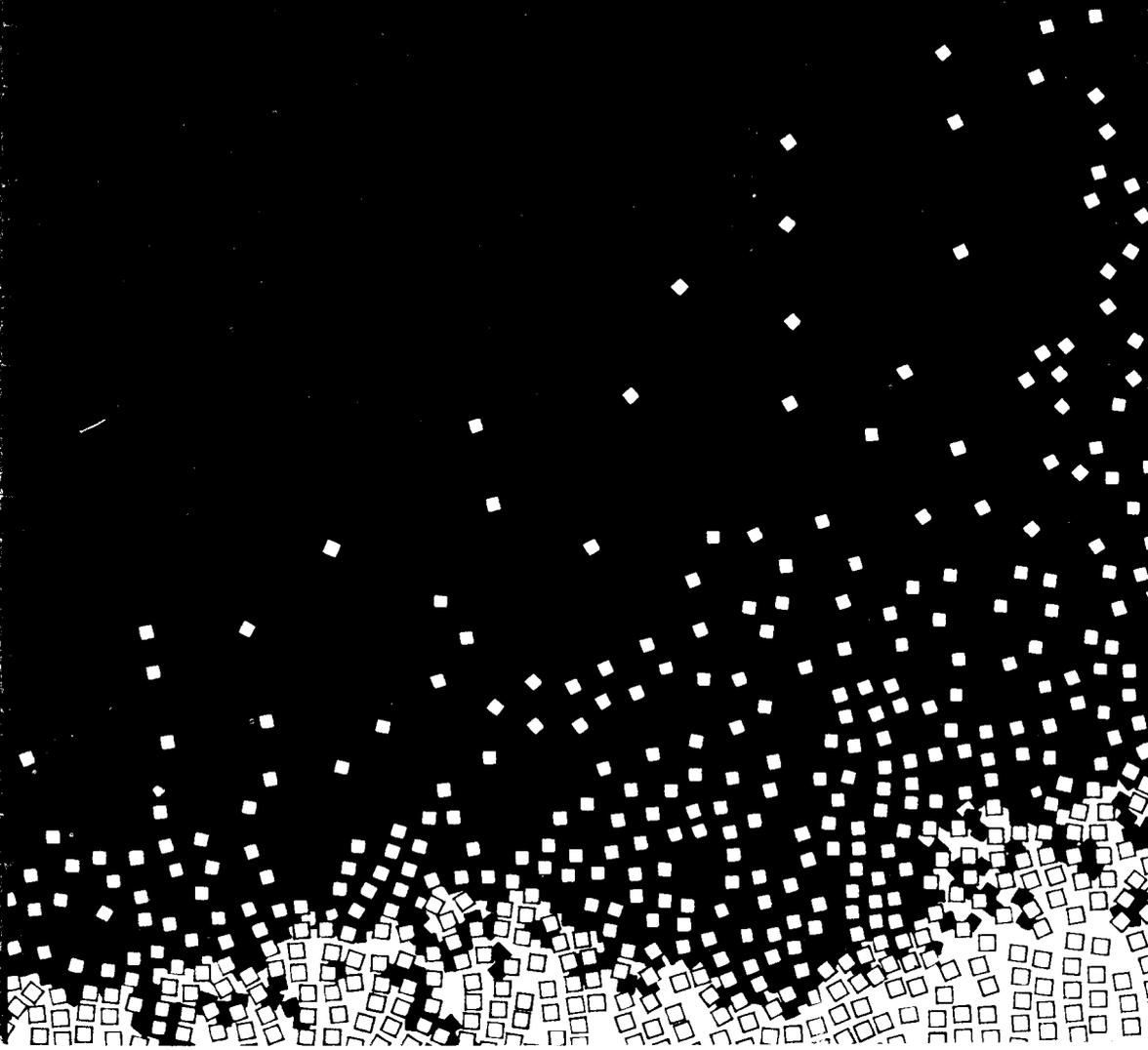


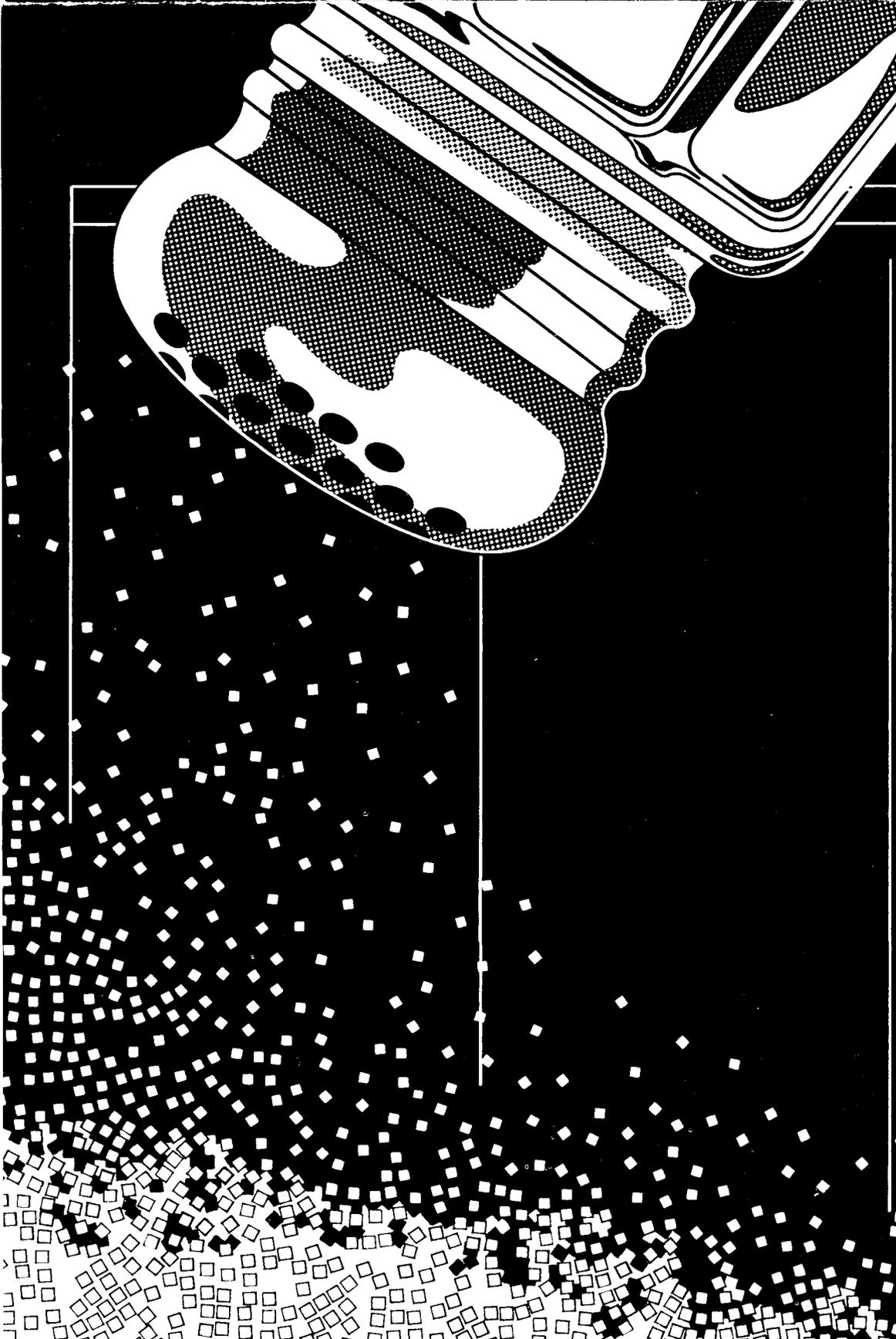
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# sodium

THINK ABOUT IT.

