

Protocol for Legal Sale of Fresh Unpasteurized Milk within the Supply Management System
National Farmers Union - December 2012

The National Farmers Union (NFU) is a direct-membership, non-partisan national farm organization. Founded in 1969, and with roots going back more than a century, the NFU represents thousands of farm families from coast to coast. Through its grassroots democratic process, the NFU works toward the development of economic and social policies that will maintain family farms as the primary food-producers in Canada.

The NFU believes that agriculture should be economically, socially, and environmentally sustainable and that food production should lead to enriched soils, a more beautiful countryside, jobs for non-farmers, thriving rural communities and biodiverse natural ecosystems. The NFU is a leader in articulating the interests of Canada's family farmers, in analyzing the farm income crisis, and in proposing affordable, balanced, and innovative solutions that benefit all citizens. The NFU uses the lens of "Food Sovereignty" to understand Canada's food system, which at its core means that citizens must have the power to make policy decisions regarding food, land, and agricultural production methods in the interests of their community while ensuring fairness for both eaters and producers of food.

In recent years, interest regarding raw milk, or more precisely, fresh unpasteurized milk for human consumption has been increasing among both consumers and farmers. Health Canada mandates pasteurization of all fresh milk for human consumption. The Canadian Dairy Commission and the provincial dairy boards operate Canada's supply management system in accordance with Health Canada's rules.

The NFU considers Canada's supply management system to be an important institution that puts food sovereignty into action in Canada. Supply management ensures that Canadian consumers can get the milk and dairy products they require and that these are produced in Canada; that dairy farmers receive a price that covers their cost of production; and that Canada's market is not destabilized by unregulated imports of dairy products. Supply management in dairy is an institution that has made it possible for many small, diversified mixed family farms to remain viable during the continuing farm income crisis in Canada. The NFU believes that it is possible to develop an option that meets consumer demand by permitting direct sales of fresh unpasteurized milk for human consumption within, and in conjunction with, supply management, and that this would be a contribution to Canada's food sovereignty.

The National Farmers Union recently passed one resolution and tabled a second one for further study on raw milk. To fulfil these two resolutions the NFU Board has instructed an ad hoc committee to prepare a draft protocol for sale of fresh unpasteurized milk within the supply management system. This report sets out a draft protocol as developed by the committee, along with relevant context for the Board's consideration.

NFU Resolutions

- Due to increasing demand for sale supplies of raw milk, the NFU will work with governments and dairy supply management boards to implement protocols - within the context of supply management- to facilitate the sale of raw milk to those Canadians wishing to purchase it. (Passed November 2006)

- The NFU will work to persuade the federal government to regulate and legalize the sale and marketing of fresh, unpasteurized dairy products from designated and separately licensed milk producers within the supply management system. (Tabled November 2011)

- it is moved that an ad hoc committee of the Board be struck for the purpose of developing and reviewing protocols to supply raw milk within supply management to those Canadians wishing to purchase it. (Passed November 2011)

There is a need for a legal means of selling fresh unpasteurized milk for human consumption in Canada due to the rising consumer demand for it, the interest among farmers to serve a niche market, and the emergence of an underground, unregulated market for “raw milk”. A growing unregulated raw milk market creates hazards for individual consumers and farmers who risk selling raw milk. Currently Health Canada prohibits the sale of unpasteurized milk in Canada. Canada’s dairy supply management system is in compliance with Health Canada and thus does not provide for the sale of unpasteurized milk.

We believe it is possible to develop a licensed and inspected system which would minimize health risks to consumers and provide a system of marketing fresh unpasteurized milk for human consumption that operates within Canada’s supply management system. We are proposing that such sales would be restricted to direct farm-gate sales in order to minimize handling costs and risks, and to ensure that there is maximum transparency as well as relationship of responsibility between the farmer and consumer.

We propose a phased approach to achieving this goal. First, Health Canada would need to become willing to consider change to the law regarding the sale for fresh milk for human consumption, and be prepared to work with farmers and consumers to develop appropriate regulations. Second, one or more provincial dairy boards would need to be willing to carry out a pilot project to evaluate proposed fresh unpasteurized milk production and sales regulations. Finally, the licensing and inspection protocol would be implemented across Canada.

