Notes on Grain, Rice and Pasta

Cereal is the common name for grains. Grains are the edible seeds of certain grasses.

The principle grains are **wheat, rice, oats, barley, corn, buckwheat, and rye.**
Wheat - flour, cereals, pasta
Corn - vegetable, cereals, grits, and hominy
Rice - cereals, rice
Oats - cereals, an ingredients in baked products and in some desserts *(The cereals made from oats are usually made of the whole grain with only the outer husk removed. Because of this process, oat cereals are rich in nutrients.)*
Rye, Barley, and Buckwheat - are used for flour

The Parts of the Grain:
Bran - outside covering of the grain and consists of several layers. Cellulose is not digested, acts as a natural laxative and is sometimes called the "scrub brush" for the intestine, helping to keep the body regular. (fiber, B vitamins, minerals, protein)
Endosperm - is the inner white portion. (complex carbohydrates, proteins, NO vitamins and minerals)
Germ - found at one end of the kernel, is the sprouting part from which a new part grows. (B vitamins, vitamin E, iron, zinc, other minerals, unsaturated fat)

The Nutrient Contributions of the Grain:
Bran and Germ are rich sources of minerals (iron and phosphorus), B vitamins (Thiamin - beriberi, Riboflavin - cheilosis, Niacin - pellagra), and cellulose.
Endosperm is a rich source of starch but lacks vitamins, minerals, and cellulose.

There are two forms of carbohydrates found in grains: **starch for body energy and cellulose for regularity.**

The classes of grains are:
breakfast cereals
pastas
flour
rice

Wheat is known as the **staff of life** because of its availability around the world. It is a staple food because of its good keeping quality, high energy value and their relatively low cost.

Principles of Grain Cookery:

Goal is to avoid lumps—two method to separate cereal granule.
1. Cereals may be added slowly to rapidly boiling water while stirring.
2. Fine cereals may be mixed with a small amount of cold water before they are stirred into boiling water.

Several things happen with starch is cooked:
1. the starch absorbs water
2. with heat and an excess of water, starch swells enormously
3. with continued heating, starch becomes translucent
4. thickness develops

Rice

Types of rice:
Brown rice - the whole grain form of rice
Long grain rice - a rice that will stay dry and fluffy
Converted rice - the most nutrient dense
Instant rice - precook and then dehydrated, cooks quickly and the yield is doubled

Preparing rice:
Double the amount of water for the rice. Add salt and butter.
Bring the water to a boil. Add and stir in rice. Turn heat to low and put on lid.
Cook for 20 - 25 minutes. Rice is done if no water is visible. Fluff with a fork.
Rice triples as it cooks. 1 cup uncooked rice will yield 3 cups cooked.

Pasta

Type of Pasta:
spaghetti, macaroni, fettucine, ravioli, lasagne, tortellini, linguinni, egg noodles, etc.

Pasta Facts:
Pasta dishes are usually low cost entrees
Store pasta in a tightly covered container at room temperature
Pasta test for doneness - al dente (meaning firm to the tooth)

Preparing pasta:
In a large pot, fill pan with water 2/3's full. Add salt and oil if desired.
Bring to a boil. Add pasta. Cook uncovered, until al dente 10 - 12 minutes. Drain.
Pasta doubles as it cooks. 1 cup uncooked pasta will yield 2 cups cooked.