

Flexibility on 4 Legs

How Grazing Helps One Beginning Farmer Build Financial & Ecological Health

Note: Beginning farmer Zach Knutson recently talked to Land Stewardship Project soil health organizer Alex Romano about how rotational grazing allows him to manage land, time, and finances more efficiently. Knutson owns and operates Knutson Shorthorns (www.knutsonshorthorns.com) just outside of Zumbrota in southeastern Minnesota, where he rotationally grazes registered Shorthorns and direct markets beef. Knutson also works as a bank examiner with the Farm Credit Administration. Here are excerpts of that conversation. Episode 246 of the Land Stewardship Project's *Ear to the Ground* podcast features Romano's full conversation with Knutson: www.landstewardshipproject.org/posts/1333.

→ **Romano:** *Can you tell me about what goals you have for your farm?*

◆ **Knutson:** "My primary goal is within the next five years or so to convert the 100 acres of row cropland into diverse perennial pastures. I would like to expand the cowherd up to about 75 breeding cows and the number of hair sheep up to 100. I'm just guessing at carrying capacity because the sheep are new to us. We started rotating grazing paddocks daily in 2020 during the pandemic quarantine, and I'd like to continue doing that as long as I can. Sometimes my off-farm job as a bank examiner will take me on the road for a few days, so we'll adjust management accordingly, but do our best to rotate as frequently as we can because we saw such big benefits from that this year."

→ **Romano:** *Can you give me some examples of those benefits you saw by moving the cattle more frequently?*

◆ **Knutson:** "My favorite was probably seeing the cattle graze thistles and giant ragweed. I never saw cattle eating those. I had to get pictures to prove it because I had to make my dad believe it. We saw a lot healthier pastures. We had so much more grass than we have had in similar years. This year was drier and while we didn't do any hard measurements, just based on how many cattle we were able to run and grazing days, I think we were able to harvest more forage matter this year than we did last year, even without all the rain we had last year."

"The rest periods were huge. The pasture we seeded down took a little bit more time

to establish since it was my first time doing it. So, the rest periods at the start of the season were about 14-17 days. Once we got the new pasture working for us, we got our rest periods up to 34 days. I would say the



Zach Knutson: "Flexibility is huge in being able to make use of all the resources on the farm rather than getting too focused on row crops or too focused on just livestock." (LSP Photo)

amount of grass that was there returning after 34 days compared to 17 days was almost double. So, there were big benefits to extending those rest periods. During periods of dry weather, we would incorporate a couple days of bale feeding in the barnyard just to try and give us a little more rest time."

→ **Romano:** *You mentioned new pasture this year. Can you tell me more about what went into that?*

◆ **Knutson:** "We converted 6-7 acres of row cropland that was corn last year to a diverse pasture mix this year that was primarily cool season grasses. The mix-

ture contained around 13 different species. Alongside those fields we were also grazing some waterway areas that had been seeded down for erosion control as the row crops were growing around them. Those particular fields hadn't been made use of in a long time. While we converted around 6 acres into new pasture, in total, we gained almost 10 acres in grazing land overall because we were able to make use of the grasses that were typically just left as is."

→ **Romano:** *It sounds like livestock are allowing you to be more flexible on the farm.*

◆ **Knutson:** "Yeah, flexibility is huge in being able to make use of all the resources on the farm, rather than getting too focused on row crops or too focused on just livestock. I believe in making use of as much of the ground as we can while preserving the soil health there."

"Dad said that as he was sticking the shovel into the soil there was a notable difference in the new pasture compared to the bean field and even the old pasture that hadn't been rotationally grazed for quite

some time. By switching this year, it really improved the soil. It was just a lot lighter and easier to get the shovel into. I asked dad if there were worms, and he said, 'Yeah, that seemed weird. I actually had to pull those out before I could do the soil test.' I said, 'At least they were there to pull them out.'

"The different pastures also gave me a lot of flexibility in case I needed to go away. We were able to adjust the pastures and the paddock sizes to fit. We did give up some things by giving them a four-day area instead of a single day rotation. At the end of the day, it is about finding that work-life balance and enjoying what you do. You could try to maximize the potential every single day but burn-out is real

and that is one of the reasons that flexibility is really important to me."

→ **Romano:** *Would you say you are enjoying what you are doing?*

◆ **Knutson:** "Definitely. Cattle have always been a big passion of mine. When I was 11, I told my dad that I love cows, but I just don't like to milk them. That was kind of how the whole beef cattle thing started. It took a few years before I realized that an 11-year-old kid isn't going to get a loan from the bank to go buy cattle, but I saved

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up and got started. I'm really optimistic about what the future holds as we expand and diversify the operation and improve the soil health."