Health Canada Rules

Health Canada prohibits sale of unpasteurized milk to consumers. Canada's Food and Drug Act Regulation B.08.002.2 prohibits sale of unpasteurized milk except when used for cheese and when sold to a processor that will pasteurize it during its food manufacturing process. Cheese made from unpasteurized milk is subject to several conditions including labelling, storage, record-keeping, and maximum bacterial counts for *E coli* and *Staphylococcus aureus*.

Pasteurization of milk is an international norm, due to the fact that milk can carry serious disease-causing pathogens, and because milk is typically consumed fresh without first being cooked. Milk is a recommended food for children, pregnant women and nursing mothers, who are also considered to be high-risk groups for illnesses caused by bacteria that may be found in unpasteurized milk. Other high-risk groups are older adults and people with a weakened immune system.

Mandatory pasteurization is a response to public health concerns, particularly the potential for milk-borne transmission of tuberculosis and brucellosis as well as Enterotoxigenic *Staphylococcus aureus*, *Salmonella* species, *Campylobacter jejuni*, *Escherichia coli* (*E. coli* 0157:H7, Enterohemorrhagic *E. coli* – EHEC, Enterotoxigenic *E. coli* – ETEC), *Mycobacterium bovis*, *Listeria monocytogenes*, *Yersinia enterocolitica*, *Coxiella burnetii*). These bacteria can cause severe illness ranging from fever, vomiting and diarrhea to life-threatening kidney failure, miscarriage and even death. By mandating pasteurization, Health Canada aims to prevent illness, emotional stress, and other costs and losses due to milk-borne illness.

Consumer and Farmer Demand

Consumers who promote the legal sale of fresh unpasteurized milk would like to be able to have the option to buy unpasteurized milk. They cite legal products that are known to be harmful to health, such as cigarettes and alcohol, and they question the prohibition against fresh unpasteurized milk for human consumption. They feel there are important health benefits to be gained by drinking fresh unpasteurized milk. Many also wish to develop a personal relationship with the individual farmer who provides their milk in order to have a greater degree of knowledge about the product, and thus have greater control over their own diet and health. By having the option of purchasing milk directly from local family farms, including farmers who work within the supply management system, these consumers can support the valuable traditional culture and knowledge kept alive by people who practice small scale mixed farming.

Some farmers see the market for fresh unpasteurized milk for human consumption as an opportunity to produce a differentiated product and thus obtain a premium price as a result of their personal farm management decisions. Some see it as an effective business risk management strategy for smaller farms. Regular customers would buy the relatively high value

product throughout the year, and milk is less vulnerable to weather and market volatility than many other farm products.

“Black Market” Raw Milk

Today, consumers who want to buy fresh unpasteurized milk are health conscious and may often be willing to pay more for it than for grocery store milk. There are some farmers who are willing to supply this demand in spite of potential liability issues. Because it is not legal to sell fresh unpasteurized milk for human consumption there are no authorized testing facilities or standards that would provide both the buyer and the seller with the information necessary to assess the product. From time to time there are documented incidents of food-borne illness due to microbial contamination of raw milk, and these are more common in jurisdictions where the sale of raw milk is legal. While relatively infrequent, these illnesses if untreated can be quite severe, and in some cases debilitating or life-threatening.

The Product

The Codex Alimentarius defines “Raw milk” as Milk which has not been heated beyond 40°C or undergone any treatment that has an equivalent effect.

The primary purpose of pasteurization (heating) of milk is to destroy pathogenic microorganisms. However the heating process also has other effects on milk. Milk contains non-pathogenic bacteria, which would also be killed by pasteurization. There may be an impact of pasteurization on enzymes, and vitamins, however the short period of time that milk is heated minimizes these effects. Milk’s calcium, protein, and other minerals are unaffected by pasteurization.

The digestibility of milk may be affected by pasteurization. Naturally occurring enzymes in fresh unpasteurized milk may assist in digesting milk sugars and thus reduce lactose intolerance. The existence of live harmless bacteria in fresh unpasteurized milk may provide a “probiotic” protection against infection by pathogens, as the friendly bacteria would occupy the ecological niche in the gut and prevent the disease-causing microorganism from growing. Proponents of fresh unpasteurized milk report that it provides protection against asthma and allergies, ear infections, auto-immune conditions, diabetes, and that it contributes to improved gastrointestinal health.

