or any other method approved by the department. No Individual producer milk shall have a positive result for drug residue in excess of the allowable level in the most recent edition of the PMO.
- Somatic Cell: Individual producer milk shall not exceed 750,000 per ml.
- Cryoscope: (-)0.525°C unless proved to be free of added water.

27.07: Sanitation Requirements for Grade "A" Raw Milk

27.08: Additional Sanitation Requirements for Grade "A" Raw Milk for Retail Sale

The following requirements shall be applicable to raw milk for retail sale, in addition to the requirements in 330 CMR 27.07.

- (A) Storage. Milk shall be stored in an approved milk tank or stainless steel cans. All containers shall be stored at 40°F (4.45°C) or below in facilities which have been approved by the commissioner or her/his agent. A commercial refrigeration unit constructed of impervious material that is smooth and easily cleaned may be used for the purpose of storing retail raw milk in containers. A household refrigeration unit in good mechanical and physical condition is also permitted. All facilities shall be equipped with an accurate thermometer graduated in no more than two degree increments. The use of wet storage facilities shall be prohibited under all circumstances for the handling of consumer type containers.
- (B) Containers. All sanitary containers shall be provided/supplied by the dairy. All containers shall be stored in a manner that minimizes contamination of the containers. Single-service containers and lids must come from an approved source and not be reused. Returnable containers must be washed, rinsed, and sanitized before refilling. Lids for returnable containers shall not be reused.
- (C) Bottling and Capping. All bottling and capping of Grade A raw milk for retail sale shall be done on approved mechanical equipment, except for those dairies where volume causes this to be impractical. All caps shall be designed and constructed so that the removal of such caps cannot be made without detection. Hand capping is allowed provided:
- 1) All caps or lids must be kept immersed in a 50 ppm solution of chlorine for a minimum of one minute and immediately placed on a container.
  - 2) Operator must wear disposable plastic gloves while filling and capping, or hands must be thoroughly washed and sanitized prior to and during operations.
  - 3) Milk is withdrawn through bottom (outlet) valve of tank. "No Dipping."
  - 4) Filling of containers must be done in a sanitary manner to preclude possible contamination: container filling by the consumer is prohibited.
- (D) Date. The date on the container of retail raw milk shall indicate the last date on which the container may be offered for sale. There shall be a five day maximum period for the sale of retail raw milk which shall commence from the time of filling. Said five day maximum period may be shortened by the Commissioner if she/he deems such modification to be in the best interest of the consumer.

- (E) Labeling. The name of the product is Raw Cow's Milk or Raw Goat's Milk and shall be so plainly labeled. The label shall contain the name, address and zip code of the producing farm.
- (F) Consumer Warning Statement
  - 1) All retail containers of raw cow's or raw goat's milk shall be conspicuously labeled with the following statement: "Raw milk is not pasteurized. Pasteurization destroys organisms that may be harmful to human health". The minimum size of the printed words shall not be less than 1/16 inch in height, with the words "not pasteurized" being not less than 1/8 inch in height or twice the height of any other lettering in the label, whichever is greater.
  - 2) A sign must be posted in the area where the raw milk is sold and placed in a location where it can be easily observed by anyone entering therein. Such sign shall not be less than eight by eleven inches in total dimension and shall display the following statement: "Raw milk is not pasteurized. Pasteurization destroys organisms that may be harmful to human health." The minimum size of the printed words shall not be less than 1/2 inch in height, with the words "not pasteurized" being not less than one inch in height.
- (G) Sales and Storage. Milk cannot be offered for sale or consumption if such milk has been stored in a bulk tank or other approved storage container beyond 48 hours. All bulk tanks or other approved storage containers must be cleaned and sanitized before reuse.

