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Family Resources

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SAFE CARRIED MEALS

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FOOD SAFETY

Staphylococcus aureus, clostridium botulinum, clostridium perfingens, and salmonella are bacteria that cause food illness. Nausea and diarrhea often result from food borne illness and not the 24 hour flu. Some food spoils easily at room temperature because of bacterial growth. Bacteria can multiply into millions in just a few hours if the conditions are right. A warm temperature, moisture, and food are the conditions needed by most bacteria to grow.

High protein and high moisture foods are the ones most likely to spoil. The chart shows foods by protein and moisture content. Hot sun, warm radiators, or hot rooms can result in food that is unsafe or poor quality. Even if foods can be heated at work on a burner, in an oven, or in a microwave, carried meals need cool temperatures until meal time. For food safety and enjoyment, carried meals should be stored away from warm or hot temperatures.

MILK and MEAT foods are most likely to spoil because of their protein content. If cold storage temperatures are not available for carried meals, select high protein foods with low moisture content (e.g., peanut butter, cheese), carry unopened, canned protein foods (e.g., meat, fish, chicken, pudding, milk) or dehydrated protein foods.

FRUITS and VEGETABLES are safe for carried lunches because they contain little or no protein. Bacteria do not grow well in fruits because of their high sugar content. Browning will occur the quickest in bruises or torn skin. Fruits and vegetables are good thirst quenchers for carried meals because of their high moisture content.

GRAINS (breads and cereals) are safe for carried meals because they are both low protein and low moisture. Grains are very popular for sandwiches (breads) and finger foods or snacks (cereals).

To grow bacteria need	
Warm temperature	45° F to 145° F
Food	protein
Moisture	water

PROTEIN AND MOISTURE CONTENT OF FOODS

COLD STORAGE TEMPERATURE		*COOL STORAGE TEMPERATURE*			
High Protein High Moisture		*High Protein Low Moisture*	*High Protein High Moisture*	*Low Protein Low Moisture*	*Low Protein High Moisture*
cottage cheese eggs fluid milk meat chicken fish	salads, desserts, or casseroles made with these foods • custards • puddings • deviled eggs • meat, fish, egg or chicken salad	cheese (low moisture) peanut butter powdered milk dried meat freeze dried meat powdered eggs nuts	canned meat canned fish canned chicken canned puddings canned milk	breads cereals	raw fruit raw vegetables

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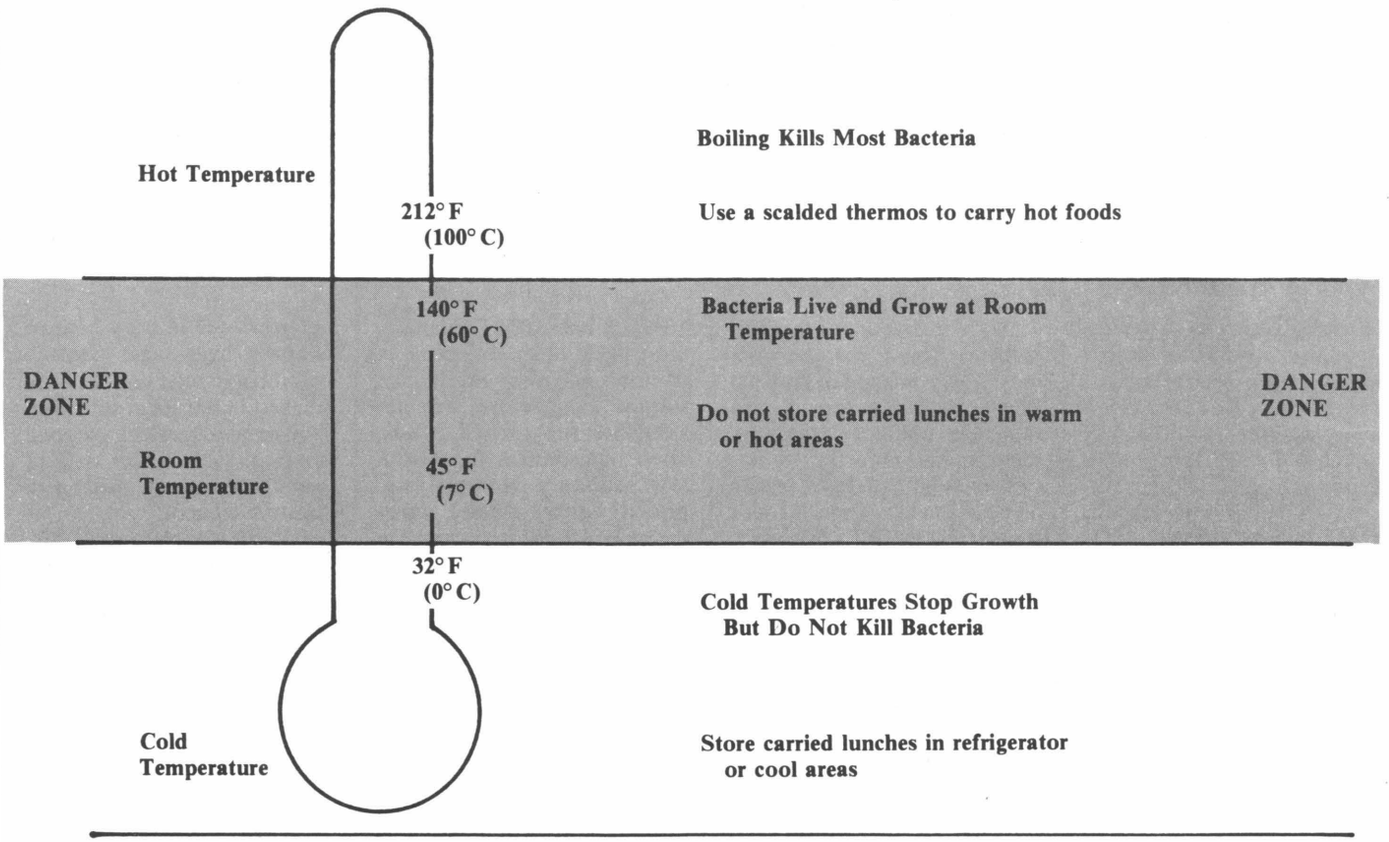
KEEP FOOD SAFE

