

Crop Production

Cover crop mixtures maximize benefits

By CURT ARENS

WITH a cocktail cover crop system that includes a mix of several different types of seed, the goal is to feed and protect the soil.

"I looked at cover crops for a lot of reasons, including preventing wind and water erosion, bridging the gap between a wheat crop coming off in July, and providing cow feed," says Bryce Naber of Albion, who has planted cocktail cover crop mixtures since 2010 as part of his corn, wheat and soybean rotation.

"One of the biggest benefits I see is erosion control," he notes. "If you have the ground covered, the water goes in the ground and doesn't run off. A second benefit is the evaporation rate. If that hot sun isn't beating down on black dirt and if you have the ground covered with a mat of decomposing vegetation, when it rains, the soil stays moist much longer."

Even in dry years, cover crops can conserve moisture, increase microbial activity and cycle nutrients.

"Cocktail mixtures of cover crops really make it work," Paul Jasa, University of Nebraska Extension engineer, told a group of producers at a cover crops workshop in Norfolk recently. "It's a dual feeding system, because you are feeding life above the ground and feeding life below the

ground. We need to feed the soil organisms year-round to have a healthy soil system."

The type of cover crops or mixtures planted depends on what producers want to accomplish, Jasa said. He suggested answering the following questions before selecting seed.

- What do I want to accomplish with the cover crop?

- How will I manage it?

- Will it affect the following crops?

- What is the seed cost?

- Will it help the soil system?

According to Jasa, grass cover crops like oats or rye provide the best residue cover and grazing potential. Legumes such as alfalfa and clovers will help fix nitrogen in the soil. Brassicas like turnips and radishes can be grazed and help alleviate soil compaction issues. Other cover crops work better at producing biomass or as grazing crops.

"I like something with grazing power, like rye or wheat," Naber says. "My cover crop mixture also needs brassicas for grazing and for breaking up soil compaction." Naber has tried several legumes in his mixtures, including hairy vetch, sweet clover, lentils and Austrian winter peas.

"They all have a place, but I like hairy vetch and lentils the best," he says. "I like legumes because the nitrogen you fix is good for the next cash crop."



CONSERVING WATER: Paul Jasa, UNL ag engineer, says cover crops can benefit soil moisture even in a dry year.

Naber typically no-till drills his cover crops into wheat stubble immediately after harvest in July. In the fall, some of the cover crops are grazed. "The cows absolutely loved the cocktail mix," he says.

In the spring, he no-till plants corn into the cover crops and sprays with glyphosate before emergence. He says it is important to have the planter set correctly so it cuts through heavy residue and places

seed properly in the soil, especially where the cover crops are not grazed.

For now, he has only seeded cover crops following wheat. "I want to try following soybeans, and I would like to figure out a way to get a grass cover crop planted after corn that could be used for fall grazing," says Naber.

Jasa likes mixing cover crop seeds too, because of the nutrient cycling and residue cover they provide, he said. "You may have shortcomings in one plant and make it up with another." Planting mixtures of each type of seed help balance the diet of cattle grazing the land and the soil's diet, as well.

"The cover crop uses a little moisture that the soil can't store anyway," Jasa said. He doesn't worry too much about water being used by the cover crop because it also prevents water from being evaporated — usually be more than it uses.

"Cocktail mixtures conserve moisture, probably because the tall plants protect the soil surface and the shorter plants do better in the shade," he explained. "Diversity in cover crops really pays because it suppresses weeds and insects, and jump-starts the biological activity."

To learn more about cover crops and their benefits, call Jasa at 402-472-6715 or email pjasa1@unl.edu. You can see an online chart that lists crops and benefits at www.mandan.ars.usda.gov.

Experienced Iowa producer is sold on mixing it up with cover crops

PAUL Ackley of Bedford, Iowa, has been planting cover crops for 40 years. He first planted rye in 1971, fall seeding it for use as a spring and summer finishing pasture for hogs. Ackley spoke at a cover crops workshop in Norfolk recently. His cover cropping systems, and his attitude, have evolved over the years.

