

## **Peters Dairy: In Transition**

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Peters Dairy in Sennet, NY has thrived and grown since 1951. Over four generations, the Peters' have created a beautiful dairy farm with a relaxed, family-oriented culture full of good-natured ribbing and a great combination of fun and serious farming. Owner Don Peters never seems too busy to sit and talk, eat lunch with his guys, give his two sons, DJ and Nick, a rasher of a hard time (with a proudness in his eyes that is undeniable) all while managing their growing operation. As far as the "art of farming" goes, they have a mastery for economically growing excellent crops and healthy cows. Recent farm expansion has brought more focus on using data to extend their "art of farming" into a larger-scale operation.

The focus on data for management at Peters Dairy has been gaining momentum over the past few years. In 2015, the Peters had a new 60 cow rotary parlor installed. The rotary parlor has generated data that Don uses to tweak everything from milking techniques to milk weights, and even parlor water use - changes that increased milk production by 15 pounds per cow in one year.

Recently, the farm started using activity and rumination collars, which have provided them with more information with which they could make improvements to the farm's reproduction program. The most recent preg check rate was 93 percent.

Four years ago Peters Dairy started a program that monitors nitrogen use on corn using tools like ISNT soil tests, tissue tests, and Adapt-N nitrogen models. One tool in the Peters program that has proven useful this past year is the Corn Stalk Nitrate Test (CSNT). Through the N management program, a CSNT baseline was established by testing about 20 fields each year (research at Cornell suggested 20 fields per year is a good predictor of what whole farm CSNT results would look like).

Results of the CSNT program are shown in the two graphs. In years 2013 through 2015, the top graph shows that the farm's nitrogen on corn program was doing a good job of getting enough N the corn. There were few fields that were "low" on N. Most of the fields sampled fell into the "good" and "excess" categories. Most of the fields with excess N could use some fine-tuning.

As shown in the bottom graph, 2013 through 2015 established a pretty stable baseline of N management on the farm. Then, independent of this testing program, changes were made in 2016 to use a different N protection product; instead of Super U the farm chose ESN for pre-plant nitrogen protection. The Peters noticed that fertilizer loads looked really different- so they grabbed some samples to discuss later with the management team. When CSNT results came back in the fall of 2016 they caused the farm to review their N management changes in the past year; the switch to ESN and the unusual fertilizer loads were identified as the only changes to the program. The 2016 CSNT results show a larger proportion of fields in the 'low' CSNT category (not enough nitrogen in the crop) and

yields were depressed. The lower yields were initially blamed on the drought, but the CSNT results brought that into question. Normally CSNTs are elevated during a drought (and we did see this trend in statewide 2016 CSNTs). The fact that they were not elevated at Peters Dairy called into question the ESN product as well as the actual fertilizer material that was delivered to the farm.

The CSNT monitoring program was able to find a stable baseline for the farm (2013-2015), then to identify changes (2016). Research done at Cornell has shown that ESN has the potential to hang on to nitrogen longer than Agrotain and SuperU, perhaps in this case too long. Data is still being collected on the fertilizer samples, but the CSNT data certainly brought up important questions as to why the material was so different looking from truckload to truckload. Regardless of the outcome, CSNT monitoring shed light on an issue that allowed the farm management to focus energy on an important topic and will influence future decisions - the ultimate goal of any measurement and monitoring program.