Pasteurization does not destroy chemical contaminants or drug residues. Canada’s dairy regulations prohibit the use of the genetically engineered bovine growth hormone, rBGH. Antibiotic and other veterinary drug residues in milk are also prohibited, and each bulk load is tested before pickup and rejected if there is a positive result. In an unregulated raw milk environment there may actually be a greater risk of such residues occurring in the milk, due to lack of consistent testing. However, many buyers of fresh unpasteurized milk seek out like-

mindful farmers to supply them with milk from cows that are grass-fed, or are raised according to the certified organic standard, which prohibits the use of synthetic pesticides and drugs.

The Market

The market for fresh unpasteurized milk in jurisdictions where it is legal is estimated to be from .01% to 1 % of total milk sales. In England and Wales the Animal Health Dairy has estimated unpasteurized milk to be of the order of 0.01% of total cows' milk consumption.

In Canada, dairy farmers sell just over 7.75 million kiloliters of fluid milk per year (Statistics Canada – Catalogue no. 23-014-X), so we could estimate a potential Canadian niche market for fresh unpasteurized milk at from about 20,000 to 215,000 liters per day. These consumers may currently be obtaining their milk from underground sources or not using milk products at all.

The licensing requirements we propose would ensure that fresh unpasteurized milk would be sold at a higher price than regular grocery-store milk. The requirement to purchase directly from the farmer would make fresh unpasteurized milk less convenient as well. These factors would select for consumers who specifically demand the product, and would reduce the probability that people would purchase it by accident.

The regulatory requirements

The *Codex Alimentarius* Commission, established by FAO and WHO in 1963, develops harmonized international food standards, guidelines and codes of practice to protect the health of the consumers and ensure fair trade practices for international trade in food. The Commission also promotes coordination of all food standards work undertaken by international governmental and non-governmental organizations. It is instructive to see the internationally agreed upon framework regarding milk in order to put our proposed protocol into broader context.

Codex Alimentarius notes the following food safety considerations regarding milk in general:

- *All foods have the potential to cause food borne illness, and milk and milk products are no exception.*
- *Dairy animals may carry human pathogens. Such pathogens present in milk may increase the risk of causing food- borne illness.*
- *The milking procedure, subsequent pooling and the storage of milk carry the risks of further contamination from man or the environment or growth of inherent pathogens.*
- *Further, the composition of many milk products makes them good media for the outgrowth of pathogenic micro-organisms.*
- *Potential also exists for the contamination of milk with residues of veterinary drugs, pesticides and other chemical contaminants.*

Codex Alimentarius notes the following food safety considerations regarding raw milk:

- *The hygienic conditions used at the primary production are one of the most important public health control measures, as a high level of hygiene of the milk is essential in order to obtain milk with a sufficiently low initial microbial load in order to enable the manufacturing of raw milk products that are safe and suitable for human consumption.*
- *In such situations, additional control measures may be necessary. Compliance with these additional hygienic provisions is important, and is considered mandatory in certain circumstances throughout the milk production process, up to the manufacture of the particular raw milk product.*
- *In addition, increased emphasis in certain aspects of the production of milk for raw milk products (animal health, animal feeding, milk hygiene monitoring) are specified and are critical to the production of milk that is safe and suitable for the intended purpose*
- *As is the case with the rest of this code, this section also does not mandate or specify the use of any one set of controls to be used, but leaves it up to those responsible for assuring the safety of the finished product to choose the most appropriate set of control measures for the particular situation.*

Proposed Protocol

Our proposed protocol for the legal sale in Canada of fresh unpasteurized milk for human consumption would ensure compliance with the health and food safety issues identified by the *Codex Alimentarius* above, by requiring it be sold only by licensed producers directly to consumers. The protocol would include standards for herd health, milk microbial content, chilling and storage; an inspection regime that would certify herd health, hygienic premises and procedures, labelling, customer and farmer education, signage and record-keeping; a testing regime that would test for herd health, drug residues, microbial levels for enteric bacteria and pathogens. The licensing would be embedded in the dairy supply management system, and costs would be shared by Health Canada and participating farmers/consumers via the aggregate licensing fees. The protocol would also have an enforcement process which would ensure compliance with all aspects of license requirements. We propose that the provincial dairy marketing boards would provide inspection services through a dedicated section of their Canadian Quality Milk on-farm food safety programs.

Introducing change

Permitting the legal sale in Canada of fresh unpasteurized milk for human consumption is a big change, and would require the support of both Health Canada and the dairy producers.

In order to ensure producers have adequate understanding of the food safety issues and the ability to implement the required measures on their farms, we recommend that the Canada

Quality Milk (CWM) program develop an additional module that would be recommended to prepare farmers to serve the fresh unpasteurized milk market.