Extension Circular 1138  
Oregon State University Extension Service  
March 1983





# sodium

THINK ABOUT IT

## Introduction

Sodium has been around forever — first as a naturally occurring mineral element and later as an ingredient in a wide variety of foods, drinks, and even medicines. Most sodium in the diet comes from sodium chloride — better known as common table salt. In fact, salt is such a popular food additive that it is second only to sugar in the amount added to food each year.

Studies have shown that most Americans take in more sodium than they need. Science and health experts generally recommend that all of us lower our sodium intake. This pamphlet discusses what sodium is, what it does, where it's found, and how to watch the amount you eat. It is designed to help everyone moderate sodium consumption; but remember — if you are already on a sodium-restricted diet, follow your doctor's advice.

## Why Is Sodium Important to Your Health?

Sodium plays a major role in maintaining blood volume and pressure by attracting and holding water in the blood vessels. As valuable as sodium is, however, your body needs very little.

High sodium intake is one of several factors believed to contribute to high blood pressure. Some people, particularly those with a family history of high blood pressure, are more apt to develop this condition. However, it is hard to know before a problem develops who might benefit from consuming less sodium. It is estimated by the National Institutes of Health that about 60 million Americans have some degree of high blood pressure. We do know that untreated high blood pressure can lead to heart attack, stroke, and kidney disease.

# sodium

T H I N K   A B O U T   I T . . . . .

## Where is Sodium Found?

Sodium in the diet comes from several sources; it may be found naturally in food or added during processing, during cooking, or at the table. Most added sodium comes from salt, but many common food ingredients and additives such as baking soda, baking powder, sodium nitrite, and monosodium glutamate or MSG — a flavor enhancer — also contain sodium. Highly salted foods often taste salty, but many other foods with natural or added sodium do not.

For a healthful diet, it is important to eat a variety of foods. Despite the wide use of salt and other sodium-containing compounds, you can easily choose a varied diet that has only a moderate amount of sodium if you know how. It is virtually impossible for people who eat a varied diet to get too little sodium.

To help you plan a varied diet with sodium content in mind, here is information on the range of sodium in the major food groups. The sodium content of specific foods within each group varies, and the ranges represent averages which are meant only as a general guide. Some foods in each group will fall above or below the range. For information on how much sodium is in particular food items, see USDA's "The Sodium Content of Your Food." (See box for information on how to order.) Product labels also often list sodium by amount. If your doctor has advised you to cut down on sodium, be sure to get more detailed information on specific sodium content of foods.

Many processed foods are higher in sodium than fresh or raw foods because of the use of sodium in processing. Some sodium plays an essential role in processing, such as protecting certain foods from food-poisoning bacteria. Some supermarkets carry low-sodium processed foods.

Remember, in addition to sodium, the protein, vitamin, and mineral contents — as well as the calories — are critical to a healthful diet. Choose foods from these groups daily: fruits and vegetables; cereals, breads, and pasta; meat, poultry, fish, and eggs; and milk, cheese, and yogurt.

Serving size is important. You can still enjoy foods higher in sodium if you don't overdo it.

■ **One teaspoon of salt contains about 2,000 mg of sodium.**

■ **The National Research Council indicates that a "safe and adequate" sodium intake per day is about 1,100 to 3,300 mg for an adult.**

■ **Estimates place sodium consumption by adults at 2,300 to 6,900 mg a day.**

## Sodium in Your Diet

■ **Fresh, frozen and canned fruits and fruit juices** are low in sodium. Most have less than 8 milligrams (mg) in a ½ cup serving.

■ **A ½-cup serving of fresh or frozen vegetables** will usually have 35 mg or less of sodium, if salt is not added during cooking. A higher range — 140 to 460 mg — is found in most canned vegetables or frozen vegetables with a sauce.

■ **Grains** are naturally low in sodium. When cooked without salt, plain pasta (spaghetti, noodles, etc.) has 5 mg or less of sodium in a ½-cup serving. But watch the sauce you add.

