Both sorghum [Sorghum bicolor (L.) Moench, syn. S. vulgare] and pearl millet [Pennisetum americanum (L.) Leeke, syn. P. typhoides] are important traditional food crops in Africa and Southeast Asia. Sorghum is also grown for food in Central America and China. On a global basis, these crops (including other minor millets) rank fifth among food cereals and contribute to the subsistence of an estimated 700 million people (Hulse et al., 1980). The discussion on millet, except for the section on human nutrition, will refer to pearl millet (Fig. 9–1), the largest seeded and most widely grown of the several unrelated millet species.

Sorghum and pearl millet are of special importance because they are the basic cereals of some of the poorer less-developed nations. This is particularly true in Africa where the people are experiencing increasing food deficits (FAO, 1985). Many of these nations have part or most of their populations subsisting in arid or semiarid areas of uncertain rainfall where, apart from sorghum or millet, there are few other reliable food crops. Increases in production, and possibly in nutritive quality, of sorghum and pearl millet through breeding combined with improved production techniques are vital if these countries are to rise above their dependency on food-aid imports (World Bank, 1984).

Sorghum was introduced into the USA in the 1850s but did not become an important grain crop until stiff stalk cultivars of dwarf stature were bred in the 1930s that could be combine harvested. However, it still required the innovation of commercial hybrid seed production, made possible by the discovery of cytoplasmic male sterility (Stephens and Holland, 1954) to fully industrialize the sorghum crop into a major feed source, first in the USA but now also in Argentina, Mexico, Australia, and other countries. Other secondary uses for sorghum are as industrial...