

CR 86-24

STATE OF WISCONSIN )  
 )  
 ) SS.  
DEPARTMENT OF AGRICULTURE, )  
 )  
TRADE & CONSUMER PROTECTION )

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TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:...

I, William D. Mathias, Administrator of the Food Division of the State of Wisconsin, Department of Agriculture, Trade and Consumer Protection, and custodian of the official records of said Division, do hereby certify that the annexed order amending Chapters Ag 31, 70, 71 and 80, Wis. Adm. Code, and creating Chapter Ag 33, Wis. Adm. Code, relating to pasteurization requirements and pasteurization equipment, was duly approved and adopted by the Department on November 17, 1986.

I further certify that said copy has been compared by me with the original on file in the Department and that the same is a true copy thereof, and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the Department at the Department offices in the city of Madison, this 17th day of November, 1986.

William D. Mathias  
William D. Mathias  
Administrator  
Food Division

ORDER  
OF THE  
STATE OF WISCONSIN  
DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION  
ADOPTING, AMENDING AND REPEALING RULES

1 To repeal Ag 70.05(3)(a) and Ag 70.07(2) and (3); to repeal and  
2 recreate Ag 31.06; to renumber Ag 70.07(4) and (5); to renumber and  
3 amend Ag 70.05(3)(intro.); to amend Ag 31.09(2)(b), Ag 71.01(5) and  
4 (6), and Ag 80.08(16)(a); and to create and ch. Ag 33; relating to  
5 pasteurization requirements and pasteurization equipment.

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Analysis Prepared by the Department of  
Agriculture, Trade and Consumer Protection

The amendments to chapters Ag 31, 70, 71 and 80 and the creation of chapter Ag 33 relate to pasteurization equipment and procedures. Current rules are overly broad and lack the prominence and detailed specificity necessary to insure that dairy products are thermally processed so as to significantly reduce microbial spoilage and the likelihood of disease in humans. The creation of chapter Ag 33 adopts by reference the "3-A Accepted Practices for the Sanitary Construction, Installation, Testing and Operation of High-Temperature Short-Time Pasteurizers." These standards are formulated by the International Association of Milk, Food and Environmental Sanitarians. The effective date for chapter Ag 33 is January 1, 1987. The delayed effective date will enable dairy plants to acquire and implement utilization of a flow diversion device, a recorder-controller, and a timing pump or device which automatically controls the plant's pasteurization processes. The phosphatase test as a measure of pasteurization efficacy will no longer be permitted after that date.

In addition to the revision in the agency's pasteurization rules, whey and condensed whey or blends of those products with other dairy ingredients are required to be pasteurized.

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6 Pursuant to authority vested in the state of Wisconsin depart-  
7 ment of agriculture, trade and consumer protection by ss. 93.07(1),  
8 97.09(4) and 97.24(4), Stats., the department repeals, amends and  
9 creates rules interpreting ss. 97.09 and 97.24, Stats., as follows:

1 SECTION 1. Ag 31.06(3) is repealed and recreated to read:

2 Ag 31.06(3) PASTEURIZATION AND PASTEURIZATION EQUIPMENT.

3 Dairy products shall be pasteurized in compliance with ch. Ag 33.

4 SECTION 2. Ag 31.09(2)(b) is amended to read:

5 Ag 31.09(2)(b) Cream ~~and~~, whey cream, or a blend of cream and  
6 whey cream may not be sold or delivered to another plant for human  
7 food purposes if ~~the~~ its titratable acidity ~~of whey cream~~ exceeds  
8 0.20% ~~or if cream or whey cream is held more than 7 days~~  
9 ~~at the plant where separated.~~

10 SECTION 3. Chapter Ag 33 is created to read:

11 CHAPTER AG 33

12 PASTEURIZATION AND PASTEURIZATION EQUIPMENT

13 Ag 33.01 DEFINITIONS. As used in this chapter:

14 (1) "Batch pasteurization" means heating a dairy product in a  
15 vat or large container to the batch pasteurization temperature and  
16 for the holding time specified for the appropriate product group  
17 under s. Ag 33.03(1). (2) "Dairy plant" has the meaning specified  
18 in s. 97.20(1)(a), Stats.

19 (3) "Dairy product" or "product" has the meaning specified  
20 in s. 97.20(1)(b), Stats.

21 (4) "Department" means the state of Wisconsin department of  
22 agriculture, trade and consumer protection.

23 (5) "High-temperature short-time pasteurization" (HTST) means  
24 heating every particle of a dairy product to the temperature  
25 specified for the appropriate product group under s. Ag 33.03(1),  
26 and holding it continuously at or above this temperature in a

1 holding tube for the required time period.

2 (6) "Milk" has the meaning specified in s. 97.01(10), Stats.

3 (7) "Pasteurization" means thermally processing a dairy pro-  
4 duct or dairy ingredient for purposes of microbial destruction and  
5 includes batch pasteurization, high-temperature short-time pasteuri-  
6 zation, ultrapasteurization or any other pasteurization process  
7 which is equally effective for microbial destruction and is approved  
8 by the department in writing.

