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ENVIRONMENT

From chickens to chestnuts: Where farmers work the old-fashioned way

Remy Schneider

Jono Neiger's Big River Chestnuts farm (in the foreground) stands out amid his neighbors' fields of row crops along the Connecticut River in Sunderland, Massachusetts. Mr. Neiger practices "silvopasture," an old way of farming that integrates livestock farming with tree cultivation.

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SUNDERLAND, MASSACHUSETTS

Looking south from the top of Mount Sugarloaf, in Massachusetts' fertile Pioneer Valley, it is easy to spot Jono Neiger's farm. Amid fields of identical corn stalks in their neatly parallel rows, and the occasional, neatly-cleared pasture, his plot looks a bit scraggly.

Get closer and it's easy to understand why. Rows of overgrown bushes and goldenrod push up to the thin wisps of young chestnut trees, most of which are encircled by wiring or plastic tubes. During the summer, chickens scratch their way down the wide, bumpy rows. Unlike most fields, the ground is not flat. A shaggy mix of grasses, clover, and other ground cover grows between these imprecise alleys of trees and weeds. The chickens themselves are kept in line by portable fencing and rickshaw-like platform coops.

In other words, it does not look like traditional American agriculture. And that is exactly the point, says Mr. Neiger.

WHY WE WROTE THIS

Modern technology has revolutionized food production, but for some farmers, newer isn't always better. Across the U.S., a growing crop of producers are returning to an old way of farming. This story is part of an occasional Monitor series on "Climate Realities."

"This is about not doing monoculture," says Martin Anderton, the farmer who subleases to raise chickens on Mr. Neiger's Big River Chestnuts farm. "We're letting nature work."

Mr. Neiger and Mr. Anderton are practitioners of “silvopasture,” a system of managed grazing, livestock farming, and tree cultivation. It is an old way of doing agriculture, but one that became rare in modern American farming. Now, though, a broad and growing group of agriculture officials, farmers, and climate activists are promoting silvopasture. Not only does it increase soil health and productivity, they say, but it also pulls carbon out of the atmosphere – lots of it.

Rediscovering the potential of the land

Project Drawdown, a nonprofit research group focused on climate, ranked silvopasture as the ninth most impactful climate change solution in the world, above rooftop solar power, electric vehicles, and geothermal electricity. The group estimates that if farmers increased silvopasture acreage from approximately 351 million acres today to 554 million by 2050, carbon dioxide emissions could be reduced by 31.2 gigatons.

Part of this is because of what silvopasture is not. Traditional livestock farming is carbon intensive, thanks to factors that range from landscape changes such as cutting trees for pastures, to the production of nitrogen fertilizers needed for huge amounts of feed. Silvopasture, however, involves planting trees, or at least not cutting them down.

In a silvopasture system, livestock is rotated through different enclosures, not staying in any one place for all that long. This means that the soil maintains – or even improves – its ability to sequester carbon.

Matt Smith, the research program lead with the U.S. Department of Agriculture’s National Agroforestry Center, says silvopasture can also help farmers mitigate the existing impacts of climate changes, from reducing heat stress on animals to lowering the risk of wildfires.

“With longer heat waves, people are trying to find relief for their animals,” Mr. Smith says.

In a silvopasture system, animals can find shade during hot stretches. Farmers also have the ability to make cooler microclimates, or, during colder stretches, give animals a place to shelter.

“These are practices that have been done forever and ever,” says Mr. Neiger, who is also a principal of the Regenerative Design Group, a landscape architecture and design consulting firm in Greenfield, Massachusetts, that works on ecologically-focused projects. “We’re in this process of rediscovery and also figuring out what’s possible.”

Jono Neiger

Wiring protects a young chestnut tree from browsing deer on Jono Neiger’s Big River Chestnuts farm. Mr. Neiger has planted a blight-resistant variety of chestnut tree. The chestnut tree was mostly wiped out in the United States but he and others believe chestnuts could become a new staple crop in the Northeast.

Mr. Neiger started his seven-acre farm in the spring of 2018, in part to be a model for other farmers in the area who were interested in silvopasture. He has planted a blight-resistant variety of chestnut tree. The chestnut tree was mostly wiped out in the United States but he and others believe chestnuts could become a new staple crop in the Northeast. He invited Mr. Anderton to handle the livestock portion of the farm.

Mr. Anderton, who grew up on Maryland's eastern shore, an epicenter for big commercial chicken operations, had managed chickens on other farms. The chance to try out silvopasture was particularly appealing – a way, he said, to grow food and take care of the Earth at the same time.

"To me it just makes sense," he says.

The rise of "carbon farming"

National statistics on silvopasture are difficult to come by. The USDA's census of agriculture does not measure it, and it takes varying forms in different regions. Those who research and promote silvopasture say the label can often be used erroneously – simply letting animals into a woodlot, for instance, does not mean the same as an intentional, portable pasture system that works to maximize the health of both trees and animals.

Still, Kate MacFarland, assistant agroforester with the National Agroforestry Center, says it's clear that the practice is on the rise.

"We're seeing an increased interest in silvopasture all over the country," she says.

In addition to USDA outreach to help farmers set up silvopasture practices, a number of universities have begun to offer grants for farmers and ranchers beginning to use it. Some local and state governments have set up incentives for farmers adopting climate-friendly practices. At his Caney Fork Farms in

Tennessee, former Vice President Al Gore is modeling silvopasture as a regenerative "carbon farming" process. And at the University of Massachusetts' Stockbridge School of Agriculture, lecturer Lisa DePiano says she has more people asking her about her model silvopasture farm and the practice overall.

Still, she says, there is a reluctance among some farmers to shift their practices.

"Asking farmers to change how they're working – that's a big risk for them," she says.

Tree crops are a long-term investment, she points out. Even fast-growing chestnuts will take years to produce. Managing livestock among trees is more intensive than letting cows graze in one pasture for weeks or months at a time.

For years, points out Brett Chedzoy, a New York farmer and cooperative extension specialist with Cornell University, agricultural specialists were telling people to keep their animals out of the forest. He switched his farm to a silvopasture system after spending years in Argentina, where the practice is more common, and where he saw its environmental and productive benefits. Now Mr. Chedzoy helps others implement the practice, and also advises 400-some members on an online silvopasture forum. Next year he is planning a tour of successful silvopasture farms in his region.

"Silvopasture is something that we are going to continue to see grow," he says. "We're finally getting past the cheerleading phase."

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