

Chocolate

The new world's contribution to the list of important nonalcoholic beverages

- today the eating of chocolate surpasses the drinking of cocoa in popularity

Theobroma cacao (Sterculiaceae) is known as cacao

- was collected by native peoples
- seeds roasted for use in a stimulating beverage long before Europeans came to America
- Mayans and Aztecs thought that cacao had a divine origin
- the Aztec god Quetzalcoatl was credited with giving humans not only corn but also

cacao

Small trees that naturally grow in the understory

- bear their flowers directly on the trunks and branches
- the flowers are produced in flushes twice a year
- they are pollinated by midges that live in orchard debris
- produce fruits that mature in 3 months (large pods, 10-32 cm long)

Europeans first encountered cacao when Columbus landed in Nicaragua

- he reported the consumption of a strange beverage
- after Cortés visited royal Aztec court its importance was appreciated

The drink made by Central American Indians was quite different from modern sweet cocoa

- taking ground roasted cacao seeds with ground annatto seeds
- chili pepper and vanilla were added
- the entire mass was heated until it turned into a homogenous paste that could be molded

into

tablet-shaped pieces

- a drink was made by dropping one of the tablets into hot water and stirring until the

tablet

dissolved

- the Indians often thickened the drink by adding ground cornmeal

When Cortés brought cacao back to Europe, it was not well received.

The popularity of the beverage soared when Europeans later deleted the hot spices and added sugar

and cinnamon

- sweet hot chocolate became the rage of Europe by the middle of the 17th century.

Production of chocolate

- pods are picked by hand, cracked open and the seeds and pulp are scraped from the husks
- the moist seeds are allowed to ferment in piles for 4-7 days
 - complex molecules are converted to smaller compounds that give the chocolate flavor
 - beige seeds turn purple
 - water loss causes the seeds to shrink from the seed coats

- heat of fermentation kills the embryos, preventing unwanted germination
- seeds are then dried and the seed coats are polished to remove the last of the pulp
- they are sorted, graded, inspected and shipped to processing plants
 - smell good
 - have a slight chocolate flavor
 - very bitter and oily
- the seeds are roasted, which drives off acids and develops the final flavor
- seeds are cracked to release the large cotyledons (nibs)
 - nibs are ground to a fine paste and heated enough to melt the fat and produce a thick, dark liquid called chocolate liquor
 - if the chocolate liquor is molded into small squares it produces baking or drinking chocolate
 - if the cocoa butter was pressed out it produced a relatively dry cocoa powder (which had 30% less fat)
 - made into candy by adding additional cocoa butter to the chocolate liquor
- addition of alkali (called Dutching) was used to neutralize many of the organic acids
 - this darkened the cocoa
 - makes the flavor mild
 - increases the solubility
- milk chocolate was made by the Swiss company Nestle by adding condensed milk
- Lindt company (also Swiss) found that continual stirring of the chocolate mass (with or without condensed milk added) led to a smooth, creamy texture
- the seed coats (called shells or husks) are used for many products
 - sacked for mulch
- used for extraction of theobromine (which is converted to caffeine that is added to beverages and medicines)
 - pressed to yield cocoa butter