9 (8) "Ultrapasteurization" means thermally processing a dairy  
10 product or dairy ingredient for the ultrapasteurized holding time  
11 and temperature requirements specified in s. Ag. 33.03(1).

12 Ag 33.02 PASTEURIZATION; GENERAL. (1) All dairy products  
13 shall be pasteurized or manufactured from pasteurized milk or other  
14 dairy ingredients which have been pasteurized at the dairy plant  
15 where the final dairy product is manufactured, unless the pro-  
16 duct's standard of identity authorizes the use of unpasteurized  
17 milk.

18 (2) If a dairy product is pasteurized, the label for all bulk  
19 packages of the product shall indicate that the product is pasteur-  
20 ized and include the factory number of the dairy plant where pas-  
21 teurization occurred. If a dairy product is not made from pasteur-  
22 ized ingredients, the label for all bulk and consumer packages or  
23 containers shall indicate the product is made from raw or unpasteur-  
24 ized milk. As an alternative, any cheese whose standard of identity  
25 authorizes the cheese to be made from raw or unpasteurized milk may  
26 be held 61 days or longer before marketing and labeled as "aged over

1 60 days."

2 Ag 33.03 PASTEURIZATION HOLDING TIME AND TEMPERATURE

3 REQUIREMENTS. (1) Milk and other dairy products identified in the  
4 following table shall be pasteurized in compliance with the speci-  
5 fied pasteurization requirements for the respective product groups  
6 in a non-coil batch pasteurizer or HTST pasteurizer, or be subjected  
7 to ultrapasteurization. Pasteurization equipment shall heat every  
8 particle of milk, dairy product or dairy ingredient to the required  
9 temperature and continuously hold them at or above the specified  
10 temperature for the required period of time. A dairy product or  
11 dairy ingredient which is ultrapasteurized shall be thermally pro-  
12 cessed at or above a temperature of 280° F. for at least 2 seconds  
13 for purposes of microbial destruction.

	<u>Product Group</u>	<u>Batch Pasteurization</u>	<u>HTST Pasteurization</u>
14			
15			
16	(a) Milk, skim milk, whey or buttermilk	145° F. for 30 minutes	161° F. for 15 seconds
17	(b) Cream and fluid dairy products having more than 9% milkfat	150° F. for 30 minutes	166° F. for 15 seconds
18			
19	(c) Cream for butter	165° F. for 30 minutes	185° F. for 15 seconds
20			
21	(d) Condensed dairy products including condensed products in group (a) and blends of those products	155° F. for 30 minutes	166° F. for 15 seconds
22			
23			
24	(e) Frozen dessert mixes	155° F. for 30 minutes	175° F. for 25 seconds
25			
26	(f) Process cheese	150° F. for 30 seconds	_____
27			

1 (2) Whey, whey protein concentrate, reduced mineral whey,  
2 reduced lactose whey, sweet cream and whey cream buttermilk, when  
3 condensed or dried, shall be pasteurized prior to final condensing  
4 or drying, except that partially crystallized condensed whey pro-  
5 ducts containing 40% or more total solids, if pasteurized before  
6 being condensed, need not be repasteurized prior to final drying.

7 (3) Whenever the standard of identity for a dairy product  
8 under 21 Code of Federal Regulations Parts 131, 133, 135, or rules  
9 of the department requires pasteurization of an ingredient, it shall  
10 be pasteurized in accordance with the time and temperature require-  
11 ments specified for the particular ingredient's product group under  
12 sub. (1).

13 (4) Subsection (1) does not prohibit the use of another pas-  
14 teurization process which is equally effective for microbial  
15 destruction, provided that the process is specifically approved in  
16 writing by the department.

17 Ag 33.04 BATCH PASTEURIZATION EQUIPMENT. Batch pasteurization  
18 equipment shall be of the non-coil type. Vats shall be constructed  
19 so that every particle of milk or dairy product is heated to the  
20 appropriate batch pasteurization temperature and held continuously  
21 at or above that temperature for the required time. All pasteuri-  
22 zation vessels shall be equipped with leak detector valves. Batch  
23 pasteurizers shall have recording thermometers, mercury column pro-  
24 duct thermometers and a thermometer to record the temperature of the  
25 air space above the pasteurizer.

1 Ag 33.05 HIGH-TEMPERATURE SHORT-TIME (HTST) PASTEURIZATION

2 STANDARDS. (1) Except as provided in sub. (2), pasteurization by  
3 means of high-temperature short-time pasteurization shall comply  
4 with the standards set forth in "3-A Accepted Practices for the San-  
5 itary Construction, Installation, Testing and Operation of High-  
6 Temperature, Short-Time Pasteurizers, Revised" (1967), published by  
7 the International Association of Milk, Food and Environmental Sani-  
8 tarians, Department B, P.O. Box 701, Ames, Iowa 50010. Amended  
9 standards adopted after the effective date of this chapter  
10 will have no effect in this state, until this chapter is amended to  
11 include the amended standards.