1. *KEEP HOT FOODS HOT - COLD FOODS COLD*

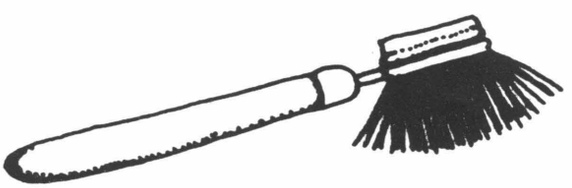


2. *SAFE WORK HABITS*

Bacteria can be carried by food, by skin, nose, or throat, by pets, by bugs, and by work surfaces which come in contact with any of these.

1. CLEAN KITCHEN & EQUIPMENT

   Wash with hot soapy water.
   Use a stiff brush for crevices around handles and blades.
   Rinse with boiling water.



2. CLEAN HANDS

   Wash with soap and water.
   Don't handle food if your hands have bleeding cuts or sores or if you have a bad cold.

3. CLEAN FOOD

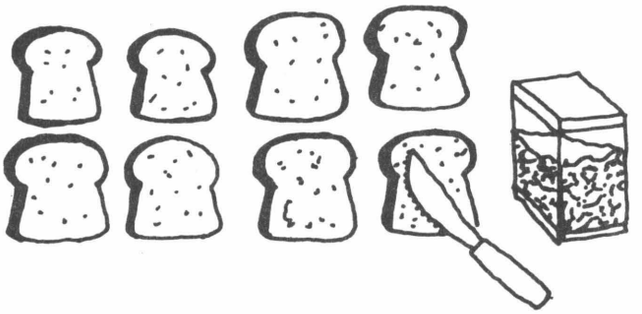
   Wash fruit and vegetables to remove bacteria so foods are not contaminated.
   Do not use spoiled food.

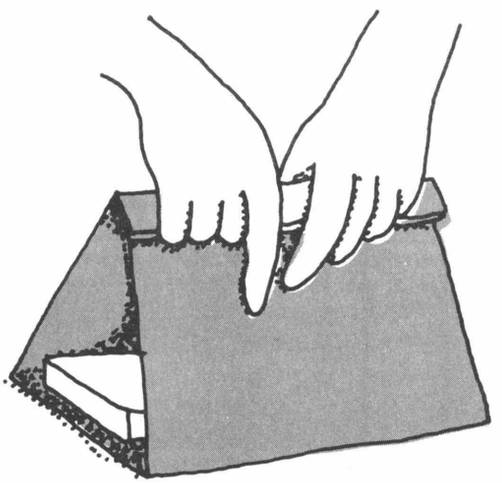
SAVE TIME MAKING SANDWICHES

1. ***Make Spreads***
   - Use leftovers for spreads. Save time by making spreads and sandwiches at time of use, instead of first freezing leftovers.
   - Have all ingredients chilled.
2. ***Organize the Work Center***
   - Line up slices so they are the same size (day old bread is easier to work with)
   - Use a small spatula or kitchen knife to spread filling in 2 or 3 movements
   - Cut and wrap individual sandwiches
   - Keep wraps and containers and carried supplies together near the work area
   - Wrapping

