

Introduction

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Since the dawn of time, humanity has survived by using plants. Incorporation of new and diverse plant materials, including fruit, has driven the development of civilization. The objective of this workshop was to summarize plant exploration over four time periods—from ancient Egypt through the 1800s, from the 19th and 20th centuries, and from recent expeditions—and postulate on the future of plant exploration.

In “Plant Exploration for New Fruits: From Queen Hatshepsut to Joseph Banks,” Jules Janick introduced the concept that plant exploration was a cornerstone to culture, trade, and economic stability. Queen Hatshepsut of ancient Egypt saw the benefit of obtaining plant materials and fruits uncommon in her region. Christopher Columbus initiated New World–Old World plant exchange in his encounter with the Americas. Sir Joseph Banks, naturalist on Captain Cook’s trip to the southern hemisphere, led the Royal Society to a new age of recognition of botany and excitement in plant hunting.

Alan Stoner, in his presentation “The 19th and 20th Century Fruit Hunters,”

described N.I. Vavilov’s concept of the centers of origins of economic crops and the competition in plant exploration between the Russians and the U.S. Bureau of Plant Industry. Both teams of plant scientists recognized that the strength of agriculture and the development of each country’s power would be based on the diversity of plant germplasm available for breeding. Their foresighted activities initiated the opportunities for broad successes in agricultural development that have since occurred. Recent fruit collectors took advantage of the opening of former Soviet and Asian countries to obtain previously unavailable species. Agriculture developed at amazing rates thanks to the broad genetic diversity obtained by these plant hunters.

Phil Forsline, in “Fruit Exploration Supported by the National Plant Germplasm System,” reviewed explorations sponsored by the U.S. Department of Agriculture, Plant Exchange Office, since 1980. These trips have obtained new exciting new fruit resources from Pakistan, Kazakhstan, Kyrgyzstan, Turkmenistan, Siberia, China,

Ecuador, Chile, Russia, Japan, and numerous other countries. Many unusual fruit cultivars have been shared as a result of these expeditions.

I was the final speaker and pointed out in “Past, Present, and Future Plant Exploration” that new and different political challenges face the present and future explorers than did those of the past. Horticultural production and exchange are global; regional identification is declining. Fruit cultivars are grown and marketed around the world. The plant species extinction pace exceeds the identification rate. Intellectual property rights dictate that plants are the sovereign property of the country where they grow; thus bilateral country agreements are now required. Although these political and legal requirements may obstruct some collection, new technology will revolutionize the explorer’s ability to find and obtain plants, label them, and record information. Each of the presenters agreed that plant exploration was a focal point throughout human history and future fruit exploration will remain an integral part of human advancement.