

Class 1

Homemade Breadmaking Made Easy

Breads • Grains • Fiber

Our first session is titled “Homemade Breadmaking Made Easy.” Bread is the staff of life. “More and more Americans are saying yes to whole grains. Since 2010, roughly 55 percent of consumers have ditched white bread for whole-wheat or whole-grain varieties, according to the Shopping for Health 2012 Survey, released in July by the Food Marketing Institute and *Prevention* magazine.”¹ You can join the large number of health-conscious Americans who not only purchase but also make their own whole-grain bread. This lesson will provide the information that you need to make your own nutritious homemade bread simply and efficiently.

Why take the time and energy to make your own bread when you can easily purchase it? What are the advantages of good homemade whole-grain bread? Is white bread as nutritiously healthy as whole-grain bread? What about the enriching process—does it make white bread superior to whole-grain bread? These are all good questions. Let’s explore some answers.

ADVANTAGES OF HOMEMADE WHOLE-GRAIN BREAD

Whole-grain breads are excellent sources of dietary fiber.

1. WHAT IS FIBER?

Fiber is the coarse, structural portion of plant foods that our bodies can’t digest or absorb. It is sometimes called roughage. Although fiber is not digestible, it plays a positive role in our overall health. It assists the body in a variety of ways, including disposing of excess fat and toxins. When we increase our fiber intake, we decrease the risk of health conditions such as cardiovascular disease, stroke, cancer, diabetes, and even obesity.

2. HOW MUCH FIBER SHOULD WE GET EACH DAY?

Dietary fiber is a vital part of good nutrition. Reading nutrition labels helps us learn how much fiber is in our favorite foods. Concentrate on increasing your fiber intake by eating



more fiber-rich foods. Studies support the American Dietetic Association's position that adults should consume between *25 to 38 grams of fiber a day* from a variety of plant-based foods.²

Unfortunately, the average American is not eating adequate amounts of high-fiber foods such as fruits, vegetables, whole grains, and legumes. "Though dietary fiber provides many health benefits, the Harvard School of Public Health states that the average American consumes only about 15 [grams] of fiber each day. This is most likely due to the fact that the typical American diet includes too many fast foods and processed foods like chips, crackers, candy and pastries."³

"A diet adequate in fiber-containing foods is also usually rich in micronutrients and nonnutritive ingredients that have additional health benefits. It is unclear why several recently published clinical trials with dietary fiber intervention failed to show a reduction in colon polyps. Nonetheless, a fiber-rich diet is associated with a lower risk of colon cancer. A fiber-rich meal is processed more slowly, which promotes earlier satiety, and is frequently less calorically dense and lower in fat and added sugars. All of these characteristics are features of a dietary pattern to treat and prevent obesity."⁴

3. WHAT FOODS ARE HIGH IN FIBER?

- A. _____
- B. _____
- C. _____

If you would like to include more fiber in your diet, a plant-based diet is extremely beneficial. Consciously choose more *fruits, vegetables, legumes, and whole grains*. Even try making your own whole-grain bread. You will be glad you did.

HIGH-FIBER FOODS

4. WHAT MAJOR DISEASES DOES FIBER ASSIST IN PREVENTING?

- A. _____
- B. _____
- C. _____

In a well-researched article published on the Harvard University School of Public Health's Web site, *The Nutrition Source*, October 3, 2012, titled "Fiber: Start Roughing It!" the value of fiber is clearly stated: "High intake of dietary fiber has been linked to a lower risk of heart disease in a number of large studies that followed people for many years. In a Harvard study of over 40,000 male health professionals, researchers found that a high total dietary fiber intake was linked to a 40 percent lower risk of coronary heart disease, compared to a low fiber intake. Cereal fiber, which is found in grains, seemed particularly beneficial. A related Harvard study of female nurses produced quite similar findings."⁵

