

Where Does Your Candy Come From?



A presentation by
New Jersey
Agriculture in the Classroom

Do you love candy?

Who doesn't like to eat a sweet treat every now and then?

Candy corn on Halloween, chocolate coins at Hanukkah, peppermint candy canes at Christmas, and on Valentines Day - those conversation hearts! But did you ever wonder where your candy comes from?

It comes from plants!



Let's Start With Sugar

All candy has one thing in common - it is sweet! And what makes it sweet?
Sugar!

Did you know that the sugar in your candy comes from two types of plants?
Sugar beets and sugar cane. These don't look very sweet, do they?



Your sugar probably comes from a vegetable!



More than half (about 55%) of the sugar that Americans eat comes from sugar beets.

Beets can survive cooler temperatures and have a long growing season. They are planted in late March and harvested in late September.

The northern states of Minnesota and North Dakota produce the most sugar beets in the United States, but beets are also grown in six other midwestern states as well as California and Texas.

Sugar beets are big! When fully grown, a sugar beet can be a foot long and weigh as much as five pounds.

Sugar beets are planted and harvested by machines

After harvest, sugar beets are taken to a factory to be turned into sugar.

The beets are chopped into small pieces and soaked in hot water which pulls the sugar from the beets. This sugar juice is cleaned and then a machine evaporates the water, leaving sugar crystals in a thick syrup. Another machine called a centrifuge spins this syrup at a high speed to remove the remaining water, leaving sugar crystals.

Sugar made from sugar beets tastes exactly the same as sugar made from sugar cane.



Chopped sugar beets in the factory



Beets being spun into sugar

Factory photos courtesy Michigan Sugar Co.



Sugar beets growing in a field



Sugar beet harvest

This sugar loves the heat

The process to turn beets into sugar was not perfected until around 1800. Before that, all sugar came from sugar cane.

Sugar cane is a tropical plant that only grows in the hot climate near the equator. Brazil, India, and China produce the most sugar cane. In the United States, sugar cane is grown in Florida, Louisiana, and Hawaii.

Sugar cane is a tall, grassy plant with a thick stem. The plant stores the sugar in the stem.

Sugar cane is not planted from seed. To plant a new crop, cuttings of harvested cane are buried in the soil, where they will grow new roots and stems.



Growing Sugar Cane is Hard Work

Much of the planting and harvesting of sugar cane is done by hand and it takes a lot of people to do the work. When the cane is ready to harvest, it is cut down with a large sword-like tool called a machete. Sometimes the fields are set on fire to harvest the crop, because the sugar cane stalks are so thick burning does not damage the sugar inside.

At the sugar mill, the canes are then fed into machines that squeezes out the sugar juice. Then the sugar juice is cleaned and spun into crystals, like the sugar from beets.



Sugar is packaged at the sugar mill and sent to your local grocery store, or it is sent to other factories, where sugar is used to make cookies, cake, ice cream, and CANDY!



America's Favorite Candy Is Chocolate!

What's your favorite candy? Most people in the United States would answer - chocolate! In fact, the top four favorite candies in this country are made from chocolate: Reese's Peanut Butter Cups, Snickers, M&M's, and Hershey bars.

And where does chocolate come from? The cacao tree - a plant! Below is a picture of a cacao grove.



Like sugar cane, the cacao tree is a tropical plant. It only grows in places near the equator where the temperature stays a warm 80 degrees Fahrenheit. The best home for a cacao tree is a tropical rain forest. Cacao will not grow in the United States.

Cacao is grown in Central and South America, eastern Africa, and Indonesia in southern Asia.

Photo courtesy Hershey Co.

That Yellow Pod is Chocolate?

Chocolate is made from the seeds inside the pods that grow on the cacao tree. The pods grow right out of the trunk of the tree. First they are green and turn gold as they ripen.



From White Beans to Brown

Cacao pods are harvested by hand using a sharp tool, and the pods are split open. The white beans inside are removed and laid between banana leaves to dry and develop the chocolate flavor.