27.09: Review of Plans for Construction or Remodeling of Milking Centers

27.10: Administration and Enforcement

27.11: Certificate of Registration: Issuance

27.12: Inspections

27.13: Examination of Milk

27.14: Enforcement Standards

27.15: Hearings

27.16: Certificate: Suspension or Revocation

27.17: Orders for Suspension or Revocation

27.18: Certificate: Reinstatement after Suspension

27.19: Grade A Fluid Milk from Outside the Commonwealth

27.20: Severability

27.21: Adoption of the Appendixes to the Grade "A" Pasteurized Milk Ordinance

## NEW HAMPSHIRE

### New Hampshire Revised Statutes Annotated

Title XIV - Milk and Milk Products

Chapter 184 - Inspection and Sale of Dairy Products

Section 30a - Milk for Drinking. Pasteurization Required

[RSA 184:30-a](#)

No milk or milk products as defined in *RSA 184:79* shall be sold, offered for sale or served unless pasteurized. This shall not serve to prohibit the direct sale of raw milk or cream from the producer; store or milk pasteurization plant to the final consumer, or milk or cream from a producer to stores, nor the serving of raw milk at bona fide boarding houses where the milk is produced on the premises, provided that in the dining room of

such boarding houses a sign is prominently displayed stating that such raw milk is served therein, nor the sale, within the state, of cheese made from raw milk when such cheese has been aged a minimum of 60 days at a temperature above 35 degrees Fahrenheit, and is clearly labeled as unpasteurized.

Title XIV - Milk and Milk Products

Chapter 184 - Inspection and Sale of Dairy Products

Section 79 - Milk Sanitation Code. Terms Defined

[RSA 184:79](#)

XI. The term "producer-distributor" is a milk producer who is also a milk distributor and sells more than an average of 80 quarts of milk a day. . . .

XIII. The term "milk plant" means any place, premises, or establishment where milk or milk products are collected, handled, processed, stored, pasteurized, bottled, packaged, or prepared for distribution, except an establishment where milk or milk products are sold at retail only.

Title XIV - Milk and Milk Products

Chapter 184 - Inspection and Sale of Dairy Products

Section 84 - Milk Sanitation Code. License Required.

[RSA 184:84](#)

III. It shall be unlawful for any producer-distributor to sell or offer for sale milk or milk products within the state unless he shall possess a producer-distributor's license from the commissioner.

## **New Hampshire Code of Administrative Rules**

### Milk Sanitation Board

#### Chapter Mil 100 Organizational Rules (Statutory Authority: RSA 184:93)

[Mil 301.03](#) - Additional Requirements for Raw Milk Offered for Sale to Consumers.

- (a) Any milk producer, as defined in RSA 184:79, IX, who offers raw milk for sale to consumers, who does not meet the definition of a producer-distributor shall be exempt from the requirements in this section.
- (b) A producer-distributor, as defined in RSA 184:79, XI, means a milk producer who is also a milk distributor and sells more than an average of 80 quarts of milk per day.
- (c) The following requirements shall apply to all milk producer-distributors and milk plants who offer raw milk for sale to consumers, either directly from the farm or plant or through a retail outlet, and who are licensed under the provisions of RSA 184:84, regardless of the actual volume of raw milk sold:
  - (1) The procedures, handling, equipment and facilities used in the production and handling of raw milk offered for sale to consumers shall comply with all provisions of the PMO as adopted and amended in Mil 301.01;
  - (2) Any person who bottles or handles raw milk offered for sale to consumers, who has a communicable disease shall be prohibited from handling the raw milk, and any equipment or containers which may come in contact with the raw milk;
  - (3) All workers filling and capping bottles shall wear effective hair coverings, and shall wash their hands immediately prior to starting and as necessary throughout the filling operation;
  - (4) All bulk milk storage tanks or other containers used to store raw milk prior to bottling shall be washed and sanitized at least once every 48 hours;