Regular hot cereals such as rolled oats also have 5 mg or less of sodium in ½-cup, if cooked without added salt. If you go to the quick-cooking version, you may find much more sodium. Most ready-to-eat cereals (1-ounce serving) and instant or quick cereals (½-cup serving) have between 100 and 360 mg of sodium per serving. Some ready-to-eat or quick cereals are available with little or no sodium added.

Most white or whole grain bread has between 110 and 150 mg of sodium per slice. The sodium level of two or three regular crackers is about the same.

■ **Milk** naturally contains some sodium. Most plain fluid milk has around 125 mg of sodium in a cup. Milks and yogurts fortified with added dry milk solids (check the label) are slightly higher.

Most natural cheese has between 75 and 300 mg of sodium per ounce because salt is used during the manufacturing process, although blue, Roquefort and parmesan contain more. Processed cheeses and cheese food and spreads have more — around 350 to 450 mg per ounce — again, because of the salt used in processing. A ½-cup serving of creamed or low-fat cottage cheese contains about 450 mg of sodium. Some supermarkets carry low-sodium cheeses.

■ **Fresh meats, poultry and fin fish** generally contain from 15 to 25 mg of sodium per ounce — generally less than 75 mg in a 3 oz serving. Shellfish are

generally higher than fin fish. Most canned fish or poultry has 90-150 mg per oz. Eggs have about 60 mg each.

Sausages, luncheon meats, frankfurters and other cured meats such as ham contain larger amounts of sodium than fresh meats because salt is generally added as a preservative during processing. Most have 250 to 450 mg per oz; bacon is higher. Serving sizes for these foods vary greatly — the sodium content of 3 oz will generally range from 750 to 1,350 mg.

■ If you're looking for "convenience" foods, you may also find quite a bit of sodium. Most frozen or canned prepared main dishes, such as pot pies, ravioli, and pizza, range in sodium content from 800 to 1400 mg for 8 oz or 1 cup of the item. Most canned and dehydrated soups contain about 800 to 1300 mg of sodium in a 1-cup serving. Some entrees and soups are available with substantially less sodium than these ranges indicate — check the label.

■ **Snack foods** vary, usually depending on the salt that's added. Unsalted nuts and popcorn are naturally low in sodium (generally less than 5 mg in a 1 ounce serving). Salted nuts, caramel coated popcorn, potato chips, and corn chips generally have 150 to 300 mg of sodium per ounce (about 14 chips). Pretzels and salted popcorn tend to be higher. Unsalted chips and pretzels are available in some areas of the country.

■ **Desserts** also vary in sodium content. Ice cream, ice milk, and sherbet run about 35 to 80 mg of sodium in ½-cup. Most cookies range from about 5 to 50 mg of sodium each. Frozen fruit pies have around 180 mg of sodium in a serving (one-eighth of a pie). Frozen cream pies tend to be lower and nut pies higher. A serving of cake (approximately one-twelfth of an unfrosted cake) varies from 130 to 310 mg of sodium.

■ **What you add to the food** can be as important as the foods you choose. Soy sauce contains over 1,000 mg of sodium per tablespoon — the highest of commonly used condiments. Most other condiments, such as catsup, chili sauce, tartar sauce, Worcestershire sauce, steak sauce, and mustard have about 125 to 275 mg per tablespoon. One tablespoon of pickle relish or three ripe black olives contain about 100 to 125 mg of sodium. Green olives are higher.

■ **Fats and oils** are fairly low in sodium. Since vegetable oil has no sodium and vinegar has less than 6 mg per tablespoon, an oil and vinegar dressing is very low in sodium. Prepared salad dressings, however, usually have from 100 to 250 mg per tablespoon. Salted butter and margarine have around 45 mg per teaspoon, but the unsalted versions have only about 1 mg. Creams, including sour cream, have around 6 mg per tablespoon, while the imitation types have about 12.

