

What is a Comprehensive Nutrient Management Plan and why should you care?

A Comprehensive Nutrient Management Plan (CNMP) is a very detailed document describing and addressing all aspects of your farm operation. It includes maps of each field, recommendations (often referred to as best management practices or BMP's) for manure and wastewater management, nutrient management, land management including erosion and soil control information, and an engineering profile of the barnyard and associated structures.

Farmland Environmental, a subsidiary of Dairy One, can provide you with a qualified, credentialed team of agronomists and engineers who will develop a CNMP for your farm operation. We deliver CNMP's and Nutrient Management Plans (NMP's) throughout the Northeast and mid-Atlantic area and work with all species of livestock operations.

A CNMP is often cost shared with the local Natural Resource Conservation Service (NRCS) through the Environmental Quality Incentives Program (EQIP). This funding can minimize or, in many cases, eliminate the need for any out-of-pocket expenditure by the farm. Once a CNMP is developed and approved by the NRCS, the farm can qualify for additional funding projects for things like manure storage, milk house and leachate collection, and barnyard and stream bank fencing.

With a CNMP or nutrient plan update, you can see where to optimize nutrient use and yields throughout the farm. This can result in fertilizer savings, better use of available nutrients and a more environmentally sound plan for land use.



GPS system guides farmers, cut waste

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When road designers lay out new highways, they make use of satellites and on-the-ground positioning systems to guide their work.

A Brighton company, working with a regional dairy cooperative, is bringing that technology to farmers so they can guide their tractors on autopilot to distribute seed and fertilizer according to soil variations, even within the same row.

As Agricultural Consulting Services has packaged it, the precision technology can also lay down tractor rows - whether planting, spraying pesticide, harvest-

ing or spreading manure - so accurately that no more than an inch is left uncovered or overlapping between rows, even when guiding a 30-foot-wide hay mower.

"The bottom line is to help farmers make more money. They'll do that by being precise in how they manage their crops and the things associated with it," said James Zimmerman, general manager of Dairy One Cooperative Inc., the Ithaca-based co-op that has partnered with ACS to make the technology available throughout the Northeast and parts of the Midwest.

The joint venture is called Farmland Environmental, a name suggesting the benefit for the rest of us: If farmers can be more precise with pesticide and manure spreading, they'll be releasing fewer unwanted chemicals and nutrients into the environment.

"It's not good enough to grow good corn. You've got to grow corn in an environmentally acceptable way," said Rich Wildman, president and one of three owners of ACS. "It's causing the business to really, really change."

Zimmerman said the technology is being used by a handful of farmers in New York.

Skip Hardie, a dairy farmer near Ithaca, is one of them. He predicted the technology will have a variety of competitors within three years as more farmers become aware of its benefits.

“I think in 10 years people will look at this and think, ‘How did we farm without it?’” Hardie said.

Only recently have technological advances allowed the precision agriculture techniques to develop, Wildman said. Advances in tractor automation, global positioning system technology and cell phone technology, along with traditional sciences such as agronomy, were all needed.

“Just like your car, tractors are basically running on computers,” Wildman said. Another part of the precision puzzle came from base stations around New York and some other states that transportation planners use to triangulate GPS signals for greater accuracy. “This is a proven technique to the road industry and the surveying industry. What we’re doing now is bringing it to agriculture,” Wildman said.

A final piece was a better GPS, which Wildman believes is the Leica mojoRTK, a base station and console farmers can use, something like a home computer and a car radio, to channel programmed instructions to the tractors.

ACS computer programmers, environmental planners and soil scientists created the program based on 30 years of farming expertise.

Break from tradition

Using such a system seems light years from the way farmers have always plowed. “Traditionally you’ve driven down the field and you eyeballed where you were going and you hoped you were accurate,” Zimmerman said.

But Hardie noted that after hours of plowing, the accuracy of tired tractor operators drops off. The GPS/automation technology can take the guesswork out of driving.

In addition, a tractor can go faster on GPS-directed autopilot and a single tractor operator can cover more acreage. For Hardie, that has meant one tractor operator can cut his 700 acres of hay in two days, a job that has taken three operators on three tractors in the past.

“The quicker you can mow our hayfields the quicker we can harvest them, the more uniform the food is for our cows,” Hardie said.

Reluctant to jump in, Hardie first invested in an inexpensive GPS system that he quickly discarded as useless. He then tried a more advanced system that mostly succeeded in pointing him to the current one, which has cost him \$20,000 for a single unit. He hasn’t calculated the savings yet, at least in part because he’s still experimenting with ways to use it.

“It’s an expensive piece of technology, so what I’m trying to do with it is to maximize its use,” Hardie said.

Actual cost will depend on many factors, Wildman said, but he said farmers can start out with a few dollars per acre.

Environmental costs

The new technology may provide hidden savings by helping farmers avoid potential fines and environmental regulation compliance costs. While many dairy farmers are suffering from low milk prices and other effects of a down economy, Wildman said, the federal Environmental Protection Agency has been relentless in its enforcement of regulations on pollution caused by manure from dairy farms.

“If you apply manure to that field, you have to do it right and record what you did,” Wildman said, which the Farmland Environmental system does.

Developing new products such as this one, and trading on decades of farming expertise has swelled ACS from an eight-person operation 10 years ago to 42 people now. The firm’s main office is in Brighton, but it has a satellite office in Groton, Tompkins County, and is planning on offices in the Midwest and Vermont. Wildman said revenue was \$3.8 million in fiscal 2008 and the company is predicting fiscal 2009, closing at the end of September, will see revenue of \$4.1 million.

DCARTER@DemocratandChronicle.com