→ **Romano:** *How does your off-farm job as a bank examiner influence the way you view farm profitability?*

◆ **Knutson:** "One of the big things has been learning from the financial statements of a wide variety of farmers and just getting the exposure to seeing that the average return on assets on beef cattle is notoriously low. It really depends on your area and your farming practices, but in my unprofessional opinion, I would say that 2% is a common return on assets. So, when you are making an investment on the farm and considering whether or not you want to buy that piece of machinery and whether you want to make or buy hay, it's really about considering where you put your capital investments to try and maximize that return on assets. It gives a different perspective on borrowing money. Borrowing money can definitely be a good tool. There are certain circumstance where it pencils out and certain circumstances where it doesn't.

"To me, there's a lot of thought that goes into what enterprises I want to bring into the whole diversity of the operation and which ones I don't. I personally lean towards having the minimal amount of machinery around to get the job done, particularly when it comes to mechanically harvesting forage. I know there are a lot of people around that make hay, and it can certainly be economically viable, but I prefer to let the cattle do the majority of harvesting. I am working out how we can extend the availability of forages that the cattle can harvest throughout the year so that we can just avoid needing that machinery, and whatever hay that we do bring in I look at as bringing in soil nutrition. If you compare opportunity costs between a haymaking enterprise and using machinery versus letting the cattle harvest it, you may be able to harvest more pounds with the machinery but is it really getting more than that 2% return on assets?"

"I think if you look at what the cattle are able to harvest when you already got the investment into the land and you've already got the investment into the cattle, letting them do the harvesting instead of a machine has a really big influence on changing that return on assets value.

"It doesn't make sense for my operation to borrow money to buy equipment that can make hay, especially when I'm just getting started. If you are borrowing money, is that borrowed money working for you or are

you working for the entity you borrowed it from?"

→ **Romano:** *What are looking to try in the future that gets you excited?*

◆ **Knutson:** "One thing that I tried this year was at home we had some ground that a piece of a tin shed roof had collapsed on and it laid out there for a full summer and through the winter. There was just a bunch of dead grass out there, so I planted some pepper plants into it and didn't weed it just to see what would happen. I personally don't like weeding gardens — it's a lot of labor and it takes all the fun out of it. I'd much rather just walk out there, pick the crop, and call it good.

"The cool season grasses did not seem to compete with those pepper plants we put in there. They grew up and covered the soil around the pepper plants, but when we got into July and August the grass stopped growing just like we see in our pastures and that was when the pepper plants took off. This is something I would like to try in our sacrifice paddocks where we can plant higher value summer annual plants — peppers, tomatoes — and see if we can't get an extra source of revenue off that ground while also giving it an opportunity to rest and re-set.

"Going back to the marginal costs, some

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On the Soil Builders web page, you'll also find fact sheets, videos, podcasts, and other resources related to creating healthy soil profitably.

people would argue if you weed it you get a better crop. There's a reason people went to weeding, but if you look at the value of your time, does the marginal return equal the marginal cost? So, I want to kind of experiment in the future when we have these sacrifice paddocks with these cattle, areas that really get beat up by the cattle. I think we should consider applying the same principles of planting summer annual vegetable crops in that ground. In the heat of summer, they are going to be thriving, giving you food for your family and potentially providing crops to sell at a farmers' market." □

LSP Releases Reports on Soil Health Initiatives

In October, two reports were released that summarize ways the Land Stewardship Project has been bringing together farmers and others around agricultural practices that build soil health profitably. The reports' purpose is to provide insights to others who might want to borrow or adapt some of the approaches LSP has used. It's hoped these reports inspire others to develop their own ideas and share them with the rest of the regenerative farming community.

10% Project

The Chippewa 10% Project was launched in 2010 to help farmers adopt practices that can reduce pollution in the Chippewa River watershed in west-central Minnesota. By the time it wrapped up in 2018, the initiative had utilized cutting-edge research, kitchen table conversations, field days, and farmer-to-farmer education to successfully promote soil friendly practices in the basin.

The 10% Solution in Minnesota's Chippewa River Basin: Why 10%? — Context,

Approaches & Impacts, which was written by George Boody, is at www.landstewardshipproject.org/stewardshipfood/chippewa10project.

Bridge to Soil Health

LSP's Bridge to Soil Health Program was launched in 2015 in southeastern Minnesota to significantly scale-up the number of crop and livestock farmers in the Upper Midwest implementing soil building farming methods and talking publicly about what they are doing. Five years later, the program has become a model for how to utilize extensive farmer-to-farmer networks and innovations in crop and livestock production to expand soil-friendly farming practices that are practical and profitable.

Building the Bridge to Soil Health: The Power of Organizing Farmer-to-Farmer Engagement was written by Doug Nopar. It's at www.landstewardshipproject.org/soilbridge.

