



HYBRID GRAZING DAIRY



Cook Dairy Farm Pewamo, Michigan

Farm Summary:

Cook Dairy Farm is a type of hybrid dairy grazing operation producing conventional milk as a member of Michigan Milk Producers Association. They graze the dairy cows but also feed for higher milk per cow than many dairy graziers. Like most dairy grazing operations, Cook Dairy Farm captures feed efficiency, but with higher production per cow has greater labor efficiency than most grazing dairies. This combination helps them financially outperform the majority of dairy farms. By keeping a large portion of their land in well-managed pasture they are losing less phosphorus and nitrogen from the farm.



Farm owners: Tom
& Dianne Cook

300
Cows
(plus youngstock)



19,500
Lbs. milk per cow
1.3m
Lbs. milk shipped
per worker



660
Acres
(230 pasture)



4.5
Full-time equivalent
workers



Farm History and Current Infrastructure:

Tom Cook is the fourth generation to dairy farm on their land in Pewamo, MI. He currently farms 660 acres which includes 230 acres of pasture and over 400 acres of cropland on which he grows corn (silage and shell corn), alfalfa, soybeans and small grains, almost all of which is fed to his herd of 300 small Holsteins plus youngstock. The land tends to be a medium clay-loam mix with gentle slopes. The farm has a 300-cow free-stall barn, and a double-8 herringbone milking parlor, which takes them about 5 hours per milking. Cook Dairy Farm is a bit of an anomaly in an area that has become dominated by very large confinement dairies.

“Using grazing on my dairy operation has allowed my profits to stay positive when other dairies my size have had to either get bigger or sacrifice their margins while maintaining a smaller herd size.” – Tom Cook

Approach for Grazing and Feeding:

Tom took over management of the farm from his father in 1999 and started grazing his milking cows, with mentorship from a nearby dairy farmer, in 2001. His approach to grazing is to get high quality pasture forage into his cows, but to also feed them a total mixed ration (TMR) to boost milk production. His 300 cows graze the 230 acres closest to the barn from mid-April through October, getting a fresh paddock each time they go out. During the spring flush, the herd grazes day and night; after that they graze at night only. When in the barn, they are fed a TMR that includes 16 lbs/cow of high-moisture shell corn, 5 lbs of a protein mix, corn silage, haylage, and minerals.

Productivity and Profitability:

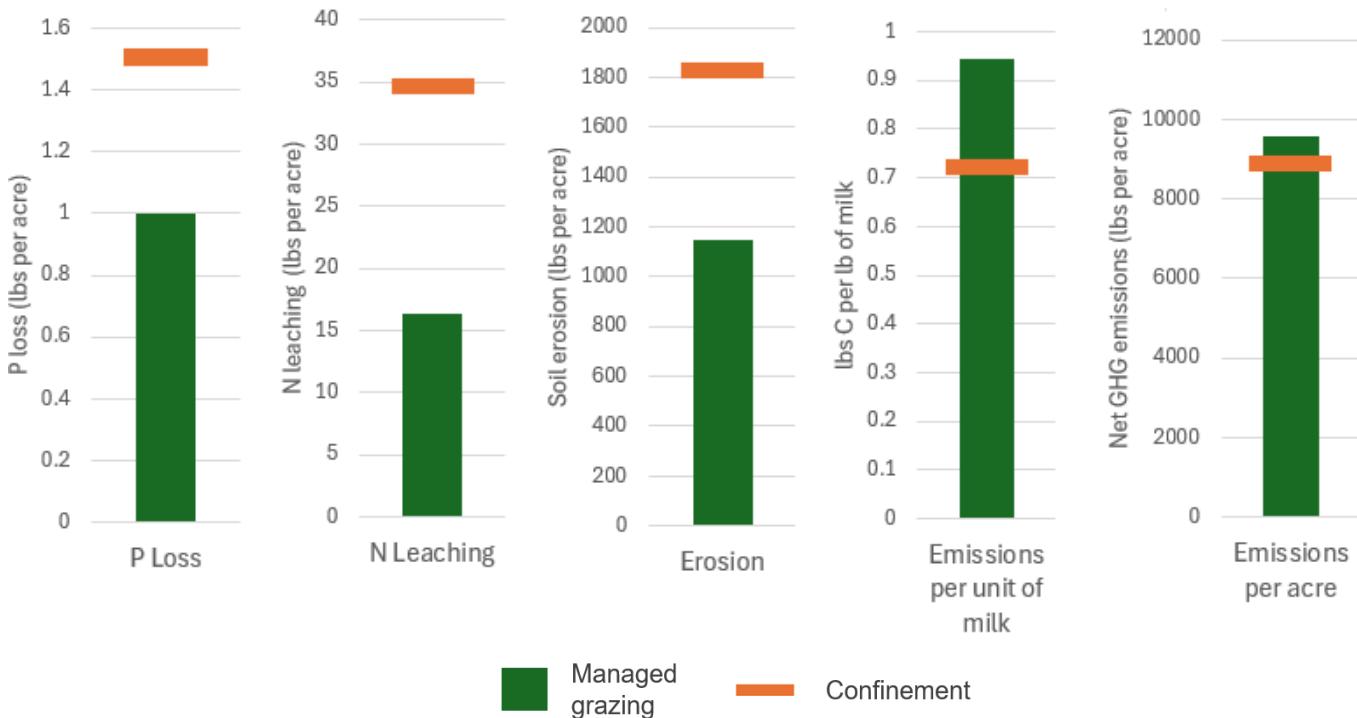
	Cook Dairy Farm	Average Midwest Dairy Farm
Milk per cow	19,500 lbs	24,965 lbs
Milk shipped per worker	1.3 million lbs	1.7 million lbs
Net farm income per cwt	\$5.24	\$2.08
Return on total farm assets	8.8%	5.7%

