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COOKING OUTDOORS FOR FUN

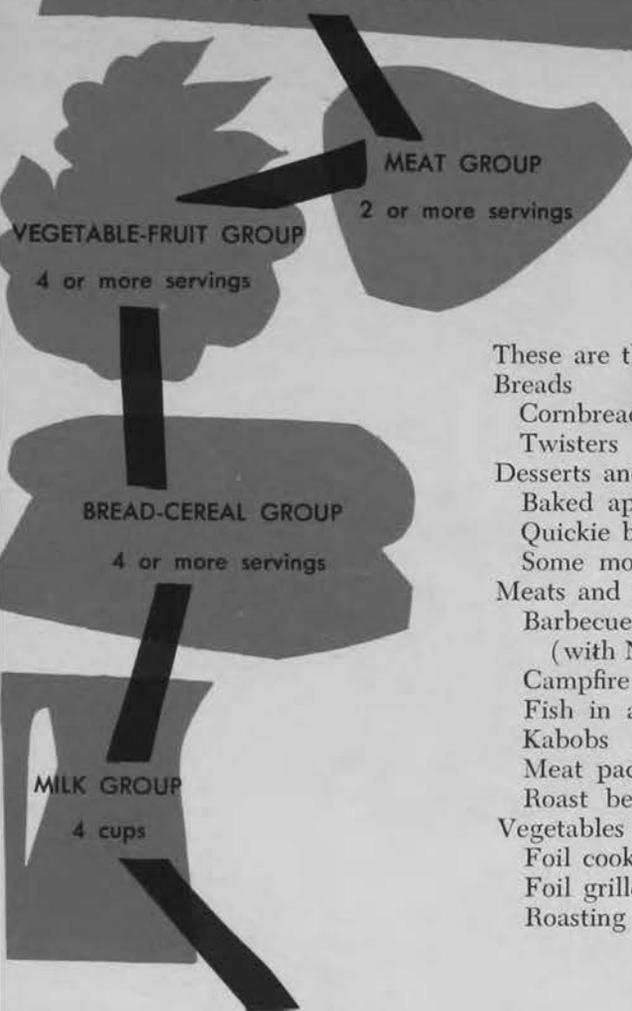
GRACE BRILL



UNIVERSITY OF MINNESOTA
AGRICULTURAL EXTENSION SERVICE
U. S. DEPARTMENT OF AGRICULTURE

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A Daily Food Guide



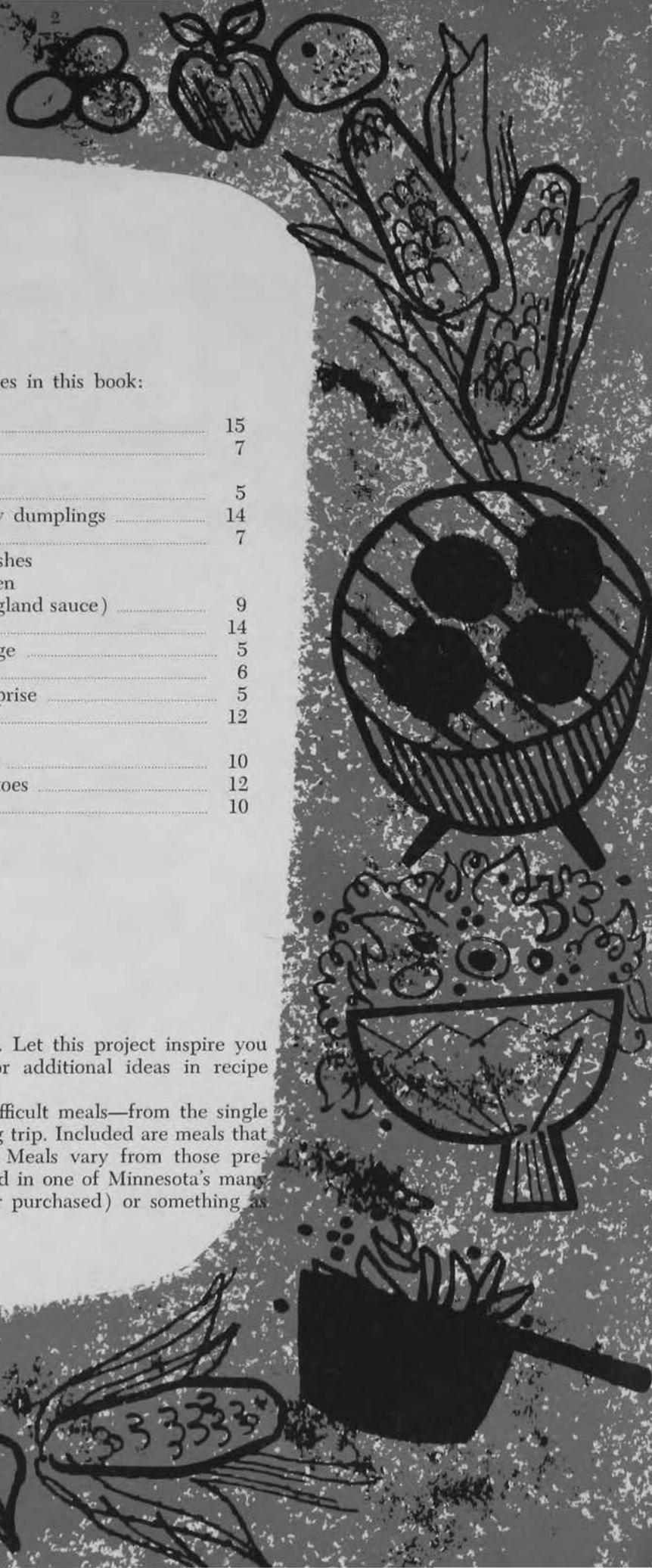
Plus other foods to
complete meal

These are the recipes in this book:

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From north to south 4-H'ers enjoy outdoor cookery. Let this project inspire you to prepare some of the suggested foods and to look for additional ideas in recipe books and magazines.

Your efforts may range from the easy to the more difficult meals—from the single outdoor meal to meals planned for a 2 weeks' camping trip. Included are meals that require some knowledge of wood and charcoal as fuel. Meals vary from those prepared and served in your own backyard to those served in one of Minnesota's many parks. They use inexpensive equipment (homemade or purchased) or something as elaborate as a grill with a spit.