The demand for fresh unpasteurized milk may be met by existing dairy farmers, new entrants into the dairy system and by small holders who have less than the minimum number of cows required for quota. Recent initiatives provide models that could be adapted for marketing fresh unpasteurized milk. For example, in Ontario and BC a dairy farmer may obtain a license to sell on-farm pasteurized milk directly to consumers in his or her farm store. Several provinces provide incentives for organic milk producers within supply management through measures such as preferential access to new entrant programs, and separate pooling, pricing and marketing of organic milk. The CQM offers training in certified organic dairy production. In the poultry sector, BC and Nova Scotia have non-quota licensing for free-range chicken and turkey production, providing for regulatory oversight and monitoring of supply within a supply-managed sector.

Next steps:

Our committee proposes the following steps be taken to bring about the legal sale in Canada of fresh unpasteurized milk for human consumption:

- a) Seek support of Health Canada for legalizing the sale of fresh unpasteurized milk for human consumption along with appropriate regulations to govern such sales.
- b) Seek support of one or more Dairy Boards for a pilot project to test the proposed regulations.
- c) Set up meetings between NFU, a provincial dairy board and Health Canada to negotiate an agreement to proceed with a pilot project
 - a. It is suggested that the pilot project participants formally include a group of interested consumers who would in aggregate pledge to buy the quantity of milk produced and who are supportive of both supply management and fresh unpasteurized milk for human consumption.
- d) Seek support of the Canadian Quality Milk program to develop a module for producers who will sell fresh unpasteurized milk for human consumption.
- e) Monitor for problems and revise the proposed regulation as necessary.
- f) Roll out to additional jurisdictions

References:

The Fight for Food Politics: Moving Toward a Regulatory Framework for Unpasteurized Milk in Canada

By Brittany Gottvald, student in the Faculty of Environment, University of Waterloo

Fresh, Unprocessed (Raw) Whole Milk: Safety, Health and Economic Issues

by The Weston A. Price Foundation, 2009 realmilk.com/rawmilkoverview.html

Health Canada Tip Sheet for Raw Milk

www.hc-sc.gc.ca/fn-an/securit/kitchen-cuisine/raw-milk-lait-cru-eng.php

Position Statement Regarding the Sale and Distribution of Raw Milk, Canadian Institute of Public Health Inspectors, August 31, 2010. <http://www.ciphi.ca/pdf/rawmilk-eng.pdf>

Food and Drugs Act – Regulations See B.08.002.2, B.08.030 and B.08.042 through B.08.048 laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._870/index.html

Raw drinking milk and raw cream control requirements in the different countries of the UK, Food Standards Agency, United Kingdom.

www.food.gov.uk/foodindustry/guidancenotes/hygguid/rawmilkcream

Dairy Statistics, Fourth quarter 2011 Catalogue no. 23-014-X, Statistics Canada

Code Of Hygienic Practice For Milk And Milk Products CAC/RCP 57-2004, Codex Alimentarius www.codexalimentarius.org

Annex I, Guidelines For The Primary Production Of Milk - Code Of Hygienic Practice For Milk And Milk Products CAC/RCP 57-2004, Codex Alimentarius www.codexalimentarius.org

Canadian Quality Milk program <http://www.dairyfarmers.ca/what-we-do/programs/canadian-quality-milk>

Draft Protocol for Regulating Sale of Fresh Unpasteurized Milk for Human Consumption

Licensing Requirements:

- a. Eligibility
 - a. Dairy quota holders with facilities that provide for separation between and accountability for milk sold in bulk and milk sold directly to fresh milk customers (for example, a second, dedicated tank or a metered vending machine).
 - b. New entrant quota holders that have completed CQM training in production for the fresh unpasteurized milk market
 - c. Small holders with production below the minimum quota threshold who have completed CQM training in production for the fresh unpasteurized milk market
- b. Production for Fresh Unpasteurized Milk sales limited to a modest amount, based on individual circumstances.
- c. Cost of licensing be shared between Health Canada and fees collected from license holders
- d. Liability is assumed jointly by the farmer and the consumer via an annually signed waiver, with copies retained by both parties.
- e. License would be immediately cancelled for non-compliance with marketing rules
- f. License could be suspended for failure to comply with production rules, and cancelled if non-compliance persisted

Marketing Rules:

- a. Only valid licence-holders may legally sell fresh unpasteurized milk for human consumption
- b. Maximum daily sales determined on a case by case basis.
- c. Direct farm-gate sales only – no retail or third party sales permitted
- d. License fees must be paid annually by all farmers selling fresh unpasteurized milk for human consumption.
- e. Clear and documented separation between milk destined for bulk sales and milk for fresh unpasteurized milk sales.

