



**UNITED SOYBEAN BOARD**

**GROWING TOMORROW'S  
RENEWABLE MARKETS TODAY**



# United Soybean Board

- **STRATEGY:** Create and enhance partnerships that increase the value and preference for U.S. soy.





# USDA CROP REPORT

**Corn Planted Acreage Down 2 Percent**  
**Soybean Acreage Down 1 Percent**  
**All Wheat Acreage Up 3 Percent**  
**All Cotton Acreage Up 7 Percent**



Consiliarius

**SNOW PEA HARVEST WAS EXCEPTIONAL**





**Many companies are now looking to lower their environmental footprint and soybeans are there to answer the call.**





# USB Industrial Program

## Target Markets:

- Biodiesel
- Plastics
- Coatings, Inks & Solvents
- Adhesives
- Fibers
- Paper
- Rubber
- Emerging Industrial Uses





## Custodial and Cleaning Products

Wide variety of products available that PERFORM!



There are products available that will work for you!





# Paints, Coatings, Strippers and Sealers

Low VOC's and exceptional performance



Paints and Stains



Paint Removers



Mastic Removers



Concrete Sealers





## Plywood made with Soy-Based Formaldehyde- Free Adhesives



Veneer-Core  
hardwood  
plywood panels



Shelving



Cabinets



## Spray Foam Building Insulation with Soy and Recycled Plastic



Heatlok Soy 200+







## Soy Backed Carpeting

Replaces more than 90 percent of the petroleum-based polymers



Hyatt Hotels

**Yellowstone Line  
with Recycled Plastic**



Yellowstone and Grand Teton  
National Parks



10% + of USAF Qtrs.

# Road Construction & Pavement Preservation

Adding Longevity to Asphalt Roads with **Biobased** Products



Pavement Marking Paint



Pavement Seal Coating



Soy Oil Asphalt Emulsifiers in  
Pavement Construction





## CONCRETE SEALANT

Soy based concrete sealant developed at Purdue, with the Indiana Soybean Alliance, to protect concrete pavement joints

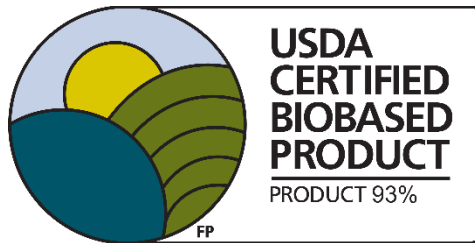


Indianapolis, IN

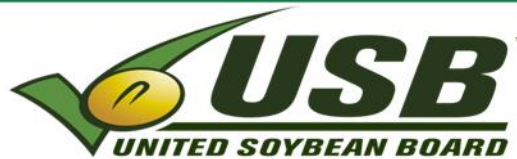
Also protects surfaces (driveways, sidewalks, etc.) from freeze – thaw and salt damage



126<sup>th</sup> Street Fishers, IN



Indianapolis, IN



**GOODYEAR**

**Soybean Oil as a Replacement for  
Petroleum-based Oils in Oil Extended  
Tire Tread Compounds**





- The use of **soybean oil** in place of petroleum-based oils is appealing as **soybean oil** is:
  - **Domestic, abundant and renewable**
  - **Possesses key attributes required of extender oils**
    - Chemical and physical compatibility with rubber matrix
    - Low and high temperature behavior (thermal stability)
- The **“Green”** movement towards renewable materials and increased fuel efficiency is a growing industry trend
- Unique properties of soybean oil can be leveraged to provide performance and/or processing benefits
- Consistent with Goodyear’s commitment to being an **“Innovation Leader”** in the industry
  - **Competitively advantaged; profitable through economic cycles**





## Environmental Achievement of the Year



- Goodyear's Soybean Oil Initiative won Tire Technology International's "Environmental Achievement of the Year"





Thank you!



