

# MICROWAVE COOKING



## Introduction

The microwave oven is one of the greatest inventions of the 20th century; over 90% of homes in America have at least one. Microwaves can play an important role at mealtime, speeding up food preparation time. They can have nutritional benefits, as well. Faster cooking helps retain nutrients and allows food to be cooked without added fat.

## Microwave Safe Cooking Basics

General cooking guidelines apply to microwave cooking. Since foods cook differently in a microwave oven follow these precautions:

- Arrange food items uniformly in a covered dish and a little liquid. Under a cover such as a lid or vented plastic wrap, steam helps destroy bacteria and ensures uniform heating. Oven cooking bags also promote safe, even cooking.
- Foods and liquids are heated unevenly in a microwave, so stir or rotate food midway through cooking and turn large food items upside down. This prevents cold spots where harmful bacteria can survive.
- When partially cooking food in the microwave to finish cooking on the grill or in a conventional oven, it is important to transfer the microwaved food immediately to the other heat source. Never partially cook food and store it for later use.
- To prevent burns, carefully remove food from the microwave. Use potholders and uncover foods away from your face so that steam can escape.
- Microwaving baby food is not recommended because uneven heating can result in scalding a baby's mouth. If microwaved, stir food, shake bottles, and test for lukewarm temperatures.
- Use a food thermometer or the oven's temperature probe to verify that the food has reached a safe minimum internal temperature. Ovens vary in power and efficiency, due to wattage differences. Observe standing times given so that cooking is completed.
- Pierce hot dogs and baking potatoes with a fork before putting them into the microwave to keep them from exploding. Reheat hot dogs until they are hot and steaming.
- Cooking whole, stuffed poultry in the microwave is not

recommended. Cook stuffing separately to 165° F. The stuffing might not reach the temperature needed to destroy harmful bacteria.

- Do not cook large cuts of meat on high power, these should only be cooked on medium heat. This allows heat to reach the center without overcooking other areas.
- Avoid using your microwave oven for canning. The pressure that builds up inside the jar may cause it to explode.

## Cooking Temperatures

Cook foods to the following safe minimum internal temperatures:

- Beef, veal, lamb steaks, roasts and chops: 145° F.
- All cuts of pork: 160° F.
- Ground beef, veal and lamb: 160° F.
- Egg dishes and casseroles: 160° F.
- Leftovers: 165° F.
- All poultry: 165° F.

## Defrosting in the Microwave

- Remove food from store wrap prior to microwave defrosting. Foam trays and plastic wraps are not heat stable at high temperatures. Melting or warping from hot food may cause chemicals to leach into food.
- Cook meat and poultry immediately after microwave thawing. Some areas of frozen food may begin to cook during the defrosting time. Holding partially cooked food is not recommended because any bacteria present would not have been destroyed.
- Remember to take food out of the microwave. Do not forget about a food item that has been thawing in the microwave. Food should not be left out of the refrigerator more than two hours.

## Utensils Safe to Use

- Only use cookware that is specially manufactured for microwaves. Glass, ceramic containers, and all plastics should be labeled for microwave oven use. China with metallic paint or trim is usually not recommended.

- Plastic storage containers such as margarine tubs, take-out containers, whipped topping bowls, as well as foam-insulated cups, bowls, plates and trays should not be used in the microwave. These containers can warp and melt, possibly causing harmful chemicals to migrate into the food.
- Microwave plastic wrap, wax paper, cooking bags, parchment paper, and white microwave safe paper towels should be safe to use. Do not let plastic wrap touch foods during microwaving.
- Never use plastic storage bags, brown paper or plastic grocery bags, twist ties, newspapers, or aluminum

## References

United States Department of Agriculture. Food Safety and Inspection Service Fact Sheets. Microwave Ovens and Food Safety. July 2006. [http://www.fsis.usda.gov/Fact\\_Sheets/Microwave\\_Ovens\\_and\\_Food\\_Safety/index.asp](http://www.fsis.usda.gov/Fact_Sheets/Microwave_Ovens_and_Food_Safety/index.asp)

United States Department of Agriculture. Food Safety and Inspection Service Fact Sheets. Cooking Safely in the Microwave Oven. April 2006. [http://www.fsis.usda.gov/Fact\\_Sheets/Cooking\\_Safely\\_in\\_the\\_Microwave/index.asp](http://www.fsis.usda.gov/Fact_Sheets/Cooking_Safely_in_the_Microwave/index.asp)

Clemson University Extension Home and Garden Information Center. Microwave Food Safety. New 2/99, Revised 2/05. <http://hgic.clemson.edu/factsheets/HGIC3586.htm>

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