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THE

MENU

PLAN

McDole

Chapter 1

BEFORE YOU HEAD FOR CAMP

You cannot pick up this book and immediately head for camp and start cooking. There is much to be done before then. The planning that you do before you go to camp can do much to minimize your camp cookery problems. These introductory chapters have been prepared to assist you to plan for your cooking experience in camp.

Menu Planning

This book is not concerned with menu planning, although some suggestions for complete meals are given with some recipes. With menu planning, one of the major objectives is to provide a properly balanced diet. This need not be of too much concern on a short-term camping trip, such as a weekend. However, for long-term-camping, you definitely must try to provide a properly balanced diet from day to day.

What is a properly balanced diet? Figure 1 can be used as a guide for developing a balanced diet. Note that this is a daily food guide. It is not in terms of any one meal but in terms of the entire food intake for any given day. When camping involves more than a weekend, this daily guide should be used in planning menus.

MEAT GROUP 2 or more servings Beef, veal, pork, lamb poultry, fish, eggs Or as alternates dry beans, dry peas, nuts	MILK GROUP Some milk for everyone Children. . . 3 or 4 cups Teenagers . . 4 or more cups Adults. . . . 2 or more cups
VEGETABLE AND FRUIT GROUP 4 or more servings, including: A citrus or other fruit or vegetable important as a source of Vitamin C A dark green or dark yellow vegetable for Vitamin A (At least every other day) Other vegetables and fruits	BREAD AND CEREAL GROUP 4 or more servings Whole grain, enriched, or restored PLUS Other foods as needed to complete meals and to provide food energy and other food values

Figure 1. Daily food guide for menu planning

Your Cooking Unit

The number of persons for whom a meal is being prepared by one cook and an assistant with a given set of cooking gear is a cooking unit. With the usual type of outdoor cooking equipment, it is relatively easy to cook for 8 persons or less. It is more difficult to cook over a campfire for 9 or 10 persons, although it can be done. It is strongly recommended whenever you have more than 10 persons to feed that two or more cooking units be set up. Each cooking unit should be as uniform in size as possible. When of uniform size, each unit will have similar needs for utensils and food items.

Number of Servings

Recipes are stated in terms of providing 8 servings, except in a few cases where it is definitely stated otherwise. In general, these servings will be larger than average. This has been done under the assumption that most campers are hungry individuals. However, if your group consists of "light" eaters, the quantities in some of the recipes can be reduced or one or two more persons can be fed.

If you have 10 persons instead of 8, you will need to decide whether the recipe that you are using will provide adequate servings. You should be able to obtain, in most cases, 10 fair-sized servings from the recipe, but if you have 10 very hungry individuals 10 fair-sized servings will not be adequate.

In some cases, the recipe indicates that it will provide 6 to 8 servings. This means 6 very large servings or 8 adequate servings.

The next section, Changes in Quantities Needed, is a guide for making adjustments when your cooking unit is other than 8 persons. What you want to attempt to do is to prepare just enough food so that everybody obtains an adequate quantity with a minimum of food left over.

There are certain dishes, however, that will not provide 8 large servings. These would primarily be pies and cakes. If you have only one dutch oven to use and can make only one pie or one layer cake, you can provide only small servings of dessert. You might decide that it would be better to substitute a fruit cobbler, apple pudding, or pineapple upside down cake.

For most of these recipes, it is relatively simple to convert from 8 servings to 6 or 10 servings. For 6 servings, you merely reduce the quantities by one-fourth. For 10 servings, the quantities are increased by one-fourth. For canned goods, it should be easy to make this adjustment. There are many can sizes and one should be able to obtain the quantity that is needed.

However, it is not always easy to make this adjustment for certain ingredients. If you are using a packaged cake mix, for example, the quantity that you have is fixed.

Size of Cans

There is an extremely large range of can sizes available. Vegetables are available in 12-ounce cans (corn), 15-1/2-ounce cans, 16-ounce cans (1 pound) and 17-ounce cans, as well as in even smaller or even larger cans. In the recipes, a particular size will be given in the listing of ingredients needed. In buying that item, buy the size of can that comes nearest to the size listed.

Your Total Food Needs -- A Shopping List

Before you can determine your total food requirements, you must decide upon your menu for each meal, as well as any between-meal snacks. Your dinner menu, for example, would normally include a main dish, one or two vegetables, possibly a salad, bread, spread for the bread, a drink, and a dessert. If the menu involves dishes with recipes in this book, you can determine directly from these recipes the quantities of the various ingredients needed. If you use some other dishes, make certain that all the ingredients that you will need are on your shopping list. It is extremely difficult, for example, to cook pancakes without shortening!

The best way to develop a shopping list is to determine the individual quantities for each item to be served in each meal. The type of shopping list I use is shown in Figure 2. A lined pad is used with a number of vertical columns drawn in. The first column is wide enough to describe the item needed. In the second column, the total quantity to buy is shown. The third column is merely a check column to be used when the item has been purchased. Then there is one column for each meal or for each time any food is to be served. Check the headings in Figure 2.

This shopping list was prepared for a camping trip for 8 persons, with the first meal a luncheon of bologna and cheese sandwiches, carrot sticks, a cold drink, and apples. Supper includes beef stew, lettuce, bread, brownies, and hot chocolate. There is some more chocolate later that night. Breakfast consists of french toast, bacon, fruit juice, and hot chocolate.