- (5) All containers and closures shall be stored and handled in a sanitary manner to prevent contamination;
  - (6) Single-service containers and closures shall not be reused;
  - (7) Multiple use containers shall be washed, rinsed, sanitized and drained no more than 4 hours prior to filling, such as by using a 3-compartment sink or a commercial dishwasher with a chemical sanitizer step; and
  - (8) Containers provided and washed by the consumer shall be exempt from the washing and sanitizing requirements in (c)(7) above, provided:
    - a. The filled bottles are only sold back to the consumer who originally washed and provided them; and
    - b. Any consumer-washed bottles with visible filth or contamination shall not be refilled.
- (d) The following requirements shall apply to persons meeting the production levels of a Class 4 Milk Sanitation License as designated in He-P 2706.01(a):
- (1) Filling shall be done using suitable stainless steel piping equipped with a positive shut off valve and shall not be done through dipping or ladling of the milk;
  - (2) Capping may be done by hand provided the operator is wearing clean, disposable plastic gloves; and
  - (3) During filling, the pouring lip of the container shall be protected from overhead contamination by the use of a drip deflector installed on the filling device.
- e) The following requirements shall apply to persons meeting any Milk Sanitation License classification other than Class 4 as designated in He-P 2706.01(a):
- (1) Filling and capping shall be done in a sanitary manner to prevent contamination using mechanical equipment that complies with Section 7 of the PMO; and
  - (2) The pouring lip of the container shall be protected from overhead contamination until the cap is placed on the container.
- (f) All raw milk offered for sale to consumers shall be labeled as follows:
- (1) All containers shall be clearly labeled as “Raw Cow’s Milk”, “Raw Goat’s Milk” or “Raw Sheep’s Milk” as applicable;
  - (2) All labels shall contain the producer’s name, address and zip code;
  - (3) All labels shall state the net amount of the contents;
  - (4) All containers for retail sale shall bear the following statement: “Raw milk is not pasteurized. Pasteurization destroys organisms that may be harmful to human health.”;
  - (5) The warning statement in (f)(4) above shall be in letters of contrasting color to the label and in type no less than one-eighth (1/8) inch in height;
  - (6) Raw milk sold only at the farm where it is bottled shall be exempt from the labeling requirement in (f)(4) above provided there is a sign with the following statement on it: “Raw milk is not pasteurized. Pasteurization destroys organisms that may be harmful to human health” posted conspicuously in the area where the milk is sold and placed in a location where it can easily be observed by anyone entering therein;
  - (7) The sign in (f)(6) above shall be no less than eight (8) inches by eleven (11) inches in size with contrasting lettering no smaller than one-half (1/2) inch in height;
  - (8) All containers shall be labeled with a “sell by” date that is no more than 5 days from the date the milk was bottled; and

- (9) Milk bottled in containers provided by the consumer shall be exempt from the labeling requirements above except that (f)(6) and (f)(7) shall still apply.
- (g) All raw milk offered for sale to consumers shall meet the following standards:
- (1) The standard plate count of bottled raw milk shall not exceed 20,000 colonies per milliliter;
  - (2) The somatic cell count of bottled raw milk shall meet the standards in Section 6 of the PMO as adopted in Mil 301;
  - (3) The Coliform bacteria count of bottled raw milk shall not exceed 10 per milliliter;
  - (4) Bottled raw milk shall contain no drug residues or other inhibitory substances at or above tolerance levels for drugs or other inhibitors as defined in Appendix N of the PMO as adopted in Mil 301; and
  - (5) Bottled raw milk shall be kept cooled to a temperature of 40 degrees Fahrenheit or less until delivered to the consumer.
- (h) Samples of bottled raw milk shall be collected by the NH department of health and human services from each licensed bottler at least once each month for analysis to determine compliance with the above standards.

Department of Health and Human Services (Former Division of Public Health Services)

[Starting Up a Dairy in New Hampshire](#) (8/11/2010)

Sale of Raw Milk:

RSA 184:30-a states that “No milk or milk products as defined in *RSA 184:79* shall be sold, offered for sale or served unless pasteurized. This shall not serve to prohibit the direct sale of raw milk or cream from the producer, store or milk pasteurization plant to the final consumer, or milk or cream from a producer to stores, nor the serving of raw milk at bona fide boarding houses where the milk is produced on the premises, provided that in the dining room of such boarding houses a sign is prominently displayed stating that such raw milk is served therein.”

