

Agriculture must change, with different skills and a new attitude required

It must give up its centuries-old fascination with annual crops like wheat and corn, and begin the study of how perennial plants fit food production.

By Jim VanDerPol



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An opportunity came along last summer to do some good for the Earth and at the same time engage in a form of distraction late in my working life. Owners of a piece of property a distance from our family farm in western Minnesota reached out and asked if we were interested in renting 120 acres that was coming out of the Conservation Reserve Program.

They found us based on what they heard we had done on our own farm, located west of Willmar in Chippewa County. We have in the last three decades converted a small 320-acre crop farm into a cattle and hog operation that sells all the meats produced directly to stores and individuals. I told them I would only use the land for grazing.

The land is damaged, as is all land in agricultural use. Because it is on glacial till with a gravel subsoil and steep slopes, it is designated by the government's Natural Resources Conservation Agency as highly erodible. The damage is stark. As a measure of the trend in agriculture in the 30-plus years this farm has been in standing, unused grass, it is possible to step down from the property corner a vertical distance of at least 6 feet to the corner of the adjacent corn field. This drop is a crude measure of row crop agriculture's breathtaking soil loss to the creek below in that time.

Later, I was to discover even earlier damage, swales hidden in this neighboring field that hadn't been tilled in decades. The swales caused the pickup to buck and roll as I drove from one area to another through standing grass. I could feel with my feet where the farmer, the ancestor of the current owner, had planted corn on slopes far too steep half a century and more ago, and created gullies that carried soil to the bottom.

Managed grazing needed

I showed the owners the stunted brome grass on the hilltops and sides where it was mixed with goldenrod, and the lush patches of reed canary grass and cattails in the low areas between the hills. We saw how the soil was thin with gravel exposed in places on the hills, but very thick at the bottoms where water often stood. I made the argument that the land needed animals managed in a planned grazing system. Managed grazing will develop a strong and extensive root system under the grass. Those roots will keep rainfall in place and more soil on the hills, drying and improving the low creases, and also begin the process of returning atmospheric carbon to the soil, where much of it came from over the years of tillage.



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So they asked me to build the fence I envisioned and bring my cattle in. I spent the summer rolling up miles of old barbed wire, pulling out posts and cutting weedy trees. A crew built the

perimeter fence in August. I constructed the cross fences, dividing the 120 acres into seven large grazing paddocks. A well was drilled and so we were ready for the cows next April.

Four pairs of leather gloves and two shirts ruined by the barbed wire didn't dim the satisfaction I took in the pandemic summer's work. It seemed to push toward a turning.

Then, another turning: Democrat Collin Peterson, chair of the U.S. House Agriculture Committee, lost the seat he had long held here in the rural Trump wave.

Support for the largest operations

Peterson based his representation of the Seventh Congressional District upon speaking for the largest half-dozen or so crops farmers in each county. He kept the money flowing to these operations, cloaking it in heavily subsidized crop insurance. This crop support inevitably got bid into increasing land values as growing farm operations bid up both land values and rents in what was actually a publicly supported effort to grow more corn, soybeans and wheat. This locks out young start-up farmers, traditional livestock farmers and stymies efforts to get livestock back on the land.

CRP, established in 1985 to take fragile lands out of production, offers regular payments over the 10- to 15-year life of the contract. Land must be established in a cover crop, generally a perennial grass, and noxious weeds must be controlled. There are slightly over a million acres currently enrolled in Minnesota.

I would like to have stood with Peterson, who thinks of CRP more in terms of crop supply control, viewing the 6-foot drop off to the adjacent corn field to get his take on the effect of row cropping at work.

For Earth to remain viable for human habitation for more than a few decades, agriculture must change.

Move toward perennials

It must give up its centuries-old fascination with annual crops like wheat and corn, and begin the study of how perennial plants fit food production. Perennial plants, properly managed as under a good planned grazing regimen, incorporate atmospheric carbon into the soil as organic matter, thus beginning to reverse centuries of burning off carbon through tillage. Even carefully planned rotations of annual plants without tillage will not safeguard soil and build organic matter like a good stand of perennials.

Perennial plants must be developed for food production instead of this shortsighted focus on breeding plants that can withstand chemical applications. Wes and Dana Jackson established the Land Institute, a nonprofit research center in Salina, Kansas, in 1976, and have been working on perennial replacements for annual crops ever since. They and their staff developed Kernza from intermediate wheatgrass, useful for both grazing and its wheat-like kernel. It is currently being distributed and commercialized by the University of Minnesota with the help of

certain grain milling and baking businesses. Another ongoing study is of Illinois Bundleflower, a potential protein source for livestock and humans.

Production of perennial crops requires close on-site management driven by observation, experience and a feel for natural systems. This is especially evident for Kernza production, which is best done by a mix of cropping and livestock systems. We have few people in the farm population even capable of this breadth of management anymore. A different set of farming skills and a new attitude are required. It will take both time and financial stability to learn them, and then to apply them. The need for decision-making based upon observation and knowledge of place and its biology presupposes that operations cannot be huge. Perennial agriculture will create a different human social structure around it.

Jim VanDerPol and his family have been farming and learning from the land for nearly 45 years. He has been writing about what he sees for about as long.