■ **The sweets** in your diet have varying levels of sodium. Sugars, syrups, jams, and jellies have 20 mg or less per tablespoon. Most types of candy have between 2 and 80 mg per ounce. Sodas and fruit-flavored drinks also vary — from almost none to 80 mg per 8 oz.

■ **Some estimates suggest that as much as one-third of the average daily intake of sodium comes from salt added to food in cooking or at the table. How much salt do you add? Try this test: Cover a plate with wax paper or foil. Salt the plate as you would if it contained food. Collect the salt and measure it. If you used about ¼ teaspoon, that amounts to 250 mg of sodium.**

## What You Can Do

If you decide you want to moderate your sodium intake, there are choices you can make. If you want more details than this general listing provides, consult USDA's "The Sodium Content of Your Food."

### First, when you shop:

■ **Read food labels.** Labels that make specific claims such as "low in sodium" must show the sodium content on the label. Also, more and more manufacturers are voluntarily putting sodium information on labels. The amount of sodium is always stated in milligrams per serving and includes sodium in the raw ingredients as well as those added during processing.

Even when the amount of sodium is not on the label, remember that the ingredients are listed according to their weight in the product's recipe — from most to least.

Learn to recognize ingredients that contain sodium. Salt, soy sauce, salt brine, and any ingredient with sodium (such as monosodium glutamate) or soda (such as baking soda) as part of its name contain sodium.

■ **Finally, some companies don't list sodium information on their product**

labels, but do provide nutrition information to customers who write for it. Look for the firm's address on the label.

### In the kitchen:

■ **Plan meals that contain less sodium.**

Consider the total amount of sodium in a meal, or in a day's meals. If you eat a high-sodium food, choose a low-sodium food to go with it.

Take into consideration not only the sodium content of a food, but how much you will eat. Also consider the proportion or balance of calories and essential nutrients in the food.

Remember that unprocessed foods usually contain less sodium than processed foods. When you start from scratch, you're in charge of the amount of salt you add.

■ **Reduce the salt you add to foods during cooking.**

Start with moderate changes. That way you can cut back on your taste for salt gradually. You weren't born with a preference for salt, and it can be "unlearned."

Try gradually reducing the amount of salt in your favorite recipes until you've got it down to half or even less.

Look for recipes with a reduced sodium content.

Cut back or even cut out the salt used in cooking rice, noodles, pasta, or hot cereals.

Consider the sodium content of all the ingredients in a recipe. For instance, if you use cured meat, dehydrated or canned soup, cheese, or canned vegetables in a dish, you may not need to add any salt.

■ **Look for condiments and sauces with less sodium, or use lemon juice, spices, or herbs — such as onion or garlic powder (not onion or garlic salt), paprika, pepper, curry, or dill — for flavor. Make your own relishes and salad dressings, cutting back on the salt.**

Try adding new spices and herbs instead of salt to vegetables or the water you cook them in.

### At the table:

■ **Taste food before you salt it. If you must add salt, try one shake instead of two.**

