

Soybean Smash

How do we use soybeans?



OSU EXTENSION
4-H YOUTH DEVELOPMENT

Soybeans: Image by [Євген Литвиненко](#) from [Pixabay](#)

True or False?

Soybean oil is used to produce some car tires.



Car Tire Icon: Image by [OpenClipart-Vectors](#) from [Pixabay](#)

True or False?

Soybean oil is used to produce some car tires.

Goodyear has produced some tires using soybean oil since 2018. These tires perform better in rain and snow than traditional tires!

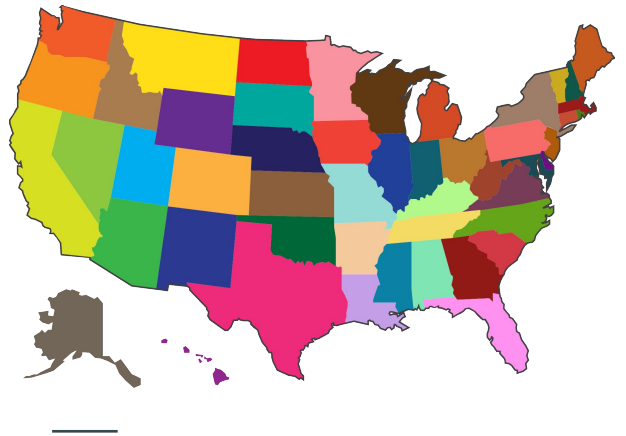


Car Tire Icon: Image by [OpenClipart-Vectors](#) from [Pixabay](#)

<https://www.goodyear.com/en-US/learn/tire-technologies/soybean-oil>

True or False?

Soybeans are only grown
in the United States.

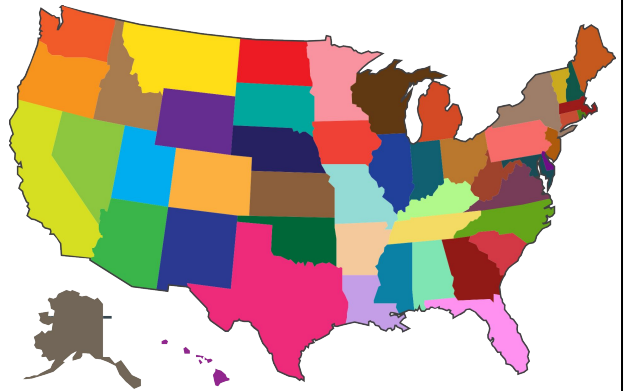


U.S. Map: Image by [fajarbudi86](#) from [Pixabay](#)

True or False?

Soybeans are only grown in the United States.

The U.S. is the greatest producer of soybeans, but they are also grown in other North American countries, South America and Asia!



U.S. Map: Image by [fajarbudi86](#) from [Pixabay](#)
<https://farm-energy.extension.org/soybeans-for-biodiesel-production/>

True or False?

Soybean meal is used to feed your pets.



Pet Food Icon: Image by [Augusto Ordóñez](#) from [Pixabay](#)

True or False?

Soybean meal is used to feed your pets.

Over 70% of soybeans grown in the U.S. are used for animal feed! Most are eaten by poultry, hogs, and cattle, but some can be used in your dog and cat food!



Pet Food Icon: Image by [Augusto Ordóñez](#) from [Pixabay](#)
[https://www.usda.gov/sites/default/files/documents/coexistence-soybeans-factsheet.p
df](https://www.usda.gov/sites/default/files/documents/coexistence-soybeans-factsheet.pdf)

True or False?

Soybeans can be used to fuel vehicles.



Vehicle Icon: Image by [OpenClipart-Vectors](#) from [Pixabay](#)

True or False?

Soybeans can be used to fuel vehicles.

Soybeans are used to produce biodiesel (a type of fuel that is better for the environment). In 2020, two billion gallons of biodiesel was used and half of that was made from soybeans!



Vehicle Icon: Image by [OpenClipart-Vectors](https://www.openclipart-vectors.com/) from [Pixabay](https://www.pixabay.com/)
<https://www.unitedsoybean.org/hopper/what-are-soybeans-used-for/>



What is the difference between soybean meal and soybean oil?

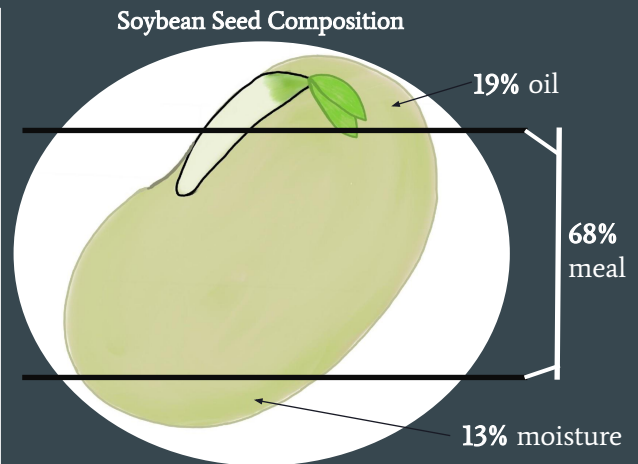


Soybean Icon: Image by [OpenClipart-Vectors](#) from [Pixabay](#)
Soybean Image Image by [egroll](#) from [Pixabay](#)



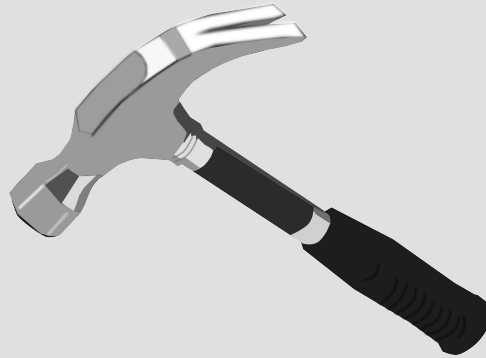
What is the difference between soybean meal and soybean oil?

- After harvest, soybean seeds are cleaned and processed.
- During processing, the oil (fat) inside of a soybean is separated from the rest of the bean.
- Once the oil is removed, the rest of the bean is dried and ground up. This is called soybean meal!



Soybean Icon: Image by [OpenClipart-Vectors](#) from [Pixabay](#)
Soybean Image Image by [egroll](#) from [Pixabay](#)

Now let's smash some soybeans!



So... what happened?

As the soybeans were crushed, stirred, and soaked, the oil was released from the bean and collected on the top of the cup. The soybean meal settled at the bottom, and the middle layer is a combination of protein and water.

They settle this way based on their density:

- Top: Oil- Less Dense
- Middle: Water/Protein
- Bottom: Soybean Meal- Most Dense



Plastic Cup Icon: Image by [OpenClipart-Vectors](#) from [Pixabay](#)