"One question raised by such studies is whether fiber itself protects against heart disease and diabetes, or whether the disease-fighting benefits accrue from the nutrient-rich whole grain package. A recent meta-analysis of seven major studies showed that cardiovascular disease (heart attack, stroke, or the need for a procedure to bypass or open a clogged artery) was 21 percent less likely in people who ate 2.5 or more servings of whole grain foods a day compared with those who ate less than 2 servings a week. Another meta-analysis of several large studies, including more than 700,000 men and women, found that eating an extra 2 servings of whole grains a day decreased the risk of type 2 diabetes by 21 percent. So to protect against heart disease and diabetes, perhaps the best advice is to choose whole-grain, high-fiber foods at most meals."⁶

Eating whole grains instead of highly refined, processed foods lowers the total cholesterol, triglyceride, and insulin levels. These reductions combine to reduce the risk of coronary artery disease.⁷ "In the Harvard-based Nurses' Health Study, women who ate 2 to 3 servings of whole-grain products (mostly bread and breakfast cereals) each day were 30 percent less likely to have a heart attack or die from heart disease over a 10-year period than women who ate less than 1 serving per week."⁸

Consider the vitamin and mineral loss in processed flour reported on pages 20 and 21 of the *Natural Lifestyle Cooking* cookbook. More than *half of the B vitamins, 50 percent of the calcium, and virtually all of the fiber are removed in the enriching process, along with multiple other key nutrients.*

"In a 10-year Harvard [University] study completed in 1994, men and women who ate high-fiber breads had fewer strokes and heart attacks. . . . Simply switching from white to whole wheat bread can lower heart disease risk by 20 percent, according to research from the University of Washington reported in the April 2, 2003 issue of the *Journal of the American Medical Association*."⁹

There are many health benefits in making your own bread. It is not only delicious but nutritious. And fresh baked bread smells so good. Try it. Breadmaking is really not that difficult. You will find several recipes in the *Natural Lifestyle Cooking* cookbook on pages 19–38.

HOMEMADE WHOLE-GRAIN BREAD

Foods that contain dietary fiber include fruits, vegetables, nuts, grains, and legumes. One of the best ways to boost fiber intake is to eat several servings of whole grains, fruits, vegetables, and legumes, such as beans and lentils, every day. This may require a change in your eating habits, but it will reward you with health dividends. Include a variety of high-fiber foods in your diet daily.

EAT AN ABUNDANCE OF THESE HIGH-FIBER FOODS

“Looking to add more fiber to your diet? Fiber—along with adequate fluid intake—moves quickly and relatively easily through your digestive tract and helps it function properly. A high-fiber diet may also help reduce the risk of obesity, heart disease and diabetes.”¹⁰ The following chart, prepared by the Mayo Clinic staff, comparing the amount of fiber in various plant-based foods is helpful.¹¹ It can assist in making wiser food choices. In addition to whole-grain bread, choose the high-fiber plant-based foods found in the chart, and you will get plenty of fiber.

(See pages 40, 41 in *Natural Lifestyle Cooking* cookbook for additional information on fiber.)

MAYO CLINIC FIBER CHART

	Serving size	Total fiber (grams)*
FRUITS		
Raspberries	1 cup	8.0
Pear, with skin	1 medium	5.5
Apple, with skin	1 medium	4.4
Banana	1 medium	3.1
Orange	1 medium	3.1
Strawberries (halves)	1 cup	3.0
Figs, dried	2 medium	1.6
Raisins	1 oz. (60 raisins)	1.0
GRAINS, CEREAL, AND PASTA		
Spaghetti, whole-wheat, cooked	1 cup	6.3
Barley, pearled, cooked	1 cup	6.0
Bran flakes	$\frac{3}{4}$ cup	5.3
Oat bran muffin	1 medium	5.2
Oatmeal, instant, cooked	1 cup	4.0
Popcorn, air-popped	3 cups	3.5
Brown rice, cooked	1 cup	3.5
Bread, rye	1 slice	1.9
Bread, whole-wheat or multigrain	1 slice	1.9
LEGUMES, NUTS, AND SEEDS		
Split peas, cooked	1 cup	16.3
Lentils, cooked	1 cup	15.6
Black beans, cooked	1 cup	15.0
Lima beans, cooked	1 cup	13.2
Baked beans, vegetarian, canned, cooked	1 cup	10.4
Sunflower seed kernels	$\frac{1}{4}$ cup	3.9
Almonds	1 oz. (23 nuts)	3.5
Pistachio nuts	1 oz. (49 nuts)	2.9
Pecans	1 oz. (19 halves)	2.7
VEGETABLES		
Artichoke, cooked	1 medium	10.3
Green peas, cooked	1 cup	8.8
Broccoli, boiled	1 cup	5.1
Turnip greens, boiled	1 cup	5.0
Brussels sprouts, cooked	1 cup	4.1
Sweet corn, cooked	1 cup	4.0
Potato, with skin, baked	1 small	3.0
Tomato paste	$\frac{1}{4}$ cup	2.7
Carrot, raw	1 medium	1.7