■ **Watch the amount of prepared sauces or condiments you add.**

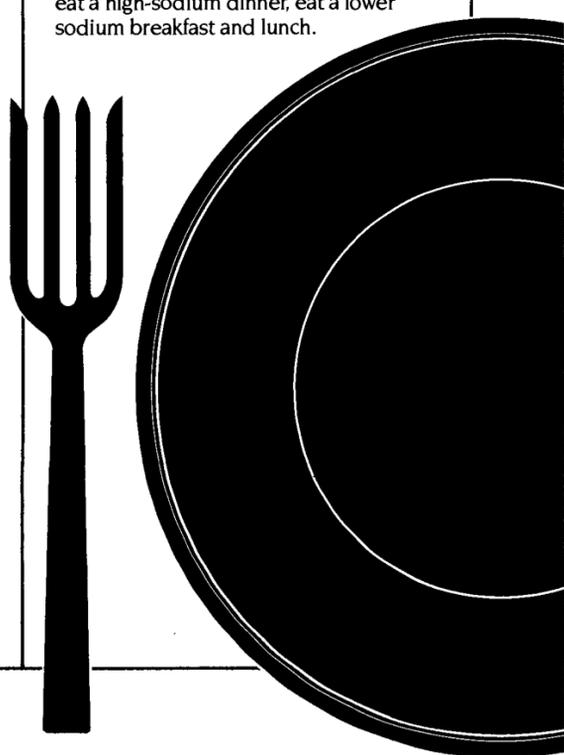
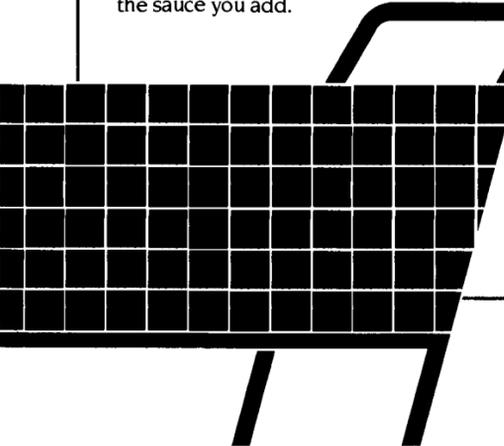
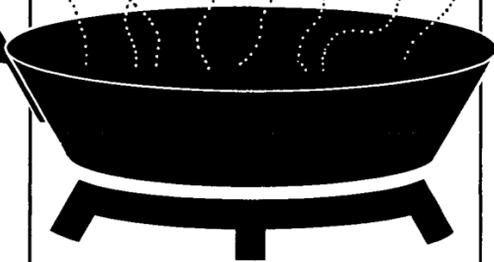
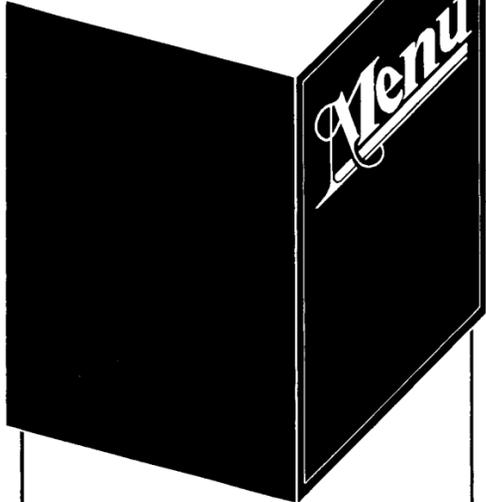
■ **Try lemon juice, vinegar, or a homemade relish for zest.**

### At a restaurant:

■ **Choose foods without sauces. If you do prefer a sauce, ask for it "on the side" so you can control the amount.**

■ **Ask to have your food served without added salt so you can add only as much as you want.**

■ **Try to balance, as you do at home. If you have a high-sodium main dish, eat low-sodium side dishes with it; or if you eat a high-sodium dinner, eat a lower sodium breakfast and lunch.**



## **F**or more information on Sodium

- "The Sodium Content of Your Food." A U.S. Department of Agriculture publication listing the sodium content of 789 food and nonprescription drug items. (Copies available for \$4.25 from Consumer Information Center, Dept. EE, Pueblo, Colo., 81009)
- "Cooking Without Your Salt Shaker" (Copies for \$4.50 from American Heart Assoc., 7320 Greenville Ave., Dallas, Tex. 75231)

The following reprints from *FDA Consumer* magazine are available free from FDA, HFE-88, Rockville, Md. 20857:

- "How to Ignore Salt and Still Please the Palate." A roundup on saltless cooking and eating.
- "The Case for Moderating Sodium Consumption." An interview with a nutrition expert who explains the sodium-hypertension connection.
- "Hypertension Target: Blacks, Elderly." Explains why the elderly and blacks have greater problems with high blood pressure.

Reprint of U.S. Department of Agriculture Home and Garden Bulletin 237.



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