Planning Your Outdoor Meal

Plan your outdoor meals in advance. Allow time for shopping, prepreparation of some foods, collection of equipment, and selection of suitable clothing. You must plan carefully so all foods are ready to serve at the same time. Boys might be responsible for the fire and cooking. Girls could purchase and prepare the food for cooking.

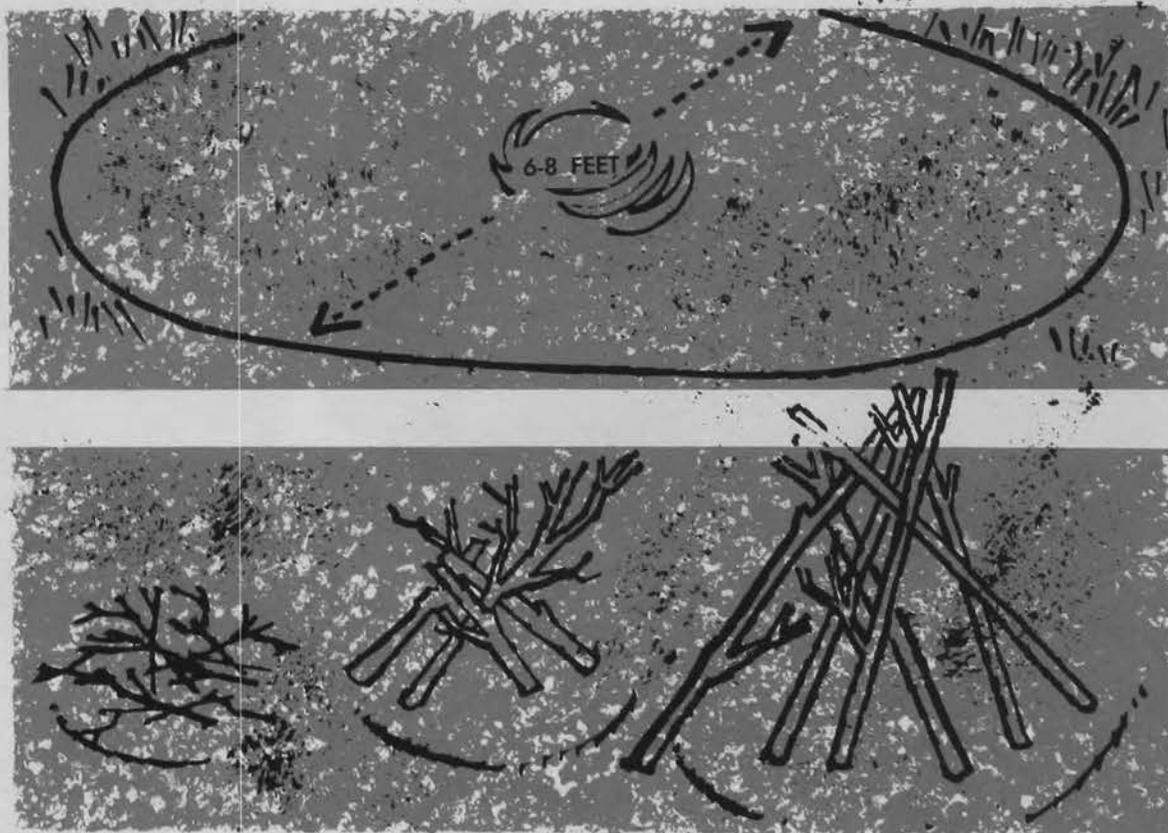
To serve food attractively use a table cover. Paper plates and cloths are easy to dispose of. If a picnic table is not available, the back end of a station wagon may be used. Also plan for cleaning up. Bury garbage and tin cans after crushing them.

Serving outdoors makes it more difficult to . . . ■ Keep foods hot or cold to prevent spoilage. So try using vacuum jugs, portable ice boxes, or canned ice containers. Wrapping foods in several layers of newspaper also helps. And frozen foods, such as hamburgers, keep longer . . . ■ Provide water for washing hands. So bring a quart fruit jar filled with warm soapy water.

The All-Important Fire

You may need approval by the fire preventing agencies in your area to build a wood fire. When you are ready, clear inflammable material off an area of 6 to 8 feet in diameter. Have plenty of kindling—pine, spruce, and balsam knots; dry bark; and small dead twigs from standing trees. Arrange wood in an orderly manner or teepee style—so you can place increasing sizes on the fire as it burns.

Wood for campfires might be classified as: **Long lived coals**—Good cooking woods (maple, hickory, ash, birch, oak, elm, ironwood, cherry, and locust). **Good clean cooking wood**—No lasting coals (dry willow, poplar, and basswood). **Quick, hot, sooty flaming fire** (pines, balsam, tamarack, spruce, and cedar). **Good for back log**—green (red oak, maple, elm, poplar, birch, ash, and ironwood).



Building A Fire

Build your wood fire about 1½ hours before cooking time so there are plenty of hot coals. Remove unburned wood before cooking or flames will burn the food. If cooking is to be a long process build another fire a short distance away. You can borrow glowing coals from it to replenish the fire.

Always completely extinguish a fire when you're through. Douse the fire with water or cover all coals with dirt. Stir it with a stick until embers are out. Don't leave a fire until you can place your hands in the ashes.

You may choose to use charcoal—lumps or briquettes—instead of wood. Charcoal provides an excellent fire for food requiring a long cooking time. But the length of cooking time is not as definite as on your home range. It depends upon: (1) heat from fire, (2) distance food is from coals, (3) degree of doneness you want, and (4) direction of wind.

Heap charcoal in the firebox of a grill or a barbecue pit. If you add lighter fluid, stand back when you start the fire as it may flare up. When charcoal is about two-thirds covered with grey ash, spread hot coals one or one-half layer deep in the firebox or pit. Use a small rake or charcoal tongs. Add more charcoal at the edges to complete cooking process.

To prevent flare-ups, trim fat from meat and use oily basting sauces sparingly. Have a clothes sprinkler on hand to dampen flare-ups. To cut costs just douse unburnt coals with water or place them in a tight container to extinguish the fire. Mix these coals with new charcoal the next time you prepare outdoor food.



