
first area of research but was slow to develop. Greek physicians of classical times noted that cold could both damage and preserve living things. For centuries, the major obstacle to sustained research was a practical one—how to produce cold. Then, during the 19th century, scientists discovered the means to liquefy gases by compression; as a gas liquefies, it absorbs heat from the surrounding environment and cools it. Gas liquefaction gave us refrigeration and air conditioning, among other things. As Wilson notes, it takes about 20 to 30 years to move a new discovery from the laboratory into commerce and industry. In sight are laser beams for cooling and freeze-dried bacteria for use in medicines and fertilizers.

**THE FRUITED PLAIN:
The Story of American
Agriculture**
by Walter Ebeling
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The Great Plains are ours only by right of conquest—of Indians, droughts, wild creatures (plant “one for the squirrel, one for the crow, one for the cutworm, and one to grow”). Advancing westward, American settlers cut away the forests, depleted local soils, and then moved on. This practice culminated in the 1930s with the 150,000-square-mile Dust Bowl: Strong winds piled sand in dunes as high as 30 feet, and five-mile-high clouds of black dust were carried as far as the Atlantic coast. Ebeling enlivens an encyclopedic survey of agricultural technology and economics with historical anecdotes. It was common, for example, to call a planter with half-a-dozen slaves a “Colonel” in ante-bellum Kentucky, “where the corn is full of kernels and the colonels full of corn.” During the 20th century, advanced technology (hybridization, fertilizers, pest-management) and mechanization brought about an “agricultural miracle.” U.S. corn yields remained at 22 to 26 bushels per acre for 140 years up to the 1930s; by the late '60s, 80 bushels per acre were common. Scientists are now attempting to improve nitrogen fixation (the conversion of atmospheric nitrogen into organic compounds by plants) and to produce hardier, disease-resistant plants through genetic engineering.