The heat from the sun turns the beans brown. After this process called fermentation, which takes at least five days, the beans are laid in wooden crates to completely dry in the sun for a week.



White beans inside cacao pod



White beans removed from pods



Cacao beans drying

Those Brown Beans Are Chocolate?



The dried brown cacao beans are now ready to go to the chocolate factory.

But don't be fooled. Dried cacao beans are very bitter and taste nothing like a sugary candy bar. If you ate one, your face would probably do this...



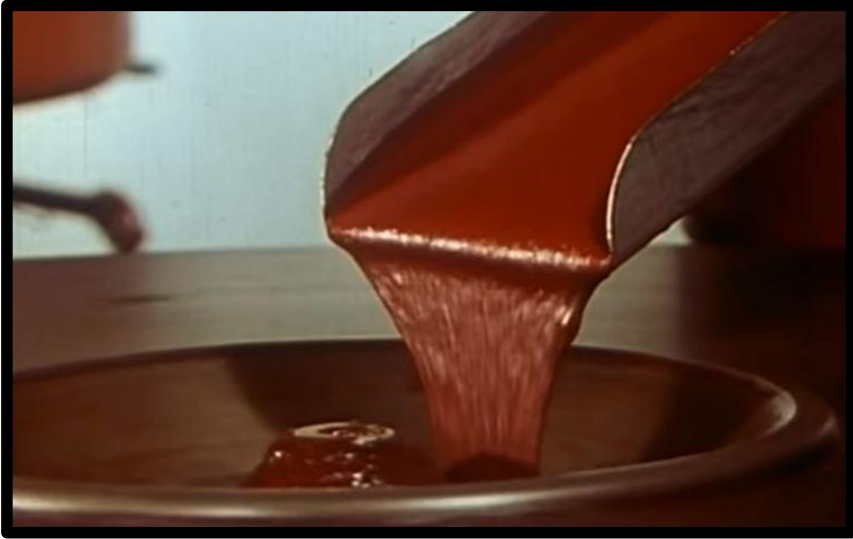
Dried cacao beans are sold as a snack at some stores.



The Chocolate Factory, Where Sugar is Added!

At the chocolate factory, the cacao beans are roasted and their hard outer shells are removed. The beans are then put into a giant mixer where huge rollers grind them into a thick, shiny, brown liquid. This chocolate liquid is used in many ways. To make cocoa, the liquid is put into a big press where it is heated and crushed until all the liquid is removed. What is left is a hard disk of cocoa.

Photos courtesy Hershey Co.



Cacao beans are ground into liquid chocolate.



Liquid chocolate is heated and crushed to make cocoa.

Is vanilla your favorite flavor? It comes from a flower!

Vanilla comes from a tropical orchid also grown in areas near the equator. Most vanilla today comes from Madagascar, an island near western Africa, Tahiti, an island in the South Pacific Ocean, or Mexico. Vanilla is the third most expensive spice because it is difficult to produce. The vanilla flavor comes from seeds inside the orchid's long pods.

It takes a long time to make vanilla. The pods must be boiled and then dried for as long as three months. After this time, when the pods are opened, the seeds inside have turned into vanilla goo. Water is added to make the vanilla you buy in a bottle.



The vanilla orchid



Vanilla pods drying



What about mint? It also comes from a plant!

Mint is a popular flavor used in gum, candy, toothpaste, and medicines. This flavor comes from the oil of the mint plant.

Mint is very easy to grow in climates like New Jersey's. The plant produces the mint oil on the underside of its leaves.

Farmers plant mint in early April and harvest it in summer by mowing the fields. The mint is dried for two days. Next the mint is chopped up and put into a tub, where steam is used to remove and collect the mint oil.





**Now you know where your
candy comes from.
So the next time you sit down
to enjoy your favorite treat,
you can
thank a plant!**

