

# N.C. Soybeans

Leading the Field



Activities & Information about the Wonder Bean

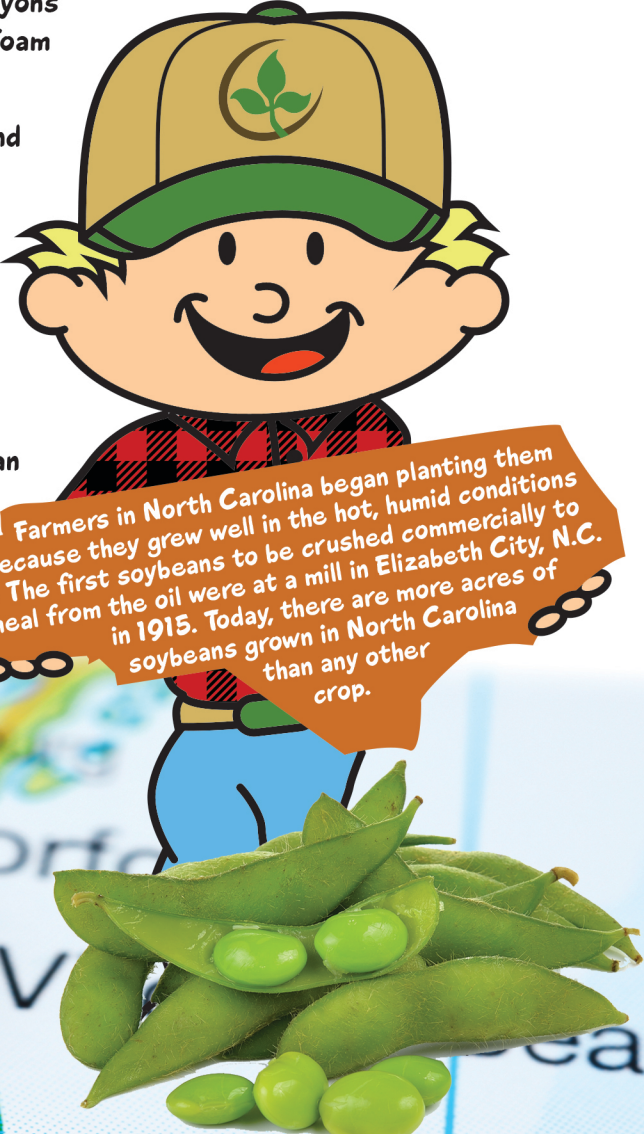
# Hello

The scientific name for soybeans is **Glycine Max** and my name is **Max** too. Today I'm going to tell you all about how useful soybeans are and all the things soybeans can do! I bet you use items containing soybeans every day and don't even know it.

Many soybeans grown in the **United States** are used to feed animals. But, they are also used for food for people and can be found in products ranging from soap and crayons to artificial turf and the foam in car seats.

Soybeans have been around for a long time. They originated in **China** and were first planted over **3,000** years ago.

Soybeans in the **U.S.** date back to **1765**, but gained popularity in the **1870s** when farmers began using them to feed their animals.

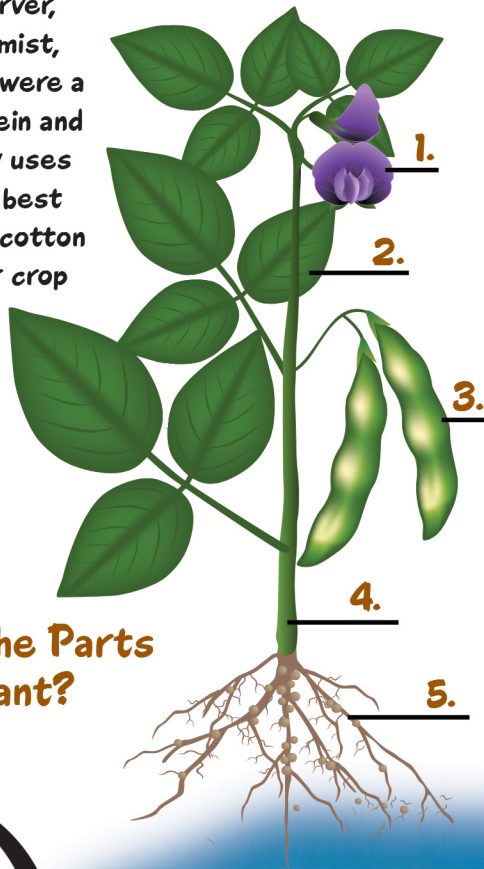


Farmers in North Carolina began planting them here because they grew well in the hot, humid conditions. The first soybeans to be crushed commercially to separate the meal from the oil were at a mill in Elizabeth City, N.C. in 1915. Today, there are more acres of soybeans grown in North Carolina than any other crop.



