

March 17, 2017

## INTENSIVE FIELD CROP PRODUCTION

This past week I had the opportunity to represent Nebraska at the Midwest Cover Crops Conference (MCCC) in Grand Rapids, Michigan. MCCC has representation of land grant universities in the north central region. Regional experts share Extension information and research updates in the area of no-till farming, cover crops and animal agriculture. Nebraska Extension is in the process of developing a selector tool for cover crops for our diverse cropping systems in this state to be housed on their website.

Originally I was going to travel with Gary Lesoing, Extension Educator in Nemaha County, who planned to give the Nebraska Extension and Research report on cover crops at the meeting. Due to a family funeral, Gary was unable to attend, so I gave the Nebraska report. Unexpected at the airport traveling to the same meeting, I met Katja Koehler-Cole, a Post Doc Research Associate at UNL, working in the Agronomy Department. Katja was helpful in explaining her cover crop research at four locations across Nebraska.

One impactful presentation for me came from Mike Buis, a cattle rancher and 3<sup>rd</sup> generation farmer in Chatham, Ontario. He shared lessons he had learned grazing cover crops. His location forced change. He used to bring in calves from western Canada and house them in barns for finishing. With the wet and humid climate, he switched to cow-calf and expanded his farm store and retail business. When he made the switch he needed more pasture in an area where cropland was very high priced due to raising high value vegetable crops. Today his cattle are raised from birth on their pastures and fields without antibiotics or hormones, finishes calves on a corn based diet, but the story is about intensifying what he had with opportunity cover crops.

Mike experimented with cover crops and vegetable crops for grazing and used the long seasons to his advantage. With vegetable crops planted later in the season, the cows can pasture the cover crops in the spring and calve in these fields instead of in barns. His cropland produces specialty crops of sweet corn, seed corn and seed beans as well as a number of commercial cash crops. Mike said some neighbors may have thought something was very wrong when they saw that first high tensile fencing going up, plus being able to calve out doors in paddocks with plenty of cover in Canada.

He runs 225 cows spring calving and 75 fall calving. An example of how he can rotate fields is planting cereal rye seeded immediately after sweet corn harvest (grazed on January 8), 4<sup>th</sup> cutting alfalfa still standing (grazed on January 29), oats after corn silage (grazed on January 29) oats and rye combination after snap beans (grazed on March 5) and cereal rye seeded after tomato harvest (grazed on March 20). That's carrying capacity of 160 cows January 8 to March 30 on 145 acres, no extra hay or feed added.

His strategy is raising more feed himself by double cropping. This reduced harvest costs and reduced feed storage and delivery to cows. No manure to handle or haul and organic matter levels in his soil has increased (tillage and vegetable farming had decreased his soil organic matter). Now he has better wind and water protection in his no-till fields and increased soil health and water infiltration and holding capacity. He has access to a Hagie machine and modified it to drop a more diverse cover crop seed mixture in season when corn is in the V5 stage to get a jump start on grazing cover crop and corn stalks in the fall. That investment of \$25 to \$29 per acre is paying off.



Mike has learned a lot about seed costs and availability, baleage with sorghum silage; establishing cover crops and fencing; interseeding cover crops in season on corn; utilizing commercial and grocery food waste streams; timing of harvest with clovers, grasses and turnips; moving livestock within paddocks and farm to farm; water sources; no-till farming and dealing with mud. Each field has its specific management and advantages. It is all about learning from your mistakes and making it work.

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