USDA United States Department of Agriculture

Oconto County Success from the Field

Double Duty Cover Crop Boosts Yields

Background

Jim Mahoney has been farming in Oconto County, near Suring, Wis., for 24 years. He has a typical rotation of corn, soybeans, and winter wheat. In addition, he also crops acres of alfalfa and snap beans. The northeast Wis. landscape in Suring offers challenges, from steep sloping sands, to poorly drained lowlands. This is why Mahoney likes planting cover crops.

The idea of planting cover crops is nothing new for Jim. He started using cover crops in 2008 and is considered one of the pioneer farmers in the area when it comes to trying the latest technology and conservation advances.

Program Successes

Jim planted a radish cover crop after his winter wheat harvest for a few years. After learning about other benefits of cover crop mixtures, he contacted NRCS District Conservationist, Jeff Maroszek. They discussed some benefits of cover crops, including increased yields and the potential to produce nitrogen for next year's corn crop.

"From past experience, we have already proven a 10% yield increase on corn acres after the radish cover crop. However, we decided to add in a legume, like peas, to try and produce some nitrogen," said Jim. Legumes are a unique type of plant that fix nitrogen from the atmosphere. When the plant dies and breaks down, this "free" nitrogen is slowly released into the soil profile and can be used by the subsequent crop. Jim and Jeff worked together to develop a custom mixture of 3 lb/ac of radishes and 40 lb/ac of peas. "Farmers are starting to see that planting a cover crop after winter wheat harvest is really a no-brainer. Rather than let their field sit idle for 2–3 months growing weeds, it can be working for you to produce nitrogen, build organic matter, and improve overall soil health," explained Maroszek.

A close-up view of cover crop pea roots. The areas highlighted show nodules of nitrogen.

Jim Mahoney (left) and Jeff Maroszek (right) evaluate a corn field that was in a radish–winter pea cover crop the previous fall/winter.

Jim's application in the Environmental Quality Incentives Program (EQIP) was selected for funding in March of 2015. In August of 2015, he planted the cover crop mixture on 125 acres. Jim has since proclaimed, "The corn planted on these acres looks absolutely tremendous. It looks like the addition of peas put the corn in another gear." In August of 2016, he planted an additional 165 acres of this mixture on harvested winter wheat acres.

"Real-world trials by farmers like Jim will help us determine how much nitrogen is being produced by these cover crops. The goal is to learn enough, so that we may be able to credit and reduce the amount of nitrogen being applied," said Maroszek. "In addition to these benefits, having a cover crop on fields significantly reduces the sediment entering our streams and rivers during winter and spring runoff events."

Wisconsin Natural Resources Conservation Service

wi.nrcs.usda.gov