

# Willing to be Different

## Plum Thicket Farms uses creativity to thrive.

Story & photos by **Troy Smith**, field editor

**K**elsey Haley thinks the people back home missed an opportunity. In the part of Minnesota where she grew up, agriculture is very oriented toward row crops. There is plenty of winter feed, in the form of cornstalks and other crop residues, but there is a scarcity of beef cattle. It makes her wonder why cows aren't grazing the available residues.

"What I've learned makes me think the cropland back home is underutilized," says Kelsey. "There's also opportunity to plant cover crops specifically for grazing. Crop farming and cattle can be so complementary."

Haley's opinions stem from her experience during last year's internship at Plum Thicket Farms near Gordon, Neb. The operation is owned by the Peterson family, whose dedication to land and livestock stewardship impressed the young intern. She asked to return and work with them again this summer.

Kelsey wanted to learn more from people who collect data and actually use it to improve their cow herd. She wanted to learn more about grazing techniques. She wanted more time with the Peterson family — people who are willing and even eager to consider



► Rex and Nancy Peterson established Plum Thicket Farms in northwestern Nebraska in 1998.

unconventional production practices for raising crops and cattle.

"I'm learning a lot," affirms Kelsey. "Nancy runs an out-of-the-box operation."

She's referring to veterinarian Nancy Peterson, who is largely responsible for cattle management at Plum Thicket Farms. Originally from Colorado, she and husband

Rex established the northwestern Nebraska operation in 1998. Rex is an architect, but also has a hands-on role in managing the cow-calf and backgrounding enterprises.

In charge of crop production is the couple's son, Patrick, who joined the operation in 2007. His wife, Krista, recently graduated from veterinary college and is currently serving an internship at Kansas State University. Like her mother-in-law, Krista's primary interest is a large-animal practice. Patrick's passion, however, is no-till farming. The family's shared mission is good stewardship.

"The single biggest driver of our business decisions," states Nancy, "is stewardship."

### Using available resources

*Diverse* is a word that describes the Peterson operation. Plum Thicket Farms resources include some 2,300 acres of cropland, with 560 acres under irrigation. Cash crops include corn, edible beans, wheat and field peas.

The operation has supported as many as 340 mature commercial cows. Mostly due to the loss of a pasture lease, although drought was a concern, numbers were reduced to 280 cows last year. That's still too many for their 4,350 acres of rangeland, especially since the Peterson goal is to keep the cow herd grazing for 10-11 months of the year.

Grazing cattle on cornstalks each winter

► **Below:** Last year was exceptionally dry, forcing implementation of a predetermined drought plan that included reducing pasture stocking rates, weaning calves early and drylotting cows between grazing of cornstalks and availability of rye for grazing.



**I N N O V A T I O N S**

helps extend the time animals can graze, but the Petersons need more grazing resources.

The balance of the forage needed for grazing cows and young stock comes from forage cover crops. Fortunately, forages fit into crop-rotation schemes associated with Patrick's no-till farming practices. Growing forages for grazing also increases cropland productivity.

For example, planting a harvested wheat field to rye can provide grazing for the following spring. Peterson cows typically calve while grazing green, vegetative rye during May. Other cover crops are composed of diverse mixtures of what some producers might consider unconventional forage plant species. A summer-planted "forage cocktail" could include brown midrib sorghum, soybeans, millet, canola, sunflowers, lentils, radishes and oats. Windrowed and left in the field, the resulting forage can be swath-grazed with access controlled by temporary electric fence.

Swath-grazed cover crops have provided part of the Peterson cow herd's winter forage supply since 2005. They also figure prominently in the backgrounding program for weaned steer calves. Supplemented with dried distillers' grains (DDG), swath-grazed steers perform well, gaining about 2 pounds (lb.) per day.

"We have bale-grazed cover crops in the winter, as well," adds Rex. "Using a hot wire, we can allocate enough bales to last the cattle for a period of five to seven days at a time."

Leaving bales to be "grazed" where they drop in the field saves labor, fuel and equipment wear and tear, compared to hauling bales to a storage site and then hauling it again when fed to cattle.

However, Rex says, their bales typically need to be removed from the field to make way for planting of the next crop in Patrick's planned rotation. What they've done is place the bales in an available field nearby, where the soil fertility is low. Allowing cattle access to bales at a chosen site means cattle manure, urine and bale residue contribute nutrients to the soil. Yes, there is some feed waste, and that represents cost.

"It takes some time to recoup that cost, but it eventually shows up as increased organic matter," explains Nancy. "Bale-grazing does wonderful things for the soil."

A spring-planted cover crop mixture is



► Nancy Peterson examines litter in a field planted to rye for grazing.

often raised in fields that will next be put to winter wheat. Currently, the mixture includes oats, peas, crown vetch, lentils, buckwheat, sainfoin, rapeseed, forage collards, sunflowers and red clover. Left standing in the field, this forage provides another grazing resource during early summer. It's usually ready by late June to be strip-grazed with cow-calf pairs.

