

901:11-2-26

**Pasteurization, sterilization and cooking.**

- (A) When pasteurization is intended or required, or when a product is designated "pasteurized" every particle of the product shall be subjected to temperatures and holding periods that will assure proper pasteurization of the product. When product is desired to be heat-treated, the product shall be heated to temperatures greater than one hundred twenty-five degrees Fahrenheit but less than one hundred sixty-one degrees Fahrenheit, provided, cream may be heated further to less than one hundred sixty-six degrees Fahrenheit in a continuous heating process and immediately cooled to forty-five degrees Fahrenheit or less when necessary for enzyme deactivation for a functional reason.
- (B) Pasteurization shall comply with the applicable specifications of item 16p of the PMO. The recording and indicating thermometers of heat-treating devices shall be checked by the director as often as required. Nothing in this rule shall be construed as barring any other pasteurization process that has been recognized by the food and drug administration to be equally effective and which is approved by the director.
- (C) The phenol value of test samples of a pasteurized finished product shall be no greater than the maximum specified for that product as determined and specified by the phosphatase test method prescribed in the official methods.
- (D) All milk, buttermilk and whey used in the manufacture of dry dairy products shall be pasteurized at the plant where dried. Milk or skim milk to be used in the manufacturing of nonfat dry milk shall be pasteurized prior to condensing. Condensed skim manufactured from pasteurized skim milk may be transported to a drying plant, provided, the condensed skim milk is effectively repasteurized at the drying plant, prior to drying, at not less than one hundred seventy-five degrees Fahrenheit for at least twenty-five seconds.
- (E) All buttermilk or cream from which it is derived shall be pasteurized prior to condensing at a temperature of at not less than one hundred eighty-five degrees Fahrenheit for at least fifteen seconds.
- (F) All cheese whey or milk from which it is derived shall be pasteurized prior to condensing at a temperature of not less than one hundred sixty-one degrees Fahrenheit for at least fifteen seconds.
- (G) The milk or cream shall be pasteurized at the plant where the milk or cream is processed into butter. Cream or re-melt butter for butter manufacturing shall be pasteurized at a temperature of not less than one hundred sixty-five degrees Fahrenheit and held continuously in a vat at such temperature for at least thirty minutes; or pasteurized by the HTST method at a temperature of not less than one hundred eighty-five

degrees Fahrenheit for at least fifteen seconds; or by any other equivalent time and temperature combination.

- (H) The pasteurization of cream for plastic or frozen cream shall be pasteurized at the plant where the milk or cream is processed. The temperature for the vat pasteurization method shall be not less than one hundred seventy degrees Fahrenheit for at least thirty minutes. Pasteurization by the HTST method shall be at a temperature of not less than one hundred ninety degrees Fahrenheit for at least fifteen seconds or by any other temperature and holding time which will assure adequate pasteurization and comparable keeping quality characteristics.
- (I) After the HTST unit has been tested according to appendix I PMO. The public health controls shall be sealed at the correct setting by the director to assure pasteurization. The HTST pasteurizer shall be tested initially upon installation, at least each six months, and whenever any alteration or replacement is made which affects the proper operation of the pasteurizer. When direct steam pasteurizers are used, the steam, prior to entering the product, shall be conducted through a steam strainer and steam purifier equipped with a steam trap and only steam meeting the requirements for culinary steam shall be used.
- (J) Sterilization or the complete destruction of all living organisms is performed in one of the following methods:
  - (1) The complete in-container method, by heating the container and contents to a range of two hundred twelve degrees Fahrenheit to two hundred eighty degrees Fahrenheit for a time sufficient to destroy all living organisms;
  - (2) By a continuous flow ultra high-temperature, short-time (UHTST) method at two hundred eighty degrees Fahrenheit or above for a time sufficient to destroy all living organisms, then packaged aseptically; or
  - (3) The product is initially sterilized according to continuous flow UHTST method as stated in paragraph (B) of this rule, then packaged and given further heat treatment to complete the sterilization process.
- (K) Cooking.
  - (1) Each batch of cheese within the cooker, including the optional ingredients, shall be thoroughly commingled and the contents shall be pasteurized at a temperature of not less than one hundred fifty-eight degrees Fahrenheit and held at that temperature for at least thirty seconds.

- (2) Cheese particles or ingredients shall not be added after the cooker batch of cheese has reached the final heating temperature. After holding for the required period of time, the hot cheese shall be emptied from the cooker as quickly as possible.
- (3) Cookers shall be of the steam jacketed or direct steam type. They shall be constructed of stainless steel or other equally corrosion-resistant material. All product contact surfaces shall be readily accessible for cleaning.
- (4) Each cooker shall be equipped with an indicating thermometer and a temperature recording device.
- (5) Steam check valves on direct steam type cookers shall be mounted flush with the cooker wall, be constructed of stainless steel and designed to prevent the backup of product into the steam line, or the steam line shall be constructed of stainless steel pipes and fittings which can be readily cleaned. If direct steam is applied to the product, only culinary steam shall be used.

Five Year Review (FYR) Dates: 10/24/2017 and 10/24/2022

CERTIFIED ELECTRONICALLY

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Certification

10/24/2017

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Date

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