



Ag Mag

AGRICULTURAL GAZETTE FOR KIDS



www.AlabamaAITC.org

SOYBEANS

GEORGE WASHINGTON CARVER'S INFLUENCE ON SOYBEANS: "FARMER'S BEST FRIEND"



George Washington Carver

In the early 1900s, George Washington Carver was a prominent scientist at Tuskegee University in Tuskegee, Alabama. During his time there, he discovered soybeans are a valuable source of protein and oil that could be used for industrial products, as well as food. Carver also uncovered the benefits of using soybeans as a "rotation crop" every three years to preserve good soil quality. Carver came up with a three-year plan so soybeans, peanuts or sweet potatoes would replenish nitrogen and minerals within the soil for two growing seasons, allowing cotton to be grown the third season. This, along with many other helpful discoveries, made George Washington Carver the "farmer's best friend."

DID YOU KNOW?

The elevators in the Statue of Liberty use a soybean-based hydraulic fluid.



SOYBEAN USES:

- ▶ Soybean oil
- ▶ Animal feed
- ▶ Biodiesel
- ▶ Biocomposites
- ▶ Particleboard
- ▶ Carpet & auto upholstery
- ▶ Industrial lubricants
- ▶ Candles
- ▶ Crayons
- ▶ Hydraulic fluid



By the Numbers

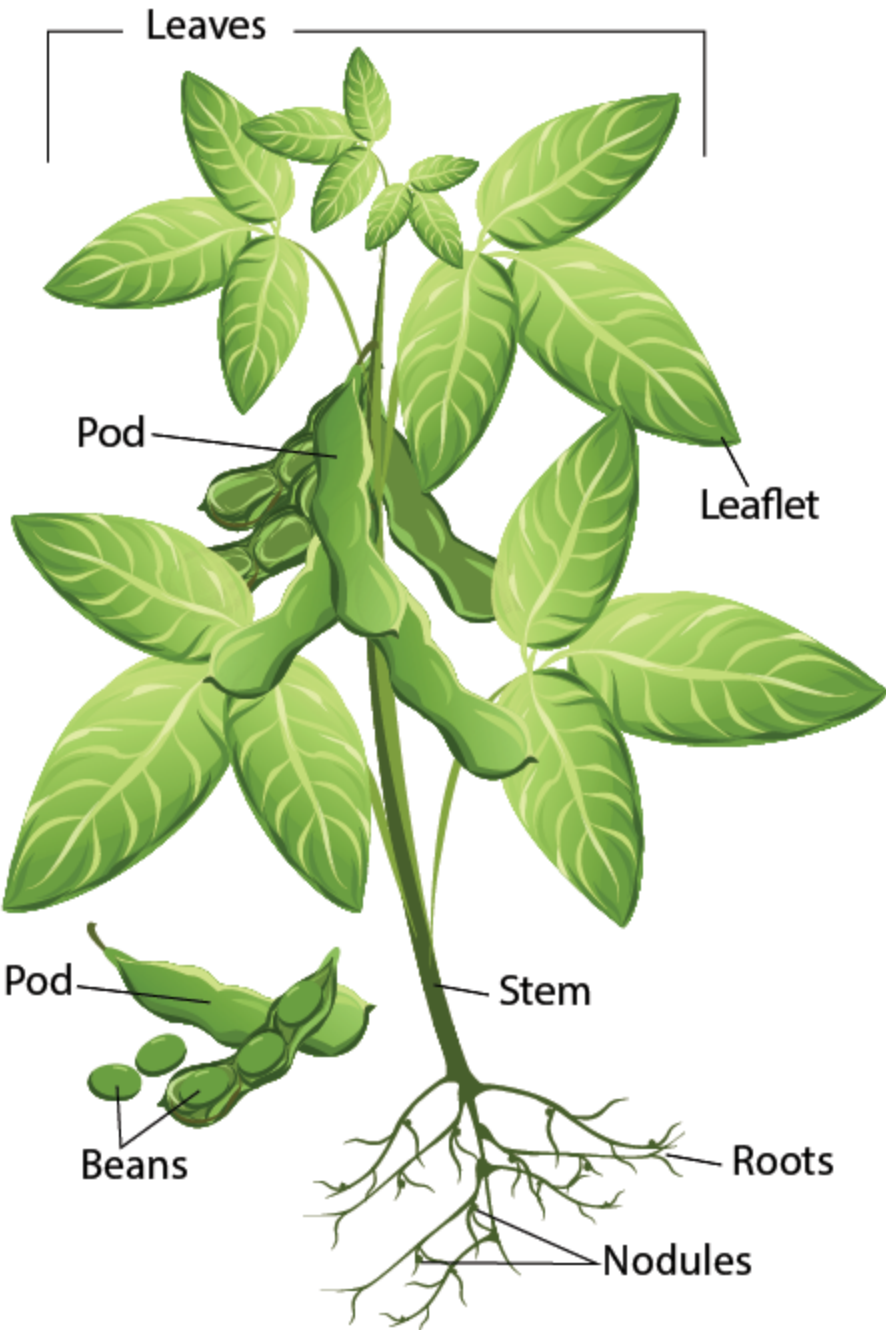
Harvesting almost **350,000 acres** a year, Alabama farmers bring in **\$155.5 million** from the sale of the **16.5 million bushels** of soybeans harvested.

