

Chapter 31

Legumes, Nuts and Seeds

Plant Proteins—Legumes, Nuts, and Seeds

Directions: Read the following selection. Then answer the questions under *Thinking Critically*, and complete the activities as directed by your teacher.

Many more kinds of legumes are grown in the world than can be described in this section. Although all beans have basically the same texture, their taste, color, size, and shape vary. Combining different legumes in soups, stews, and salads can result in an infinite variety of dishes. Tasteful legumes you might try, in addition to the ones listed in your text, are adzuki beans (small, red beans with a high protein content); cranberry, or romano, beans (reddish beans with a buff background); flageolets (small green or white kidney-shaped beans from France); mung beans (sold mostly as sprouts); and split peas (used mostly in soups).

When you think of bread, wheat, oat, rye, and corn may come to mind. A variety of legumes, nuts, and seeds can be milled into flours and used to make several types of bread. These breads are becoming especially popular for those on gluten-free diets. For example, garbanzo bean flour is made from chickpeas; romano flour is made from romano or cranberry beans; and garfava flour is made from garbanzo beans and fava beans. Amaranth flour is ground from the seed of a plant related to pigweed.

(As a grain, amaranth was a staple of the Aztec culture.) Quinoa seeds come from a plant related to spinach and beets, and flaxseed meal can be added to baked products to add a nutty flavor and enhance nutritional value. Almond meal (nuts) is used in a similar way.

Although soybeans may not be as common as the lima beans on your supermarket shelf, the food products made from this versatile bean are becoming more readily available.

Soybeans are processed and used to create other foods. Soy flour is ground from roasted soybeans. It can partially replace wheat flour to boost the protein in recipes. Soy flour does not rise as well as wheat flour but in combination with other flours and xanthan gum it will rise well. Full-fat soy flour adds richness and texture to such baked goods as cookies, yeast breads, and quick breads.

Textured soy protein, or TSP, is made from highly compressed soy flour. You must rehydrate this type of protein before using it in recipes. TSP is best known as a meat replacement or extender that is well suited for use in chili, meat loaf, tacos, and casseroles.

Comparing Legumes (1/2 cup cooked)

Legume	Calories	Protein (g)	Fat (g)	Iron (mg)	Calcium (mg)
Black beans	41	8	less than 1	2	25
Chickpeas (garbanzos)	82	7	1	3	40
Kidney beans	88	8	less than 1	3	25
Lentils	100	9	less than 1	3	19
Pinto beans	80	6	18	1.48	60
Soybeans	86	14	8	4	88
White beans	90	6	0	1.4	60

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Thinking Critically

1. What information and advice from this selection and your textbook would support a decision to use legumes, nuts, and seeds as a primary protein source?

2. Using the table in this activity as well as the information from your text and the Internet, compare and contrast the nutritional value of a type of legume, such as black beans, with a type of meat, such as ground beef. What are the nutritional advantages of each? What gains are made if the legumes and meat are combined in a recipe?

3. Why are legumes often paired with meat, fish, poultry, or eggs in recipes?

For Further Study

- ◆ Conduct research about the history and role of soybeans in Asian cultures. Why is soy so valuable in cultures where milk and meat are rarely used? Summarize your findings in a brief report.
- ◆ Consult recipes for grains and legumes in vegetarian cookbooks. Using what you have learned, develop a recipe combining these foods. Prepare your recipe in the foods lab or at home. Discuss the results with those who share the meal with you. Write a brief summary of your experience and submit it to your teacher.
- ◆ Find examples of soup recipes that use two or more dried legumes in the recipe. Prepare a homemade dry soup mix by measuring the ingredients for the recipe in single-portion batches. These mixes could be used as gifts or for a fund raiser for your FCCLA chapter.
- ◆ Research the use of flours milled from legumes, such as: soy flour, garbanzo bean flour, garfava flour, and amaranth flour. Choose a recipe using the flour or a combination of the flours and prepare it. Compare your recipe to a similar recipe that uses wheat flour. Summarize what you have learned and share it with the class.
- ◆ Plan three meals and include a legume paired with milk, grain, or meat in each one. Chart the nutritional value of each meal plan. What is the same about each, and what is different? What recommendations or suggestions would you make?