Signage and Labeling Requirements:

- a. Premises have clear and visible signage that states that the milk for sale is unpasteurized
- b. Each container, whether supplied by the farmer or customer, be labeled to indicate
 - i. Milk is not pasteurized
 - ii. Unpasteurized milk may contain organisms harmful to health

- iii. Mentions high risk groups: pregnant women, young children, elderly people and anybody with a compromised immune system
- c. Resale is prohibited
- d. Each customer is provided annually with an information sheet about milk-borne illnesses that may be present in unpasteurized milk and the recommended action to be taken if symptoms of any of these diseases occur, with emphasis on the seriousness and urgency of medical attention if a child experiences bloody diarrhoea.

Food Safety Standards:

- a. Herd health
 - i. Tuberculosis free, tested annually – or herd tested upon initial license application, new cows tested when introduced to herd. TB-free status must be maintained.
 - ii. Brucellosis free, tested annually or herd tested upon initial license application, new cows tested when introduced to herd. Brucellosis-free status must be maintained.
- b. Microbiology of milk
 - i. Somatic cell count (SCC) – 200,000/mL or less.,
 - ii. Plate counts - 15,000/mL or less, and
 - iii. Coliform counts - less than 50,000 colony-forming units (cfu) per mL
 - iv. Zero tolerance of pathogenic bacteria levels for
 - 1. Salmonella
 - 2. Listeria
 - 3. E. coli. 0157:H7,
 - 4. Campylobacter
- c. Antibiotic residue
 - i. Zero tolerance
 - ii. Minimum withdrawal periods apply following treatment of sick cows, no routine feeding of antibiotics allowed
- d. Other veterinary drug residues
 - i. Zero tolerance
 - ii. Minimum withdrawal periods apply following treatment of sick cows
- e. Milk storage
 - i. to 4 degrees Celsius or lower within one hour of milking and maintained at or below 4 degrees until customer purchase

Record-keeping Requirements:

- a. Documentation of measures taken to prevent and control animal diseases with an impact on public health
- b. Identification and movement of animals

- c. Regular control of udder health
- d. Use of veterinary drugs and pest control chemicals
- e. Nature and source of feed
- f. Milk storage temperatures
- g. Use of agricultural chemicals
- h. Equipment cleaning
- i. Quantity produced per day
- j. Quantity sold per day
- k. How unsold milk was disposed of or otherwise used
- l. Copies of signed and dated liability waiver for each customer

Testing Regime:

- a. Testing of new animals and regular testing for all animals for Tuberculosis and Brucellosis. All animals that test positive for either disease must be removed from the herd immediately.
- b. Random spot testing for drug residues
- c. If results not obtained on the spot, samples must be properly refrigerated for transport and promptly tested. Time of sampling must be recorded.
- d. Testing done by independent 3rd party
- e. Monthly testing for
 - i. Salmonella (zero tolerance)
 - ii. Listeria, (zero tolerance)
 - iii. E. coli O157:H7, (zero tolerance)
 - iv. Campylobacter (zero tolerance)
 - v. somatic cell count (SCC) – 200,000/mL or less
 - vi. plate counts - 15,000/mL or less, and
 - vii. coliform counts - less than 50,000 colony-forming units (cfu) per mL
- f. Test results retained in farmer's records as well as in public health database.

Inspection Process:

- a. Twice per year, unannounced, by a trained inspector who would be qualified for inspection of fresh unpasteurized milk licenses.
- b. Inspection would be for
 - i. cleanliness of premises and all relevant equipment
 - ii. hygienic procedures around milking and care of all relevant equipment
 - iii. herd health
 - iv. accuracy and completeness of record keeping
 - v. method of disposal of unsold/unsaleable milk
- c. Inspection results posted on publicly available website
- d. Interference with inspection would result in loss of license

Enforcement Measures:

- a. Inspectors will aim to prevent problems through open and transparent communication to bring about acceptable product results.
- b. Deficiencies addressed through time-limited procedures, re-inspection, progressive penalties for repeated non-compliance and suspension of license until problem is rectified.
- c. Sale by third parties is strictly prohibited, and hefty fines would apply to violators.