Animal agriculture is the No. 1 customer of soybeans, using **98% of soybean meal for animal feed.**

The U.S. grows **32% of the world's soybeans.**

IDENTIFICATION

Soybean Plant



Production



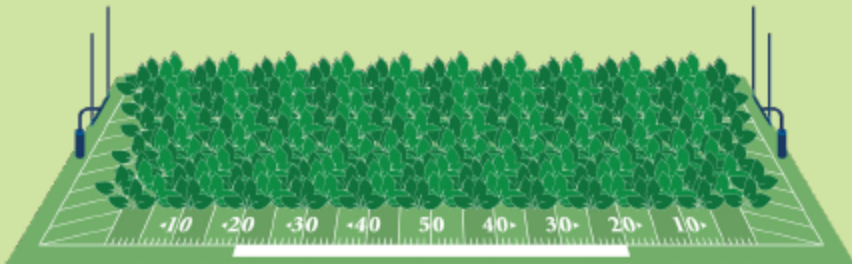
When soybeans are harvested in the fall, they are stored in large grain bins or grain elevators.



Half the U.S. soybean crop will be exported to other countries. The other half will go to American processors to make livestock feed, oil, fuel and food for humans.

DID YOU KNOW?

One acre of soybeans (about the size of a football field) can produce 2,500 gallons of soy milk, 40,000 8-ounce servings of tofu and over 82,000 crayons.



A major benefit of growing soybeans is they create their own nitrogen from bacteria on their roots. This saves farmers money on purchasing nitrogen fertilizers because producers are able to rotate soybeans with a crop that uses a lot of nitrogen, such as cotton.



VOCABULARY

GROW YOUR KNOWLEDGE!

- Embryo** – part of the seed that develops into a new plant
- Leaflets** – sub-part of the leaf blade
- Legume** – a type of plant that produces a seed contained in a pod
- Nodules** – where nitrogen-fixing bacteria grow
- Pods** – hold 3 to 4 beans
- Roots** – underground system that provides water and nutrients
- Seed coat** – the protective outer coat

Alabama Soybean Timeline

George Washington Carver discovered soybeans were a good source of protein and oil, industrial products and food products. He also discovered soybeans make a good rotation crop for cotton.

1904



A global boom in soybean prices convinced many Alabama farmers to plant this new oilseed crop.

1970s

The Alabama Agricultural Experiment Station in program to develop soybean types suited Alabama growing conditions.