The Food Protection Section Administrative Rule *He-P 2300* requires that all food sold in stores come from an approved source. All raw milk sold in stores must come from a licensed facility regardless of the volume of milk sold.

The Department of Health and Human Services does not advocate or recommend the sale of raw milk. Raw milk, improperly pasteurized milk and raw milk fresh cheeses have been implicated in foodborne illness outbreaks of *Salmonella*, *Campylobacter*, *Listeria* and *E. coli* 0157:H7 in recent years. Pathogenic bacteria such as *Brucellosis*, *Campylobacter*, *Salmonella* and *Tuberculosis* can be shed in the milk of apparently healthy animals. *Listeria monocytogenes* is the leading cause of death from a foodborne pathogen.

Sale of cheese, yogurt, butter or other dairy products made from raw or heat treated milk:

*RSA 184:30-a* allows for “the sale, within the state, of cheese made from raw milk when such cheese has been aged a minimum of 60 days at a temperature above 35 degrees fahrenheit, and is clearly labeled as unpasteurized.” This matches the language in section 21 of the Code of Federal Regulations part 133, the federal cheese laws.

*RSA 184:30-a* also states that “This section shall not prohibit the direct sale of yogurt made with raw milk by the producer in this state, provided that such yogurt is clearly labeled as having been made with raw milk.” This is contrary to federal requirements for yogurt and applies only to raw milk yogurt made within the state and sold directly to consumers within the state.

Fresh cheeses and all other processed dairy products must be made with pasteurized milk.

New Hampshire has no provisions for the use of heat treated milk in making products that will not be aged.

## *RHODE ISLAND*

### **Rhode Island Regulations**

[Grade "A" Pasteurized Milk Ordinance 2011 Revision](#)  
[Standards for Grade "A" Pasteurized, Ultrapasteurized and Aseptically Processed Milk and Milk Products](#)

[Department of Health - Section 9. Milk and Milk Products Which May Be Sold](#)

From and after twelve (12) months from the date on which this Ordinance is adopted, only Grade "A" pasteurized, ultra-pasteurized, or aseptically processed milk and milk products shall be sold to the final consumer, to restaurants, soda fountains, grocery stores or similar establishments.

### **Rhode Island General Laws**

Title 21 - Food And Drugs  
Chapter 2 - Milk Sanitation Code  
Section 2 – Declaration of Policy

[RIGL § 21-2-2](#)

(8) That all milk sold within the state of Rhode Island shall be pasteurized by a recognized method of pasteurizing adequate to destroy bacteria capable of transmitting disease to people. Provided, that a physician may authorize an individual sale of goat milk directly from producer to consumer by written, signed prescription.

## *VERMONT*

[Vermont Statutes Annotated](#)

Title 6 - Agriculture  
Part 6 - Milk and Milk Products  
Chapter 151 - Supervision, Inspection and Licensing of Dairy Operations  
Subchapter 1 - General Provisions  
Section 2672 - Definitions  
6 VSA § 2672

(5) "Milk handler" or "handler" is a person, firm, unincorporated association or corporation engaged in the business of buying, selling, assembling, packaging, or processing milk or other dairy products, for sale within or without the state of Vermont.

Title 6 - Agriculture  
Part 6 - Milk and Milk Products  
Chapter 151 - Supervision, Inspection and Licensing of Dairy Operations  
Subchapter 3 - Licensing and Inspection  
Article 1. Licenses

Section 2721 – Handlers’ Licenses

6 VSA § 2721

- a) The secretary may classify and issue licenses to milk handlers to carry on milk handling businesses including, but not limited to, the purchase, distribution or sale of milk, processing or manufacturing of milk, bargaining and collecting for the sale of milk, and dealing in or brokering milk.
- b) A milk handler shall not transact business in the state unless the milk handler secures and holds a handler's license from the secretary.