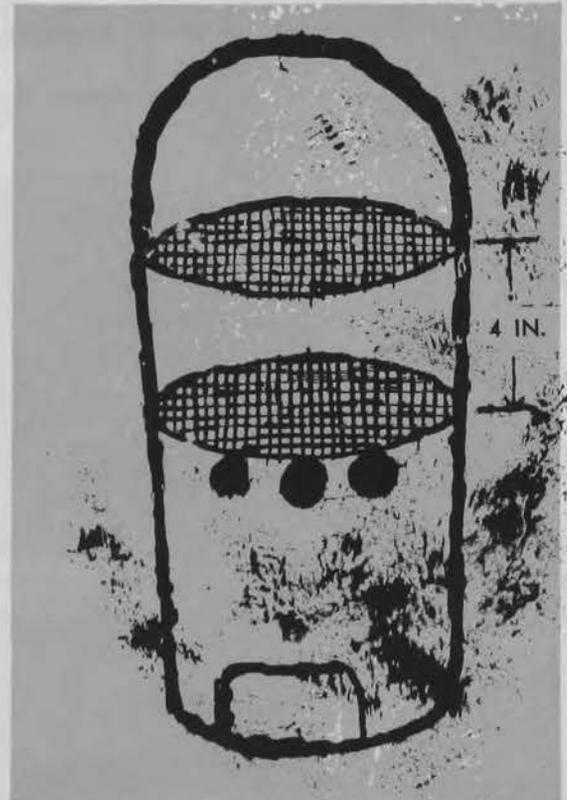
Make A Charcoal Burner

Secure a heavy gauge pail or paint bucket. Insert two or three heavy rods through pail about 4 inches from top. Then cut heavy ¼-inch mesh screen to fit inside the pail—rest it on inserted rods.

Cut opening at bottom 3 by 5 inches. Attach two hinges so size of opening can be adjusted.

Cut square piece of heavy ¼-inch screen to fit top of charcoal burner. Place cooking utensils on this. When using, place charcoal on inside screen. Kindle charcoal by inserting paper or small kindling through cutout opening or door.

You can also insert legs so pail will not set directly on ground. Place pail on a piece of asbestos when using it on a lawn to avoid killing grass.



Besides being fun, outdoor meals can be appetizing and nutritious. But when you select foods, remember your Daily Food Guide (page 2). A meat packet surprise in foil with onions, carrots, and potatoes contributes to the meat and vegetable-fruit groups. Buns take care of the bread-cereal group; a baked apple, the vegetable-fruit group. Add a glass of milk and all four groups are included.

Meat Packet Surprise

Place a well seasoned beef patty in the center or just off center of a single thickness of a 9-inch x 12-inch piece of heavy duty aluminum foil or a double thickness of thin or medium foil. Cover meat with slices of onion, carrots, and potatoes. Season with salt and pepper.

Fold the foil around the food. Place package, sealed side down, directly on wood coals. But place it 3 or 4 inches from charcoal coals by means of a grill. Turn packets after 10 minutes and continue cooking 10 to 15 minutes or until done. To serve, simply fold back sides of the foil.

Fish in a Package

Fish fillets seasoned with green pepper and onion slices, salt and peper, and butter can also be prepared in foil. This requires about a half hour for cooking.

Baked Apples

Wash, core, and score skin of baking apples (Prairie Spy, Haralson, Cortland, Jonathan, or Winesap). Fill centers with sugar and cinnamon, marshmallows, or dried fruits such as raisins. Wrap in an approximately 12-inch square of heavy aluminum foil or double wrap in thin foil, twisting ends together at top.

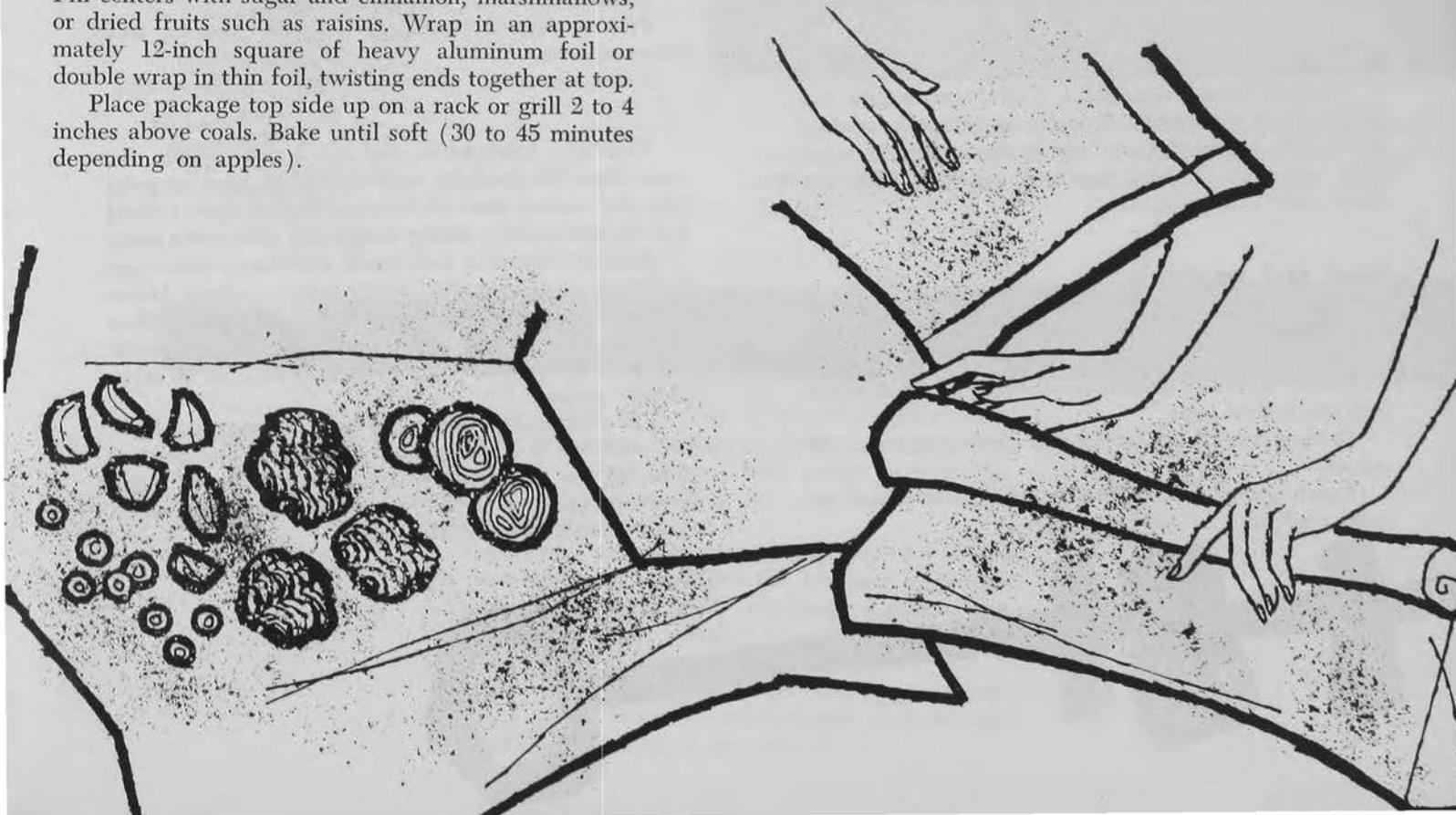
Place package top side up on a rack or grill 2 to 4 inches above coals. Bake until soft (30 to 45 minutes depending on apples).