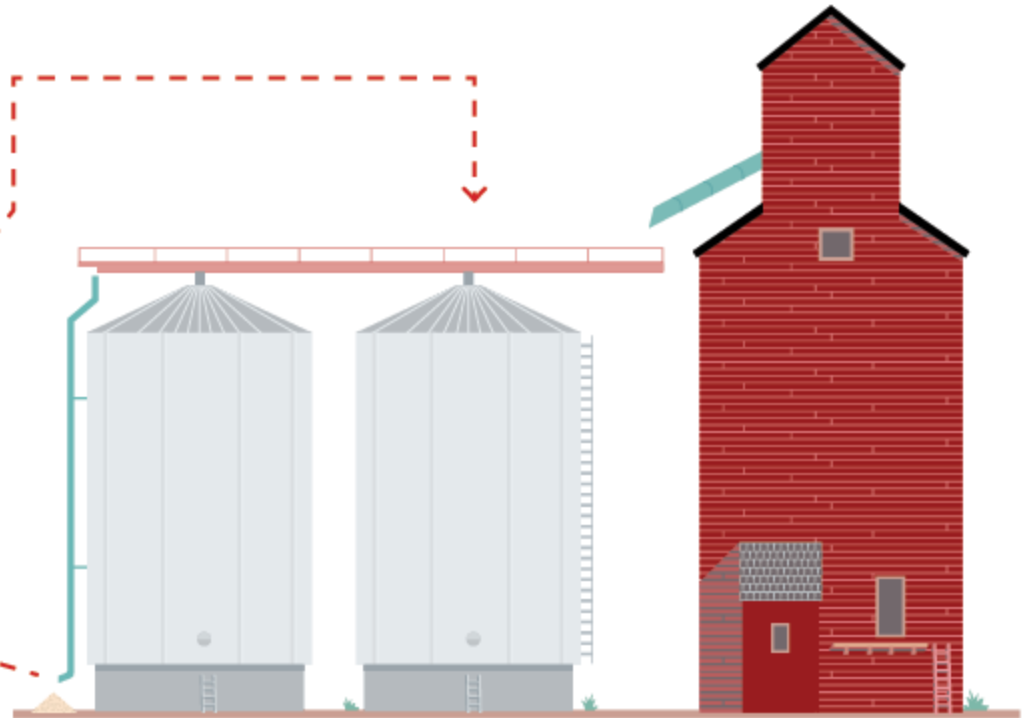
1981

Alabama Soybean Checkoff

What is the checkoff fund? How does it work?

It begins here:

Farmers sell soybeans.



1/2 of 1% of the total selling price goes to the Alabama Soybean Committee, and the other half goes to the United Soybean Board.

ALABAMA

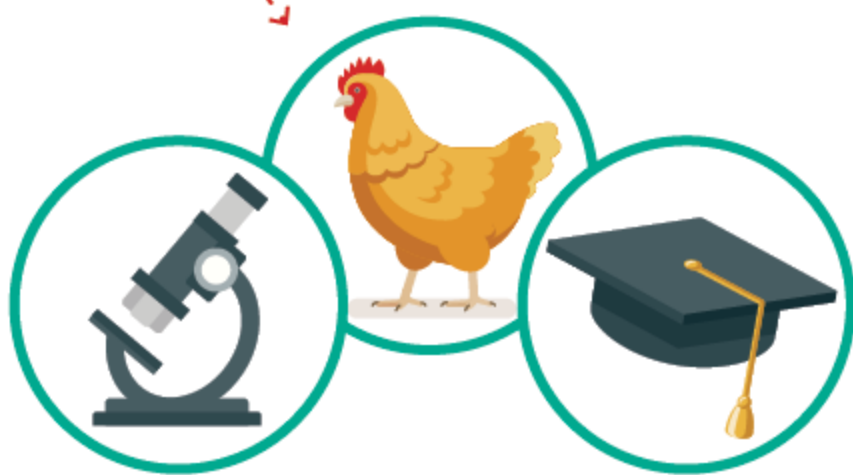
SOYBEAN PRODUCERS

A DIVISION OF ALABAMA FARMERS FEDERATION

A portion of checkoff funds stay with the Alabama Soybean Committee. Led by 12 farmer-directors, the State Soybean Committee works to cultivate soybean profitability for soybean farmers in Alabama.



The other portion goes to the national checkoff. With 70 volunteer soybean farmer-leaders, the United Soybean Board invests and leverages checkoff funds to maximize profit opportunities for all U.S. soybean farmers.



Money goes to research, marketing and education.

Math:

returning
\$5.20
for every
\$1 invested



...ural
...itiated a
...uperior
...for
...nditions.