All of Ackley's row-crop ground is now planted in cover crop mixtures, including a turnip-rye mixture on cornstalks and a mix of wheat, Austrian winter peas, crimson clover



SOIL HEALTH: Paul Ackley of Bedford, Iowa, experiences the soil benefits of cover crops. He suggests trying them on a small scale at first.

and vetch on soybean stubble.

"We opened up a lot of opportunities when we started talking about the

life of the soil," Ackley said. "As farmers, we can use our natural inventiveness and ingenuity to move us closer to sustainability."

Ackley has experimented with rye for many years on erosion-prone side-hills and highly erodible acres. He has experimented with varied mixtures, seeding rates and termination dates, seeding with a dry fertilizer spreader over harvested cornstalks.

"There is and always has been a tension between the need for immediate returns and the long-term

challenge to produce enough forever," said Ackley. The larger questions for Ackley are how he can keep living plants growing on the soil constantly, and what diversity in plant types and root systems will do for his cropping system.

He suggests trying cover crops on a small scale at first, and planning to fail.

"Use a pen and paper, and take observations," Ackley said. Think about how nature's free inputs of sunshine and water can be used most effectively, he added.

Don't miss general CRP sign-up, May 20 to June 14

USDA will hold a four-week general sign-up for the Conservation Reserve Program from May 20 to June 14, says USDA Agriculture Secretary Tom Vilsack.

"CRP has a 27-year legacy of protecting the nation's natural resources through voluntary participation, while providing significant economic and environmental benefits to rural communities across the United States," according to Vilsack.

USDA has enrolled 11.7 million acres in various CRP efforts in the past four years.

"Since the 1980s, the CRP has established itself as a benchmark in voluntary conservation efforts, providing American producers with assets to address our most critical resource issues," says Vilsack. "Last year, during one of the worst droughts in generations, the CRP proved vital in protecting our most environmentally sensitive lands from erosion. Emergency haying and grazing on CRP lands also supplied critical feed

and forage for livestock producers due to the drought. And the program continues to bring substantial returns to rural areas, attracting recreation and tourism dollars into local economies while sustaining natural and wildlife habitat for future generations."

This will be a general CRP sign-up, with specified dates to enroll. But there are additional ongoing opportunities to enroll smaller tracts into the program. Sign-ups for continuous CRP, such as the Highly Erodible Land Initiative and the Initiative to Restore Grasslands, Wetlands and Wildlife, will be announced this spring.

Currently, about 27 million acres are enrolled in CRP, which is a voluntary program available to landowners to help them safeguard environmentally sensitive land. Producers enrolled in CRP plant long-term, resource-conserving covers to improve the quality of water, control soil erosion and enhance wildlife habitat.

Set to expire

Contracts on 3.3 million acres of CRP are set to expire Sept. 30. Producers with expiring contracts or environmentally sensitive land are encouraged to evaluate their options under CRP.

Producers who are accepted in the upcoming sign-up can receive cost-share assistance to plant long-term, resource-conserving covers and receive an annual rental payment for the length of the contract, either 10 or 15 years.

"Producers also are encouraged to look into CRP's other enrollment opportunities offered on a continuous, noncompetitive sign-up basis and that often provide additional financial assistance," says Vilsack. "Continuous sign-up dates will be announced at a later date."

Over the past 27 years, farmers, ranchers, conservationists, hunters, fishermen and other outdoor enthusiasts have made CRP one of the largest and most

important USDA efforts, Vilsack says.

"CRP continues to make major contributions to national efforts to improve water and air quality, and to prevent soil erosion by protecting the most sensitive areas, including those prone to flash flooding and runoff. CRP has also helped increase populations of pheasants, quail, ducks and rare species like the sage grouse, the lesser prairie chicken and other grassland birds," he says.

Highlights include:

- CRP has restored more than 2 million acres of wetlands and 2 million acres of riparian buffers.

- Each year, CRP keeps more than 600 million pounds of nitrogen and more than 100 million pounds of phosphorus from flowing into streams, rivers and lakes.

- CRP provides \$1.8 billion annually to landowners — dollars that make their way into local economies, supporting small businesses and creating jobs.