



## CORNELL NWNYS PROGRAM HIGHLIGHTS JANUARY – MARCH 2016

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Genesee, Livingston, Monroe,  
Niagara, Ontario, Orleans,  
Seneca, Wayne, Wyoming,  
& Yates Counties*

### Corn Congresses Keep Grain Producers on the Cutting Edge

The Western NY and Finger Lakes Corn Congresses featured a wide range of precision agriculture topics to keep growers up-to-date on the latest cutting edge technologies in corn production. Topics included: Drones: Update on Applications and Regulations, Inter-Seeding Cover Crops into Corn, 360 Y-Drop™ Nitrogen Sidedress Application System, and Optimizing Variable Rate Seeding Technology. Invited speakers also educated producers on the latest pest management concerns that could affect NY. Dr. Dean Malvick from the University of Minnesota presented, “New Corn Diseases on the Horizon”, and Dr. Dwight Lingenfelter from Penn State University spoke on, “Horseweed and Waterhemp Resistance Status & Management”. Weed resistance will become a huge issue for NWNYS producers as we now have confirmed two weed species resistant to glyphosate in the last year. If not managed correctly, herbicide costs could triple and we could lose glyphosate as a management tool forever.



Almost 600 producers, consultants and agri-business representatives from WNY attended the two-day event in Batavia and Waterloo. Fifty-two exhibitors participated in our trade shows to update growers on the latest technologies, management tools and crop protection products. Many growers commented on the quality of the program and speakers, timeliness of these topics and beneficial advice in a year of low grain prices.

### Spanish Language Dairy Services: A Valuable Resource for Producers

Over the past four years the NWNYS Team has expanded the scope of the Spanish Language Dairy Services program by visiting farms across the region to provide Spanish-language training to dairy workers. Often-requested training topics include milker training, mastitis prevention, calf care and calving assistance. In addition to in-person training, written translation of standard operating procedures (SOPs) and employee handbooks is often provided. Farms also frequently request assistance to translate and facilitate during employee meetings and evaluations. In 2015, the Team provided 108 farm trainings, meeting facilitations and SOP translations. The majority of these trainings occurred on 20 farms in 6 counties.



Farm managers and employees alike often comment on how valuable these services are. First and foremost, the opportunity to be able to communicate more readily with their employees goes a long way in improving understanding between managers and their employees. The majority of on-farm trainings focus not only on *how* employees are expected to complete tasks, but also on *why* employees are expected to complete tasks in a certain way. Once an employee understands that *why*, they are much more likely to adhere to SOPs.

Through a collaboration with the New York Center for Agricultural Medicine and Health (NYCAMH), the Team is also able to offer farm safety training. In 2015, 36 safety trainings occurred on 29 farms across 7 counties. A total of 572 people were trained on safety topics including bunker silo, confined space and chemical hazards, machinery and tractor safety and safe animal handling measures. As the Occupational and Safety and Health Administration’s (OSHA’s) Local Emphasis Program on dairy farms is ongoing in New York, farms are eager to improve their safety programs not only to keep employees safe, but also to avoid the fines and headaches that go along with unannounced OSHA inspections.

## Entry Point Precision Agriculture Technology: Benefits and Costs for Decision Making

With respect to crop production, the PrecisionAg Institute defines precision agriculture, or precision farming as “managing crop production inputs on a site specific basis to increase profits, reduce waste and maintain environmental quality.” Greater accuracy with respect to rate, timing and/or location of input use, including machinery operations, can lead to improved economic and environmental results. The Field Crops Advisory Committee for the NWN Program identified a range of precision agriculture topics as high priority to help direct applied research and extension work of the program. One of the first topics addressed by the team was the benefits and costs associated with satellite guided steering technology, auto steer.



Auto steer technology helps to reduce operator stress and increase work quality leading to less overlap (costs of production effects). To realize benefits a farmer would invest an additional \$12,000 on average for auto steer versus base, traditional manual steering.

To provide farmers, their advisors, and research and extension staff with information for decision making on auto steer technology, the team worked with Erick Haas, Cazenovia Equipment Company, to answer the following questions.

- What expected changes in profit can be attributed to auto steer when compared to manual steer?
- What expected net present values and rates of return can be attributed to auto steer when compared to manual steer?
- How sensitive are results to changes in key variables: expected acres affected, before and after overlap?
- What factors, considerations omitted from the analysis need mention?

Approximately sixty attendees at a 2016 NY Farm Show event focusing on precision agriculture learned the following based on the questions above.

- Expected change in profit attributed to auto steer is positive over a range of expected values for key factors (overlap without and with auto steer, acres affected, and others)
- Net present value analysis yields similar favorable results
- Some benefits to the operator are difficult to quantify, but valuable – reduced stress, reduced fatigue
- Take advantage of analysis provided by equipment professionals, advisors etc. when making decisions

Producers and their advisors can develop and apply analyses that will likely find auto steer attractive under many scenarios. Two benefits attributed to auto steer mentioned frequently by producers and their advisors are reduced stress and reduced fatigue. Combine these benefits with expected favorable economic and financial impacts, and auto steer has the potential to be a beneficial change in practice for farmers, one that farmers will likely want to evaluate for its ability to achieve improved results.

## Manure Gas Safety On Dairies

There are over 270 dairy farms in Yates County with most owned and operated by Mennonite families. Many use gypsum products in the dairy barns, a bedding product and an anti-slip agent for use in the alleyways. These products are made from recycled materials making them very cost-effective for the farmer. The gypsum products are high in calcium and sulfur, minerals that dairy farm fields need for crop growth. When the material passes through to the farm’s manure storage, the extra sulfur is converted to hydrogen sulfide gas by anaerobic bacteria. As hydrogen sulfide gas is heavier than air and hugs the ground, children are most at risk from the heavier than air gas.



After serious and sometimes fatal accidents in surrounding states, a volunteer fireman and dairy farmer was concerned for farm families’ safety. A safety grant was procured through the Agricultural Safety & Health Council of America by Yates County Soil & Water Conservation District, Yates County Office of Emergency

Management and Cornell Cooperative Extension's NWNYS Team. This grant was one of 11 granted in 2015 across the country. This grant had three different components: purchase high-range gas meters, at 50% cost, for three fire departments in the county; purchase 25 single-gas hydrogen sulfide gas monitors, at 50% cost, for use by the farming community and custom manure haulers; educational events aimed towards farmers, custom manure haulers, and fire departments.

The education and outreach component of this grant application was successful with several additional requests for training sessions. The initial application goals were two training sessions, one for farmers and manure haulers, the second for fire departments. In response to the success of the initial training session, four more educational sessions were held: Yates County EMS advisory board; manure pit safety training for farmers, manure haulers, and fire departments featuring Dan Neenan with National Education Center for Agricultural Safety; manure agitation on-farm training session with gas meters finding "hot spots"; and manure gas with gypsum bedding dangers to the Yates County Sheriff's Department. All of these educational programs have been well received. Calls from local counties, veterinarian offices, and other interested parties continue to come in asking for presentations. Approximately 208 people learned about hazards of manure gases through this project. A quote from one of the farmers after hearing about the project was, "Keep up the good work, you are saving lives!"

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