



Cover crops can have deep root systems that benefit Soil Health (Photo by Doreen McMurray)

EAST CASSIA SWCD TEAMS WITH WEST CASSIA, MINIDOKA DISTRICTS TO PROMOTE SOIL HEALTH

By Steve Stuebner

About 10 years ago, the East Cassia Soil and Water Conservation District Board of Supervisors wanted to work on spreading the word to local producers about the benefits of Soil Health and direct-seed, no-till farming.

In 2014, the East Cassia District, in conjunction with the West Cassia and Minidoka Districts, obtained a \$72,955 Conservation Innovation Grant from the Natural Resources Conservation Service (NRCS), and raised 50-50 cost-share matching funds of \$72,955 from the West

Cassia SWCD, Idaho Department of Fish and Game, the Mid-Snake Resource, Conservation and Development non-profit organization, and Pheasants Forever.

Over three years, the Districts worked to spread the word about Soil Health and the benefits of direct-seed and no-till farming through three annual Soil Health workshops, the acquisition of two no-till drills, reimbursement for cover crop seed mixes, field tours and more.

"The field tours were an excellent way for landowners to see what cover crops were all about," says

Doreen McMurray, Information and Education Specialist for the East and West Cassia Districts. "It also provided an opportunity for them to talk with other cooperators who were interested in these practices. They could actually SEE cover crops in action."

The districts also provided additional education outreach about the Soil Health project, including:

- Displays at county fairs and crop schools
- Articles in the East Cassia newsletter three times a year
- Information and videos on the

district website: www.minicassiaswcd.com

- Three field tours

- Seven Soil Health workshops (four more than was required by the CIG grant)

All of those outreach activities generated so much interest that following the expiration of the grant funds in 2017, the districts are continuing to do annual workshops each year, and they continue to rent the two direct-seed drills to landowners planting a variety of seed mixes.

“This has been a really great opportunity for our farmers,” McMurray says. “I feel like all of our outreach activities have been a great service to the farming community.”

“We’re seeing strong year-to-year growth in Soil Health practices,” adds Luke Adams, a local farmer and cover crop seed provider. “We’re seeing an increase in the diversity of cover crop mixes and an increase in the number of acres.”

Since 2014, the two direct-seed drills have planted over 18,000 acres of farm land, and the districts have paid out \$25,000 in direct seed rebate funds to farmers who experimented with cover crops, officials said.

“The drill rentals, with the accompanying seed rebates, made it easy for farmers to try direct seeding and cover crops without huge risk,” McMurray says. “We use the drill rental income for repairs on the drills, administrative wages, and educational activities like the workshop,” McMurray said.

Principles of Soil Health

The five principles of Soil Health are:

- Keeping the soil covered year-round.
- Disturbing the soil as little as possible.
- Keeping a living root in the soil.



NRCS Soil Conservationist Dinah Reaney, left, discusses cover crops with farmers during a field tour on the Allen Sanderson farm. (Photo by Doreen McMurray)

- Planting a diversity of crops in the same field.

- Grazing cover crops with livestock to stimulate plant root systems and further enrich the soil with manure from livestock.

The three districts have invited national speakers like North Dakota farmer and Soil Health advocate Gabe Brown, soil health specialist Jay Fuhrer, international soil biology specialist Christine Jones, and Marlon Winger, NRCS Agronomist and Soil Health Champion, to present their views at the annual workshops. Rupert farmer Luke Adams also has been a presenter.

“Marlon Winger led the initial workshops,” McMurray said. “He is such a royal cheerleader for Soil Health principles. We had just a few farmers, maybe 60 people for that first workshop, and now we have 200-300 people coming each year.”

Selling the benefits of Soil Health and direct-seed, no-till farming in

the Mini-Cassia region is challenging because many farmers raise potatoes or sugar beets as cash crops. Those crops require deep tillage at harvest time, officials note.

But “you don’t have to be 100 percent no-till to give back to the soil,” says Adams, a Rupert farmer who owns a cover crop seed company, AgriTerre, with his wife, Sara.

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*Luke and Sara Adams at their Rupert farm.
(Courtesy Brad Carlson/Capital Ag Press)*

Brian Kossman, Chairman of the Minidoka SWCD, said he has been planting spring cover crops ahead of a sugar beet cash crop, or planting cover crops following a malt or barley cash crop. A number of Mini-Cassia farmers grow malt and barley for Anheuser-Busch and Coors. Cover crops work really well following grain harvest, he said.