   THE DRUG STORE WRAP

   1. Use enough paper so the edge may be folded over.
   2. Fold the sides and seal.
3. ***Pack lunches right from the refrigerator or freezer.***
   If frozen sandwiches or frozen juices are kept in a cool place, they will thaw in 3 to 4 hours—just in time for lunch. Use butter or margarine instead of mayonnaise if you plan to freeze sandwiches.
4. ***Put the family to work***
   - deciding surprises (e.g., poems, special theme; making spreads; wrapping sandwiches; practicing safety and sanitation)



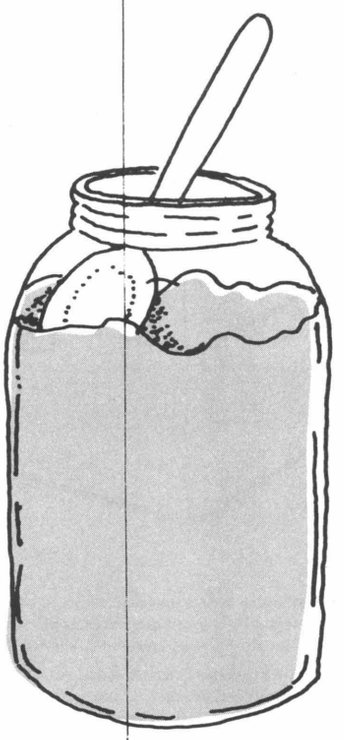


MAYONNAISE

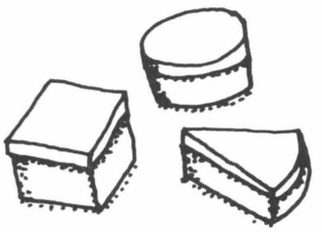
Although mayonnaise is often blamed for food poisoning, it seldom causes food poisoning or spoilage. Commercial mayonnaise is mostly vinegar (acid) and oil emulsified by a small amount of egg yolk. The high acid level means that bacteria do not grow in mayonnaise.

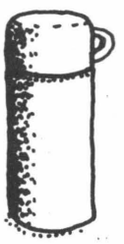
Dipping mixing spoons from fillings into mayonnaise can put bacteria into the mayonnaise. Usually the bacteria will live only a short time because of the acid. But this may be long enough if the mayonnaise is soon mixed with other foods.

The acidity of mayonnaise does not prevent or stop spoilage in food mixtures such as deviled eggs or salads containing meat, fish, chicken, or eggs. Mayonnaise will not make unsafe food safe to eat. Use safe food handling habits.



CONTAINERS FOR CARRIED LUNCHES





WRAPPINGS

Choose wrappings that are moisture and vapor proof

Uses
- sandwiches
- chops or chicken pieces
- fruit
- lettuce, tomatoes

PLASTIC CONTAINERS

Plastic containers save money because they can be used over and over again. They come in many shapes and sizes.

Uses
- salads
- fruit cup
- sandwiches
- pastries
- cereal mixtures

VACUUM BOTTLES

Thoroughly clean after use. Have soups, stews, and other main dishes boiling hot when poured into the thermos. Some vacuum containers have a coolant in the top. Freeze the top before adding cool food to the thermos. HINT: Before Adding Hot Food, Heat With Scalding Water. For cold beverages and soups, add ice cubes to chill.

Uses
- soups
- stews
- main dish
- fruit cup
- beverages
- salads

BROWN BAGS

- Use lunch bags. Recycled shopping bags can be infested from insects or food leakage

LUNCH BOXES

- can be easily cleaned

INSULATED CARRIERS

- Keep clean

TO KEEP LUNCH COOL

Add a can or jar of frozen water or juice

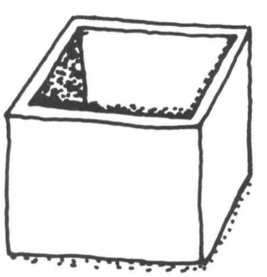
Pack with cold foods from refrigerator or freezer

PICNICS/COOK-OUTS

Homemade Cooler

Use 2 cardboard boxes. Line the larger box with plastic and 1/2 inch of newspaper to keep out the heat. Put the smaller carton inside the newspaper and cardboard. Coverings can be newspaper and cardboard.

Pack foods cooled from refrigerator. Add frozen beverages (juices or water) or commercial products that can be frozen to pack in carried meals.



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Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, and September 30, 1977, in cooperation with the U.S. Department of Agriculture. Mitchell R. Geasler, Director, Virginia Cooperative Extension Service, and Dean, Extension Division, Virginia Polytechnic Institute and State University, Blacksburg, Virginia 24061; M. C. Harding, Sr., Administrator, 1890 Extension Program, Virginia State University, Petersburg, Virginia