Shopping List for Campout - June 12-13

Items to buy	Quantity to buy	✓	Lunch	Supper	Snack	Breakfast
Bologna	16 sl		16 sl			
Cheese	16 sl		16 sl			
Bread	3-1 1/2"		32 sl	16 sl		16 sl
Salad dressing	1 pt		✓	✓		
Oil	1 #		1/4 #	1/4 #		1/4 #
Carrots	12		4	8		
Cold drinks	16 serv		16 serv			
Apples	8		8			
Shaving cream	2 1/2 #			2 1/2 #		
Maltine	1 #			✓		✓
Flour	1/2 cup			1/2 cup		
Apples	8 serv			8 serv		
Produce	8 med			8 med		
Lettuce	1 1/4 head			1 1/4 head		
Brownie mix	8 serv			8 serv		
Eggs	1 doz			1		8
Hot chocolate	40 serv.			16 serv	8 serv	16 serv
Juice	4 can					4 can
Bacon	1 #					1 #
Milk	1 qt					1 qt
Sugar	1					✓
Syrup	1 pt					1 pt
Apple trimm	✓					
Soft	✓					
Apple	✓					
App	✓					

Figure 2. Example of a shopping list

Bacon: This is an item that can be cooked and held close to the fire for a period of time without affecting its quality. This would indicate that we can prepare bacon ahead of time. If we do this, then we can use some of the bacon grease as shortening for the eggs. Let's plan to start the bacon so that it is cooked just before we start to cook the eggs. This means that we would start the bacon at 7:25.

Biscuits: Most people like hot biscuits and this suggests that they should be started so that they can be served shortly after coming out of the dutch oven. If you start to prepare biscuits at 7:35, they should be ready by 8:00 or a few minutes earlier.

Hot Chocolate: Using the instant type only requires hot water and water can be put on anytime there is a short break.

From this, we can prepare a revised time schedule to determine whether we have a job that we can handle. In this case, the revised schedule will look like this:

8:00 Breakfast to be served
7:40 Start to prepare eggs
7:35 Start to prepare biscuits
7:30 Put water on for hot chocolate
7:25 Start bacon
7:10 Have water near fire for clean-up
7:05 Start fire for cooking

With this revised schedule, we need to start only 10 minutes earlier. The job is spread out so that two cooks should be able to handle it without too much difficulty.

This time schedule is based on a principle that we should always follow--that is, foods that cannot be held without losing quality should be prepared so that they can be served as soon as they are ready. This would apply to all egg dishes and to many salads. Conversely, foods that can be held without losing quality can be prepared earlier and these can be shifted around on your time schedule to spread out the work load. Foods of this type would include many meats, many vegetables, and most desserts.

A Loaf of Bread

What is a loaf of bread? At the grocery store you can find a pound loaf, 1-1/4 pound loaf, and 1-1/2 pound loaf, and possibly other sizes. How much bread and what size loaf should one buy? In groups I have worked with in recent years, I have found that there is more than enough bread when I figure 2 slices per person each meal when bread is on the menu as bread. The same guide is used when french toast is on the menu for breakfast. For lunches, when bread is used for sandwiches, I figure 4 slices per person. This provides a basis for determining total amount of bread needed. It does not indicate what size loaf to buy.

A regular pound loaf has about 17 slices; a 1-1/4 pound loaf has about 20 slices; and a 1-1/2 pound sandwich loaf has about 23 slices. It would be wise to buy that size loaf which would have the least slices carried over from one meal to the next.

Some Measurements

Here are a few measurements that might come in handy over time:

3 teaspoons = 1 tablespoon
2 tablespoons = 1 fluid ounce
4 tablespoons = 1/4 cup
6 tablespoons = 3/8 cup
8 tablespoons = 1/2 cup
16 tablespoons = 1 cup
1 cup = 8 fluid ounces
2 cups = 1 pint
2 pints = 1 quart
1 liter = 1.057 quarts

Here are some butter measurements that you can use many times:

4 sticks (1 pound) = 2 cups
1 stick (1/4 pound) = 1/2 cup
1/2 stick = 1/4 cup
1/4 stick = 2 tablespoons

Some butter wrappers have tablespoon measurements printed on them.

A Few Definitions

"About" - This indicates that the measurement need not be exact. For example,

In making a shopping list, start with the first meal and list in the first column every item that will be needed for preparing and serving that meal. At the same time, show the quantity of each item needed in the *Lunch* column. You do not write anything in the other columns at this time.

Once you have listed every item that you need for the first meal, you do the same thing for the second meal -- with one exception. Do not duplicate items already listed. For example, bread, salad dressing, oleo, and carrots are already listed. The quantities of these four items that you will need for the second meal should be listed on the same line as those for lunch but in the *Supper* column.

After this has been done for all meals, the next step is to determine what quantities to buy and to show these quantities in the column *Quantity to Buy*. This involves no problem when the particular item is used for only one meal. For example, only 16 slices of bologna are needed and this quantity is listed. Bread, on the other hand, will be used for three meals and the total quantity needed is 64 slices. This needs to be converted to number of loaves to buy. This is three 1-1/2 pound loaves. When you have completed this for all items, you will have a shopping list for the minimum quantities to buy.

Do not forget the various non-food items that will be needed in serving the food, in the kitchen area, or for clean-up. These might include paper towels, paper plates, aluminum foil, matches, soap, scouring pads, etc.

Figure 2 is an illustration of a completed shopping list of all items that will be needed in the cooking area for the meals previously mentioned. In this illustration, various shorthand symbols are used. These include: sl = slices; ser = servings; # = pounds; / = check staples; and lj = large. This is not only a shopping list, but it also lists all items that you need for any particular meal. This list should be used to get these items together before you start to prepare that meal.

Certain staples should be more or less automatically included in your supplies. These would include sugar, salt, pepper, flour, and shortening. Other items might be part of your staples too, if you frequently use recipes that call for them. These might include powdered milk, biscuit mix, brown sugar, and nutmeg or cinnamon. When any of these ingredients are a part of your staples, your problem will be to check that they are adequate for your anticipated needs each time you take to camp.

A Time Schedule for Meal Preparation

Most meals include a number of items that must be prepared. One problem that many have in preparing a meal is timing so that each item is not only ready but is at its peak quality at the time the meal is to be served. As a result, often a meal is served in what appears to be reversed order or it is served item by item over a long period of time or it is extremely late, with some items in poor condition. Normally these situations can be prevented, to a large extent, if one step is taken -- if a time schedule is prepared.

Actually, it is best to prepare this time schedule before you go camping. It should be a part of the overall planning for any camping trip, since the time required for meal preparation must fit into the total program. If other activities do not allow the time needed to prepare any meal that you are considering, changes must be made to reduce the time requirements.

The starting point in preparing a time schedule for cooking is to determine what time you are supposed to sit down and eat. What you do and when you do it is dependent upon the time you are planning on eating.