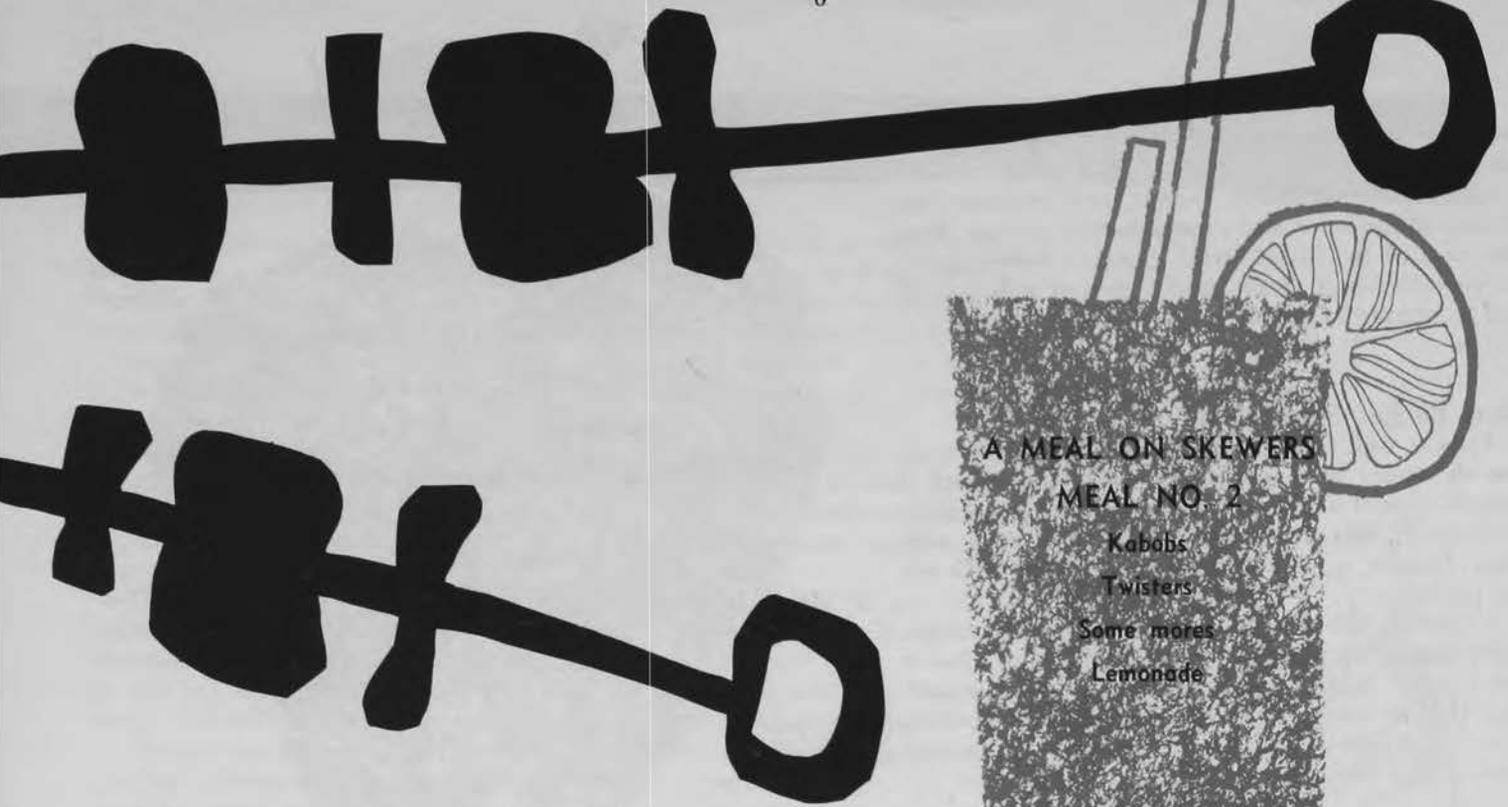


Science Why

Do you have difficulties in building a wood fire? Perhaps you are using paper rather than kindling to start it and allowing for no air spaces. Remember oxygen is needed for any fire to burn. Charcoal burners provide oxygen through holes in the sides, use of gravel, or by air space allowed in the bottom.

Start a fire in a container, add a cover, and see what happens.





A MEAL ON SKEWERS

MEAL NO. 2

Kabobs

Twisters

Some more

Lemonade

It's time to use some imagination—and prepare a meal on a skewer. Many combinations of food are suitable together. Different skewer foods can vary in texture, color, flavor, size, and shape. It's up to you.

Your selection of skewers might depend on the fire and number of persons. You can buy skewers of various lengths. Or use 4-or 5-foot green sticks made from sweet wood, peeled, and sharpened at the end for cooking wieners, kabobs, and biscuit dough. Sweet woods—birch, apple, poplar, basswood, boxelder, maple, and cherry—do not impart a flavor to food. Or make skewers from wire hangers or heavy wire.

