

Lecture 34

Horticulture, Politics, and World Affairs: Sugarcane and Plantation Agriculture

Horticulture as the source of valuable commodities has had great influence on the interaction between nations both in antiquity and the present. The influence of the spice trade in the Ancient World and, especially, in the Age of Exploration has already been covered in previous lectures. In the next 3 lectures, we will discuss 3 major tropical products: cane sugar, tea, and banana. Each has had profound effects on the relation between nations and peoples, effects that are still reverberating in the world today.

Sugarcane

Sweetness is a naturally desired taste and human tongue receptors can distinguish sweetness, a naturally pleasant taste sensation, and the reason we enjoy fruits. In antiquity the main source of a concentrated sweet product was honey.

Sugar (sucrose) is now the cheapest energy food. Sugarcane (*Saccharum officinarum*, Poaceae) is presently the most important source of sugar followed by sugar beet. Although sugar is non-essential, modern industrial countries use an enormous amount of sugar for candy, desserts, and a myriad of products from pastries to canned vegetables. Generally, sugarcane is a crop of the humid tropical lowlands but does best in wet and dry tropics. At present, the chief world producers of sugar are Brazil and India. In North America, the chief producers are Mexico, Cuba, and the United States. Cane sugar is produced in the United States in Louisiana, Florida, and Hawaii, but Hawaii, previously a large producer, has greatly decreased production.

Sugar is extracted from sugarcane, an enormous grass plant. Sugar is manufactured by cutting and squeezing the stalks for the juice. Boiling the juice crystallizes the sugar. Byproducts include the spent stalks known as **bagasse** which can be used as fuel for the sugar factory, and **molasses**, a thick brown viscous syrup which can be fermented to rum or fed to cattle. The sugar from beets (*Beta vulgaris*) is identical to cane sugar. The beet sugar, a temperate source of sucrose, was initiated by the French when cane sugar was prevented from reaching Europe due to a British blockade during the Napoleonic wars of the 19th century. Beet sugar is produced in the United States and Europe but must be subsidized, as the plant is not as efficient as the tropical sugarcane.

There are a number of *Saccharum* species (known as the *Saccharum* complex) that produce sugar. The most primitive species (*S. spontanium*) is believed to have evolved in the Himalayan foothills of Northern India. Other species are found in China and Southeast Asia. Sugarcane was cultivated in India in 400 BCE and in China by 200 BCE. The art of sugarcane cultivation and manufacture passed from India to China. Sugarcane reached Persia in the 5th century CE and in the next hundred years reached Egypt. Sugarcane began to be cultivated by Arabs in the Mediterranean basin. It reached Europe after the crusades but was expensive, primarily a luxury item and a medicine. Sugarcane was introduced to Madeira in 1432 and the Canaries in 1480 and was transported to the Hispaniola (the Island now consisting of the Dominican Republic and Haiti) by Columbus in 1493. In 1791, Captain Bligh (famous as the villain in *Mutiny of the Bounty* when he attempted to transport breadfruit from Tahiti) carried varieties of *S. officinarum* from Tahiti to Jamaica; previous cultivation was the thin-stalked *S. sinsense* and *S. barberi*, native to the Bay of Bengal. *S. officinarum* is probably native to the South Pacific (New Guinea) and is very tall; hence known as **Noble Cane**. There was no sugar industry in the South Pacific but canes were grown for chewing. The thick-stemmed types were successful in all sugar growing areas but the other species are used in breeding to develop disease and pest resistance. Continual selection improved both yield and sugar content.

The Plantation System

The introduction of sugar in the West resulted in the development of the plantation system in Brazil and

the West Indies. The plantation system, where major crops were both grown and processed for export, was an important innovation in agriculture. Unfortunately, this led to the reinvigoration of slavery, especially black slaves from Africa, resulting in the mass importation of Africans against their will into the New World. The valuable Sugar Islands in the West Indies were to contribute to major conflicts between European powers for control of the Americas.

The Portuguese first came to Recife in northeastern Brazil in the 16th century. Large land grants established plantations along the coast 150 miles wide and as far West as could be controlled. Sugar was familiar to the Portuguese who were cultivating it in the Azores, Madeira, and Capo Verde, islands off the African coast and discovered by the Portuguese in the 15th century. The crop was well suited to the lowland tropical coast of Northeast Brazil but the crop does even better with a drier season, and so, at present, sugarcane has moved to savanna climates (grassland types, summer wet, winter dry) in the South. The largest production is now in Sao Paulo state).

