

# Study looks for most productive forage blends

Janelle Atyeo, Tri-State Neighbor Editor Mar 20, 2019



Small grain growers may be able to double the value of their crop ground by planting forages after harvest, but this depends on growing environment and forage blend.

Last season, researchers at South Dakota State University's Southeast Research Farm in Beresford tested forage varieties – both warm and cool season mixes – that could be seeded after harvesting wheat, oats or an early harvest hay crop.

Warm season mixes with grasses like sorghums and Sudangrass yielded the most biomass. The top producer was sugar T sorghum that grew to almost 6 feet tall and put out 7,131 pounds per acre.

In cool season mixes, a blend of oats and red clover was the top yielder, producing 4,620 pounds per acre of forage material. Other oat and clover mixes did well, as did oats with Italian ryegrass.

The warm season mixes produced the most total digestible nutrients: 2,292 pounds compared to the 2,074-pound results of the cool season mixes. The best mixes in terms of protein had oats with clovers or ryegrass.

The research farm grew 20 cool season forage mixes, which were planted in late April into soybean stubble. The plots were grazed by a group of 20 beef heifers over four days in mid-June, and growth was recorded June 19.

Clover did well with the cool season mixes, and it re-grew after harvest.

Planting with oats proved beneficial. Oats served as a nurse crop, helping to get the forage off and growing. Those plots were higher yielding, and cattle liked the oats best, likely because they were familiar with the grass-type crop.

Brassicas – including a kale-turnip cross – yielded the lowest at 1,400 pounds per acre, and cattle didn't like them at first. That's common for cattle that are used to eating grass, said Sara Bauder, agronomy field specialist with SDSU Extension who worked on the study.

“They are much like us, we eat what we are used to, and know what we like,” she said.

Often, the more cattle are exposed to different forages like turnips, radishes and rapeseed, they begin to learn that they’re pretty good and end up eating them quite well, she said. Brassicas don’t provide a lot of total digestible nutrients, but they are high in protein.

“It just takes some time to get used to it, much like giving a child a new food,” Bauder said.

The 22 warm season forages in the study were drilled into a previous cover crop in late June and allowed to grow for about two months. Seeing sorghum, Sudangrass and its hybrids at the top of the yield charts wasn’t surprising, the results noted. Those grass crops are well adapted to growing in warm conditions.

Tall plants helped shade out weeds, Bauder noted. “Watching weed pressure is a big part of getting these forages established,” she said.

Bauder also participated in alfalfa variety trials at the Beresford farm. She’s worked in the past on testing salt-tolerant alfalfa lines, and breeders are interested in learning more about which breeding lines work best in salty areas.

Finding salt-tolerant alfalfa that grows where other crops won’t could help repair soils, Bauder said.

“It could be an awesome alternative to barren soils and may assist in improving those areas over time as the alfalfa continues to grow,” she said.

A forage field day will be held at the research farm on Aug. 7. Bauder said it was a popular event two years ago. This year, she said they plan to focus on harvest methods for yield and quality forage as well as proper storage, especially for round bales.

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