Kabobs

Various meats, vegetables, fruits, and doughs can be prepared on skewers. Kabobs might consist of only meat, only vegetables, or only fruits; meat and vegetable together; or meat and fruit together. Here are some tasty combinations:

Meat and vegetable

Beef steak, partially cooked potatoes, and onions.

Luncheon meat, quartered tomatoes, and small cooked onions.

Calves liver or chicken livers, small bacon squares, and mushroom caps.

Ground beef balls, tomatoes, green peppers, and onions.

Lamb cubes, sliced bacon, mushrooms, and tomato wedges.

Meat and fruit

Cooked ham and pineapple chunks.

Franks, canned pineapple or apple chunks, and bacon squares.

Luncheon meat, pineapple, and banana chunks.

Combine foods that cook in approximately the same time. So partially cook vegetables such as potatoes and onions and cut them in similar sizes (about 1-to 1½-inch cubes) before combining them with meat.

Season vegetables and meats and brush them with barbecue sauce or melted butter before cooking. Meats such as lamb might be marinated for a while before cooking. Always use tender cuts of beef and lamb. You may use pork, but all uncured pork must be completely cooked.

Let everyone prepare and grill his own kabobs—hot coals are needed for food of quality. The persons planning the picnic should arrange the different foods on the preparation table. Then all picnickers can select foods according to their desires.

Twisters

Make a baking powder biscuit dough using your favorite recipe or a mix. Roll dough $\frac{1}{4}$ inch thick and cut it into ribbons about $\frac{3}{4}$ to 1 inch wide.

Twist spirally on a $\frac{3}{4}$ -to 1-inch green pointed stick made of sweet wood (see page 6) after stick has been peeled, heated, and dusted with flour. Wood doweling of various sizes can be used if green sticks are not available. But soak the doweling in water for at least $\frac{1}{2}$ hour before using it.

Bake the dough over coals, turning the stick so dough bakes uniformly. When the dough is baked, the twisters will slip off easily. Serve twisters with jam or a meat sandwich mixture.

Lemonade

Use your favorite recipe. Keep the lemonade cold by placing it in a thermos bottle or adding ice cubes to lemonade in a fruit jar.

Some Mores

Make a sandwich of $\frac{1}{3}$ to $\frac{1}{2}$ chocolate bar and 2 graham crackers. Toast a marshmallow to golden brown over coals and put it between the chocolate and crackers. Press gently together.

Science Why

Always select tender cuts of meat for kabobs since the meat is cooked for only a short time using dry heat. Grade is one of your best guides in selecting beef and lamb. Prime and choice is preferred over good or standard.

Location of cut determines tenderness—for example, you might use meat from the loin such as porterhouse steak in choice, good, and standard grades. But meat from the rump wouldn't be satisfactory for kabobs in any grade.

How would location determine whether a certain cut on a carcass would be rated tender as contrasted with another cut rated as less tender?



A FAMILY MEAL ON A GRILL

MEAL NO. 3

Cheese dip—Crackers

Barbecued chicken

Roasting ears—Foil cooked peas

Coleslaw—Rolls

Fresh fruit or watermelon

Milk—Coffee

If your family enjoys picnics you may want to assemble all equipment in a picnic basket so it is ready at any time. You might include:

Long handled frying pan, toasting forks, ladles, and hinged wire broiler.

Pot holders and gloves (canvas or asbestos) to protect the cook's hands.

An ice bucket.

Can and bottle opener.

Plastic bags.

Plates, cups, knives, forks, and spoons.

Paper napkins and paper towels.

Dishtowels and cloth.

Salt and pepper shakers.

Butcher knife and paring knife.

Tablecloth or oilcloth.

Soap, matches, soap-filled steel wool pads, and a coarse scouring pad.

Cinder blocks (8 inches x 8 inches x 16 inches) can be used for a barbecue pit of any size. Six-inch width blocks are also suitable. Arrange them three courses high for barbecuing chicken but one course is suitable for steaks.

For details on constructing this barbecue pit see Extension Folder 200 *Barbecuing Poultry*. This is available at your county extension office.

Barbecued Chicken

Select 9-to 12-week old broilers or fryers weighing 1½ to 2½ pounds (dressed weight). Split the whole chicken in half lengthwise. Place halves on grill (12 to 24 inches from fire) as close together as possible, skin side up.

Brush on your favorite barbecue sauce (clean, new dish mops or a paint brush might be used). Turn chicken frequently—every 5 to 6 minutes—and baste after each turning. Use clean, white canvas gloves or tongs to turn chicken. Cook about 1¼ to 1½ hours or until leg bones turn easily in sockets.

Broilers or fryers for barbecuing may be fresh or frozen. They should be fully drawn, cleaned inside and out, and pinfeathered. Purchase them whole and cut in halves, quarters, or in parts.

Select broilers or fryers with plump breasts, compact structures, and some fat—preferably U.S. grade A poultry. All poultry moving in interstate commerce must be federally inspected today.