* Fiber content can vary between brands.



Whole-grain breads are an excellent source of B vitamins.

5. WHAT IS ONE OF THE GREATEST BENEFITS OF THE B-COMPLEX VITAMINS?

A deficiency in the B-complex vitamins has been shown to produce heightened anxiety, increased tension, and greater irritability. Studies done on people with inadequate B vitamins reveal they are also more prone to discouragement and depression. A lack of B vitamins also contributes to an inability to concentrate and focus one's thoughts.

WHOLE-GRAIN BREAD IS FULL OF B VITAMINS

Homemade whole-grain breads contain the natural goodness packaged by our loving Creator. Nutrients are not depleted by processing and then artificially replaced.

6. WHAT ARE SOME OF THE VITAMINS AND MINERALS THAT ARE LOST IN THE REFINING PROCESS?

VITAMIN AND MINERAL LOSS IN PROCESSED FLOUR¹²

VITAMIN OR MINERAL	Percent Lost
Vitamin B ₁ (Thiamine)	86 percent
Vitamin B ₂ (Riboflavin)	70 percent
Niacin	86 percent
Iron	84 percent
Vitamin B ₆ (Pyridoxine)	60 percent
Folic Acid	70 percent
Pantothenic Acid	54 percent
Biotin	90 percent
Calcium	50 percent
Phosphorous	78 percent
Copper	75 percent
Magnesium	72 percent
Manganese	71 percent



A large number of nutrients are lost in the refining process, and the United States Food and Drug Administration requires only five to be added back. So much fiber is lost in the refining process that you would have to eat eight pieces of white bread to get the fiber found in just one piece of whole-wheat bread.

7. WHAT SPECIFIC ESSENTIAL NUTRIENTS ARE ADDED IN THE ENRICHING PROCESS TO COMPENSATE FOR THE LOSS OF NATURAL NUTRIENTS DURING THE REFINING PROCESS?

- A. _____
- B. _____
- C. _____
- D. _____
- E. _____
- F. _____ (OCCASIONALLY)

The widespread use of refined white flour began in the late 1800s. Food analysts discovered that removing the germ from wheat kept the flour from going rancid. In the 1940s, the United States recognized that white flour was nutritionally deficient. People who ate it began developing health problems such as beriberi, a disease caused by vitamin B₁ or thiamine deficiency. The United States government then regulated the refining of wheat. It required manufacturers to enrich their white flour by adding *thiamine, iron, niacin, and riboflavin*. *Folic acid* was added to the list later. In some cases, *calcium may be added*, but about thirty nutrients were removed from the wheat with only a few added back in the enriching process.

Enrichment might be compared to a thief stealing twenty-five dollars from you, then feeling guilty and giving you five dollars back. Would you feel enriched? Certainly not! You would probably be thankful to get some of the money back, but you would certainly wish the entire amount had been returned. By using whole grains, you can get all of the vitamins and minerals that our loving Creator included in the first place.

