1989

Food Safety and the Microwave

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Safety questions about use of a microwave oven for cooking usually center around damage to tissues in the body. We are assured by manufacturers and government regulators that proper use of the oven is absolutely safe. Microbial problems, however, might present another hazard to our health if specific precautions are not observed. Many of these problems are associated with uneven heating by microwaves.

**Question**

Is it safe to heat home-canned vegetables and meats in a microwave?

A long-standing rule for safe food preparation is to simmer home-canned vegetables and meats for 12-15 minutes before eating. The recommendation is based on the destruction of botulism toxin by heat. The toxin might be produced by bacteria in home canned vegetables and meats if processing time is too short or temperature is too low. It is sort of a final check—just in case. What happens when a microwave is used to heat home-canned vegetables? Is the heating even enough and at a high enough temperature? It may well be. Not all microwaves are created equal. The wattage varies considerably with different models and brands. By using the microwave and becoming familiar with the settings, it is possible to have a sustained simmer for 12-15 minutes. The use of a cover and stirring or rotation of the container also result in more even heat distribution.

**Question**

Is it safe to reheat food in a microwave?

If the food has been properly refrigerated after thorough cooking and not allowed to stand at room temperature for extended periods of time (more than two hours) there is no risk with reheating in a microwave. However, thorough heating to at least 165°F is very important if bacterial growth has exceeded safe limits. Otherwise, there could be gastrointestinal problems such as nausea, vomiting and diarrhea. Since microwave heating is very rapid, a few extra seconds overheats or dries out food. As a result microwave users are advised to undercook. When reheating previously cooked food, it is necessary to heat thoroughly even if there is loss of quality.

**Question**

Is it safe to cook pork in the microwave?

It is recommended that pork be cooked to the well done stage (165-170°F.) to kill the trichinosis organism, should it be present. Uni-
form heating is important when cooking pork. Every portion of the meat must be thoroughly cooked. The use of a lid, cooking bags, rotation of food at midway, stirring, and rearranging are all techniques to promote more even heating. Standing time of 10-15 minutes after microwaving will distribute heat more evenly. The use of a temperature probe in the meat is also important.

**Question**

What are some general recommendations for safe use of the microwave?

Microwave cooking has a firmly established place in our lifestyles. Just remember that it is essential to use appropriate handling procedures for a safe food supply no matter what cooking methods are used.

**SAFE FOOD HANDLING RULES**

1. Purchase fresh, wholesome products by checking the “Sell-by” date and the “Use-by” date.

2. After purchase, take food directly home and store it appropriately. During the hottest part of the summer, an ice chest in the car will protect refrigerated or frozen foods on the way home.

3. Keep perishable foods such as raw fish, poultry and ground meats no longer than two days before cooking or freezing them.

4. Raw eggs in their shells should be refrigerated and may be kept three to five weeks. Hard cooked eggs can be refrigerated for no more than one week.

5. Never leave food, either raw or cooked, outside of the refrigerator for more than a total of two hours including preparation and serving time.

6. Keep a clean kitchen and wash hands frequently while preparing food.

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Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. R. Paul Larsen, Vice President and Director, Extension Service, Utah State University.