To illustrate what is involved in preparing a time schedule, let us consider a relatively simple breakfast, including juice, scrambled eggs, bacon, biscuits, and hot chocolate, to be served at 8:00 o'clock. First, let us determine what time we would need to start if we could prepare all dishes at one time so that they would all be cooked and ready to serve at 8:00. Getting the juice ready would require only a few minutes. We would need to start the bacon and put the water on for a hot drink at 7:45. Eggs should be started at 7:40 and the biscuits at 7:35. Fire should be started by 7:15.

If we were cooking for only two or three, we could possibly do this. With a larger group, there would be some problems. For example, for eight persons, we would need two frying pans for the bacon and two for the eggs. This would require an extremely large fire area and two cooks would be pretty busy managing the four frying pans and trying to prepare some biscuits. There definitely is a need to make some time adjustments.

The juice should be no problem to do at the last minute, but let us consider the items that need to be cooked and determine how we can time our cooking without affecting the quality of the food.

Eggs: Eggs are at their best when they are served as soon as possible after they are cooked. If they are cooked and held, even away from the fire, eggs tend to become stiff and are of poorer quality. It is essential that eggs be started so that they can be served promptly. This means that we should start preparing the eggs at 7:40 and start cooking them slowly at 7:45.

(Continued on the next page)

in browning something in the frying pan, we do not need an exact amount of shortening.

"Add shortening as needed" - If the food is starting to stick on the bottom, this indicates that shortening is needed.

"Add water as needed" - When the liquid is getting low or has evaporated and the food should be cooking in liquid, you have evidence that water should be added.

"Baste" - To prevent poultry from drying out as it is being roasted or baked, butter or oleo, or a barbeque sauce, is dripped over it frequently throughout the cooking period. This is called basting.

"Boil" - Large bubbles will be breaking out over the surface of the liquid. This requires a bed of medium or hot coals. You should be able to recognize when a liquid is boiling by the sound. See "rolling boil".

"Brown" - Usually this requires a bed of hot coals. Here we want to obtain a golden brown color. The purpose of browning a meat or chicken is to seal the juices in. We want to be careful not to break the seal as we turn or move the food. In the case of a cake or bread, we want to obtain a golden brown because the food looks so much nicer.

"Butter" - Whenever butter is called for in recipes, oleomargarine (oleo) can be substituted.

"Diced" - This means cutting up into small cubes or pieces.

"Medium size carrots" - About 6 or 7 medium size carrots would make one pound.

"Medium size potatoes" - About 2 or 3 medium size potatoes would make one pound.

"Rolling boil" - This requires a bed of hot coals. There is a rolling boil when large bubbles are constantly breaking out over the entire surface. You should be able to recognize a rolling boil from the sound that is made.

"Shortening" - This might be various canned shortening, cooking oil, butter or oleomargarine. Remember, however, that butter and oleomargarine burn at lower temperatures than other vegetable shortening or cooking oil. If the recipe requires a high temperature, canned shortening or cooking oil should be used.

"Simmer" - This needs a bed of slow burning coals. When a liquid is simmering, small bubbles are constantly breaking out. Many will be coming up along the side of the pan. They should be at a slower tempo than when the liquid is boiling. Again, you should be able to recognize whether the liquid is simmering merely by the sound.

"Small size onions" - Small onions would not be any larger than 1-1/2 inches in diameter with about 7 in one pound.

"Stir" - The ingredients at the bottom of the pan need to be moved around to prevent burning. Stirring only the upper part of the food mixture will not do this.

YOUR COOKING UTENSILS

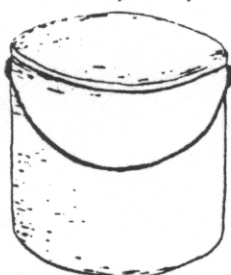
I have seen pancakes turned with a fork. Sometimes they turned out in fair shape, but most frequently the eaters were not too pleased with the results. The cook's job certainly would have been much easier and the pancakes much better if he had had the proper utensils to use.

Each recipe in this book includes a list of utensils needed in the preparation and the cooking for that dish. If you attempt to do with less, you also reduce your chances for getting good results. Certain substitutions can be made, but there are limits. If the recipe calls for a half cup of liquid, you can run into some problems if you have no way to measure liquid. Too little increases the possibility of burning your food. Too much can make the dish too soupy. The utensils that you have can have a definite effect on your results.

Over a period of time you should acquire a fairly complete set of cooking utensils. The standard camp trail chef cook kit is an item that, for many, would be one of the first major purchases. These aluminum cook kits are fairly satisfactory for group cooking, but there is a great variation in the quality of these kits. Some kits have only two stew pots; others will have three. Some will have only one frying pan; others will have two. Some will have square corners that are hard to clean; others will have round corners. Some will have metal that seems only slightly stronger than that in a tin can; others will be of a heavy weight.

Three stew pots and two frying pans made of heavy weight material with rounded corners -- these are the essential requirements if you want a usable cooking kit that can take relatively hard use. An inexpensive kit will not last long. One of good quality will be much cheaper over a period of time. A kit like those sold by local Boy Scout Distributors will give you good service when properly cared for.

The kit you buy might contain the following cooking utensils:



8-quart kettle



4-quart kettle
with lid



2-quart kettle
with lid



cocoa pot

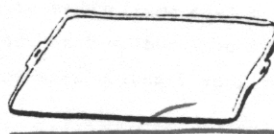


small fry pan



large fry pan

The frying pans in the kit will be satisfactory but a cast aluminum griddle will be superior for certain dishes. If you go in much for items such as french toast, fried eggs, pancakes, fried potatoes, et cetera, you should also consider a cast aluminum griddle. This will give you about a 10 inch by 16 inch cooking surface -- an area that is much easier to use than that of two frying pans. However, when you use a griddle, you must keep it level.