WHOLE-WHEAT BREAD

8. WHAT ARE THE RESULTS OF THIAMINE DEFICIENCY?

- A. _____
- B. _____
- C. _____

Vitamin B₁ or thiamine deficiency causes beriberi, a nervous symptom ailment. Symptoms of this disease include *weight loss and emotional disturbances*. Lack of thiamine causes an *impairment of the short-term memory*. Thiamine deficiency also causes weakness and pain in the limbs, periods of irregular heartbeat, and edema, which is the swelling of body tissues. Heart failure and death may occur in advanced cases.¹³ Chronic thiamine deficiency can also cause some neurological disorders. B vitamins are vital to our health and optimum well-being.

DIET AND DISPOSITION

Recent studies have confirmed that a good diet with adequate whole grains significantly influences behavior. The link between diet and disposition has been well known for decades. As early as the 1940s, Dr. Roger Williams, formerly of the University of Texas at Austin, discovered a definite relationship between negative behavior and a lack of thiamine in the diet.¹⁴

Get some of your grams of fiber with these delicious **PECAN ROLLS**. See the recipe in the Holidays and Special Occasions section on page 112.

Combine the **PECAN ROLLS** with one cup of **PEA SOUP** (*Natural Lifestyle Cooking* cookbook, page 124) and you have a meal packed with fiber.



Homemade whole-grain breads are free from some of the artificial preservatives, additives, and dairy products that are often present in commercially prepared breads.

Most commercial breads contain potentially harmful preservatives, additives, and dairy products.

ARTIFICIAL SWEETENERS: Artificial sweeteners often claim to replace sugar without containing extra calories. Many of these artificial sweeteners contain a large mixture of unhealthy chemicals.

MILK CONTAMINANTS: Milk often contains contaminants ranging from pesticides to drugs. Synthetic hormones such as recombinant bovine growth hormone (rBGH) are commonly used in dairy cows to increase the production of milk. Pesticides, polychlorinated biphenyls (PCBs), and dioxins are other examples of contaminants found in milk. These toxins affect the immune and reproductive systems. The central nervous system can also be affected. PCBs and dioxins have also been linked to cancer.¹⁵

Hundreds of man-made chemicals are added to our American food supply today. Food additives are not natural nutrition for humans. Make it a habit to *read labels*. You may be surprised at what is actually in the food you are eating each day.

No wonder many of the store-bought breads don't mold anymore. You can keep them for several weeks, and they won't go bad because there are so many preservatives in them. Recently, I tested this myself. I bought what appeared to be good commercial bread. I left it in the pantry for literally weeks—and it didn't go bad. In fact, there was no sign of spoilage. I was shocked at how many preservatives had to be in the bread in order to keep it so long. To understand what you purchase, *read labels*. Beware when there are a host of ingredients you can't pronounce and don't understand.

MAKING HOMEMADE BREAD

If you want to eat more healthfully, try making your own homemade bread. Breadmaking can be easy and fun. Remember, though, it will keep fresh for only about a week. Let's take a look at the basic ingredients used in various kinds of breads. Once you have these basic ingredients, you can exchange the kind of whole-grain flour to vary your bread. You can also add other ingredients such as nuts and oats for extra protein.

BASIC INGREDIENTS USED IN ALMOST ALL BREADS

YEAST: Yeast is essential in breadmaking. It helps the bread rise. When warm water is added to the yeast, it begins to grow. As it grows, it combines with the sweetening that is in the flour and produces carbon dioxide. This gas expands the dough and makes little bubbles that are trapped in the dough. When wheat flour containing gluten is added, it makes the

dough elastic so it can stretch instead of break when the bubbles are formed. The bubbles make the dough rise. Therefore, yeast is an essential ingredient in making leavened bread. Activate the active dry yeast in warm water at about 110°F.

LIQUID: Water is the best liquid to use in bread and is the most economical. Water helps to combine the ingredients. It also aids in activating yeast that releases carbon dioxide.

