

URBAN GARDENING PROJECTS

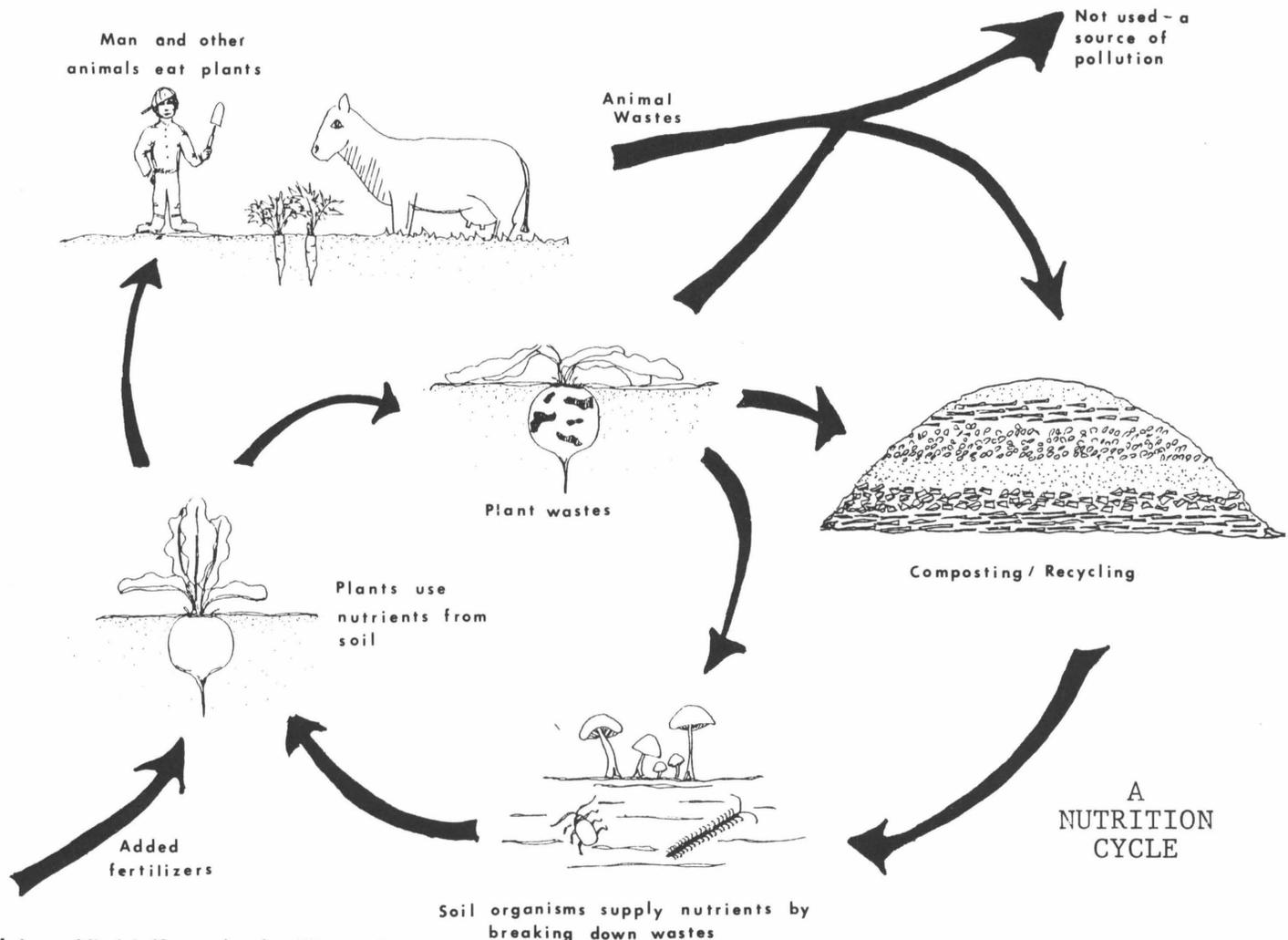
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plants and nutrition

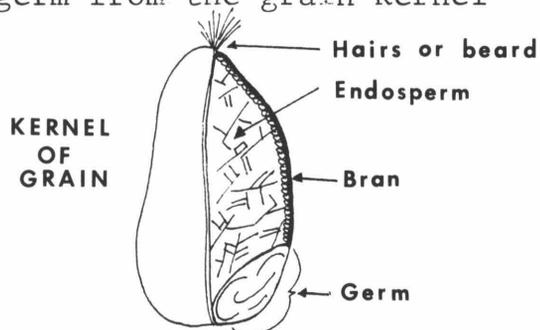
In Nature there is a cycle of nutrition. Plants grow on nutrients provided by the soil; animals eat plants and other animals; plant and animal wastes are eaten or decayed and absorbed by soil organisms (insects, worms, small animals, fungi, bacteria, etc.); these organisms break down themselves and add the nutrients in their bodies to the soil.

Human beings are very much a part of this cycle. Like other animals, we eat plants and animals for the nutrients we need. We recycle the wastes of our food plants and animals by composting them and tilling them into the soil. Unfortunately, much waste is still left out of the cycle and often becomes a source of pollution. Also, because our crops sometimes take more nourishment from the soil than we have returned to it, we must add man-made fertilizers, which often take a great deal of energy to produce. Scientists are working on ways to make use of more wastes and to help bring fertilizer production back into the nutrition cycle and lower energy use.



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Another way to reduce the amount of waste is to get the most from the food we eat. Only ten years ago, there were only a few loaves of whole wheat bread on most grocery shelves. Whole grains are nutritious because the bran and germ from the grain kernel are left in the flour used to make bread. These are wasted when white flour is made, even though the bran and germ contain many minerals, vitamins and fibers, which help your body digest food. By eating whole grain breads and cereals, we get all these extra benefits.