The Goodyear Tire & Rubber Company would like to thank the United Soybean Board for generously supporting our research activities since 2011





# Soybeans: Give tires a new 'roll'

## GOODYEAR UTILIZES SOYBEAN OIL IN TIRES TO IMPROVE PERFORMANCE

By Kaley Sievert  
ksievert@fergusfallsjournal.com

Harold Stanislawski is the project development director of the Agricultural Utilization Research Institute and he drives thousands of miles a year for his job. That is why getting reliable tires for his car are a huge priority for him. So, when he knew that Goodyear was selling high-performance tires with an agricultural commodity like soybeans in them, he was all over that.

"The tire comes with a full 60,000-mile warranty from Goodyear and it has all the characteristics I am looking for in a safe tire," Stanislawski said.

So why is Goodyear selling tires that utilize soybean oil? According to Stanislawski, they were looking for a way to improve tire performance in cold and wet weather.

"By adding soybean oil to their tires, it made the tire more pliable, particularly in cold weather and it helps the tire get better traction in wet weather and on snow," Stanislawski said. "Soybean oil also makes the tire more sustainable, because you are using a renewable resource in the tire itself."

Mike Bussian is the manager at Goodyear in Fergus Falls and he has been working there for

to leak air. "A lot of tires get hard when it gets really cold and they will leak around the beads, but the soybean oil helps these tires not get as hard."

Beads are located where the tire meets the rim.

### How soybean oil hit the road

Goodyear was able to come up with this product with the help of the United Soybean Board, Minnesota Soybean Council and AURI.

According to an article written by the United Soybean Board and containing quotes from Goodyear scientist experts, for six years, the soybean checkoff worked with Goodyear to develop soy-based technology to add performance to road tires. This technology was used in Goodyear's new Assurance WeatherReady tire, which is the tires Stanislawski installed on his vehicle. The Soybean checkoff was established to do something like this, bringing profit to farmers who fund research on soybeans.

Stanislawski further explained how the checkoff works.

"The Minnesota Soy Council has authorization from the federal government to collect checkoff dollars from farmers who raise soybeans. There is a small amount of money that goes into a fund to go into research



Harold Stanislawski, project development director with Agricultural Utilization Research Institute is excited to be installing soybean oil based tires on his car at Goodyear in Fergus Falls.

thermal stability and mixing capability with rubber polymers. They also ran various tests to ensure the success and reliability of the new tires. In the process of making the tires, not only did

measurements with how to make the tire itself," Stanislawski said.

The article by the United Soybean Board continued to explain that the soybean oil mixed easier with rubber compounds used to



## Ford F-150 Slap Pad: Industry's First Application of Soybean Oil in Natural Rubber

- Slap pad purpose
  - Minimize metal to metal contact of the leaf springs.
- Key part attributes
  - NVH performance and durability
- Four natural rubber slap pads per vehicle.



**Rassini**

First application of soybean oil in an automotive natural rubber part



## History of Collaboration with the United Soybean Board

|      |  |
|------|--|
| 2004 | Research of Soy Based Polyols for Foams for Automotive Seating |
| ...  | ...  |
| 2015 | Soy Based Rubber for Automotive Seals                          |
| 2017 | Modified Soybean Oil in Automotive Rubber Applications         |
| 2018 | High Oleic Soybean Oil in Automotive Rubber                    |



### Awards

- **2008**- Henry Ford Technology Award, for Development and Implementation of Soy-based Seating Foam", Ford Motor Company, October 14, 2008.
- **2017**- SPE Innovation Award for 2018 Ford F-150 Use of Soybean Oil in Slap Pad – Finalist in the Environmental Category



## Lear SoyFoam™

### Product – Lear SoyFoam™

SoyFoam™ is an award-winning environmental solution developed in conjunction with Lear's Sustainability Initiative, that reduces carbon use a net 5.5 kg of CO<sub>2</sub> per each kilogram used with 60% lower conversion energy to.

Environmentally-friendly seating foam with soybean oil based material substituted for a petroleum-based ingredient and first to market in 2008. Lear continues working with our customers to proliferate SoyFoam™ globally and reduce levels of petroleum-based polyols.

**PROLIFERATE**



10 year anniversary-  
Lear Introducing soy foam seats





Many, many more soybased news stories and products can be found at

[www.soynewuses.org](http://www.soynewuses.org)

You can also download the latest products guide from there.





Thank you!