160,000
acres

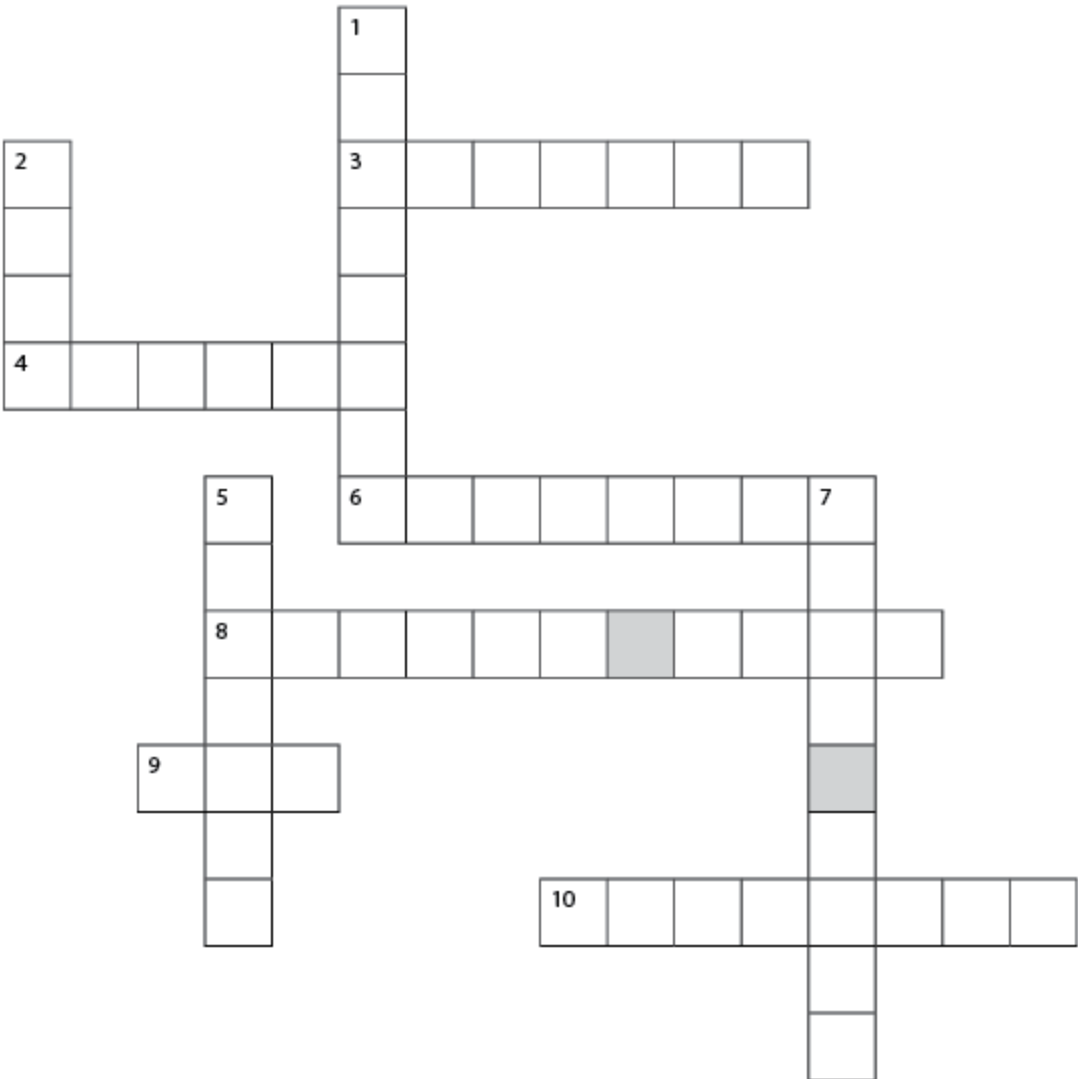
The falling market price of soybeans made Alabama farmers look for an alternative cash crop. Soybean farming took a hit, dropping to only 160,000 acres planted throughout the state.

2000s

The acreage of soybeans planted rose to 350,000 with a value of more than \$155.5 million in production for the year.

2017

CrossWord Challenge



- ACROSS:**
- 3. plants that produce a seed contained in a pod
 - 4. part of the seed, which develops into a new plant
 - 6. a cultivated plant of the pea family, which produces edible seeds used in a variety of foods and animal feeds
 - 8. where 98% of soybean meal is used (2 words)
 - 9. a _____ contains 3 to 4 soybeans
 - 10. soybeans create their own _____ from the bacteria on their roots

- DOWN:**
- 1. the state that produces the most soybeans
 - 2. one _____ is about the size of a football field
 - 5. one acre of soybeans can produce over 82,000 _____
 - 7. a very thin layer on the outermost part of the seed, which offers protection (2 words)

Answers: 1. Illinois; 2. Acre; 3. Legumes; 4. Embryo; 5. Clayons; 6. Soybeans; 7. Seed coat; 8. Animal feed; 9. Pod; 10. Nitrogen

Top 10 Soybean-Producing States



- 1. Illinois
- 2. Iowa
- 3. Minnesota
- 4. Nebraska
- 5. North Dakota
- 6. Indiana
- 7. Missouri
- 8. Ohio
- 9. South Dakota
- 10. Arkansas

Activity: Draw a line from the name of each of the top 10 soybean-producing states to the correct state on the map.