# Science of the Soybean

George Washington Carver, a famous American chemist, realized that soybeans were a valuable source of protein and oil. He discovered many uses for soybeans, but he is best known for encouraging cotton farmers to rotate their crop with soybeans, sweet potatoes and peanuts, to replenish nutrients in the soil.



Can You Name the Parts of a Soybean Plant?



1. Flower 2. Leaves 3. Pods 4. Stem 5. Nodules and Roots

# Who Knew Farmers Did All This?

A farmer's job is complex and requires a lot of hard work, as well as that he or she be good at many different roles.



Farmers are good at fixing equipment and other things around the farm to make them run smoothly.



Farmers have to be accountants, and keep track of their financial information and records.

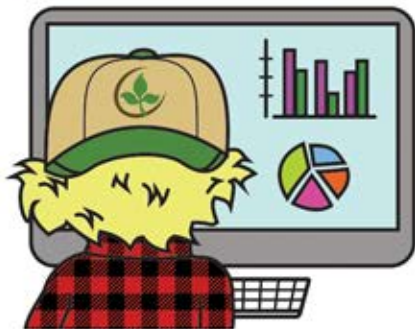
A farmer has to understand the science of soil and make sure the right nutrients are used to grow good crops.



A farmer uses modern technology every day, like GPS' using satellite to know exactly what their soil and plants need to thrive.



Farmers have to know all about the weather, how weather cycles will impact their crops and how weather helps crops grow.



Finally, Farmers have to be business experts too and know when and how to sell their crops to make a profit.



# Soy provides food for animals

# 98%

of soy grown in the U.S. is used in animal feed.



Soybeans are a major source of protein, so they're used in animal feed for cattle, chickens, pigs, horses and fish.



24-27  
Pounds



6-8  
Pounds



.25  
Pounds

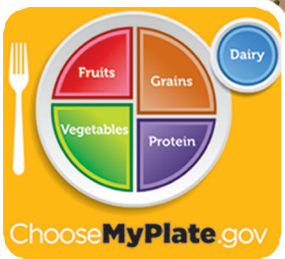
## How much feed do animals eat per day?

## North Carolina ranks:

#2 in hog production  
#2 in turkey production  
#3 in chicken production  
#3 in egg production

North Carolina is one of the top animal agriculture states in the country.

# Soybeans are Part of a Healthy Diet for People too...



**MyPlate**, a program created by the U.S. Department of Agriculture, helps people

learn to make healthy food choices by making sure they choose the right balance of items from the five food groups. MyPlate includes soyfoods in several categories including vegetables, protein and dairy.

Soy is a complete protein, like meat, and contains essential amino acids that give your body the fuel it needs everyday and helps it perform important bodily functions. Soybean oil is healthier than some other oils and was designated as heart healthy by the Food and Drug Administration, the organization that oversees food safety in the U.S.

## You can find soy in:

- Cooking and vegetable oils
- Soy milk
- Soy Cheese
- Chips, snacks and soy nuts
- Soy flour
- Soy sauce
- Tofu
- Cereal





# Things we use everyday are by-products of soybeans...

- Soaps
- Soy lip balm
- Cleaning products
- Detergents
- Cosmetics



## Soy can even be found in crayons?

In 1993 two college students found a way to make crayons from soy wax instead of paraffin which comes from coal, shale or oil, from which they are traditionally made. This means that unlike other crayons they are biodegradable and can be broken down into natural materials that are not harmful to the environment when you're finished using them!

## Did you know soybeans are also in...

- Carpet backing
- Artificial turf
- Ink
- Plastics
- Rubber by-products
- Home insulation



# All About Soy

- More acres are grown of soybeans in North Carolina than any other crop
- North Carolina was the first state to grow soybeans on a large scale and to crush soybeans
- Soybeans are planted in the spring
- It takes five or six months for soybeans planted in North Carolina to be harvested
- In a typical year there are at least 1.6 million acres of soybeans planted in North Carolina
- One bushel of soybeans = 60 pounds
- The average person consumes up to seven gallons of soybean oil each year
- The average farmer in the U.S. feeds over 150 people
- North Carolina has more than 8,000 soybean farmers
- Soybeans are 81% meal (with 36% protein, 19% fiber, 9% carbohydrates, 4% minerals and 13% moisture) and 19% oil.