Title 6 - Agriculture

Part 6 - Milk and Milk Products

Chapter 151: Supervision, Inspection and Licensing of Dairy Operations

Subchapter 3 - Licensing and Inspection

Article 1. Licenses

Section 2723 - Exemptions

6 VSA § 2723

Handlers' licenses shall not be required from the following persons: . . . .

- (3) A person who produces and sells or offers for sale less than 25 quarts of milk in any one day, but in such case an inspection may be made and reasonable sanitary requirements shall be complied with.

Title 6 - Agriculture

Part 6 - Milk and Milk Products

Chapter 152 - Sale of Unpasteurized (Raw) Milk

Section 2775 - Limited sale of unpasteurized (raw) milk permissible

6 VSA § 2775

Notwithstanding section 2701 of this title, the production and sale of unpasteurized milk to a consumer for personal consumption is permitted within the state of Vermont only when produced, marketed, and sold in conformance with this chapter.

Title 6 - Agriculture

Part 6 - Milk and Milk Products

Chapter 152 - Sale of Unpasteurized (Raw) Milk

Section 2776 - Definition

6 VSA § 2776

In this chapter:

- (1) "Consumer" means a customer who purchases, barter for, or otherwise acquires unpasteurized milk from the farm or delivered from the farm.
- (2) "Personal consumption" means the use by a consumer of unpasteurized milk for food or to create a food product made with or from unpasteurized milk that is intended to be ingested by the consumer, members of his or her household, or any nonpaying guests.
- (3) "Unpasteurized milk" or "unpasteurized (raw) milk" means milk that is unprocessed.
- (4) "Unprocessed" means milk that has not been modified from the natural state it was in as it left the animal, other than filtering, packaging, and cooling.

Title 6 - Agriculture

Part 6 - Milk and Milk Products

Chapter 152 - Sale of Unpasteurized (Raw) Milk

Section 2777 Standards for the sale of unpasteurized (raw) milk

6 VSA § 2777

- (a) Unpasteurized milk shall be sold directly from the producer to the consumer for personal consumption only and shall not be resold.
- (b) Unpasteurized milk shall be sold only from the farm on which it was produced except when delivery is arranged in conformance with section 2778 of this chapter. Unpasteurized milk shall not be sold or offered as free samples at any location other than on the farm on which the milk was produced.
- (c) Unpasteurized milk operations shall conform to reasonable sanitary standards, including:
  - (1) Unpasteurized milk shall be derived from healthy animals which are subject to appropriate veterinary care, including tuberculosis and brucellosis testing and rabies vaccination, according to accepted testing and vaccinations standards as established by the agency. Test results and verification of vaccinations shall be posted on the farm in a prominent place and be easily visible to customers.
  - (2) The animal's udders and teats shall be cleaned and sanitized prior to milking.
  - (3) The animals shall be housed in a clean, dry environment.
  - (4) Milking equipment shall be of sanitary construction, cleaned after each milking, and sanitized prior to the next milking.
  - (5) Milking shall be conducted in a clean environment appropriate for maintaining cleanliness.
  - (6) The farm shall have a potable water supply which is sampled for bacteriological examination according to agency standards every three years and whenever any alteration or repair of the water supply has been made.
  - (7) If an animal is treated with antibiotics, that animal's milk shall be tested for and found free of antibiotics before its milk is offered for sale.
- (d) Unpasteurized milk shall conform to the following production and marketing standards:
  - (1) Record keeping and reporting.
    - (A) A producer shall collect one composite sample of unpasteurized milk each day and keep the previous 14 days' samples frozen. The producer shall provide samples to the agency if requested.
    - (B) A producer shall maintain a current list of all customers, including addresses, telephone numbers, and email addresses when available.
    - (C) The producer shall maintain a list of transactions for at least one year which shall include customer names, the date of each purchase, and the amount purchased.
  - (2) Labeling. -- Unpasteurized (raw) milk shall be labeled as such, and the label shall contain:
    - (A) The date the milk was obtained from the animal.
    - (B) The name, address, zip code, and telephone number of the producer.
    - (C) The common name of the type of animal producing the milk (e.g. cattle, goat, sheep) or an image of the animal.
    - (D) The words "Unpasteurized (Raw) Milk. Not pasteurized. Keep Refrigerated." on the container's principal display panel, and these words shall be clearly readable in letters at least one-eighth inch in height and prominently displayed.
    - (E) The words "This product has not been pasteurized and therefore may contain harmful bacteria that can cause illness particularly in children, the elderly, and persons with weakened immune systems and in pregnant women can cause illness, miscarriage or fetal death, or death of a newborn." on the container's principal display panel and clearly readable in letters at least one-sixteenth inch in height.

