Seth Watkins, Clarinda, Iowa, shifted his breeding schedule to allow calving to start in April, when warmer temperatures and green grass would greet newborn calves rather than snow and mud.

MOTHER NATURE RULES

So why not follow her lead? That's how Seth Watkins revamped his farm's system.

By Gil Gullickson • Executive Editor, Crops Technology

Seth Watkins used to be the type of farmer who prompted agricultural industry executives to salivate, akin to a German Shepherd eyeing a juicy steak.

"I went to agronomy meetings," says the Clarinda, Iowa, farmer. "I went to Farm Bureau meetings. I did everything the universities told me to do. I focused entirely on production, raising more and more."

After all, Watkins figured it was his duty to help feed the world's 7.8 billion people, no matter what happened.

Well, something happened.

Watkins had just finished shepherding his cowherd through a "humdinger of a blizzard" during the heart of calving season in March 1998. After several days of scrapping with snowdrifts and stinging winds, he asked a pivotal question:

"Why was I working against Mother Nature instead of with her?"

REFLECTION

Watkins wondered why he began calving in February.

"The thinking was that you'd then have time to plant your corn and do other things in April," he says. "It just never seemed right to me. I didn't like seeing mud get into the creeks. I didn't like seeing cattle uncomfortable, or a baby calf nursing a cold, muddy udder.

"I'd go to meetings and they (industry representatives) would say, 'We have an antibiotic for this, or you can build a bigger calving shed,' " he says. "I mean, who was I to question them?"

But Watkins did question them.

He questioned why, in his all-out quest to produce more beef and more grain, he was losing money.

"I was spending $5 to make $3," he says.

He questioned why the fragile soils in his area of southwestern Iowa were annually losing 15 to 20 tons per acre – far above the allowable NRCS annual loss rate of 5 tons per acre.

He questioned how his farming methods may have contributed to his region's health and economic woes.

"We're at the bottom of five watersheds where I live in Page County," he says. "It consistently has one of the highest per capita cancer rates in Iowa. No one asks why.

"The other one that breaks my heart is our poverty rate," he adds. From 2014 to 2018, for example, the Iowa Data Center pegged Page County's poverty rate 40th out of 99 counties. He says this filters down to the region's school children.

"We've seen 46% to 68% of the kids in our schools on free and reduced school lunches," he says.

ON-FARM STEPS

There's an old Chinese proverb that states, "A journey of a thousand miles begins with a single step." Like this saying, Watkins figured that starting to solve these problems began with his own farm.

"It sounds kind of corny, but I said to myself, 'I just want a system that gives me happy cows, clean water, and healthy soil,' " he says. "If I go broke doing that, so be it. At least I can sleep at night because I did right by the cows."

Watkins grew up on 240 acres that's now part of a 3,300-acre mix of owned and rented pasture and cropland. He and his wife, Christy, outright own 150 of the 600 cows in a herd, with the rest owned on shares

Photography: Gil Gullickson

Seth Watkins has reserved a share of his farm for wildlife. To fully use it, he has developed commercial hunts for pheasant, deer, and turkey.

with landlords and through custom-raising arrangements.

"I was blessed with really rotten land," he jests. "It was said the land where my ancestors settled was so horrible that the kids had to use pins for fishhooks," he says. Hence, the name of his farm: Pinhook Farm.

While a share of the farm may not be the best for growing crops, it is good for Watkins' love of raising cattle.

"Even when I was in high school, I was building up my cow numbers," he says. "Many farmers back then were selling their livestock, but my passion was always beef cows and I stuck with it."

Christy played a key role in the operation, bringing in income and benefits in her job as a special education teacher. After farming and working off-farm jobs, Watkins began farming full time in 1994.

About this time, his banker gave him a book about the late business management guru, W. Edwards Deming.

"He told me, 'You ought to read this. It talks about some things that might be helpful to your business,' " says Watkins. "The Deming theory is simple. It states that when individuals and organizations focus on quality over time, quality increases and costs decrease. Conversely, when individuals and organizations focus on costs over time, costs increase and quality decreases."

After the March 1998 blizzard, Watkins vowed to build a system to focus on the quality of his farm's resources – soil, sunlight, and rainfall – and to use his own ingenuity to improve them over time.

LOOK FIRST

In doing so, Watkins has listened to specialists like Ben Turner, an assistant professor of agricultural and natural resource systems at Texas A&M-Kingsville.

"One premise behind a systems approach is before jumping into a strategy or solution, take a step back and ask why," Turner says.

In Watkins' case, both cow and calf performance suffered from the rigors of February and March calving. He reasoned that by shifting his breeding schedule to allow calving to start in April, warmer temperatures and green grass would greet newborn calves rather than snow and mud.

"It takes a lot more feed, fuel, and energy to maintain a lactating cow on a cold, muddy day in February than in April," he says.

"I also noticed cows had reduced dystocia (calving difficulties) because they weren't stressed."

It hasn't been all blue sky and eatin' peanuts, though. "In southern Iowa, we can get heat indexes of 120°F. when we're trying to breed those black Angus cattle in July and August," he says. Summer heat heightens toxicity level of the fescue grass cattle graze in his pastures. He interseeded red clover to dilute fescue's toxicity level. This raised his cows' reproductive rates and also boosted his pastures' protein content and forage quality.

Watkins then zeroed in on improving his farm's water quality. Rather than having dirty water run across his pastures through his cows and calves and into streams, he built fenced-off ponds.