SWEETENERS: Sweetening is primarily used to add flavor to the bread. It also contributes to the browning of bread. Sweetening also promotes tenderness and gives the yeast something to feed on. The sweeteners we have used in *Natural Lifestyle Cooking* include brown sugar, honey, maple syrup, molasses, and fruits such as applesauce.

SALT: Salt adds flavor and helps to control the rising of the bread by strengthening the gluten in the flour.

OIL: Oil makes the bread more moist and tender. It also helps extend the shelf life. However, it is possible to make oil-free bread by substituting an apple or applesauce. You may want to try this once you have mastered the art of breadmaking.

FLOUR: Flour is the most important ingredient in breadmaking. Flour contains gluten, which is a protein that provides for the elasticity and the basic structure of bread. The grain most commonly used is wheat flour. Remember, wheat flour refers to white as well as whole wheat. Read labels. Be sure the label says “whole wheat” or you may get fewer nutrients than you thought. Using *100 percent whole-grain flour provides the best nutritional value* for your bread. Other



nonwheat flours, such as quinoa, millet, rye, and oats can also be used. Because some flours do not contain gluten, it is important that they are mixed with large amounts of wheat flour.

BASIC INGREDIENTS IN BREAD

Homemade whole-grain breads are less expensive than commercially baked bread. You will save on your food budget.

9. WHAT IS THE APPROXIMATE DIFFERENCE IN PRICE BETWEEN STORE-BOUGHT WHOLE-GRAIN BREAD AND HOMEMADE WHOLE-GRAIN BREAD?

APPROXIMATE PRICE COMPARISON OF HOMEMADE BREAD AND STORE-BOUGHT BREAD

COST OF HOMEMADE WHOLE-GRAIN BREAD

2 Loaves	
Water	\$0.00
Active dry yeast	\$0.16
Honey	\$0.40
Salt	\$0.02
Light olive oil	\$0.12
Whole-wheat flour	\$1.20
Total for 2 loaves	\$1.90

Average cost per loaf = \$0.95 homemade bread

(Note: If you use brown sugar, it is even less expensive.)

COST OF STORE BOUGHT WHOLE-GRAIN BREAD

1 Loaf	
Arnold's 100 % whole wheat	\$2.50
Nature's Own 100% whole wheat	\$2.99
Double Fiber 100% whole wheat	\$3.19

Average cost per loaf = \$2.89 store-bought whole-wheat bread

RAISIN BREAD, DINNER ROLLS, and PECAN ROLLS

Homemade whole-grain bread has a wonderful flavor and great texture.





Whole-Grain **OATMEAL-PECAN BREAD**
Whole-grain breadmaking provides warm memories.

Tips for Making Good-Textured Homemade Bread

1. When making 100 percent whole-wheat bread, you can *add approximately ½ cup of vital wheat gluten* to 7 or more cups of whole-wheat flour.
2. If you are making bread *for the first time*, *add a little unbleached enriched flour* to your whole-grain bread. The gluten in it will make a softer, better texture. Replace some of the nutrients lost by adding wheat germ.
3. One of the keys to making good homemade bread is to be sure to *add the last 2 cups of flour gradually*. Excess flour makes bread heavier. Use only enough of the flour called for in a recipe to prevent the dough from sticking to your hands. You may or may not need all the flour called for in a recipe. The amount of flour needed can change due to weather or altitude.
4. *Add 1 to 2 cups potato water* or mashed potatoes to your bread to give it a good texture.
5. *Use an emulsifier*. A common emulsifier used in baking is lecithin. Using an emulsifier like lecithin will prevent the starch in the flour from recrystallizing, which makes the bread dry and stale.
6. *Practice*. Practice makes perfect. Find a recipe you like and make it over and over again. If you keep making it, you will get better and better at it. And best of all—your family will love it too.

The texture and flavor of a good loaf of homemade whole-grain bread is hard to beat.



Good-Textured Homemade **RYE BREAD**

Freshly baked homemade whole-grain bread not only has an aroma that is delightful, it is nutritiously satisfying.