- (3) Temperature. -- Unpasteurized milk shall be cooled to 40 degrees Fahrenheit within two hours of the finish of milking and so maintained until it is obtained by the consumer.
- (4) Customer inspection and notification.
- (A) Prior to selling milk to a new customer, the producer shall provide the customer with a tour of the farm and any area associated with the milking operation. Customers are encouraged and shall be permitted to return to the farm at a reasonable time and at reasonable intervals to re-inspect any areas associated with the milking operation.
- (B) A sign with the words "Unpasteurized (Raw) Milk. Not pasteurized. Keep Refrigerated." and "This product has not been pasteurized and therefore may contain harmful bacteria that can cause illness particularly in children, the elderly, and persons with weakened immune systems and in pregnant women can cause illness, miscarriage or fetal death, or death of a newborn." shall be displayed prominently on the farm in a place where it can be easily seen by customers. The lettering shall be at least one inch in height and shall be clearly readable.
- (e) Producers selling 12.5 or fewer gallons (50 quarts) of unpasteurized milk per day shall meet the requirements of subsections (a) through (d) of this section and shall sell unpasteurized milk only from the farm on which it was produced. A producer selling 12.5 or fewer gallons of unpasteurized milk may choose to meet the requirements of subsection (f) of this section, in which case the producer may deliver in accordance with section 2778 of this chapter.
- (f) Producers selling 12.6 to 40 gallons (50.4 to 160 quarts) of unpasteurized milk per day shall meet the requirements of subsections (a) through (d) of this section as well as the following standards:
- (1) Inspection. -- The agency shall annually inspect the producer's facility and determine that the producer is in compliance with the sanitary standards listed in subsection (c) of this section.
- (2) Bottling. -- Unpasteurized milk shall be sold in containers which have been filled by the producer. Containers shall be cleaned by the producer except that the producer may allow customers to clean their own containers only if each customer's container is labeled with the customer's name and address and the customers use their own containers. Producers shall ensure that only clean bottles are filled and distributed.
- (3) Testing.
- (A) A producer shall have unpasteurized milk tested twice per month by a U.S. Food and Drug Administration accredited laboratory. Milk shall be tested for the following and the results shall be below these limits:
- (i) Total bacterial (aerobic) count: 15,000 cfu/ml (cattle and goats);
- (ii) Total coliform count: 10 cfu/ml (cattle and goats);
- (iii) Somatic cell count: 225,000/ml (cattle); 500,000/ml (goats).
- (B) The producer shall assure that all test results are forwarded to the agency, by the laboratory, upon completion of testing or within five days of receipt of the results by the producer.
- (C) The producer shall keep test results on file for one year and shall post results on the farm in a prominent place that is easily visible to customers. The producer shall provide test results to the farm's customers if requested.
- (4) Registration. -- Each producer operating under this subsection shall register with the agency.

- (5) Reporting. -- On or before March 1 of each year, each producer shall submit to the agency a statement of the total gallons of unpasteurized milk sold in the previous 12 months.
- (6) Prearranged delivery. -- Prearranged delivery of unpasteurized milk is permitted and shall be in compliance with section 2778 of this chapter.
- (g) The sale of more than 40 gallons (160 quarts) of unpasteurized milk in any one day is prohibited.