"We like to graze the cover crops with sheep or with some of our stocker calves," he said. "It's great to keep the soil covered after grain harvest, and we can usually graze the cover crops until about Christmas time."

Grazing the cattle on the cover crops saves money by not having to feed the cattle hay during that time, he notes. "It's something we will keep on doing."

Kossman is saving fuel by not plowing the soil as much, and he's working on building organic matter in the soil so it retains moisture better and doesn't need as much water. By using the no-till drill to plant cover crops or cash crops, he has been saving money and reduced tillage, he says.

"Over the last 7-8 years, I've probably

reduced my tillage by about 50 percent," Kossman says. "I think we're going in the right direction. The younger guys are all for this stuff. Cover crops are a good thing. I'm not a fire-breathing green guy, but I do believe in Soil Health. At the end of the day, we have to do more farming with less water," Kossman says.

Luke and Sara Adams farm

Adams and his wife, Sara, started experimenting with cover crops in 2012 on their 4,500-acre farm. They had a problem with a sugar beet cyst nematode, and they wanted to devise a cover crop mix to deal with that issue, according to an article in the Capital Ag Press. Two varieties of oilseed radish and a mustard crop proved effective as cover crops, Luke Adams said.

"I'm all about impactful diversity with seed mixes," he says. "My sweet spot is a mix of 3-4-5 types of seeds in the mix. Some farmers are using 9-12."

The Adams' cover crop seed company, AgriTerre, provides cover crop seed mixes that work well in the Mini-Cassia region. They also provide consulting services.

"The primary thing we learned is that you need to have quality advisers who understand cover crops in your local region, and you have to have the right species of cover crop to solve your problems," Adams told the *Capital Press* in a 2020 article about districts' Soil Health workshops.

Because of south-central Idaho's irrigated agriculture and crop rotations, "we can't just copy what's done in the Midwest," he noted.

On the Adams farm, they rotate crops from malt barley to sugar beets, then potatoes, corn and alfalfa. He has hosted field tours on his farm for the district education outreach, and he's been a presenter at the Soil Health workshops.

"The workshops have been really good from an education standpoint," Adams says. "And they have a no-till drill available for rent (vs. having to purchase one for your own farm), that takes away the risk."

"Without a doubt, if a farmer develops a cover crop program, they will reduce the amount of soil erosion from their fields (wind or water), and the organic debris in the fields helps catch the snow, too."

Two farm fields, located next to each other, had vastly different snow-retention during the winter. One field was bare following potato harvest, and it held about 2 inches of snow, while a field with cover crops held about 2 feet of snow, he said. That translates to more moisture in the soil come springtime.

Adams often digs into the soil in his fields to check on earth worm activity. "You can feel the stability in the soil, and how it's been enriched," he says. "We also closely monitor soil compaction from spud and beet harvest activity."

To coordinate Soil Health activities between the three districts, all three district administrators have been active managing the CIG



The East Cassia, West Cassia and Minidoka Districts have been hosting regular field tours to look at cover crops at a variety of locations throughout the Mini-Cassia region. (photo courtesy Doreen McMurray)

grant, keeping financial records, facilitating Direct Seed Committee meetings, and renting and keeping drill rental information. They also assist McMurray with outreach and workshop planning. Two supervisors from each of the three cooperating districts served on the Mini-Cassia Direct Seed and Cover Crop Project Committee, which meets 2-4 times each year.

The supervisors on those committees are: East Cassia - Mark Webb and Ken Woodworth; West Cassia - Richard Kunau and Brent Stoker; Minidoka - Brian Kossman and Dusty Wilkins.

Conservation benefits from the Soil Health outreach include: improved water quality, increased water retention, i.e., improving the holding capacity of water in the soil, increased

crop yields, and overall improved soil health, officials said.

"It's been pretty cool to see such an increase in interest from our local producers," Adams says. "Even if they have to till the soil to harvest potatoes and beets, that's OK. They can still improve the soil with cover crops between cash crops. And we're seeing more and more people to do that as time goes on."

If you're interested in learning more about the districts' Soil Health programs or renting one of the no-till drills, please contact one of the district administrators: Doreen McMurray, 208-312-5556, dmcsmurray6@gmail.com; Rachelle Osterhout, 208-572-3375, ewcswcd@gmail.com; or Sharon Hardy, 208-436-4202, minidokaswcd@gmail.com.



Gabe Brown, right, and his son, Paul, at their farm in North Dakota (Courtesy Gabe Brown).

Steve Stuebner writes for Conservation the Idaho Way on a regular basis.

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