* Aluminum
griddle



If I had to limit myself to one utensil to use on the campfire, my choice would be a dutch oven. I have not tried to bake an angel food cake in it, but I think that can be done. Some day I will try it! The point is that one can cook practically anything in it -- pot roasts, fried chicken, baked beans, cobblers, pies, cakes, and so on. It is a utensil that makes it possible to cook over the campfire many of the things that can be cooked at home. Using a dutch oven can make your camping experience more enjoyable. See Chapter 4 for a description of a dutch oven and its use.

There are a number of hand utensils that in time you will find to be necessities. Your inventory of these utensils can be increased over a period of time. Some of the hand utensils that you should consider include:

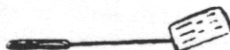
A measuring cup



Measuring spoons



A spatula



A large stirring spoon



A large cooking fork



A pair of tongs
for coals



Campfire pliers
for hot pots



A paring knife



And a can opener



A set of plastic bowls are handy in a camp kitchen. You will find that they will be put to many uses. You will eventually find that you cannot do without them.



One item that you should have from the start is a pair of gloves to handle hot dishes. These can be a plain canvas work glove or a leather work glove. I prefer the work glove which has a leather palm and a canvas back.

Regardless of the type of glove, they should be heavy gloves and they should fit loosely. Gloves retain heat and you can get a severe burn unless you can get them off fast. When you handle a hot dish, pick the dish up with both hands and move quickly. Do not clasp the dish with your fingers; instead use the flat of your hands to hold the dish. As soon as the dish is set down, shake the gloves off. You must get them off fast. (What would be good would be to encourage each person to obtain his own kitchen gloves.)

A work apron is an item that would be wise to include as part of your cooking gear. An apron helps keep the cook clean.

One disposable utensil that should be added to your supplies is aluminum foil. Many times it serves as an excellent substitute for the more permanent type of utensil. For example, a small quantity of shortening can be melted in a piece of aluminum foil instead of a pan that would need to be washed afterwards. Instructions on the use of aluminum foil are found in Chapter 5.

Do not forget that you also need utensils for heating water for clean-up and for washing dishes. At times the 8-quart kettle might be used, but it is usually best to have separate utensils for this purpose.

Although not a utensil, there is one item that should always be readily available in the cooking area. In any group that is camping there should be a first aid kit that can be used in giving first aid in a wide variety of accidents, but in addition to that there should be a small first aid kit in the kitchen area to take care of the small cuts or burns that arise in this area. In my cooking gear, my small first aid kit with only several sizes of band-aids and some first aid cream is adequate for this purpose.

One other small item is suggested. A small package of cheesecloth takes little room and is sometimes very handy. It makes straining spaghetti much simpler. When desserts or other foods are prepared early, cheesecloth is helpful in keeping insects off while they cool or until time to use them.

What to Get First

This is a question that you will have to decide yourself. However, put campfire pliers and a pair of kitchen gloves very high on your list. You will have fewer burned fingers and less burned food with these two items.

A Word of Caution

As you plan your menu, make certain that you have the utensils available that will make it possible to prepare it. For example, if your menu requires the use of three stew pans in preparing the complete meal, you might suddenly find that there will be no dessert or something else will be missing if your cook kit includes only two stew pans. Determine your total utensil requirements for each meal as you prepare your menu. If something is missing, then you must either change your menu or acquire that additional utensil. Sometimes some other utensil can be substituted, but make certain that this substitution can be made before you get to camp.

cloth holder for
utensils
trash bags
insect "umbrella"
hot pads

bucket or
8 qt. Kettle

OR strainer

tree for gas
propane tank
lantern

Shovel -(metal blade)
wire stand for fire
dish soap
brillo pad
matches
fire starters

One of the keys to successful camp cookery lies in the type of fire you have to cook on. No matter what you are cooking, you need a bed of coals. Flames do not provide adequate sustained heat for cooking. Flames are fine for getting water or liquids to a boil quickly or for getting heat into the area of the reflector oven; but only a bed of coals can provide sustained heat over a period of time for cooking. Although hardwoods such as ash, hickory, oak or maple produce the best coals, you will be limited to the type of wood that is available in the camp area.

When you use wood as your source of fuel, your fire needs to be divided into two areas. One should be used to produce coals. This same area can be used to heat water. An adjacent area should be used for cooking with coals pulled into it as needed. By having two areas, you will always have a supply of coals; you can regulate the heat much better; and there is less chance that you will burn or spill food.

Using Charcoal

In recent years, the use of charcoal has greatly increased. Many campers object to using charcoal, but they fail to realize that when they use wood they will not have a good bed of coals until the wood assumes the characteristics of charcoal. Charcoal does have some definite advantages over wood. Charcoal will produce uniform, sustained heat with little or no flame. The heat can be increased by blowing on the coals or the heat can be reduced by sprinkling a few drops of water on the coals. In many localities, the use of charcoal is to be recommended as a conservation measure.

Igniting charcoal need not be a problem. Some will use a prepared lighting fluid, but this definitely cannot be recommended, at least for our type of camping. It is far too dangerous. A highly satisfactory fire starter can be made at little or no cost.

Locate a 10-quart metal can or an old pail. Remove both ends from the can or the bottom from the pail. Put a grill about one-third of the way down from the top of the pail. This grill can be made out of coat hangers with the wire passing through a series of holes. Wires should be close enough together so that charcoal briquets will not pass through the grill. If you have some hardware cloth, this can be used for the grill, supported by several wires through the pail. You should have two of these starters on hand.



To use the charcoal starter, take three full sheets of newspaper. Crumple each sheet into a hard ball and then loosen the paper up. Put this crumpled paper in the bottom of the starter. Use an additional sheet if there is room. Set the starter on 3 or 4 flat stones to get a draft from the bottom to the top.

Fill top of starter with charcoal. Light paper from the bottom. In about 20 minutes or so you should have red coals. Dump these in your cooking area. Repeat this process as often as necessary to assure an adequate supply of coals.

Using charcoal as a source of heat for cooking can create some problems for the novice. There are several steps that can be taken to minimize these problems. First, do not set pots or pans directly on charcoal briquets. The charcoal tends to break down when anything is set directly on the coals. When coals break down, the amount of heat is greatly reduced. Instead, place pots or pans on several stones so that there is possibly one-quarter inch between the coals and the pan. Actually, this is also a good practice with a wood fire.