Title 6 - Agriculture  
Part 6 - Milk and Milk Products  
Chapter 152 - Sale of Unpasteurized (Raw) Milk  
Section 2778 - Delivery of unpasteurized (raw) milk  
6 VSA § 2778

- (a) Delivery of unpasteurized milk is permitted only within the state of Vermont and only of milk produced by those producers meeting the requirements of subsection 2777(f) of this chapter.
- (b) Delivery shall conform to the following requirements:
  - (1) Delivery shall be to customers who have purchased milk in advance either by a one-time payment or through a subscription.
  - (2) Delivery shall be directly to the customer at the customer's home or into a refrigerated unit at the customer's home if such unit is capable of maintaining the unpasteurized milk at 40 degrees Fahrenheit until obtained by the customer.
  - (3) During delivery, milk shall be protected from exposure to direct sunlight.
  - (4) During delivery, milk shall be kept at 40 degrees Fahrenheit or lower at all times.
- (c) A producer may contract with another individual to deliver the milk in accordance with this section. The producer shall be jointly and severally liable for the delivery of the milk in accordance with this section.

Vermont Agency of Agriculture, Food and Markets, Animal Health Section  
[Animal Testing and Vaccination Protocols for Producers Selling Raw Milk for Public Consumption](#) (7-09)

General Requirements:

- Official Identification – all animals in a herd that produce fluid milk that is to be sold to the public without being pasteurized must be individually officially identified.
- Health Examination – all animals in a herd that produce fluid milk that is to be sold to the public without being processed by a licensed plant shall undergo an annual health examination by a Vermont-licensed accredited veterinarian and must be found to be in good general health and free of contagious disease. In instances where the animals are on a herd health plan with an accredited veterinarian, and that veterinarian has knowledge of the health status of the herd, the veterinarian may sign a statement attesting to the above in lieu of performing individual yearly examinations.
- All raw milk producers must maintain herd examination reports, Brucellosis and Tuberculosis test results, and official rabies certificates at the site of production. VAAFM employees shall be allowed access to the premises to review these records during reasonable hours.

- Rabies vaccination – any herd or animal that produces fluid milk that will be sold to the public without pasteurization shall be vaccinated for rabies by, or under the supervision of, a Vermont-licensed, accredited veterinarian with an approved vaccine product according to the manufacturer recommendations.  
NOTE: if there is no approved vaccine for the animal being vaccinated (such as a goat) the veterinarian should extra label the vaccine they consider most appropriate.
- The Secretary of Agriculture shall reserve the right to change any testing or vaccination requirement as he or she deems appropriate.

The following test requirements apply to herds or flocks of animals from which raw milk is sold for public consumption that also produce milk intended for pasteurization prior to consumption:

NOTE: All of the animals in a herd or flock are to be tested. It is not acceptable to pick a sub-group that will be used to produce the raw milk for sale and only test those animals.

- Brucellosis
  - Animals must test negative on an official blood test for Brucellosis prior to the initial sale of raw milk and any herd additions must be tested annually within 13 months of the test date anniversary. All testing shall be performed by a Vermont-licensed, accredited veterinarian, and the producer shall bear the expense of the testing.

For cattle:

- All new animals brought into the herd shall be tested prior to selling that milk.
- At an interval of not greater than 6 months, producers shall submit to a Brucellosis ring test conducted with respect to the animal or herd from which the raw milk is produced. The handling of these samples shall be performed by an individual approved by the Agency.

For other types of dairy animals:

- All new animals brought into the herd shall be tested prior to selling that milk.
- Annually (within 13 months) all animals are to be retested or; test a random sampling that will give a confidence level of 99% and a *p* value of 0.05. Below is a table that tells how many animals need to be tested to meet this criterion.

Table 1.

Herd/Flock Size	Sampling Size	Herd/Flock Size	Sampling Size
20	20	250	75
50	41	300	77
100	59	350	79
150	67	400	80
200	72	450	81

\*For larger herds or flocks contact the Dairy Office (802) 828-2433

- Tuberculosis
  - Animals must test negative on an official test for Tuberculosis prior to the initial sale of raw milk and then annually thereafter within 13 months of the test date anniversary. All testing shall be performed by a Vermont-licensed, accredited veterinarian, and the producer shall bear the expense of the testing.

