

## THE WORLD BANANA INDUSTRY

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**Keywords:** Africa, Brazil, Caribbean, Central America, cultivars, diseases, EU, exports, human diets, India, irrigation, nutrition, pests, potassium, propagation, soils, tariffs, The Philippines, trade regime, vitamins, WTO

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### Summary

This chapter provides an overview of the world banana industry. Bananas are the most important fresh fruit produced in the world in terms of world trade. Bananas are primarily grown in the tropics, with countries in Central America and the northern portion of South America being the leading export suppliers. The Philippines is another important production area that supplies the Asian market. Bananas from select countries in Africa ship to Europe. India and Brazil also boast sizeable banana industries, but production in these two countries is sent mostly to the domestic market.

The key elements of banana production are outlined briefly with special attention to diseases and pests and to water requirements, including supplementary irrigation.

Bananas are an important component of human diets in parts of Africa, South America, and Asia. Bananas are high in potassium, a mineral not widely found in other foods. They are also a good source of Vitamin C and B<sub>6</sub>. Banana consumption is also significant in North America where bananas are imported mainly from Central America.

The world banana industry has been wrought with controversy over both the European Union banana trade regime and the dominance of a handful of companies in world banana trade. The United States has filed suits with the World Trade Organization (WTO) claiming the EU provided unfair market access to select import suppliers. Rulings by the WTO have forced the EU to modify its trade regime to allow more open access to its markets. Changes in the EU trade regime have negatively affected smaller suppliers in the Caribbean region.

## 1. Introduction

Banana (*Musa sapientum*) is a tropical plant which is commercially grown in tropical zones. There are two species of banana, *Musa acuminata* and *M. balbisiana*. Banana is a tropical herbaceous plant consisting of an underground corm and a trunk (pseudostem) (Greenearth). Although commonly referred to as “banana trees”, the banana plant is actually an herb. Banana trees are sensitive to frost. Day length also affects plant growth so that locations nearest the equator tend to experience less seasonality in production (*Even though Turner argues that the link between light and banana productivity is weak. He suggests that measuring light as the hours of sunshine available to the plant might be a more appropriate measure and this suggests that day length may be an important factor in explaining productivity.*).



Figure 1. Banana is a tropical herbaceous plant consisting of an underground corm and a trunk. Banana plantations such as this are replanted periodically.



Figure 2. Desert bananas such as these are popular in many countries. Bananas are the most-traded fruit in world trade



Figure 3. Bananas come in many shapes and sizes. There are two main species and a number of hybrids (Photo T. Spreen)

Most banana cultivars are hybrids (Crane et al.) Through breeding, there is a wide variety of banana cultivars that vary greatly in plant and fruit size, fruit quality, and resistance to pests and diseases. Plantains are hybrid bananas which are almost always cooked before consumption. Plantains are generally larger in size compared to bananas. Bananas may be served as green bananas that are cooked or dessert banana which are

generally consumed uncooked. The form of preparation extends from roasted, steamed, or boiled (Price). They are widely consumed in Latin America, Africa and Asia.

Bananas grow rapidly in warm climates. The plant consists of one or more pseudostems which are upright, trunk-like structures. Layered leaves extend from the pseudostem. A flower extends from the pseudostem approximately 10 to 15 months after first planting. The process of banana flowering is called “shooting” (Crane et al.). These flowers are female flower which will develop into banana in most edible varieties. The flowers appear in groups called hands along the stem which are first covered by purplish bracts which are eventually shed as the fruit develops.

Bananas and plantains are native to Southeast Asia. The Indian sub-continent appears to be a major center for hybridization of bananas. It is believed that bananas were introduced to North Africa by the Arabs in the century after Mohammad’s death in 633 B.C (Price). There is evidence to suggest that bananas were introduced to Ecuador by Southeast Asians as early as 200 B.C. Portuguese and Spanish settlers brought them to other parts of the New World in the 16<sup>th</sup> century.

With the advent of companies to facilitate export, commercial banana production in Central America and later South America grew rapidly in the late 19<sup>th</sup> and early 20<sup>th</sup> century to supply markets in North America (Josling and Taylor). The countries of Ecuador, Columbia, and Costa Rica are leading producing countries in the world with their production primarily intended for export. Domestically oriented suppliers in India and Brazil also represent sizeable banana producing countries.

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### Biographical Sketch

**Thomas H. Spreen** is Professor in the Food and Resource Economics Department at the University of Florida. He received his formal training from Purdue University in West Lafayette, Indiana. He holds a B.S in Mathematics (Summa cum Laude), an M.S. in Applied Statistics, and a Ph.D. in Agricultural Economics. After graduation, he immediately joined the faculty at the University of Florida in 1977.

During his academic career, Dr. Spreen has conducted research related to the economics of beef and dairy cattle, citrus, bananas, sugarcane, and fresh vegetables. Over the past 15 years, he has established himself as a leading researcher on the world citrus industry. He has served as a consultant to the Food and Agricultural Organization and has made presentations related to citrus on four continents. He has authored or co-authored over 300 publications including more than 50 refereed journal articles.

During his tenure as a faculty member in the Food and Resource Economics Department, he has taught courses in mathematical programming, optimal control methods, and mathematics for economists. He has supervised a large number of graduate students having chaired 20 Ph.D. dissertation committees and served on total of 120 graduate committees. He served as coordinator of graduate programs for the department from 1987-90 and again from 1996-2000. He was chair of the department from 2002-08. He received a lifetime achievement award from the Southern Agricultural Economics Association in 2007. He appeared in *Who's Who in America* in the 2009 edition.