You can also get more from your food by eating raw vegetables and fruits instead of cooked or canned ones when possible. Cooking destroys many vitamins. Also, by eating cleaned skins and peelings (well, not banana peels) on some fruits and vegetables, you get all the vitamins and minerals stored there. Ever try French fries with the potato peels left on?

In these ways you can eat less for the same amount of food value. In a world where food is becoming more and more expensive and there are more people to share the food, this is important!

The proper balance of foods is also necessary. Someone who eats nothing but meat will be almost as badly nourished as someone who eats only candy bars. A Daily Food Guide is part of this HELP sheet. Refer to it to see all the different kinds of foods you need. If you're interested in this, you can do the 4-H Foods and Nutrition projects, available from your Extension Agent.

You may be wondering why this is in a garden project, so maybe we'd better talk about nutrition as it relates to gardening. A garden can provide food for three of the four major food groups:

- (1) Look at the Daily Food Guide on page 4 and notice that the meat group also includes legume products, like beans and peas and peanut butter. This is because these foods are high in some forms of protein. You can substitute some of these high-protein vegetables for one or more servings of meat each day. If you are a vegetarian (a person who does not eat meat), you need to know how to combine legume (plant) proteins with grains, nuts and seeds to make complete proteins. There is an Extra Project on the Vegetarian Diet in the Nutrition project if you would like to explore this.
- (2) The bread-cereal group includes grains and grain products. Grains are the fruits of grasses. Usually wheat, rye, oats, barley, and rice are thought of as grains, but corn is also a grain - it's just a very large one! Grains are also high in proteins, minerals and vitamins.

If you have enough space you can grow some of your own grains. Some people have even grown them hydroponically!

- (3) Finally, the vegetable-fruit group supplies many vitamins and minerals. If you grow and eat a variety of vegetables it's possible to supply all the nutrients you need from this group from your garden. Remember that many vegetables taste as good or better when they are eaten raw than when they are cooked, especially when they are fresh from the garden. Try some of these vegetables without cooking:

cauliflower	garden peas
broccoli	edible pod peas
spinach (good mixed with lettuce in a salad)	
squash (before it gets squashed!)	
potatoes	sweet corn
cabbage	kohlrabi
green peppers	green beans
carrots	mushrooms (grocery store kind)

If you do cook them, vegetables hold their vitamins better when baked or steamed rather than boiled or fried. And if you leave the skins on potatoes or squash or apples when you prepare them, you'll see how they add color and flavor to your dishes.

- (4) It would be pretty hard to get milk from plants (although soy milk can be made from soybeans), so you'll have to rely on cows, goats or the grocery store for milk group foods.

New Words

legume: member of a certain plant family, with a pea-like fruit pod, and with a root system that is invaded by nitrogen-fixing bacteria (see nitrogen-fixing)

nitrogen-fixing: bacteria which can convert nitrogen from the air into a form that can be used by plants

nutrition: process of taking in and using food for growth

vegetarian: a person who does not eat meat

DAILY FOOD GUIDE

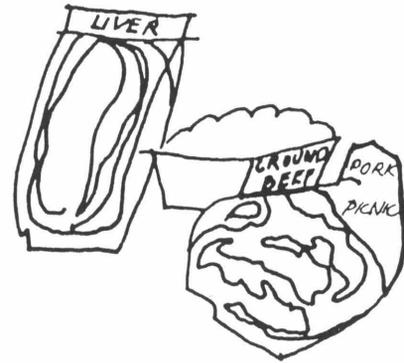
MILK GROUP

SOME for everyone



MEAT GROUP

2 or more servings



VEGETABLE--FRUIT GROUP

4 or more servings



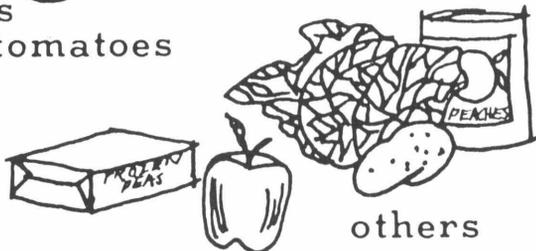
dark green



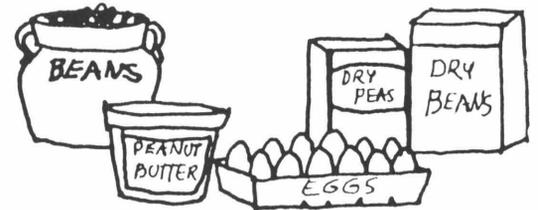
deep yellow



citrus and tomatoes

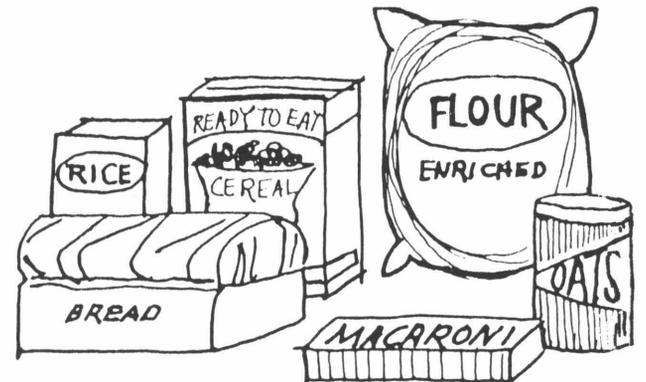


others



BREAD--CEREAL GROUP

4 or more servings



everyday eat foods from each group

eat other foods as needed to round out meals

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