The following test requirements apply to animals from which only raw milk is sold for public consumption:

- Brucellosis ( all types)
  - Animals must test negative on an official blood test for Brucellosis prior to the initial sale of raw milk and then annually thereafter within 13 months of the test date anniversary. All testing shall be performed by a Vermont-licensed, accredited veterinarian, and the producer shall bear the expense of the testing.
  - All new animals brought into the herd shall be tested prior to selling that milk.
  - Annually (within 13 months) all animals are to be retested; or test a random sampling that will give a confidence level of 99% and a  $p$  value of 0.05. Table 1 is used to determine how many animals need to be tested to meet this criterion.
- Tuberculosis
  - Animals must test negative on an official test for Tuberculosis prior to the initial sale of raw milk and then annually thereafter within 13 months of the test date anniversary. All testing shall be performed by a Vermont-licensed, accredited veterinarian, and the producer shall bear the expense of the testing

#### Raw Milk Law Reference Sheet

[Unpasteurized \(Raw\) Milk Law: The Basics](#) (Word Press, 2011)

Act 62 of 2009 created a tiered regulatory system for farmers producing raw milk based on the quantity of milk sold. All farmers must meet the requirements for Tier 1 producers, and if selling more than 50 quarts of milk per day there are additional requirements for Tier 2 producers. Any farmer who delivers raw milk must meet the Tier 2 requirements.

#### TIER 1 – Farmers selling 50 quarts or less per day

- Milk must be sold directly from farmer to consumer at the farm.
- Customers must be given a tour of the farm and any area associated with milking prior to purchasing milk.
- Farmers must keep records of customers with their contact information (does not need to be submitted).
- Farmers must keep transaction records of purchases for one year.
- A warning sign with specific language on health risks must be prominently displayed on farm.
- Milk container labels must contain the following: milking date, farmer contact info, name of animal, and same warning language as sign.
- Animals must be tested for Tuberculosis and Brucellosis annually (frequency of tests determined by Agency of Agriculture) and vaccinated for rabies. Documentation of tests must be posted prominently on the farm.
- If animals are treated with antibiotics, milk must test clear of residue before selling.
- Animals must be housed in clean, dry environment.
- Animals' udders and teats must be cleaned and sanitized prior to milking and milking must be performed in location that can be kept clean.
- Milking equipment must be sanitized prior to milking and cleaned after use.
- Potable water supply must be available and tested every three years.
- Milk must be cooled to 40°F within two hours of milking.

- Daily milk samples, labeled with milking date, must be kept frozen for 14 days.

TIER 2 – Farmers selling more than 50 quarts and up to 40 gallons per day and/or making home deliveries

- Farmers must register with Vermont Agency of Agriculture, Food, and Markets (VAAFAM).
- Facilities must be inspected annually by VAAFAM.
- Only farmers are able to fill bottles.
- Raw milk must be tested twice per month at an FDA-accredited lab for the following (VAAFAM requires testing done by the state lab and for samples to be hand-submitted in two containers in which milk is sold):
  - total bacterial count: less than 15,000 cfu/ml
  - total coliform count: less than 10 cfu/ml
  - somatic cell count: less than 225,000/ml (cows); 500,000/ml (goats)
- Farmer will ensure test results are sent to VAAFAM within 5 days and will keep results on file for one year as well as post in a prominent place.
- Farmers must report annual total raw milk sales to VAAFAM.

DELIVERY OF RAW MILK

- Producers delivering raw milk must meet Tier 2 requirements listed above and quantity of milk delivered shall not exceed 40 gallons per day.
- Milk must be purchased in advance.
- During delivery, milk must be protected from sunlight and kept at 40°F or less at all times.
- Milk must be delivered to customer at his/her home or into refrigerated unit (40°F) at customer's home.
- Producers may contract with another individual to deliver the milk.