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# The Queen Bean, Tofu and Dead Zones

By Robert N. Whitescarver

Tofu. That's what most people think soybeans are grown for. But most soybeans in the United States are grown for oil and livestock feed. It's big business. The United States is the world's largest producer and exporter of soybeans with almost 75 million acres planted annually. Beans are second only to corn, planted on roughly 84 million acres.

The top 10 soybean producing states are all in the Mississippi River watershed. Illinois grows more soybeans than any other U.S. state. In 2014, farmers in the Prairie State produced more than half a million bushels of beans.

Farm lobbying groups and farmers in the Midwest are gravely concerned that the EPA will force them to implement conservation practices similar to those required by farmers in the Chesapeake Bay Watershed; things like soil conservation and nutrient management — things that keep soil, nutrients and pesticides on the land instead of running off into nearby ditches, streams and rivers.

Soybeans. Way more complicated than you think. This famous legume from China can produce more oil and protein per acre than almost any other plant on the planet. Lots of things are made from soybeans: oils, margarine, biodiesel fuel, candles, adhesives, there's even shoes made from soybeans, and yes, tofu. You've heard of "King Corn," well now there's "Queen Bean."

Most of the soybeans in the nation are "Roundup Ready." These seeds have been genetically engineered to tolerate being sprayed with the

herbicide Roundup. The grower plants Roundup Ready soybeans, waits for the weeds and his beans to emerge then sprays the whole field with Roundup and the weed problem disappears.

Soybeans are a phenomenally versatile plant and in much demand. As with all annually planted crops, soil conservation and nutrient management are a must to keep what farmers pay dearly for — fertilizer and pesticides — from leaching into groundwater or running off into nearby ditches, streams and rivers. Soybeans are especially vulnerable to both. The steeper the land, the more conservation practices are needed to prevent polluted runoff.

Combinations of practices such as no-till farming, planting on the contour, cover crops, crop rotation, contour strip farming and nutrient management are very effective at preventing soil erosion and reducing water runoff. The simple practice of planting on the contour can reduce the likelihood of soil erosion by half.

In the Chesapeake Bay watershed, farmers are expected to implement not only soil conservation practices but also nutrient management practices to help us restore the streams where we live and the nation's largest estuary. Some sources say our farmers are already halfway in achieving their share of nutrient and sediment reduction strategies. Thank you Chesapeake Bay watershed farmers!

Not everyone is on board with doing their part to clean up our nation's rivers. The American Farm Bureau, the Fertilizer Institute, the National Corn Growers Association, the National Chicken Council and other deep-pocketed lobbying groups are suing the Environmental Protection Agency over the plans each state in the Chesapeake Bay watershed submitted to restore the Bay. These lobbyists lost in the Federal District Court and have appealed.

Recently, the Illinois Soybean Association sent a group of their growers to the Eastern Shore of Maryland and Delaware to investigate how the Chesapeake Clean Water Blueprint was working and how similar

environmental actions would affect soybean growers in Illinois and other states in the Mississippi River watershed. According to an article in Farm Futures, Chesapeake Bay regulations would “flood” the Midwest and the growers were “spooked” by all of the regulations and requirements needed to clean up the Chesapeake Bay.

I have witnessed a lot of soil erosion from soybeans being planted on sloping fields. Soybeans are usually harvested late in the fall, which is often too late to plant winter cover crops. Soybean residues (what’s left after the beans are harvested) have a low carbon to nitrogen ratio so it breaks down or decomposes much faster than corn stalks. This leaves a high percentage of the field bare. Bare soil through the winter is a recipe for disastrous soil erosion and runoff.

I can understand why soybean growers in the Midwest would be concerned. They might have to implement conservation practices to keep their soil, nutrients and pesticides where they belong — on the land and not in the streams that feed the Mississippi River. The nutrients and soil transported by the Mississippi River from eroding farm fields into the Gulf of Mexico is the number one cause for the second largest dead zone in the world.

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