



Chocolate: The Food of the Gods

The Journey from Beans to Bar



A Brief History

- One of the oldest cultivated plants, cocoa originated in the Amazon basin in South America and traveled north as far as Mexico.
- Indigenous tribes believed it was planted by gods.



-Aztecs and Mayans first created *xocolatl* a hot chocolate drink often mixed with vanilla or chili peppers.

-Cocoa beans were so highly valued they were used as money until the 1800's.

-Ecuador was once the primary producer of cocoa.



Theobroma cacao: the Cacao Tree



Cocoa beans come from the cacao tree. The cocoa belt is found exclusively around the equator, with most cacao trees growing within 10° of the equator.

Cacao trees need a humid climate with a lot of rain. They grow best in the partial shade of large rainforest trees.



The Cacao Tree



- The cacao tree is an evergreen that grows to be 15-25 feet tall.
- The fruit, which is called a pod, grows directly from the trunk and can reach 4-12 inches in length.
- The pods ripen into a variety of colors such as red, yellow and purple.

- Each pod contains 20-60 cocoa beans, enclosed by sweet pulp.
- Because cacao trees tolerate the shade of taller rainforest trees, the rainforest does not need to be destroyed to grow cocoa.



Each tree produces only 50-60 pods a year,
yielding 15-20 pounds of beans.



And now let us follow the production of a chocolate bar from the bean to our taste buds.



Harvest



- Harvest takes place twice a year from November to January and May to July.
- The fruit is hand-picked to protect the trees.
- Once harvested from the trees, the pods are opened and their seeds are removed.



Fermentation

- First, the beans and pulp are laid in fermentation boxes.
- The process of fermentation produces heat requiring the beans to be stirred.
- At the end of the 5-day fermentation process, the beans become brown, bitterness subsides and the flavor develops.



Drying



- After fermentation, the beans still contain too much water to be turned into chocolate.
- The beans are spread out in the sunshine to dry. Most beans are sun-dried for up to 14 days.
- After drying, the beans are inspected and separated.



Roasting

Photo by www.fieldmuseum.org

Roasting takes place at 210° F for 10-115 minutes. Roasting sterilizes the beans, enhances flavor, and makes the next step much easier.

Winnowing



Winnowing is the process of taking the shells off of the beans.

What is left over is the "nib," the most desired part of the bean.

The nibs are then ground, either by machine or between two stones. A liquid mass called cocoa liquor is produced.

With more grinding and the addition of sugar, chocolate is made!

Grinding



Photo by www.grenadachocolate.com/pictures/melangeur.jpg

Conching is the process of mixing the cocoa mass (not yet chocolate). It is continuously mixed at a certain temperature to develop flavor, remove moisture and break down large pieces. This can take hours to days, depending on the desired outcome. The finest chocolates are conched for 5 days.

Conching



Photo by www.fieldmuseum.org

Tempering



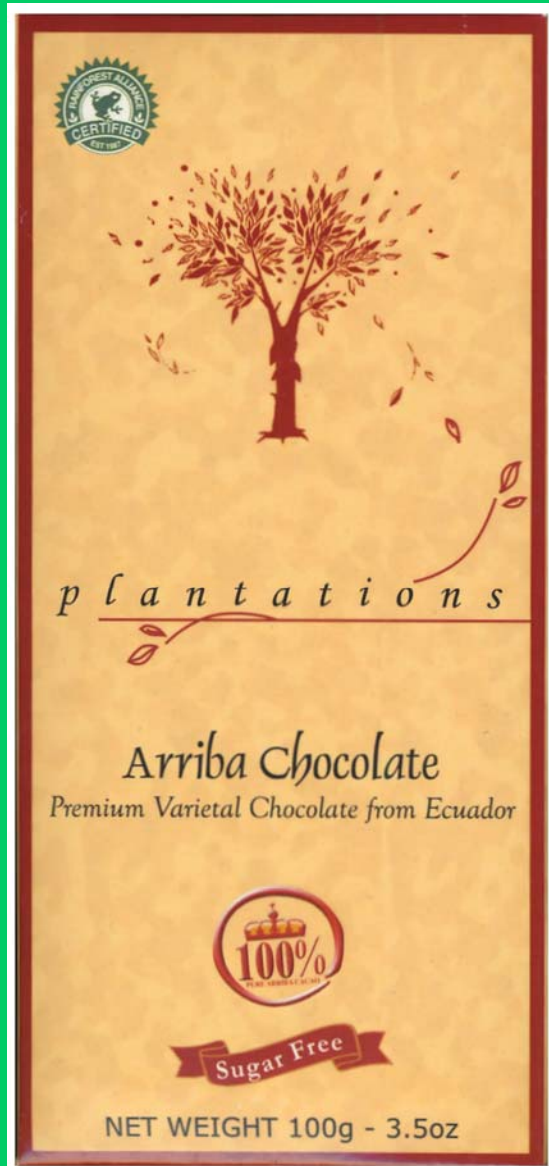
The next step is tempering. The chocolate is slowly heated and cooled allowing the cocoa mass to solidify and stabilize. Without tempering, the chocolate would separate and would not harden well.

Photo by www.chocolatealchemy.com

Today...



- Americans consume 11.7 pounds of chocolate per person each year
- Cocoa is the world's 3rd most traded agricultural product after coffee and sugar.



-The Rainforest Alliance works with cocoa farming communities to protect ecosystems and the people and wildlife that depend on them by transforming land-use practices. Companies, cooperatives and landowners that participate in our programs meet rigorous standards that conserve biodiversity and provide sustainable livelihoods.

-Plantations Arriba chocolate (from Ecuador) is the first ever Rainforest Alliance certified chocolate available to consumers.

Sweet Sustainability

Since 1997 the Rainforest Alliance has worked with partners in Ecuador to restore their crippled cocoa market. Fifty years ago, Ecuador led the world in the production of high quality cocoa.



We work to provide technical assistance and training to farmers, producers and processors of cocoa. There are over 2,000 cocoa growers now organized into cooperatives thriving in Ecuador.

Cocoa growers have been able to reduce or eliminate the use of chemicals while increasing production by 150% in some cases.

Sustainable Cocoa Standards

1. Social and environmental management system
2. Ecosystem conservation
3. Wildlife protection
4. Water conservation
5. Fair treatment and good working conditions for workers
6. Occupational health and safety
7. Community relations
8. Integrated crop management
9. Soil management and conservation
10. Integrated waste management

These standards were created with the help of partner organizations working around the globe. These standards are goals for farmers and communities.



Rainforest Alliance

www.rainforest-alliance.org/learningsite

Photos by:

www.chocolatealchemy.com

www.fieldmuseum.org

www.grenadachocolate.com

www.echocolates.com

www.thechocolatecure.com/make.htm