Conference for Food Protection
2014 Issue Form

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Council Recommendation:	Accepted as Submitted	_____	Accepted as Amended	_____	No Action	_____
Delegate Action:	Accepted	_____	Rejected	_____		

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Title:
Designating certain cheeses non-time/temperature control for safety foods

Issue you would like the Conference to consider:
Many natural cheeses have pH and water activity (a_w) that result in their being classified as time/temperature control for safety (TCS) foods when evaluated using Table B in the definition of "time/temperature control for safety food' in Subpart 1-201.10 (B) of the 2013 FDA Food Code. Retailers would like to store and display these cheeses under non-refrigerated conditions to enhance the cheese flavor and aroma, but are not allowed to do so. The Food Code allows a product assessment to conclusively determine TCS status for any food product. Product assessment studies were done at the University of Wisconsin-Madison using 67 cheeses inoculated with *Staphylococcus aureus*, *Salmonella* spp., *Listeria monocytogenes*, and *Escherichia coli* O157:H7 and stored for up to 15 days at 25°C (77°F). The results of these studies, along with the results of earlier published studies, support the designation of cheeses with specific pH and % salt-in-moisture phase (% SMP) values as non-TCS foods.

A peer-reviewed published survey of the scientific literature (presented at the 2008 CFP Biennial Meeting) suggested that certain types of cheese are non-TCS foods. Many of these recommended cheeses, because they do not support growth of *Listeria monocytogenes*, are already exempted from date-marking requirements (see Table in Annex 3 under Section 3-501.18, based on the FDA/USDA/CDC *Listeria monocytogenes* Risk Assessment). A series of targeted product assessments, done at the University of Wisconsin-Madison according to laboratory methods specified by the FDA (http://www.fda.gov/Food/FoodScienceResearch/SafePracticesforFoodProcesses/ucm094141.htm), tested cheeses of many types, including those exempted from date-marking, for their ability to support room-temperature growth of *L. monocytogenes* and other relevant pathogenic bacteria (*Staphylococcus aureus*, *Salmonella* spp., and *Escherichia coli O157:H7*). The results of the product assessments, along with those of relevant product assessments published previously, are described in a paper which has been submitted to the *Journal of Food Protection* for peer review (Non-TCS Cheeses, Supporting Document #1). The product assessment results indicate that cheeses with certain pH and % SMP levels do not support growth of any of the tested pathogens under non-refrigerated conditions. Separate lots of the same cheese type, *e.g.* Provolone, with different pH and % SMP, may vary in their ability to support pathogen growth. For this reason, we propose that the exemption of certain natural cheeses from being classified as TCS ~~status~~ should be

based on pH and %SMP, not cheese type designation. Critical combination of pH and %SMP for preventing pathogen growth are listed in Non-TCS Cheeses, Supporting Document #2.

Public Health Significance:
Extensive laboratory research at the University of Wisconsin-Madison (Non-TCS Cheeses, Supporting Document #1) has shown that natural cheeses with certain pH and % salt-in-moisture phase (% SMP) values will not support the growth of relevant food-borne pathogenic bacteria (*Listeria monocytogenes*, *Staphylococcus aureus*, *Salmonella* spp., and *Escherichia coli O157:H7*) during storage at 25°C (77°F) for up to 15 days. These storage conditions were intentionally longer and warmer than typical room-temperature storage of cheese in order to be sure that pathogen growth would not occur under slightly abusive temperature conditions. Previous studies (cited in Non-TCS Cheeses, Supporting Document #1) used storage temperatures ranging from 20 to 30°C (68 - 86°F) and yielded results that were consistent with the UW-Madison findings. Data analysis has determined critical combinations of cheese pH and %SMP for preventing pathogen growth under non-refrigerated conditions. Natural cheeses with pH and %SMP at least as restrictive as these critical combinations can be stored under non-refrigerated conditions without increasing the risk of foodborne illness. These critical combinations are listed in Non-TCS Cheeses, Supporting Document #2.

Recommended Solution: The Conference recommends...:
That a letter be sent to FDA requesting the 2013 Food Code be amended to add 3(f) under the definition of "T*ime/temperature control for safety food" in subpart* 1-201.10 (B) as follows (new language is underlined):
3 (f) Natural cheeses made from pasteurized cow's milk, that are not ripened with mold, that are not surface-ripened with bacteria, that are not Swiss, emmentaler and related cheeses produced using propionic acid-producing bacterial cultures, and that have pH and % salt- in-moisture phase (SMP) levels meeting one of the following requirements:
pH not greater than 4.60 and % SMP not less than 0.24
pH not greater than 4.70 and % SMP not less than 0.91
pH not greater than 4.80 and % SMP not less than 1.58
pH not greater than 4.90 and % SMP not less than 2.24
pH not greater than 5.00 and % SMP not less than 2.91
pH not greater than 5.10 and % SMP not less than 3.58
pH not greater than 5.20 and % SMP not less than 4.25
pH not greater than 5.30 and % SMP not less than 4.92
pH not greater than 5.40 and % SMP not less than 5.59
pH not greater than 5.50 and % SMP not less than 6.26
pH not greater than 5.60 and % SMP not less than 6.93

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Attachments:

- "Non_TCS Cheeses, Supporting Document #1.pdf"
- "Non_TCS Cheeses, Supporting Document #2.pdf"

It is the policy of the Conference for Food Protection to not accept Issues that would endorse a brand name or a commercial proprietary process.