By the 3rd decade of the 1500s, sugar was established in Brazil as a result of unlimited land, good climate for production, and unlimited demand in Europe. The chief disadvantage was a lack of labor. The native "Indian" population did not make good slave labor and succumbed to many of the diseases introduced from Europe. The solution was African slaves already used in the sugar industry of Madeira and available from trading stations operated along the West Coast of Africa where the Portuguese had established forts. Sugar became the first **plantation crop**, based on the European incursion into the Americas (*Colonial system*). A single crop grown and processed under a single operation, typically managed by Europeans, and, typically, a crop cultivated in the tropics with colonial overtones characterized the plantation. The plantation was a highly capitalized system requiring huge investments for a myriad of products particularly processing machinery. Unlike the feudal system, where lord and vassal had duties and obligations (clearly not symmetrical), the introduction of slaves made labor a form of property with overriding financial rather than human concerns. Slavery has been present in one form or another for most of human history but it is now universally recognized as a shameful condition. Furthermore, it indirectly resulted in the extermination of the native population in much of the Americas.

In the 1500s, the islands of the Caribbean belonged to Spain, which was not interested in plantation agriculture. The Spanish were interested in gold and then cattle ranching. All the islands were occupied and the Indians were killed off, replaced by cattle. In the Lesser Antilles, the land was left unoccupied because the Indians were fiercer and there was no indication of gold. These islands with tropical rainforest climate and occupied by Carib Indians, were small, and had no appeal for the Spanish. However, they appealed to the Dutch, French, and British, at first merely because they were Spanish, but later as part of a wealthy plantation empire, originally based on tobacco. These included St. Kitts, Barbados, Nevis, Martinique, and Guadeloupe. These **sugar islands** became extremely valuable after sugar was established. In 1763, the French were forced to relinquish all of Canada to the British and essentially traded French Canada for Martinique. The islands of the Caribbean were long considered the most valuable of British possessions.

The colonial plantation system was to reach its highest level of development in the West Indies. The saying "as rich as Croesus" was changed to "as rich as a West Indian Planter." It was an era of great fortune and extravagant debt. Planters lived on credit from London merchants. The collapse of the system was a combination of overproduction undergirded by great debt and the collapse of the slave system. The West Indies provided the subplot for the novels of Charlotte Bronte (*Jane Eyre*) and Jane Austin (*Mansfield Park*). Things have never been the same in these unfortunate isles although tourism is now contributing to their success along with some manufacturing (aluminum).

Sugar and Slavery

Sugar required an enormous amount of capital for livestock, machinery, vats, and buildings for storage, and large gangs of unskilled labor for planting, cultivation, and harvesting. It was the perfect plantation crop and replaced tobacco, which does better in small farms because of the extensive hand operations that are involved. The small holders that had been established for tobacco were bought up and consolidated.

African slaves were found more economical than peasant labor. By the 18th century, society was made up of white owners, largely in debt, and a large black slave population. In 1655, when the British took Jamaica from the Spanish, there were 3000 black slaves; in 1800, there were 300,000. Most of the increase was due to imports as the rate of natural increase was low, not even enough to maintain the population until emancipation (so much for the paternalism of slavery).

The trade between the sugar islands, Africa, Europe or Northeastern America, the infamous tripartite trade, supported the economies. New England “slavers” imported slaves from Africa and returned with rum and molasses from the islands (hence, the famous Boston baked beans). The British exchanged manufactured goods for sugar and rum. Slavery was introduced to the colonies in North America but was dying out until the cotton gin, invented by Eli Whitney (1794), made cotton the ideal plantation crop in the Deep South and made black slavery extremely profitable. The slavery issue was to divide the United States. The free states of the north, unnameable to slavery, prospered with manufacturing. The southern state economies was largely based on a single export crop, **King Cotton**, which, in the mid 1800s, was the most important export of the United States. The early states of the Union were split almost equally between slave and free, and the system was maintained by a balance of power in the Senate, which favored the South. The problem came to a head with the expansion of the US westward (**Manifest Destiny**) after the Louisiana Purchase. Would the new states be slave or free? The issue was crucial to the South which saw that if slave states became a minority, the South would lose its political clout in the Senate (they had lost it in the House because of the higher populations of the North) and slavery could be made unconstitutional. The political settlement of extending the **Missouri Compromise** of 1831 (the great compromise wrought by Henry Clay and Daniel Webster) was not acceptable to the new Republican Party which, while accepting slavery where it was, refused to extend it, basically on moral principles. The South seceded from the Union upon the election of Abraham Lincoln in 1860 brought about by a split in the Democratic Party. The result was the Civil War, with 600,000 dead in exchange for the elimination of slavery but the subjugation of the black population in the South remained. Civil rights for African Americans in the South was not granted until the Civil Rights struggles of the 1960s. Sugar, plantations, slavery and the history of the United States are intimately connected!