10. WHY DOES EATING WHOLE-GRAIN BREAD HELP A PERSON FEEL SATISFIED?

Whole-grain bread provides many important nutrients. Whole grains are filled with vitamins, minerals, protein, carbohydrates, and fiber that meet our nutritional needs and satisfy our hunger.

There is nothing quite like the smell and taste of homemade bread to give your house a warm and welcoming feeling. Serving homemade bread creates a positive atmosphere. Most family members really appreciate it when you make homemade bread. Your family will love it and so will the friends you invite home to enjoy a good slice of homemade whole-wheat bread. Making homemade bread provides a great sense of accomplishment for the family members who participate in making it with you. Bread bakers are always on everyone's favorite list. The gift of a loaf of freshly baked homemade bread and delicious wheat rolls are highly appreciated by most people.

Family fellowship seems to be a lost art in today's fast-paced society. The smell of freshly baked bread invites families to relax and share a meal together. Family relationships are very important factors for our health. Getting adequate nutrients, especially B vitamins, affects our dispositions and the way we relate to our families and others.

RECIPE USING VARIOUS WHOLE GRAINS

Health Bread

2 T. (2 pkg.) active dry yeast
1/2 c. warm water
2 3/4 c. boiling water
3/4 c. molasses or honey
1 T. salt
2 T. olive oil
1/4 c. ground flaxseed

1 c. wheat germ
1 c. quick oats
1 c. bran
1 c. barley flour
1/2 c. millet flour
3 c. whole-wheat flour
1 to 2 c. unbleached enriched flour

MIX active yeast in 1/2 cup warm water. In a second bowl, **COMBINE** boiling water, molasses, salt, olive oil, flaxseed, wheat germ, oats, bran, barley flour, and millet flour. **STIR** in yeast. **BEAT** well. **ADD** whole-wheat flour to make moderately stiff dough. **ADD** unbleached enriched flour gradually. **TURN OUT** on a lightly floured surface. **KNEAD** until smooth and satiny. **SHAPE** dough into a ball. **PLACE** in lightly greased bowl. **COVER** and let rise in warm place until double (about 1 1/2 hours). **PUNCH** down. **CUT** into 2 portions. (For smaller loaves, cut it into 3 portions.) **SHAPE** into loaves. **LET RISE** until double (about 1 hour). **BAKE** 30 to 35 minutes at 350°F.



Know Your Grains

It is important to know the various grains that are available. *Whole grains are economical, nutritious, and delicious.* They have sustained and nourished the world for many years. *Whole grains are high-energy foods.* Scientific evidence demonstrates that consuming whole grains can help prevent many twenty-first-century killer diseases. A diet with plentiful amounts of varied grains puts us on the road to good health. Let's look at some of the most familiar whole grains, their nutrient contents, and their uses and benefits.

BARLEY: Whole-grain barley is a healthy high-protein, high-fiber whole grain. It has a chewy texture.

- **NUTRIENT CONTENTS:** 1 cup of cooked barley contains 6 grams of fiber and 4 grams of protein with approximately 193 calories.¹⁶
- **BENEFITS:** Improves digestion and reduces cholesterol.

BUCKWHEAT: Buckwheat kernels are hulled seeds of the buckwheat plant. Although buckwheat is technically a fruit, it is used as a grain. Buckwheat flour is more commonly used for pancakes. However, because it is a heavier flour, it is best when mixed with other grains.

- **NUTRIENT CONTENTS:** Buckwheat has several nutrients, including the minerals phosphorus, iron, and potassium. It also contains vitamin E and B vitamins.
- **BENEFITS:** Because buckwheat is not part of the wheat family, it can be used by people on a wheat-free diet.

CORN: Corn is a grain known in many countries as maize.

- **NUTRIENT CONTENTS:** 1 cup of corn contains 4.6 grams of fiber. In research studies, corn intake is often associated with good overall fiber intake.
- **BENEFITS:** Protects the mucosa of the digestive tract and reduces cholesterol levels. Fiber in corn is one of the keys to well-documented digestive benefits. Corn is important in overall antioxidant protection and is also a contributing factor in reducing the risk of cardiovascular disease.