"Weaning weights rose 25 to 50 pounds (per calf) on those pastures where cows were restricted from the water (in ponds) vs. those where water ran across the pasture," he says.

Watkins started rotational grazing, with cattle intensively grazing small areas of pastures for short periods of time before moving to the next pasture. This mimics the centuries-long sustainability of the way bison grazed the prairie before European settlers arrived.

He then shifted to no-till-

Where Do You Get Your Water?

Seth Watkins' commitment to clean water is personal.

His son, Spencer (18) was born with a rare condition: a replication of X chromosomes that led to cognitive delays and low muscle tone issues.

"He's had a lot of challenges in his life," says Watkins. "But Spencer has made my life incredible. We have a really good time."

When his wife Christy became pregnant with twins, she received a chromosomal diagnosis that ultimately caused the loss of one twin in the pregnancy due to entanglement. "That entanglement also caused some issues for my daughter, Tatum (15), when she was born," he says.

Doctors were baffled by the chromosomal disorders, since nothing like them were in the family medical histories of Seth and Christy.

"I met with the surgical team, and one of them asked me, 'Mr. Watkins, we see that you farm. Where do you get your water?' " he says.

Watkins says this isn't about pointing fingers. "I can't prove that the things I use on the farm or are in the water caused these conditions," he says. Although he has reduced the amount of chemicals on his farm, he continues to use them.

Still, doctors told Watkins endocrine disruptions can key these conditions, and some agricultural pesticides are endocrine disruptors.

"We have ways to keep them out of the water," says Watkins. "I want to build a farm to the point where no family ever has to hear the question, 'Where do you get your water?' " •

Double-Barreled Value Increase

Seth Watkins boosted revenues by $292.71 per cow-calf unit through cost savings and production increases. Here's how:

• Growing cover crops for grazing cost $37.50 per cow. Yet, this enables him to slice winter feed costs from $150 per cow to $56.25 per cow. Combined with slashing chemical and fertilizer costs, he sliced per-cow costs from $293.90 to $93.75 – a $200.15-per-cow difference.

• On the production side, Watkins has boosted his calving crop percentage from 85% in a traditional system to 93%. (Calving crop percentage is defined as the number of females exposed to bulls to produce the number of weaned calves.) Meanwhile, the pounds weaned per cow exposed increased from 476 to 539.40. These steps boosted revenue per calf from $694.96 to $787.52 – a $92.56-per-calf difference.

All told, the $200.15-per-cow savings paired with the $92.56-per-calf increase ends up with $292.71 in added value per cow-calf unit. •

ing a diverse crop rotation of alfalfa, corn, oats, and barley.

"It worked, but I have well-drifted soils," he says. "They're a little mushy. As soon as I started planting cover crops, though, I saw soil structure come back."

Cattle also key his agronomic strategy. "The golden rule of agronomy is that if you take something off the land, you have to put something back on it," he says. "That's where cattle have helped me close that loop, by grazing cover crops."

Nixing tillage and subbing manure for a share of commercial N applications has enabled him to slice crop input costs $60 to $80 per acre compared with a traditional beef and crop farm, he says.

Consistent crop yields have resulted, with higher production occurring during drought years due to cover crops, he says. Greater soil resilience also spurs timely planting and harvest, he adds.

Meanwhile, geospatial technology has helped him identify less-productive fields in which he has restored prairie and planted prairie strips. Watkins has also started a commercial hunting business on some of these acres.

"Although crops are critical for the economy, we've never filled the local hotels and cafés during corn season," he says.

He also receives payments through the Leadership in Energy and Environmental Design program for preserving hickory trees that house endangered bats. Payments come from firms that make an environmental swap (such as hickory tree preservation) in exchange for property development.

"My cows can still graze those pastures, I get a check, and those companies have achieved gold and silver (environmentally friendly) status from it. It taught me to utilize every resource we have."

TAKING CARE OF THE LAND

"My job is to take care of the land first," he says. "When I do that, other things fall into place. My costs have actually decreased as I have focused on the quality of that land that sustains my family. By working *with* Mother Nature, I'm saving about $200 per cow over a traditional system," says Watkins.

Meanwhile, the changes he has made have also spurred production per cow by $92. Decreased costs and increased production have keyed an increase in value of $292-per-cow-calf unit, he says.

"I've also learned a lot about soil health, and how I can actually build organic matter in the soil," he says.

Watkins says what he has done won't work on all farms, a point with which Jodi DeJong-Hughes agrees.

"I don't think no-till is for everyone," says the University of Minnesota Extension educator. "I don't think cover crops are for everybody. But I think we can all make improvements in how we manage our soil.

$92

THE INCREASE IN REVENUE PER CALF THAT HAS OCCURRED DUE TO HIS SYSTEM CHANGES.

How we do that is an individual journey.

"I respect what Seth has done and how he's willing to go out and share it," adds DeJong-Hughes. "He just really wants farmers to be successful and treat their land well."

Even after all the changes he's made, Watkins still retains the enthusiasm toward farming akin to a rookie shortstop on opening day at Yankee Stadium. He's currently exploring ways to improve grazing via silvopasture. This integrates trees and grazing cattle on the same land. With shade from the canopy, grass can grow longer into the year.

"I mean, the things that Mother Nature does to protect herself are pretty impressive," he says. SF

Gil Gullickson, Executive Editor, Crops Technology, has included crop production in his agronomic coverage for decades. Email: **gil.gullickson@meredith.com** Twitter: **@GilGullickson**