



Summary

Cereals have often been considered among the first cultivated crops. They are herbaceous plants belonging to the grass family *Graminaceae* or *Poaceae* (the only exception being buckwheat) grown mainly for their grain. Cereal grains such as wheat, rice, corn, barley, oat, rye, sorghum and millets are used primarily for human consumption and animal feed. They are also used in the manufacture of beverages and industrial products (adhesives, starch). Cereal crops are energy-dense, containing 10,000–15,000 kJ/kg, about 10–20 times more energy than most succulent fruits and vegetables. Nutritionally, they are important sources of dietary protein, carbohydrates, the B complex vitamins, vitamin E, iron, trace minerals and fiber. Cereal grains contain relatively little protein compared to legume seeds, with an average of about 10%–12% dry weight. Global cereal consumption directly provides about 50% of protein and energy necessary for the human diet, with cereals providing an additional 25% of protein and energy via livestock intermediaries. Major cereal grains produced worldwide include wheat, rice, corn, and barley. Corn, wheat, and rice together account for three-quarter of the world's grain production. Other globally important cereal crops include sorghum, oats, millets and rye. Asia, America, and Europe produce more than 80% of the world's cereal grains. Wheat, rice, sorghum, and millet are produced in large quantities in Asia; corn and sorghum are principal crops in America, whereas barley, oats, and rye are major crops in the former United Soviet Socialist Republic (USSR) and Europe.