"That's when we want cattle off of our native pastures. The period from late June

through July is a critical time for growth of warm-season native grasses," says Nancy. "Drought makes it more difficult, but we're trying hard to take care of our pastures. We want to leave enough cover behind after grazing so pastures can recover more quickly when moisture does come. Because of long-term stewardship, we're normally able to take 0.7 AUMs (animal unit months) of forage per acre, each year."

### Planning ahead

Last year was exceptionally dry, forcing implementation of a predetermined drought plan. The pasture stocking rate was reduced by nearly 60%. Calves were weaned

early. One irrigated field of corn was cut for silage. Another 120 acres under irrigation was planted to an oat-pea mixture for hay, and extra hay was purchased. Cattle were placed in drylot and limit-fed during that period of time between grazing of cornstalks and availability of rye for grazing. The cows came into calving season with an average body condition score (BCS) of 6.

However, the drought continues, and the Petersons have reluctantly decided to further reduce cattle numbers. As this is written, they are culling cows down to 230 head. Still, Nancy believes the ability to grow forage crops makes them better able to cope with drought.

As the family's farmer, Patrick says optimum utilization of the cropland remains a work in progress. He admits that he hasn't got it all figured out, but he's certain that inclusion of forages in crop rotations is necessary to the success of no-till farming, and growing cover crops is increasing the productivity of land, especially acreage that, for many years, had produced only summer fallow wheat.

"The multi-specie mixtures stimulate a wide variety of microbes, add organic matter and help build the soil. Having cattle on those fields adds organic matter, too," explains Patrick.

He notes that the only nutrients leaving grazed fields are those that walk off as beef. He believes the combination of factors could improve soil fertility over time such that

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**"Crop farming and cattle can be so complementary."**

**— Kelsey Haley**



► Planting a harvested wheat field to rye can provide grazing for the following spring. Peterson cows typically calve while grazing green, vegetative rye during May.

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nitrogen-fertilizer requirements may be significantly reduced.

“The cover-crop mixtures are more drought-tolerant than monoculture crops, too. They require relatively low levels of inputs, and grazing is a low-input way to utilize the forage,” Patrick adds. “The forage quality is relatively high, too. If feedyard costs of gain continue to go up, as seems likely, we may eventually see the cost of finishing cattle on grazed forages become competitive.”

Patrick’s parents are enthused about the potential for marrying management of

cattle and crop production for the benefit of the livestock and the land, and to improve the sustainability of their family operation. To be sustainable it must be profitable. To accomplish that, the Petersons are willing to do things differently.

“Most of our neighbors think we are absolutely crazy,” grins Nancy. “What we’re doing is different. It’s pretty complex, but I think this is the direction we need to go.”



**Editor’s Note:** *Troy Smith is a freelance writer and cattleman from Sargent, Neb.*

I N N O V A T I O N S

## About the cattle

Believing artificial insemination (AI) would hasten genetic improvement, Plum Thicket Farms has made extensive use of synchronized AI in its commercial cow herd. Nancy Peterson has always maintained individual production records for cows, and calf performance is routinely tracked all the way to harvest.

“I’m a number cruncher. I like data,” says Nancy. “But it’s nothing unless you use it.”

The data provides information useful for genetic selection — for making culling decisions, as well as choosing sires. The selection process prioritizes maternal traits, followed by performance and carcass merit.

“When we find a sire that fits our

criteria, we breed him to a lot of cows. Then we try to breed a lot of his daughters to another suitable bull,” explains Nancy. “I think it’s helped us build consistency.”

Adherence to the process has resulted in steady improvement to the fertility, udder quality and productivity of the cow herd, while producing calves that perform consistently in the feedlot and on the rail.

“For the last several years, the calves have posted average daily gains of 4.2 to 4.3 pounds (lb.), with 70% or more grading Choice, so it’s often to our advantage to retain ownership through a custom feedlot,” explains Nancy. “If we sell them as feeder cattle, we want a buyer that will provide us with carcass data.”

The goal is to raise steers that perform

consistently well, finish at 1,450 lb. and produce high-quality carcasses weighing 950 lb. At the same time, the Petersons want to reduce mature cow size a bit, from the current average of 1,290 lb.

Along with applying selection pressure toward that end, the Petersons believe a more challenging heifer-development program may help. Developing heifers on a diet more similar to that of mature cows also yields replacement females that are well-adapted to the Petersons’ production environment.

“We started growing our heifers on cornstalks and protein supplement instead of developing them in a drylot situation. They are our ‘flex population.’ We have the options of selling some as open heifers,

or as bred heifers or as pairs later on,” explains Nancy. “Heifers are synchronized for AI, and cleanup bulls are turned out for just 25 days. It results in natural selection for fertility.”

The more extensive heifer-development program also fits the Petersons’ decision to minimize use of harvested forages. However, drought conditions forced them to feed cattle in confinement last winter. The costs associated with equipment, fuel and labor were discouraging.

“It drove home the fact,” says Nancy, “that cattle need to do the harvesting themselves.”