According to the Web site the World's Healthiest Foods, "Recent research has shown that corn can support the growth of friendly bacteria in our large intestine and can also be transformed by these bacteria into short chain fatty acids, or SCFAs. These SCFAs can supply energy to our intestinal cells and thereby help lower our risk of intestinal problems, including our risk of colon cancer."¹⁷

MILLET: Millet has been a staple food for thousands of years and was used during ancient times to make bread. It is mentioned in the Bible. Today millet ranks as one of the important

grains in the world, although it is not used as widely in the United States. In the United States, it is more widely known and used as birdseed or cattle feed. *Millet is a highly nutritious, healthful, and versatile grain* that would be a great addition to our diet.

Note: The Hunzakuts, who live in the Himalayan foothills, are known for their excellent health and longevity. This long-living population group enjoys millet as a staple in their diet.

- **NUTRIENT CONTENTS:** Millet is filled with nutrients. It contains magnesium, calcium, phosphorus, fiber, B vitamins, and antioxidants.
- **BENEFITS:** Millet is a highly nutritious, nonacid-forming food. “Millet is a good source of several alkalizing minerals. In the USDA Nutrient Database, 3.5 ounces of millet is listed as providing 119 mg of magnesium and 14 mg of calcium. These two minerals support the acid/alkaline balance within the body and are needed when the blood becomes too acidic.”¹⁸

It is easy to digest. In fact, millet is considered one of the least allergenic and most digestible grains available. Millet contains about 11 percent protein, which is higher than wheat, rice, and corn. Millet is often used by people on wheat-free diets.

(Note: We will emphasize recipes using millet.)

OATS: Oats are a hardy cereal grain known scientifically as *Avena sativa*.

- **NUTRIENT CONTENTS:** One cup of oats contains 17 grams of fiber. Oats are filled with vitamins such as thiamine, riboflavin, niacin, B₆, and with minerals such as calcium, magnesium, iron, phosphorus, potassium, zinc, and copper. Oats are also rich in protein.
- **BENEFITS:** A study published in the *Archives of Internal Medicine* confirms that eating high-fiber foods, such as oats, whole grains, fruits, and vegetables helps reduce overall mortality. The study states, “We found that dietary fiber from grains was significantly inversely related to the risk of total, CVD [cardiovascular disease], cancer, and respiratory disease death in both men and women. Comparing the highest to the lowest intake of fiber from grains, men had a 22% lower risk of total death . . . and women had a 19% lower risk of total death.”¹⁹

Whole grains make a significant difference in reducing disease and our longevity.

QUINOA: Quinoa is pronounced *KEEN-wah* and has the *highest protein content of all the whole grains*, so it is an excellent food for those on a plant-based diet. Quinoa provides all nine essential amino acids, making it a complete protein. Quinoa is a cholesterol-free, gluten-free whole grain. Although it is usually considered to be a whole grain, it is actually a seed but is used like a whole grain.

- **NUTRIENT CONTENTS:** Quinoa contains more protein than wheat or corn. It is a good source of dietary fiber, a good source of phosphorus, and is high in magnesium and iron. It also contains iron, potassium, magnesium, zinc, and other minerals.²⁰

- **BENEFITS:** The nutrients in quinoa are important for heart, nerve, and muscle function. Quinoa can be used in breadmaking and also in various kinds of entrées.
(Note: Quinoa is used in the **QUINOA PATTIES** on page 79.)

RICE: Brown rice is a kind of whole grain. When only the outermost layer of a grain of rice (the husk) is removed, the product is brown rice. To produce white rice, the next layers underneath the husk, the bran and germ layers are removed, leaving mostly the starchy endosperm. Several vitamins and dietary minerals are lost in this removal and polishing process. Therefore, to get the most nutrition, it is important to eat brown rice rather than white rice. It is gluten free and can be easily eaten by most people.