Second, concentrate your coals. Two layers of briquets will produce far more heat than one layer. You can use squat cans or you can make concentration rings out of aluminum. Regardless what type of concentration rings you have, be sure that these rings do not smother the fire. You need some openings for air in the bottom and a few near the top. Also, do not let ashes from the charcoal accumulate. If you do, the ashes will also smother the coals.

Another handy gadget is a blower. Make one out of a piece of scrap copper tubing, about 3/8 inch or 1/4 inch in diameter and about 6 inches long. Attach a piece of rubber or plastic tubing to this. At the other end attach another piece of scrap copper tubing for a mouthpiece. With this blower, you can direct additional draft into the fire starter or use it on your cooking coals when you want to increase the heat or use it to blow the ashes away from the coals.

The dutch oven is the utensil that can make it possible for you to enjoy the same type of foods in camp that you have at home. If a New England pot roast dinner is one of your favorite meals at home, you can have just as good New England pot roast dinner in camp -- if you have a dutch oven. Or if one of your favorite desserts is home-cooked apple pie, there is little reason why you cannot have apple pie in camp -- if you have a dutch oven. A dutch oven opens unlimited opportunities for improving your camp diet. To a large extent, it is true that if you can cook it at home, you can cook it in a dutch oven in camp. A dutch oven, once used with success, becomes a necessity.



Dutch ovens come in various sizes. Diameters of 10, 12, 14, and 16 inches are common, with depths of 4 or 6 inches. For cooking for groups of 8 persons, a number 12 oven is fine. A number 10 oven is fine for pies and cakes. In addition to round dutch ovens, there is one outfit that manufactures a 9-inch square dutch oven and a 6-inch by 9-inch rectangular oven.

The lid of the dutch oven is important. A dutch oven that is used in one's kitchen usually has a domed lid, but this type of lid is not suitable for camp cookery. For camp cookery the lid should have a flanged or raised lip around the rim. With the top recessed, coals can be placed on the lid to increase the heating efficiency of the oven.

Dutch ovens are made of either cast iron or cast aluminum. Cast iron dutch ovens are readily available from Official Boy Scout Distributors. Cast aluminum dutch ovens are more difficult to locate. I own and use both aluminum and iron dutch ovens and have recognized no differences in the finished cooked products.

The thickness of the metal helps to distribute the heat around the entire dish that is being cooked. With the oven set over coals and with coals on the lid, the temperature within the oven can be varied by increasing or decreasing the number of coals.

Conditioning and Cleaning Ovens

No special care is needed for conditioning and cleaning an aluminum dutch oven, but a cast iron oven requires the same care as any cast iron utensil. A new cast iron dutch oven needs to be broken in before you use it. This involves covering the inside of the dutch oven with a coating of shortening. The inside of the lid is also coated. The oven is then placed over a low heat and the shortening is allowed to melt. This should be done several times prior to using it the first time. Any surplus shortening in the oven after it has been conditioned should be drained out.

The cast iron oven is now ready to use.

When you are through with the cast iron oven, you have the problem of cleaning it. At the Philmont Scout reservation in New Mexico, one is taught that the dutch oven should never be washed. However, I prefer to wash the dutch oven if need be and to recondition it immediately after washing it.

If the cast iron dutch oven is not going to be used for some time, make certain that there is a heavy coating of shortening worked into it. If it has been stored for a long time, it is always a good idea to recondition it before it is used again.

This sounds like a lot of work, but actually it takes little time after you have broken the oven in.

Heat Control in the Dutch Oven

For many years I have sought instructions on the use of the dutch oven. It was possible to locate a number of articles on the oven, but it was the exceptional article that provided a reliable guide to the amount of coals to use to produce heat. Most early articles, including instructions that come with the dutch ovens, encouraged the use of far too many coals. Many persons using a dutch oven the first time became discouraged with the oven because they did follow the instructions and ended up with some badly burned food. In using a dutch oven, it is far better to use too few coals than too many.

Even today, one can find contradictory instructions. In reading instructions in this book, you will find that the main source of heat will usually be from the bottom. There are two other books in which it is recommended that the main source of heat come from the top. And, believe it or not, both instructions are correct! That is because of the way the dutch oven is used. In this book, except for a few cases, such as peach cobbler or beef stew, the dutch oven is actually used as an oven with the food being cooked in a separate pan and with the pan set on a rack in the dutch oven. Hot air circulates around the pan just as it does in the oven at home. In the other books, the dutch oven is used as a cooking pot and except where you are simmering something, the main source of heat must come from the top.

To begin with, it is important for many dishes to preheat the dutch oven. That means getting it hot. This is done by placing the oven over a layer of coals. Additional coals can be piled on the lid. In this way, with coals under the oven and on top of the oven, the oven can be thoroughly preheated.

I have found that with the oven set over 27 to 30 charcoal briquets and with the same number of briquets on the lid, the temperature in a number 12 oven will reach 450° or higher within 12 or 15 minutes. This temperature can be maintained for 30 minutes or more with the number of briquets under the oven reduced to 12 and with the number on the lid reduced to 9.^{1/}

A pair of kitchen tongs is fine for handling the hot coals.

When you are ready to start cooking in the dutch oven, some coals need to be pulled from your main fire area — the equivalent of 9 to 12 charcoal briquets. The dutch oven can be set directly over these coals. It is important to have a small air space between the coals and the bottom of the oven. This can be as little as 1/4 inch. If there is no air space when you set the oven over the coals, set the legs on flat thin rocks to get this space.

In cold, windy, or rainy weather, the major problem will be getting adequate heat. These conditions cause much loss of heat, and the number of briquets used must be increased. Even then it is difficult to maintain adequate heat. Placing the charcoal on a piece of aluminum foil, as suggested in Chapter 5, will cut down the heat loss if the ground is wet or cold. Aluminum foil can also be used as a windbreak, either by placing it over the coals on the lid or around the dutch oven. When foil is used as a windbreak, more frequent checks are needed to make certain that you do not burn the food.