# Fun with Soy

See if you can answer the following questions. Just choose **True** or **False**.

Soybean oil can be found as vegetable oil in the grocery store.

**TRUE or FALSE**

Unlike fossil fuels, soybeans are a renewable energy source.

**TRUE or FALSE**

More soybeans are grown in the United States than any other country.

**TRUE or FALSE**



R E S T O R E N J C S N  
 F Z T F A N A R R P E U  
 K R L D F E Y A S X M T  
 A B F E B G Y V S E U R  
 F Z I Y P O M P C C G I  
 O A O O N R Z K O P E E  
 L S P S D T E R M E L N  
 S U S T A I N A B L E T  
 O E H O C N E R I R H S  
 P R O T E I N S N L F T  
 K L I M Y O S F E K F C  
 K C O T S E V I L L E U

BIODIESEL  
 COMBINE  
 CRAYONS  
 LEGUMES  
 LIVESTOCK  
 NITROGEN  
 NUTRIENTS  
 PROTEIN  
 RESTORE  
 SOYBEAN  
 SOYMILK  
 SUSTAINABLE

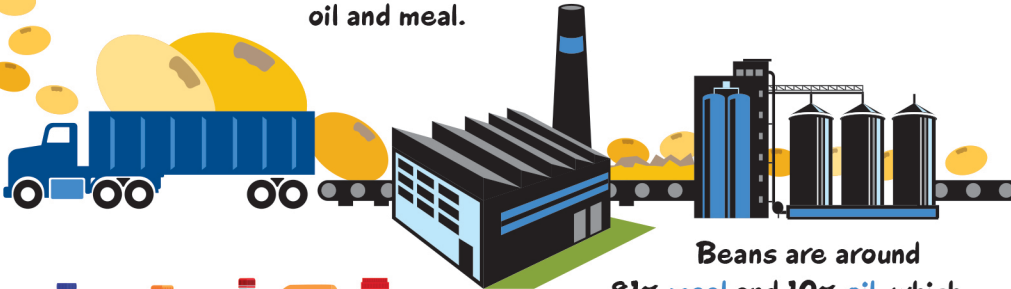
# A Soybean Journey



The soybean crop is planted from April to July and harvested from September to November.



From there, the beans are transported by truck, rail or barge to a crushing plant where they will be crushed and processed into oil and meal.



Beans are around 81% meal and 19% oil, which are used in different ways to make products from soybeans.



The oil extracted from soybeans will find its way into many common products from vegetable oil to artificial turf.



The meal is mostly used for animal feed and can be produced with different amounts of protein to meet the animal's needs.



# Strawberry Smoothie

## What will you need?

- 1/2 cup frozen strawberries, thawed, including juice
- 2 Tablespoons vanilla soymilk
- 2 Tablespoons water
- 1/2 cup crushed ice
- For added protein:**
- 2 Tablespoons powdered soy protein isolate

## How to make it:

Thoroughly mix thawed strawberries, soymilk (or powdered soy protein isolate) and water in blender.

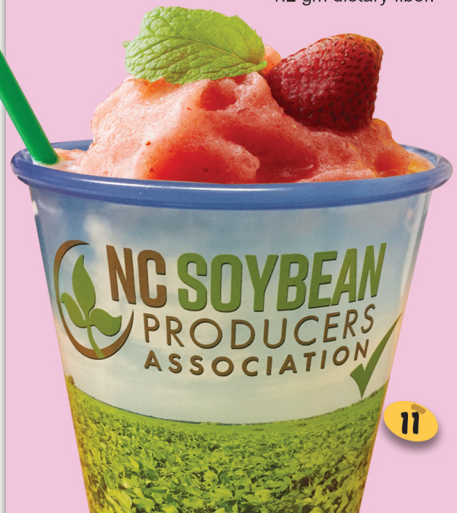
Add crushed ice and blend until smooth.

Serve in a 12-ounce glass.

Makes 1 serving.

## NUTRITIONAL ANALYSIS PER SERVING:

62 calories, 9 gm protein, 7 gm carbohydrates, 0.4 gm fat, 0 mg cholesterol, 113 mg sodium, 1.2 gm dietary fiber.



Farmers deliver the soybeans to a grain elevator by truck, where they are checked for quality and weight, then dried and cleaned before being transported further.



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Proudly serving  
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N.C. Soybean Producers Association  
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