- **NUTRIENT CONTENTS:** Brown rice provides a healthy amount of fiber, calcium, iron, magnesium, phosphorus, potassium, manganese, and selenium.
- **BENEFITS:** The fiber and selenium found in brown rice can also reduce your risk of many types of cancer. Oils found in brown rice can help lower cholesterol.

RYE: Rye is a grain used to produce flour. Rye bread, including pumpernickel, is used widely in northern and eastern Europe. It has lower gluten content than wheat flour. However, it can be nicely combined with whole-wheat flour to make delicious, nutritious rye bread. You will find a recipe for rye bread on page 30 in the *Natural Lifestyle Cooking* cookbook.

- **NUTRIENT CONTENTS:** Rye is a good source of vitamin E, calcium, iron, thiamine, phosphorus, and potassium. It is particularly a good source of dietary fiber.
- **BENEFITS:** The nutrients in rye are needed for overall health. Dr. Celeste Robb-Nicholson, editor in chief of *Harvard Women's Health Watch*, says, "Try to get most of your vitamin E from food. There's strong evidence that diets containing large amounts of vitamin E-rich foods are good for you."²¹

SPELT: Spelt is a grain with a light, nutty, and delicious flavor. Spelt contains protein and has a considerable amount of B vitamins, magnesium, and fiber.

WHEAT: Wheat is a grain that is grown on more land area than any other commercial crop and is *one of the most important staple foods* for humans.²² World trade in wheat is greater than for all other crops combined. Wheat is probably the king of all the grains. All of the recipes on pages 24–35 in the *Natural Lifestyle Cooking* cookbook contain some whole wheat. Try making some good whole-grain bread. It will add a great source of fiber to your diet.

- **NUTRIENT CONTENTS:** Whole wheat contains protein, fiber, vitamins, and minerals. The germ and bran contain vitamins such as B₁, B₂, B₆, niacin, and E. Also calcium, magnesium, iron, and zinc are contained in wheat.
- **BENEFITS:** Whole wheat helps protect against diseases such as arteriosclerosis, cancer, and diabetes.

Because whole grains should be an integral part of our diet, it is important to be aware of the many different grains that can be used both for breakfast and breadmaking. It would be well to use a mixture of the various whole grains.

As you continue on your journey to good health and put these principles of healthful living into practice, you will quickly begin to notice the benefits. *Your health will improve.* Your energy level will increase. Your thinking will become clearer. You will feel more alert and positive about life.

Eating a nutritious, tasty, natural diet will produce both a healthy mind and a healthy body. Truly the ancient Scriptures are right when they declare, “Blessed are you, O land, when your king is the son of nobles, and your princes feast at the proper time—for strength and not for drunkenness” (Ecclesiastes 10:17). Eating for strength and not for mere gratification of appetite produces physical health and mental joy.

In our upcoming sessions, we will study additional basic principles of healthy eating that will not only transform your dietary practices to reduce the risk of disease but they will also revolutionize your way of thinking, enabling you to become a more contented, self-controlled, and cheerful person. Jesus said, “I am the bread of life” (John 6:48).

He also declared, “It is written, ‘Man shall not live by bread alone, but by every word that proceeds from the mouth of God’ ” (Matthew 4:4). Good whole-grain homemade bread satisfies the nutritional needs of the body, just as Jesus satisfies our inner spiritual needs.

ANSWERS TO CLASS 1

1. Fiber is indigestible vegetable cellular material contained in food.
2. Twenty-five to thirty-eight grams daily
3. A. Fruits and vegetables
B. Legumes (beans, peas, lentils, etc.)
C. Whole grains
4. A. Heart disease
B. Stroke
C. Type 2 diabetes
5. They help stabilize the nervous system.
6. See the chart on page 15.
7. A. Thiamine
B. Riboflavin
C. Niacin
D. Folic acid
E. Iron
F. Calcium may be added to some enriched flours.

8. A. Weight loss
B. Emotional disturbances
C. Impaired short-term memory
9. Triple
10. The bread provided adequate nutrients and fiber.

ENDNOTES

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