

Livestock Integration: Observation, Management, and Adaptability

With crop markets on the low side these days, do you want to find a way to save more money and make more income? Diversifying income on the farm is about looking at new enterprises or marketing opportunities. Grazing livestock with cover crops on crop ground can offer both of those opportunities.

As with any new venture, there is a need to learn about the business, understand management that works, and consult with others who have already been successful. When you start a new crop, it takes a few years to understand it's behavior on your ground.



Sheep can be used as effective grazers on cropland.

No two years are ever the same in agriculture. The same is true when adding livestock to the operation or grazing existing livestock on crop ground. When you want to succeed at something you learn from those who are doing it, not from those who say it can't be done.

One of the concerns often cited is loss of cover from grazing. This is a real concern if livestock are not managed properly and sound grazing principles are not followed. Take half, leave half is the rule of thumb on native range. That principle may not hold when grazing

on crop ground, it depends on the condition of the field and goals for the year. Time spent planning, in the field management and understanding how soils will react are all variables that should be considered when integrating livestock. Clearly leaving the soil exposed is not the right management, and stocking at inappropriate densities leaves the soil vulnerable or in a degraded condition. It's really about the management. Most of us understand keeping the soil covered is one the five key soil health principles, once you start to see bare soil, it's already too late. Observe cover daily and relocate the livestock before you see the soil.

Compaction is more difficult to visually assess. How do we know it's happening? It's not about waiting to see it or measuring it, it's about proper management. Establishing roots and adequate above-ground growth before grazing on crop ground will support the livestock and keep soil structure intact. A 16-year study from the University of Nebraska (Rakkar et. al, 2017) showed little impact to crop ground from grazing, as long as the animals were managed properly. One of the principle researchers in the study, Dr. Umberto Blanco, said the study produced surprising results. "Our hypothesis at the beginning was that we were probably going to see negative effects on soil properties due to grazing, but our data did not show that. We did not see many negative effects."

What about livestock grazing when it's wet, like this year's winter? The North American prairie has always had wet periods, that's no different today. Graziers like bison, elk, deer and pronghorn didn't stay on these wet areas for long periods of time, or more likely went to other spots to graze. Your livestock should follow their example. In unusually wet times you may to have sacrifice an area to keep the rest of the soils in good shape, but that should be part of your grazing management plan.

Darin Williams of Waverly, Kansas has a herd of British white cattle. He doesn't have much native range in his operation. He uses cool and warm season cover crops as forage. But he is prepared if standing cropped forage runs short, or his acres are about to become vulnerable. During this long wet winter,

Darin used stockpiled hay and a smaller sacrifice area to keep his herd in good condition and his other crop ground covered. "I had a plan for these kinds of conditions, I knew if it got too wet, I had hay and I knew where I would locate the cattle. I was able to get them dry matter and keep them off my wet fields. I didn't lose any body condition over the winter, because I was able to adapt to the conditions I was presented," said Williams.

Darin rotates his herd across his fields so the grazing benefits he gets get distributed across most of his acres. He is quick to point out, that his number one tool for utilizing his livestock is being willing to adapt to the conditions at hand. "I am always trying to think three moves ahead for the forage source and the movement of the herd, but sometimes that just doesn't work out. I have to be willing to make management decisions that keep the herd in good condition, keep my soils protected and keep the farm profitable."

For many producers who integrate livestock, the bottom line is the true test. Integrating livestock on to crop ground instead of just feeding in the lot or grazing in pastures is like growing multiple crops, it's spreading out your risk. Like every other crop, risk and markets must be considered for livestock. Four dollar soybeans don't work but \$15 soybeans do. It is no different in the cattle market. Make decisions and use the cattle market just like grain markets. How many farmers just take the price the local elevator offers without calling around to compare? Risk management and good marketing are part of surviving farming.

Rodney Hern from Wakita, Oklahoma spread his risk using native range and cover crops to distribute his cattle across all his acres. He typically uses wheat and cool season cover crops in the fall and winter for heifers and steers. Rodney does this on his own crop ground but has also built a relationship with his neighbors to graze covers on their acres. He has demonstrated the benefits of livestock integration so effectively that his neighbors now want that benefit too, using Rodney's herd.



Cattle graze on a cover crop in Oklahoma



Darin Williams uses planned grazing to graze cropland with British White cattle.

Rodney is careful of his stocking density and grazing days on all of the acres. He typically can get between 2.0 and 2.5 pounds daily gain on 500-600 pound cattle, stocked at 4 acres per animal. "In this system I can get as much as \$150 per acre on the cattle, for 170 grazing days in the fall and winter. This also saves me money from animal health benefits and I almost always see a yield bump on the next cash crop following grazing," says Hern. When he locates the weaned calves to these forages he also gets additional rest for his native range, maintaining the forage quality for summer grazing.

Bill Nielsen from Minden, Nebraska believes with proper management, time, and self-discipline, cattle on corn stalks are a great addition to his operation. The corn stalks are an inexpensive source of winter feed for pregnant cows. Grazing off up to half of the irrigated corn residue helps greatly when planting the next crop and still leave plenty of residue to prevent wind or water erosion. He stocks the cattle at a rate that allows him to keep a group of 200-300 head on the field for up to four weeks.

Bill also grazes his cover crops in his seed production fields after the seed corn is harvested. He uses a cover crop cocktail of 10-12 species that includes grasses, legumes, brassicas and broadleaf species. The cattle are turned out after the seed corn is harvested and there is enough growth on the covers to sustain the herd for up to four weeks. Bill is a firm believer in the additional value provided by integrating the cattle. "The manure distribution from the cattle is a real benefit to my fields, I want to take advantage of this natural nutrient source. The small divots left from hoof action on my dryland fields helps me retain more water on the land when we get those toad strangler rain events," says Nielsen.

These are examples of good producers effectively and profitably grazing cropland. Of course examples that were not as successful are out there, and they can be used to convince crop land owners and operators to never let livestock on their acres. Lack of experience, poor management timing, a drop in market price, or a narrow production focus shouldn't be used to unilaterally discourage grazing on crop acres. Remember our soils were developed with grazing; soil structure, fully-developed soil communities and healthy plant communities all thrive with grazing. There are plenty of good examples of producers managing livestock for profit and healthy soils, seek out someone with successful experience grazing as you begin a journey to soil and financial health.