Although many types of food can be cooked right in the dutch oven, it is usually much better to have the food in a pan that is set in the dutch oven. If the pan is set on some type of rack, more uniform heat circulation around the entire dish results in more even cooking. The rack can be one that comes out of the kitchen or it can be made out of three or four small stones.

Once the dish is in the dutch oven, put the lid on. If you are cooking something that is cooked in a liquid, it is possible that you will not need any coals on the lid. If you are cooking a dough of some type, you will need some coals on the lid. If the oven has been preheated, about 8 or 10 charcoal briquets will be sufficient. If you double this or load the lid with coals, the contents of the oven can be badly burned in five or ten minutes. Actually, the best way to learn how many coals to use is to use a dutch oven, but start with few coals! Whenever the oven has not been properly preheated, the number of coals will have to be increased possibly for the first five minutes.

If you are cooking a stew, fried chicken, or something else that involves a liquid, the condition of the liquid can be used as a guide as to whether there is too much heat, just the right amount of heat, or too little heat to keep the liquid simmering. By simmering, we mean small bubbles breaking out over the surface of the liquid. Examine the condition of the liquid, and this will tell you about the heat. You can do this either by looking at the liquid or listening to the sound of the liquid. Table 1 is a guide for judging the correctness of the heat when liquids are involved.

Table 1. Condition of liquid as a guide to amount of heat

Condition of liquid	Adequacy of heat	What to do
Much has evaporated away	Much too high	Remove coals from bottom Add liquid
Boiling hard	Too high	Remove coals from bottom Add liquid if needed
Light bubbles <u>breaking</u> surface	Just right	Take it easy Check liquid level
No movement	Too low	Add fresh coals under bottom of oven

^{1/} For a number 10 oven, the same temperature can be attained in the same time with about 18 charcoal briquets under the oven and the same number on the lid. This temperature can be maintained for about 30 minutes with only 9 briquets under the oven and 9 briquets on the lid. This experiment was done during the summertime when air temperature was in excess of 70°.

Aluminum foil has many potential uses in the cook area and no camp kitchen should be set up without including aluminum foil in the supplies. It can be used in food preparation, as a cooking utensil, for heat control, and to reduce clean-up work. Once you start to use aluminum foil regularly, the more uses you will find for it.

Cooking in Aluminum Foil

Many times the cooking utensil can be lined with aluminum foil to reduce clean-up work. For example, if you are making a peach cobbler, you can line the dutch oven with foil. Use the wider foil. Fix the foil so that it fits tightly against the sides and bottom. If the food burns, the burned material will be on the aluminum foil and not on the dutch oven. Unless there is a tear in the foil, the utensil will require little cleaning.

Aluminum foil is something to consider for your last meal in camp to facilitate clean-up. Or you might consider it for use on a moving camp to minimize your weight. It can be used by one person for cooking his own meal or it can be used by a group with food cooked in individual servings.

Many people have had unhappy experiences with aluminum foil. These unhappy experiences have been due primarily to one of three reasons: (1) the aluminum foil was improperly sealed; (2) the foil was broken at some place; or (3) the food was kept on the fire too long. These difficulties can be prevented. When they are, the result is a satisfying meal, ready in a relatively short time, with little cleanup. Try aluminum foil sometime.

Weight of Foil: The recipes in this book call for standard weight aluminum foil, folded double. I personally prefer standard weight although many others prefer and use double weight. I believe that with double thickness of standard weight you have some extra protection against punctures. If you haven't tried aluminum foil, you might try both standard and double weight and decide for yourself which you prefer.

Sealing Food In: Sealing is the key to success in cooking in aluminum foil. What you want to do is to close the aluminum foil so that there is little possibility for the liquid to escape. You want to cook the food in its own liquid or the liquid that is added. Not only that, you want also to do the cooking "under pressure". If you have a proper seal without any breaks in the aluminum foil, you will have a miniature pressure cooker. When you cook "under pressure", much less time will be required to cook than in an unsealed package. This is important to remember when you use aluminum foil.

A puncture or improper seal will mean loss of liquid. With little or no liquid in the package, the only result that can be expected is burned food. Be careful and do not puncture the foil or otherwise break the seal.

When you seal food in aluminum foil, follow the steps shown in Figure 3.

When sealed, aluminum foil packages can be placed on a bed of coals. The coals should be somewhat beyond their prime. Turn packages as directed in the recipes. This might be every three to five minutes. A pair of gloves makes it relatively easy to turn packages. Tongs or pliers can also be used, but with these two utensils there is some danger that the aluminum foil will be punctured.

When you remove the package from the coals, check to see if the food is done. When you open the package, do this carefully so that the aluminum foil is not broken. If you started with a large enough piece of foil, you can usually reseal the package if you find that the food requires more cooking.

Using Aluminum Foil to Conserve Heat

If one is using charcoal, aluminum foil is extremely valuable in controlling and conserving the heat. In winter camping, there is considerable loss of heat because of the cold ground. This is also true when the ground is wet. This heat loss can be greatly reduced if one uses aluminum foil. With foil placed on the ground and the coals on the foil, more heat will be directed upward for cooking.

There are additional advantages from using aluminum foil as the base for your coals. If it is windy, you can turn the edges of the foil up to serve as a windbreak. There will not only be less heat loss, but the coals will last longer.

Another advantage is that frequently, after you are finished with cooking, you can lift the aluminum foil up and properly dispose of your coals. Many times you can remove all evidence of the fire in this way.

There will be times when you will want to increase the heat in the dutch oven. Again aluminum foil comes in handy. For example, there is a considerable loss of heat from the coals in the lid on the dutch oven if it is windy or if it is raining. By placing a piece of aluminum foil on top of the coals, with a stone or two to hold it down, you will reduce the loss of heat and force more heat into the oven. However, when you do this, you will need to reduce the number of coals in the lid and make more frequent checks on the cooking progress.

After a while you can recognize the condition of the liquid by sound. The main adjustment that you will make in regulating the heat in these cases will be changing the amount of coals under the dutch oven.