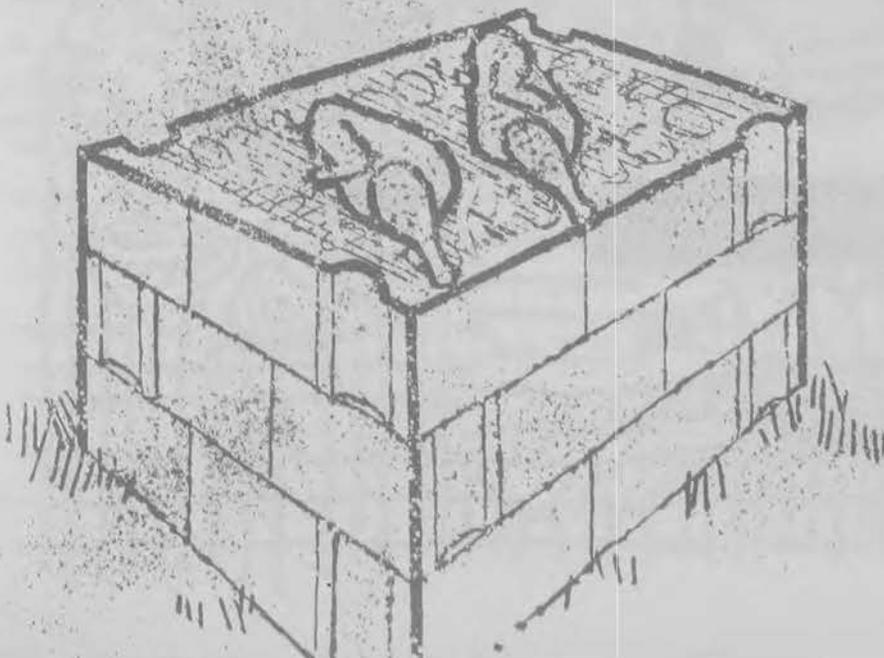


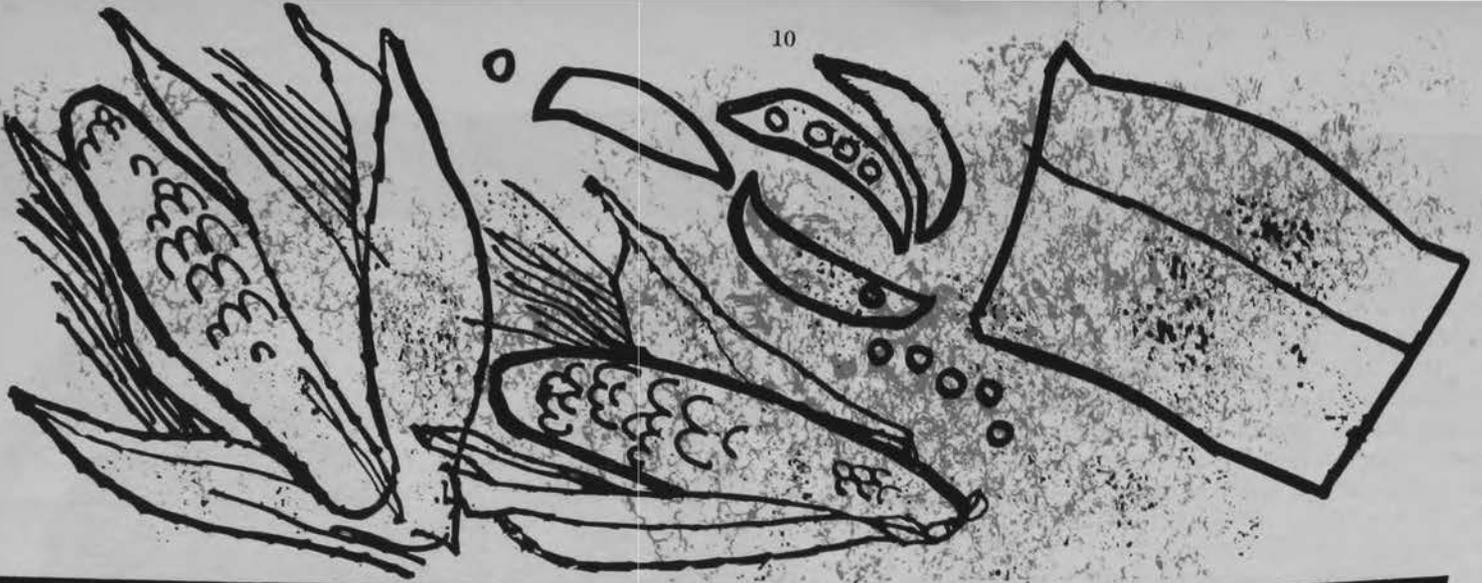
New England Sauce

1 cup water	½ pound butter
2 cups vinegar	2 tablespoons salt

Bring sauce to a boil and keep hot on grill.

Recipe is enough for 5 chicken broilers.





Roasting Ears

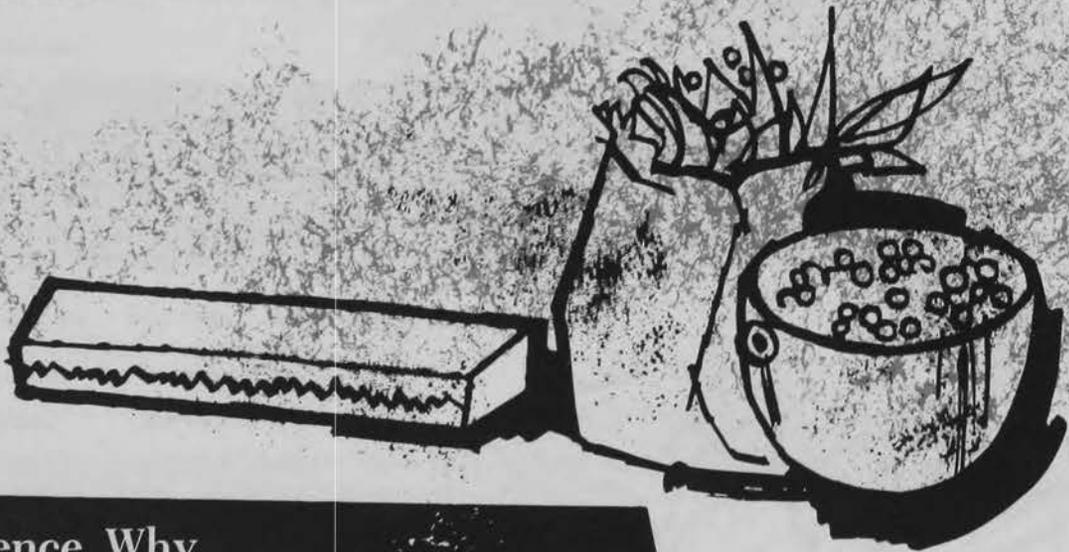
Dip roasting ears in cold, salty water. If desired, husks might be turned back, silks stripped out, and husks laid back in position and tied around top with string before dipping corn ears.

Line ears upon the grill over hot coals. Keep turning ears for 10 to 15 minutes or until husks are dry and brown. Remove husks and serve corn with butter, salt, and pepper.

For variety, husk and season corn and wrap it in foil or paper soaked in salt water. Place over hot coals and cook about 6 minutes, turning over once or twice. You can use frozen corn but defrost it first.