12 NOTE: Copies of the "3-A Accepted Practices for the Sanitary  
13 Construction, Installation, Testing, and Operation of High-  
14 Temperature, Short-Time Pasteurizers, Revised" (1967) may be  
15 obtained from the International Association of Milk, Food and  
16 Environmental Sanitarians, Department B, P.O. Box 701, Ames,  
17 Iowa 50010. Copies are on file in the offices of the depart-  
18 ment, the secretary of state and the revisor of statutes.

16 (2) Preheated ingredients used in the manufacture of a dairy  
17 product shall not be blended in a HTST pasteurizer's constant level  
18 tank or balance tank unless the blend temperature is maintained  
19 below 50° F. Any preheated ingredient which will raise the blend  
20 temperature higher than 50° F. may be added to ingredients drawn  
21 from the pasteurizer's constant level tank or balance tank at a  
22 point in the flowline downstream from the outlet of the constant  
23 level tank or balance tank, but upstream from the HTST timing pump.

24 Ag 33.06 PASTEURIZATION RECORDS. A dairy plants shall maintain  
25 records of pasteurization of all dairy products processed by the  
26 dairy plant in the past 6 months. Records shall consist of

1 recording charts or other records accurately showing the date of  
2 pasteurization and the name of the individual responsible for the  
3 pasteurization operation. Records shall include a record of a daily  
4 check of the recording thermometer for accuracy, the date on which  
5 the check was made and the name of the person who checked the  
6 thermometer.

7 Ag 33.07 APPLICABILITY. This chapter applies to all dairy  
8 plants producing or processing any graded or ungraded dairy product  
9 sold or intended for use as human food or as an ingredient or  
10 component in another food product sold or intended for use as human  
11 food.

12 SECTION 6. Ag 70.05(3)(intro.) is renumbered Ag 70.05(3) and  
13 amended to read:

14 Ag 70.05(3) PASTEURIZATION. ~~Pasteurizing equipment shall con-~~  
15 ~~form to accepted industry standards for the sanitary construction,~~  
16 ~~installation, testing and operation of high temperature short term~~  
17 ~~pasteurizers and sanitary standards for non-coil batch pasteurizers.~~  
18 Frozen desserts shall be pasteurized in compliance with ch. Ag 33.

19 SECTION 7. Ag 70.05(3)(a) is repealed.

20 SECTION 8. Ag 70.07(2) and (3) are repealed.

21 SECTION 9. Ag 70.07(4) and (5) are renumbered Ag 70.07(2) and  
22 (3).

23 SECTION 10. Ag 71.07(5) and (6) are amended to read:

24 Ag 71.01(5) "Pasteurized" means ~~that every particle of milk or~~  
25 ~~milk product has been heated to at least 145° F., and held contin-~~  
26 ~~uously at or above this temperature for at least 30 minutes, or to~~

1 ~~at least 161° F., and held continuously at or above this temperature~~  
2 ~~for at least 15 seconds, in equipment which is properly operated and~~  
3 ~~approved by the department, except for milk products which have a~~  
4 ~~higher milkfat content than milk or contain added sweeteners, in~~  
5 ~~which case every particle shall have been heated to at least 150° F.,~~  
6 ~~and held continuously at or above this temperature for at least 30~~  
7 ~~minutes, or to at least 166°, and held continuously at or above this~~  
8 ~~temperature for at least 15 seconds~~ subjected to pasteurization as  
9 provided in ch. Ag 33. ~~This does not prohibit the use of any other~~  
10 ~~pasteurization process which has been demonstrated to be equally~~  
11 ~~efficient and is approved by the department.~~

12 (6) "Ultra-pasteurized" means ~~that milk or milk products shall~~  
13 ~~have been thermally processed at or above 280° F. for at least 2~~  
14 ~~seconds, either before or after packaging, to produce a product~~  
15 ~~which has an extended shelf life under refrigerated conditions~~  
16 subjected to ultrapasteurization as provided in ch. Ag 33.

17 SECTION 11. Ag 80.08(16)(a) is amended to read:

18 Ag 80.08(16)(a) ~~All pasteurization equipment shall meet~~  
19 ~~standards and requirements for the equipment as provided under s. Ag~~  
20 ~~31.06(3), Wis. Adm. Code. The equipment shall be operated in a~~  
21 ~~manner which will ensure that all products, during the pasteuri-~~  
22 ~~zation process, meet the criteria set forth in s. Ag 71.01(5) or~~  
23 ~~(6), Wis. Adm. Code. Dairy products shall be pasteurized in~~  
24 compliance with ch. Ag 33.

25 SECTION 12. The rules contained in this order shall take  
26 effect on October 1, 1989, as provided in s. 227.026(1)(b), Stats.,

1 except Section 2, which shall take effect on the first day of the  
2 month following publication in the Wisconsin administrative  
3 register, as provided in s. 227.026(1)(intro.), Stats.

4 Dated this 17th day of November, 1986.

5  
6 STATE OF WISCONSIN  
7 DEPARTMENT OF AGRICULTURE,  
8 TRADE AND CONSUMER PROTECTION

9 By William D. Mathias  
10 William D. Mathias, Administrator  
Food Division

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