If you are using the dutch oven to cook a cake, a pie, various types of bread, or anything that involves a dough, changes in the surface of the dough can be used as a guide as to whether there is too much heat, just the right amount of heat, or too little heat. The condition of the dough can be checked merely by lifting the lid just enough to see the dough and replacing the lid as quickly as possible. Do this fast so that you do not lose too much heat.

Whenever I cook a dish I know how much time is required to cook it under normal cooking conditions. I take this time and divide it into thirds. Condition of the surface of the dough at the end of the first third and of the second third indicates the adequacy of the heat. As the dough cooks, a crust starts to form on the top. Eventually, the crust starts to brown. Table 2 shows how these changes can be used in judging the adequacy of the heat.

Table 2. Condition of dough as a guide to the adequacy of the heat

Time required to cook dish	Condition of dough	Adequacy of heat	What to do
1/3 of time	No crust can be seen	Too low	Add fresh coals
	Crust starting to form	Just right	Leave alone
	Hard crust	Too high	Remove a few coals from lid and bottom
	Some browning	Much too high	Remove half of coals from lid
2/3 of time	No browning	Too low	Add fresh coals to lid
	<u>Starting</u> to brown	Just right	Leave alone
	Considerable browning	Too hot	Remove some coals from lid*
	Dark brown	Much too hot	Remove all coals from lid*

* Also test to see if it is done.

This table is an excellent guide except for one factor. If the oven is too hot, the dish can be ruined by the time of the first check. It is suggested, if you have had little or no experience in using the dutch oven, that you check the first five minutes and again the first ten minutes. Since there is a tendency to use too many coals, these five- and ten-minute checks can be used to make certain that there is not too much heat. Actually, I tend to use these five- and ten-minute checks myself if I have not used a dutch oven recently. It is a way to check on myself and the type of coals being used.

Another check that you might make is one about five minutes before the dish is supposed to be done. At this time, you might test to see if the dough is cooked. If it is a cake or bread, you do this by pushing a straw or a clean wood sliver into the dough and pulling it out. If it comes out dry or with dry crumbs on it, the dish is done. If it has a golden brown crust, you can remove it from the oven. If you want to brown it some more, you can remove the coals from under the oven and place additional coals on the lid. If it is not done, keep the oven on the coals and possibly place additional coals on the lid if the top needs to be browned more. You can also obtain quickly a golden brown crust when the dish has been completely cooked by placing a piece of aluminum foil over the coals on the lid. In one or two minutes you should have the brown you want.

By using these five-minute checks along with the third checks you can acquire experience that will convince you that a dutch oven is one piece of cooking gear that you cannot do without. The key lies in using (1) relatively few coals and (2) checking condition of the liquid or the surface of the dough.

Additional protection from strong winds can be obtained by wrapping aluminum foil around the dutch oven.

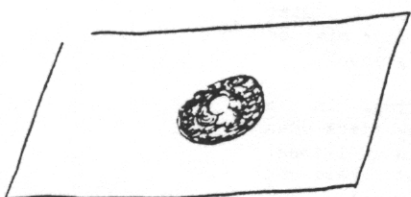
At times it is difficult to get a nice brown crust on what you are cooking. If the item is completely cooked and you still want to get the top browned, you can do this quickly by placing a piece of foil over the coals on the lid. In this case, do not remove any coals from the lid, but check in one or two minutes.

What to Do with Used Foil

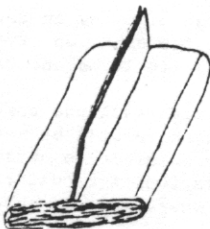
Crumple the used aluminum foil up after you have used it. Open the crumpled foil up and place it on some hot coals. A hot fire will break the foil down. (You can see from this what happens when you make a crease in aluminum foil.)

Any foil that is not destroyed, and there will always be some, should be put in a rubbish container if one is at the campsite. Otherwise always carry the used foil out with you to dispose of when you get home. Used foil does not belong in the fireplace or in the woods.

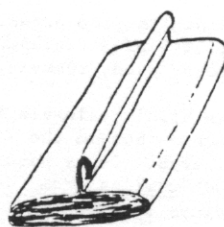
1. Cut a piece of foil that will be large enough to make your seal. If you are using single weight, have piece large enough to fold in half for double thickness. A good idea is to cut one piece first and check on size before you cut your total needs. Do not skimp on the amount of aluminum foil you use to make your seal.



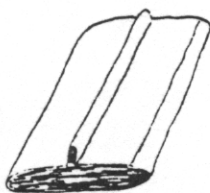
2. Place food in center of foil.



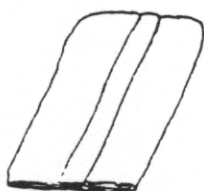
3. Bring sides of foil up over the food loosely.



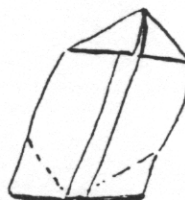
4. Fold the top 1/2 inch down on itself. This can be creased.



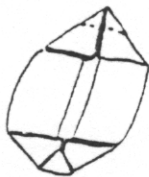
5. Fold the top down again on itself. Do not crease.



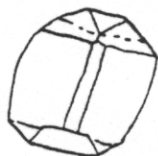
6. Fold the top down flat. Also press ends together.



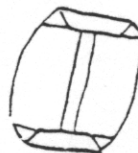
7. Fold corners over, along the dotted lines.



8. Fold pointed ends over, about 1/2 inch, along dotted lines.



9. Fold ends over again.



10. This is now ready to go on the coals.

Figure 3. Steps in sealing food in aluminum foil

EFFECT OF ALTITUDE ON COOKING

It is commonly known that at higher altitudes water will boil sooner than at lower elevations. Actually each 500-foot increase in elevation lowers the boiling point of water about 1° F. At sea level water boils at 212° F, but at 5,000 feet water boils at about 202° F. Since it is the heat that is needed to cook the food, changes in elevation need to be taken into consideration. Although some of these recipes have been cooked at 5,000 feet, most of them have been cooked only at 2,500 feet or lower.

If the food is being cooked in some liquid, a higher altitude will require additional cooking time to obtain the necessary heat. In the case of raw vegetables, most will require 5 to 10 percent additional time at 5,000 feet and from 20 to 25 percent additional time at 7,200 feet than at sea level. Onions, beets and carrots require about double the time at 5,000 feet than at sea level.