Foil Cooked Peas

Place 10-ounce package of frozen peas on large heavy sheet aluminum foil. Add salt, pepper, and 1 to 2 tablespoons butter. Bring foil over peas and seal all edges to make a tight package. Cook on grill over fire about 15 to 20 minutes. You can also prepare individual packages.



Science Why

Do you know why the corn which is cooked within an hour or two after picking in the garden tastes so much better than corn purchased in a store? Freshly gathered corn contains sugar which is later converted by enzymes to starch. This garden fresh flavor can be partly restored by the addition of a little sugar to the cooking water.

AN OUTDOOR COMPANY MEAL

MEAL NO. 4

Roast beef
 Baked potatoes
 Tossed salad
 Garlic bread
 Ice cream and cookies
 Cider

Outdoor meals in your backyard shouldn't require any more preparation time than meals served at home. Your family may want to purchase some convenience foods (partially or entirely prepared). Set up a timetable so all food will be ready for the table piping hot or cold, depending on the food.

A grill for your backyard may be simple or elaborate, according to your needs and finances. This grill may be equipped with a revolving spit which is operated by an electric motor as well as other accessories.

Arrange foods buffet style, or in the order that family members and guests will pick up the food at the table. You can serve ice cream and cookies after rearranging the buffet table or serve them individually to the picnickers. Here is how your table might look:





Roast Beef

In selecting a roast for cooking on a spit, allow at least $\frac{1}{2}$ pound per person after boning and about 3 to 4 hours for cooking a 4-to 6-pound roast. A longer period of time may be necessary, depending on the fire.

To determine the exact doneness of a roast a meat thermometer is desirable. Place the thermometer in the thickest part of the roast and so it does not touch bone or spit. You may have to use wire or other wrappings to keep the thermometer from falling out as the spit rotates. Or insert the thermometer from time to time to check doneness.

Place the roast on the spit so that the meat is properly balanced. It should turn freely and easily.

The charcoal fire may be placed between the hood and the spit so that fat drippings don't fall directly on hot coals and cause a flare-up. Place an aluminum foil drip pan underneath the roast to catch drippings.

Add a barbecue sauce during roasting to add flavor and prevent drying. Salt and pepper may be added when the roast is served.

You can cook spareribs, roast pork loin, ham, turkey, and chicken on a spit. Boning is desirable for all large cuts of meat.

Foil Grilled Potatoes

Scrub potatoes and cut in 3 long slices or 4 pieces. Brush with butter and season with salt and pepper. Reassemble potato and wrap in heavy foil. Bake on grill about 1 hour.

Science Why

Studies indicate that roasts cooked at too high a temperature dry up with excessive shrinkage and are less flavorful. Roasts cooked too long are less desirable also. Good flavor increases with longer cooking up to a point but decreases after that.



A FAMILY CAMPING TRIP

MEAL NO. 5

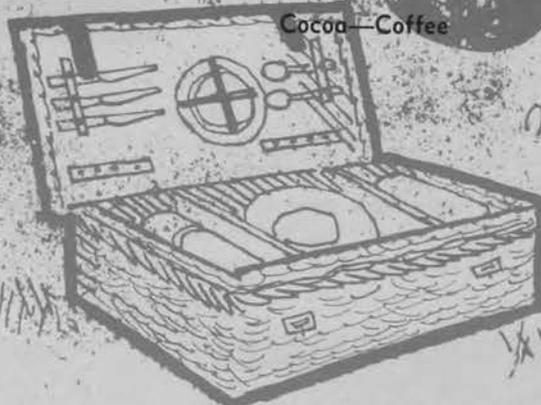
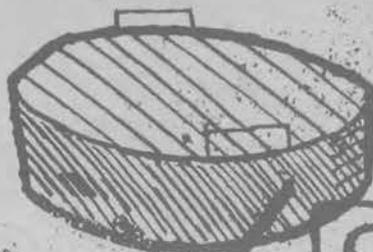
Campfire stew

Green salad

Bread—Butter

Quickie blueberry dumplings or canned fruit

Cocoa—Coffee



Perhaps your family is going on a camping trip. Then you must plan to provide all desirable equipment and food. Your meals may have to provide extra calories due to your increased activities such as swimming and hiking. Your favorite one dish meals are good choices. Serve main dishes that provide vegetables and 2 to 3 ounces of protein per person.

If you plan a canoe trip provide foods which are light in weight and less bulky. Include some partially or completely prepared foods since you'll want to keep preparation time to a minimum.

Have family members participate in meal planning because less variety can be provided. The planning may result in the acceptance of some foods which may not be well liked at home—for example, instant mashed potatoes can be used instead of regular mashed potatoes.

Of course, you have to consider cost. Meals on a camping trip need not be more expensive than meals at home. But family members may have to accept canned and dehydrated foods rather than fresh foods on canoe trips or trips into remote areas.

List of Basic Foods

Staples—flour, sugar, salt, pepper, cornmeal, baking powder, fat, spaghetti or macaroni.

Instant foods and mixes—nonfat dry milk, cereals, mashed potatoes, puddings, coffee, tea, chocolate, biscuit and cake mix, fruit juices, precooked rice.

Dehydrated foods—soups, dried fruits.

Canned foods—fish and meats, fruit and tomato juice, vegetables.

Fresh fruits, vegetables, and meat—purchased as needed, considering refrigeration.

Miscellaneous—peanut butter, jelly, catsup, crackers, cookies, salad dressings, eggs.

Other foods may be available in your stores for campers such as freeze-dried meats.

Equipment for Camp Cookery

Two or three burner stove.
 Folding camp grill.
 Ice chest (if space permits).
 Thermos jug or bottle.
 Nested pots and pans or cast iron dutch oven and cast iron skillet (using same cover).
 9-inch metal layer cake pan.
 Water can with cover.
 Coffee pot.
 Plastic dishes and cutlery.
 Knives—butcher and paring.
 Can and bottle opener.
 Long handled fork, spoon, tongs, and pancake turner.
 Asbestos pot holders.
 Aluminum foil.
 Plastic containers with covers.
 Matches in metal or glass container.
 Plastic dishpan and detergent.
 Dishcloths and towels.
 Plastic or oilcloth tablecloths.
 Waxed paper.
 Scouring pads.



