

North Carolina Department of
Environment And Natural Resources

Division of Environmental Health

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MEMORANDUM

To: Environmental Health Directors, Supervisors and Coordinators

**From: Susan C. Grayson, Head
Dairy & Food Protection Branch**

Subject: Potentially Hazardous Desserts

Potentially hazardous desserts and their sitting at room temperature came up in Alamance County. Some desserts are potentially hazardous. You may recall the many letters from FDA on pumpkin and sweet potato pies and which were potentially hazardous and which were not. The need for FDA to review the manufacturers' formulations and tests was ended when NSF agreed to produce a new standard for non-potentially hazardous foods, Std. # 75.

However, in the case of restaurant-produced desserts, meeting the NSF standard may be prohibitive financially. Therefore, it will be up to you and the management of the establishment to determine the nature of the desserts. In the Alamance case, they have been speaking to a restaurant about the need to use temperature control or time-in-place-of-temperature on these desserts.

If you have any establishment that is letting potentially hazardous desserts sit at room temperature, please review their formulations and procedures.

Rule .2609 requires all potentially hazardous foods to be held at 140° F or above or 45° F or below (2609 (g)) or that time-in-place-of-temperature procedures, approved by the state or local department, be used [2609 (h) and (i)].

What is a potentially hazardous food? Some excellent information on potentially hazardous foods can be seen on the 2002 Conference for Food protection website. Read the report from the Institute of Food Technologists (IFT) on potentially hazardous foods. That website address is: http://www.foodprotect.org/other_documents.html

Potentially hazardous foods are those with a pH above 4.6 or a water activity above 0.85. Foods with animal origin ingredients (milk, eggs, etc.) should be the first ones to examine.

Custards, puddings, cakes with custard fillings, meringues (there is often a layer of moisture at the interface of the meringue and the filling that can support growth), and other desserts containing ingredients of animal origin, should be assumed to be potentially hazardous unless the maker can prove otherwise. Cut melons are known to support good growth of Salmonella. Some desserts with potentially hazardous ingredients do not get a terminal heat treatment. "...treated foods of plant origin.", like cooked vegetables and fruits, are potentially hazardous ingredients.

Some desserts, such as cakes (due to low water activity) and traditional fruit pies (due to low pH) are not generally potentially hazardous and do not need temperature control.

Obviously, each dessert made by an establishment is a "special" recipe and recipes should all be examined. While a dessert may not be made with milk, it may contain casein, a milk protein; thereby becoming a potentially hazardous product. On the other hand, some of those pumpkin pie manufacturers that FDA was dealing with had not-quite-low-enough pH's and not-quite-low-enough water activities, but achieved a non-potentially hazardous product by adding preservatives that destroyed microorganisms or inhibited their growth.

The following list contains some often seen desserts and tells you why they are not potentially hazardous:

cookies—low water activity (generally, dry baked products have low water activity)
sweet breads—low water activity
cakes with hard icings or frostings—low water activity
fruit pies with fruit and sugar fillings—low pH

The recipes for various desserts should be discussed with management. If you and management cannot agree on whether or not a food is potentially hazardous or not, please consult with your Regional Environmental Health Specialist.

Where we cannot determine that a dessert is potentially hazardous or not, the establishment can either treat the dessert as a potentially hazardous food or prove it is non-potentially hazardous. To prove the dessert is non-potentially hazardous, they can test in accordance with the NSF standard for non-potentially hazardous foods (#75) or have a lab perform a challenge test (inoculation with known pathogens or surrogate pathogens, incubation and testing for colony forming units.)

Please work with your establishments in improving food safety for dessert products.

cc: North Carolina Restaurant Association
North Carolina Food Dealers Association
North Carolina Retail Merchants Association