Rice is one of the most important cereals in the world. Most people in Asia and tropical and subtropical countries use rice as a major staple food. Almost all cultivated rice plants belong to *Oryza sativa* L., which was originated in Asia, and which is divided roughly into two subspecies, Indica and Japonica. Between these two typical subspecies, rice is differentiated into many kinds of ecotypes according to local conditions. Each ecotype has a different response to day length, temperature, soil fertility, and water supply. Accordingly, different ecotypes of rice are cultivated in a manner corresponding to the soil properties of the paddy fields, growth seasons, climatic conditions, and methods of cultivation.

In general, Indica rice is grown mainly in tropical and subtropical zones, and Japonica rice in temperate zones and mountainous regions. However, high-yielding varieties adapted to the tropics can be obtained in both the Indica and Japonica groups (Oka 1975). The world’s rough rice for 1988–1989 was estimated to be 477 million metric tons, with China and Taiwan in the lead with 36.7% of this, followed by India (19.8%), Indonesia (9.0%), Thailand (4.2%), and the United States (1.5%). The remaining 20% was grown in the U.S.S.R., Europe, Africa, and some Asiatic countries (Caldwell and Fast 1990). “Wild rice” (*Zizania palustris*), an aquatic plant different from rice, is produced in much smaller quantities in California and Wisconsin in the United States. The growth characteristics of “wild
rice” are unlike those of any of the cereal grains. It is used occasionally in combination with the *Oryza sativa* L. seeds (1–2%) for a different color, texture, and aroma.

In this chapter, methods for the preparation and utilization of rice as breakfast cereals and baby foods are presented. A similar subject has been reviewed by Brockington and Kelly (1972); Hoseney (1986); Kent (1983); Luh and Bhumiratana (1980); Fast (1990).

**CHARACTERISTICS OF RICE FOR PROCESSING**

The rice varieties grown in the United States are classified as short-, medium-, and long-grain types, which are associated with specific cooking and processing characteristics (Webb 1985). Raw milled kernels of long-grain varieties, frequently called “hard rice,” usually cook dry and fluffy, and the cooked grains tend to remain separate. The long-grain rice, grown primarily in Texas, Louisiana, and Arkansas, is used more for canning and freezing of precooked rice. On the other hand, high-quality short- and medium-grain varieties, called “soft rice,” cook moist and firm, and the cooked grains tend to stick or clump together. They are grown primarily in California and are used for making puffed rice and parboiled rice.

All three grain types, with their characteristic textural qualities, are in widespread demand by the domestic and foreign trade because different ethnic groups prefer various textures in home-cooked rice. Rice processors also require all grain types and textural qualities for use in various kinds of prepared and convenience-type, rice-containing products, such as dry breakfast cereals, parboiled rice, quick-cooking rice, canned rice, canned soups, dry rice soup mixes, baby foods, and frozen dishes.

In the United States, a substantial and increasing amount of the domestic rice crop is processed and reprocessed into numerous kinds of prepared products. There is a strong demand for the broken grade of rice for brewing and for rice flour for various prepared mixes. In many of these processed and convenience foods, the textural qualities and grain size of long-grain varieties are preferred while, in other foods, the qualities of the short- and medium-grain types are required for specific uses. Hence, the domestic and world trade associates United States long-, medium-, and short-grain rice with certain specific cooking and processing characteristics. For this reason, new rice varieties must have the same (or improved) milling, cooking, and processing characteristics as the established varieties they replace.

The amylose/amylopectin ratio in milled rice greatly affects the texture and fluffiness of cooked rice. The ranges of amylose, amylopectin, and the