Campfire Stew

Precook 1 cup diced carrots and 1 cup diced celery in salted water. Brown $1\frac{1}{2}$ pounds ground beef and 1 diced small onion. Season with salt and pepper.

Combine meat mixture, carrots, and celery with 1 cup precooked rice, 1 cup water, 1 can tomato soup, and 1 can vegetarian soup. Heat thoroughly and serve. (6 servings.)



Quickie Blueberry Dumplings

In a large heavy saucepan combine:

$2\frac{1}{2}$ cups fresh blueberries	$\frac{1}{2}$ cup sugar
dash salt	1 cup water

Heat to boiling. Cover and simmer 5 minutes. Add 1 tablespoon lemon juice.

While berries simmer mix batter for dumplings:

1 cup biscuit mix	2 tablespoons dry milk
2 tablespoons sugar	$\frac{3}{4}$ cup water

Drop batter by tablespoons into bubbling sauce. Cover tightly and cook over low heat 15 minutes without peeking. Serve hot. (4 servings.)

Variation: Use fresh cherries or peaches instead of blueberries.



Cornbread

$\frac{3}{4}$ cup sifted flour	1 egg
1 tablespoon baking powder	3 tablespoons melted fat
2 tablespoons sugar	$\frac{3}{4}$ cup milk (you can use reconstituted nonfat dry milk)
$\frac{1}{4}$ teaspoon salt	
$\frac{3}{4}$ cup cornmeal	

Mix together flour, baking powder, sugar, salt, and cornmeal. Add slightly beaten egg, the melted fat, and milk to the cornmeal mixture and stir just to moisten the dry ingredients. Pour batter into a greased 9-inch metal layer cake pan. Set pan inside a 10-inch heavy metal frying pan and cover.

Place frying pan over low heat and cook cornbread for 45 minutes or until golden brown on the bottom and sides. Do not remove cover during the cooking period. Serve the cornbread bottom side up. (6 servings).

Science Why

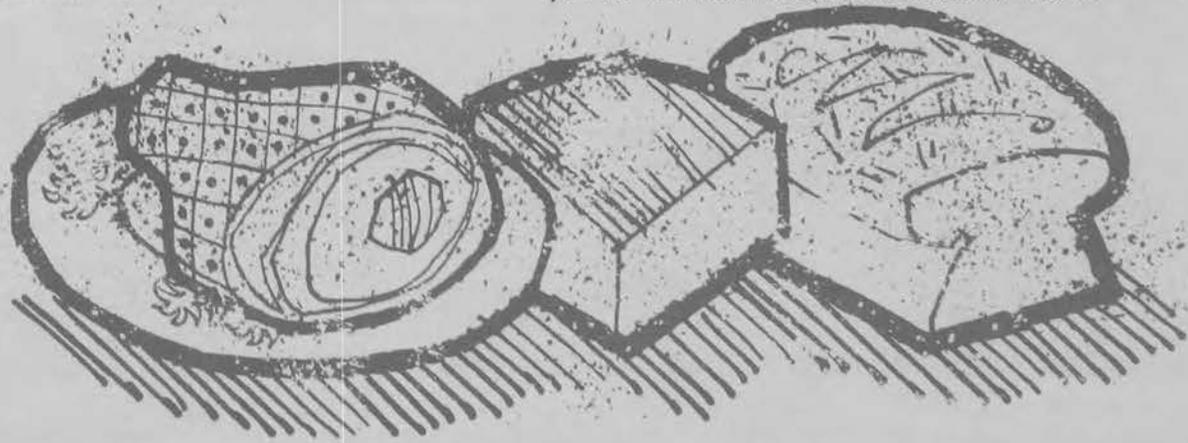
Did you know that staphylococci bacteria are the most common cause of food poisoning? A few staphylococci bacteria in food for 4 to 5 hours on a warm day can cause real trouble. This poisoning is caused by the toxin given off by the organism as it reproduces and multiplies in food.

Some foods are more susceptible to growth of these bacteria. These include ham, potato, poultry, and meat salads; sandwiches; cream dishes such as cream pies; and casserole dishes.

The symptoms of staphylococci food poisoning are nausea, vomiting, diarrhea, and abdominal cramps. These appear a short time after the food is eaten.

Place certain foods (for example—a piece of white bread, a slice of meat, a slice of cheese, a small dish of canned peas) in a warm moist place (room temperature or warmer) for several days. Observe

What kind of spoilage occurred with the different food? What caused these foods to spoil? What would you do with leftover food from outdoor meals?





Publications For The Outdoor Cook



Better Homes and Gardens Family Camping—Meredith Publishing Company, Des Moines, Iowa.

Better Homes and Gardens Barbecue Book—Meredith Publishing Company, Des Moines, Iowa.

Betty Crocker's Outdoor Cook Book—Golden Press, New York, N.Y.

Your Own Book of Campcraft—Catherine T. Hammett, Pocket Books, Inc., Rockefeller Center, New York, N.Y.

Outdoor Cookery for the Family—Univ. of Minn. Ext. Bull. 293.

Barbecuing Poultry—Univ. of Minn. Ext. F. 200.

Patio Picnic Book—Martha Logan, Swift and Company, Chicago, Ill.

Cook Out Fun—Oscar Meyer, Chicago, Ill.

The Outdoorsman's Cookbook—Arthur H. Carhart, Collier Books, New York, N.Y.

Suggestions For Your Demonstrations

- Building a charcoal fire.
- Building a wood fire.
- Making outdoor cooking equipment.
- Preparing a meal in foil
- Selecting outdoor cooking equipment.
- Making and cooking kabobs.
- Making a homemade charcoal burner.
- Preparing an outdoor meal on a grill.
- Assembling a picnic basket.
- Planning and packing foods for a family camping trip.

Remember your demonstration consists of showing and telling how to do something. But know why and have a good understanding of the nutrients in food. Relate management of time, money, and energy to the things you are doing. Make comparisons of food costs if that seems appropriate for your topic.

You have had several years' experience in foods work. Plan to go beyond the mere showing and telling by showing your broad understanding of foods and nutrition.