The average production of Tom's herd is 19,500 lbs milk/cow/year with butterfat of 4.3% and protein of 3.3%. Milk per cow is a metric that the dairy sector puts a lot of emphasis on, but it is not well-correlated with profitability. The total labor on the farm, including Tom's, is 4.5 full-time equivalents (FTE). Each FTE is equivalent to about 53 hours per week. Tom uses electronic collars on his cows that provide activity data and aid in heat detection for breeding, which saves time and labor costs. Labor efficiency is often gauged by milk shipped per FTE per year. Tom's farm ships about 1.3 million lbs milk per FTE per year which is more than most grazing dairies but less than many confinement dairies. To put these results in context, we

compare them to 290 dairy farms in MI, WI, and MN that have completed financial analyses in the searchable FinBin database (finbin.umn.edu). Those 290 farms averaged 24,965 lbs milk/cow and over 1.7 million lbs milk shipped per FTE worker.

The average net farm income (NFI) per hundred-weight (cwt) of milk sold, a very important profitability metric, across 2022 through 2024 was \$5.24 for Cook Dairy Farm. This is more than twice the average from the 290 FinBin farms, which was \$2.08/cwt sold over those three years. The rate of return on total farm assets (ROA) for Cook Dairy Farm was 8.8% compared to 5.7% for the farms in FinBin.

Environmental Outcomes:



Phosphorus (P) loss from agricultural land is one of the largest sources of pollution to the Great Lakes. P loss from Cook Dairy Farm is estimated (using the USDA Integrated Farm System Model) to be 1.0 lbs per acre per year. The model estimates that the same land being managed for a confinement dairy typical of the area would lose 1.5 lbs P per acre per year, or 50% more. This is both because the 230 acres of permanent pasture hold soil and P in place better than cropland, and because Cook Dairy Farm has a better balance of P inputs and outputs than a higher milk producing confinement dairy because of the additional grain and fertilizer inputs that are required.

“We utilize smart supplementation to help fully capture the genetic potential of the herd. We also make effective use of existing facilities, including allowing cattle access to housing during periods of heat stress.”
– Tom Cook



Nitrogen (N) loss from nitrate leaching through the soil profile from Cook Dairy Farm is estimated to average 16 lbs per acre per year. The typical dairy crop rotation on that land is estimated to have an average of 35 lbs per acre of N loss through nitrate leaching. The Cooks' operation reduces N loss from leaching by an estimated total of 11,057 lbs per year.

The carbon (C) footprint of each lb of milk produced is 32% greater than a comparable

confinement dairy. The carbon footprint per unit of milk is sometimes slightly higher in grazing or hybrid systems compared to an equivalent confinement operation because of the higher forage diet, which can increase methane emissions, and slightly lower milk production. The C footprint per acre of land and for the total farm, however, is estimated to be not significantly different than a typical dairy on that same land.

What's Next?

Within the next 10 years, Tom and his wife are hoping to pass control of the dairy to the next generation, if they choose to take it on. Tom would be happy to stay involved as an advisor and helper.

Want to learn more about how adding or expanding grazing to your dairy operation can increase your profitability?

Head to bit.ly/dairygrazing to learn more.

These resources are created with investment from the Great Lakes Protection Fund