Meats which are cooked by simmering also require additional time. For elevations of 5,000 feet it would be a good idea to allow 25 percent more time for cooking.

When baking cakes at 3,500 feet or higher, many recipes will need to be changed slightly. If you are using a packaged cake mix you will find instructions for making these adjustments on most packages. Usually this involves adding flour to the mix, using some extra water, and possibly using an extra egg. It might also require baking the cake at a higher temperature. This would mean more coals under the dutch oven and a few more on the lid.

In baking breads or biscuits, the adjustment might be in terms of adding a little more liquid (as little as a tablespoon for each cup of flour mix) or reducing the quantity of sugar used (removing as little as one teaspoon).

A little experience is highly valuable in high altitude cooking. In the East this is of little concern, but in the West there will be many times when this will need to be considered. It is usually possible to obtain additional information on high altitude cooking from the various Agricultural Experiment Stations or Extension Services in those states where this is important.

WHAT HAVE YOU FORGOTTEN?

Before you take off, let's make a quick check to make certain that you have everything you need.

Do you have an adequate stock of staples?

Did your shopping list include all the ingredients that you will need for preparing your meals?

Are the perishables properly refrigerated?

Are the breakables packed safely?

Do you have the cooking gear that you will need?

Don't forget that can opener!

How about the materials for your fire:

Charcoal, the starters, newspapers, and matches?

Or (for firewood) a sharp ax, saw, and matches?

What about those miscellaneous items you will need?

Soap and scouring pads for the clean-up?

Paper towels, aluminum foil, and possibly cheesecloth?

Gloves for the cooks?

Have you prepared a cooking time table?

And what about those items you will not use?

Why not leave them at home?

And finally, how about that cookbook?

NOW HAVE GOOD EATING!

Emergency Substitutions

1 cup milk = 1/2 cup evaporated milk plus 1/2 cup water

1 cup buttermilk = 1 tablespoon vinegar plus
enough sweet milk to make 1 cup

1 tablespoon corn starch = 2 tablespoons flour

1 cup shortening = 1 cup cooking oil

Abbreviations and Metric Conversion

oz. = ounce	1 tsp. = 5 ml.
tsp. = teaspoon	1 tbsp. = 15 ml.
tbsp. = tablespoon	1 cup = 237 ml.
lb. = pound	1 pint = 471 ml.
pkg. = package	1 qt. = 942 ml.
qt. = quart	1 oz. = 28 grams
ml. = milliliter	1 lb. = 454 grams

Hints

Instead of butter, you may substitute oleomargarine or shortening.

Test cakes and muffins for doneness by sticking a toothpick, pin or straw into the middle of the item. If no batter sticks to it when it is withdrawn, the food is probably done.

In cooking for a small group, two persons should be responsible. One is the head cook and the other is the assistant cook. Their sole job should be to prepare and serve the meal on time. This involves teamwork, not only for these two persons but also for others in that group.

In the first place, the two cooks must work together as a team. The head cook is in charge, but it will be teamwork that will make it possible for the two cooks to have the meal ready on time.

Others in the group should also have responsibilities. Someone must prepare a fire and supply coals for the cooks. Failure to do this automatically means that the cooks will be delayed three-quarters of an hour or more in getting the meal ready. Someone must keep the cooks supplied with water. Others in the group can cooperate by keeping out of the kitchen area, which should be considered a restricted area during meal preparation.

For the cooks there are certain basic rules that must be followed. In time these rules will be accepted without too much question.

1. Keep clean. Start clean and stay clean. It would be fine to have a small wash basin for the cooks to use in the cook area with some paper towels handy. This will give them an opportunity to clean up when they get through with a messy job.
2. Keep the kitchen area clean. Messes are created, sometimes intentionally or sometimes accidentally; it is seldom that they cannot be avoided. For example, if the cooks are peeling potatoes, the peelings should not be scattered all over. Peel onto a paper towel, a plate, or even the table, and clean up right after the last potato has been peeled. Or when water is disposed of, spread it on the ground in an out-of-the-way place; don't do as it has been done many times and throw the waste water on a frequently-used path in your camp area. You won't have a mess unless you make a mess.
3. Only the head cook seasons the food. That responsibility rests solely with the head cook. This rule should greatly reduce the chances that the food will receive a double dose of seasoning.
4. Read instructions and follow instructions. This rule is, by far, the most important rule for those with little or no cooking experience. Instructions should be read twice before starting to cook and then a third time as the cooks follow the steps one by one. The steps should be followed in order, but with two cooks working as a team it should be possible for one cook to be working on one step while the other cook moves ahead, to another step. In many cases this can be done unless the next step is dependent upon completion of the previous step. In most cases both cooks will be busy during the preparation period and at various times during the actual cooking. If one cook is standing around doing nothing during the preparation period, the meal will be late. After a little experience it is possible to predict with some accuracy how late that meal will be!
5. The head cook is in charge. The head cook is responsible for instructing the assistant cook on what to do, but remember success depends to a large extent on how well the two work together as a team. The adult leader who is working with the group can provide guidance that will facilitate this teamwork.
6. Cooks can help with the clean-up job. Using as few dishes as possible, soaping the outside of cooking utensils, lining the inside of utensils with aluminum foil, putting water in cooking pots when emptied, scraping the inside of cooking pots as clean as possible, and not making a mess in the kitchen area can greatly reduce the time required to clean up after a meal. Also, if the cooks always keep water for washing dishes either on the fire when there is room or alongside the fire, there should be plenty of hot water for the clean-up job.
7. Leave a clean camp. This rule is one that the entire group needs to adopt. Everything that a group brings into an area should be taken out with them except for items that can be burned completely. The only exception would be in those areas where specific provisions are made for garbage or rubbish removal. In all other areas burnable garbage should be burned. Cans should be burned and then flattened. Aluminum foil should be burned. Flattened cans, burned-out aluminum foil, any unburned garbage, and other rubbish should be placed in a tote bag and carried out with you for disposal when you get home.