

Peoria, Illinois
National Center for Agricultural Utilization Research

New Soy Market: DOMESTIC RICINOLEIC ACID

USDA-ARS scientists in Peoria, Illinois, developed a process to make a crucial industrial chemical from U.S. soybean oil instead of imported castor oil.



AT A GLANCE[†]



\$2.6 BILLION

The current global market for ricinoleic acid, a key industrial chemical found in castor oil.



6.4% CAGR

The estimated growth rate for the global ricinoleic acid market



44 BUSHELS

The amount of soybeans required to produce 1 drum of ricinoleic acid.



\$0.80 / LB

The price of castor oil, compared to \$0.41 / lb for soybean oil.



MAKING A MINT

Sulfated castor oil is a key component of the process for printing US currency.

U.S. SOY PRICES

THE PROBLEM:

To strengthen U.S. agriculture, new uses and new markets for soy and other commodities are needed. One market that is experiencing high demand is ricinoleic acid, an essential industrial chemical utilized in lubricants, cosmetics, and nylon production. Currently, ricinoleic acid is derived from castor oil produced in countries such as China, India, and Brazil. A domestic source of ricinoleic acid could reduce reliance on imports and create a valuable new market for America's soy producers and processors.

SERVING AMERICAN FARMERS

OUR SOLUTION:

ARS scientists in Peoria, Illinois, developed a new process to produce ricinoleic acid from soybean oil, one cost competitive with castor oil, and are working to transfer this technology to the private sector for commercialization. American farmers will be able to supply global demand for ricinoleic acid. Additionally, ricinoleic acid is just one of many useful industrial chemicals that this new process can produce from soybean oil. This ARS technology can improve utilization of U.S. soybean crops, create new markets, support commodity prices, and enhance economic security for farmers and rural communities.



LEARN MORE ABOUT OUR PATENT

Interested in licensing our process? Scan the QR code to the left to learn about our patent (No. 11680224).

[†] At a Glance: Source information available upon request.