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Nitrogen Optimization Pilot Program: Lessons From Year 1

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What is NOPP

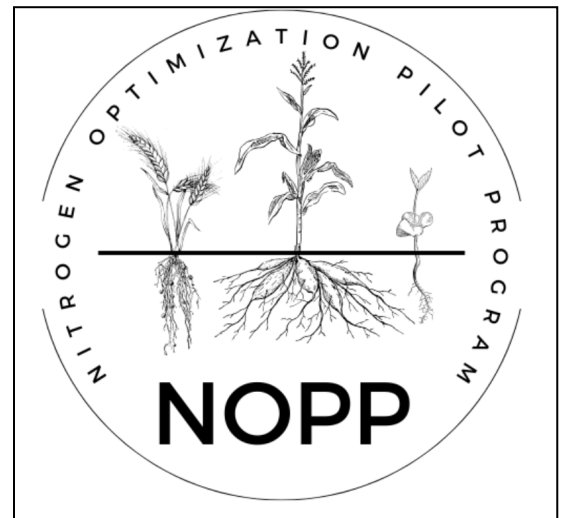
The Nitrogen Optimization Pilot Program (NOPP) is a grant program funded by the Wisconsin Department of Agriculture, Trade, and Consumer Protection (DATCP) that encourages Wisconsin agricultural producers to conduct on-farm research pertaining to the use of commercial nitrogen (N) fertilizer. In addition to 19 other projects funded by the 2023 grant cycle, Cranberry Creek received a \$50,000 award to study N application timing in Wisconsin cranberry marshes. The main goals of NOPP are to answer producer-specific N research questions, improve commercial nitrogen management efficiency across Wisconsin, reduce nitrates in surface- and groundwater, and improve farm profitability.

NOPP in Cranberries

With 2023 being the first year of NOPP projects, many row-crop producers chose to research N rate questions. Because cranberry growers already match nitrogen rates to plant needs within a very tight dose-response window, doing rate research within NOPP would be redundant.

An area of nitrogen management that is less well understood, and thus would benefit from grower-led research, is nitrogen application timing.

Cranberry growers apply crop nutrients in small, spoon-fed doses—monitoring crop response and applying only what cranberry vines can uptake (and translocate to the canopy to enhance photosynthesis and, thus, fruit production). Many growers apply one small dose per week—but the



starting time of nutrient application varies from grower to grower. At the earliest, some growers begin their nutrient application program at 10% in bloom, while others wait until the vines have set fruit, using 50% out of bloom as an application threshold. Many growers use other thresholds between those two points.

To evaluate the impact of N fertilization timing, Cranberry Creek tested 4 treatments based on the timings of the first N fertilization application during the growing season: 10% in bloom, 25% in bloom, 25% out of bloom, and 50% out of bloom. Each treatment received the same amount of N and the same number of application passes—the only difference is when the fertilizer application schedule started. Mullica Queen beds and Stevens beds are both hosting trials with these four start dates. (Both Mullica Queens and Stevens beds received Cranberry Creek’s Nutrient Management Plan indicated total nitrogen amount specific to the variety.) Tissue tests, soil tests, in-season observations, and final yield will be compared across these four treatments.

What We’ve Learned So Far

Visual observations in-season suggest that the operating window (10% in bloom to 50% out of bloom) for 2023 was quite wide, and some treatments had some vegetative overgrowth at the beginning of the study, however as we approach harvest those differences are not visually distinguishable anymore. Based on visual results this year, we suggest that future research projects have a more narrow scope. Cranberry Creek’s attempt to test the total range of timings in use in Wisconsin resulted in a wide spectrum of growth patterns. We suggest that future projects evaluate a range that the trial-host grower would actually consider, on the host marsh.

Tissue test results and yield results for 2023 are being collected and will be analyzed following harvest.

What’s Next

Many kinds of projects will be considered. Have you been curious about using drones for fertilizer applications? Wondering how fall fertilizer applications might impact your overwintering success? The NOPP program is a great opportunity to get UW rigor and DATCP financial support to test your ideas, and share the information with Wisconsin growers.

NOPP Application and Request for Proposals (RFP) are intended to be released in October 2023 with applications being due in January 2024 and grants being awarded in February/March 2024. Some of the program criteria may not apply to perennial crops like cranberry so, we encourage interested applicants to reach out to NOPP staff to discuss your idea! More information, soon-to-be confirmed dates, and contact details can be found at

<https://datcp.wi.gov/Pages/CommercialNitrogenOptimizationPilotGrantProgram.aspx>.

Finding Harvest Truck Drivers in a Tight Labor Market

By Jim Versweyeld

The U.S. agriculture industry continues to deal with a widespread farmworker shortage as a result of many factors, including complex immigration laws and a declining interest in agricultural employment. As a result, the gap between available jobs in agriculture and people to fill these jobs is widening.

For Wisconsin's cranberry industry, shortages in a related industry, namely transportation, may compound the problem and drive the need for creative recruiting solutions. Here are some factors to consider as you plan to line up harvest truck drivers for your farm.

According to the American Trucking Association (ATA), while 2023 showed a slight ease in the post-pandemic driver shortages, that relief is not expected to last long. Projected consumer and freight demand is expected to increase into 2024, exacerbating the challenge.

What is driving the driver shortage? The American Journal of Transportation reports high driver demand coupled with a rapidly retiring workforce. Globally, there are 5 times as many truck drivers aged 55 and older as younger drivers. The long-term outlook, according to researchers, estimates by 2030 a shortage of 160,000 drivers nationally.

While these trucking industry statistics are certainly alarming, could they point toward recruiting opportunities for your farm?

- Exit interviews with retiring truck drivers cite difficult work/life balance and the growing weariness of long hours on the road and sleeping in rest areas or low-end motels as primary reasons for quitting. Could your local-haul farm truck jobs offer some appeal to those tired of long-haul trucking? Could you offer part-time seasonal positions with flexible work hours that might appeal to recent retirees?
- Technical Colleges that offer degrees in Diesel Mechanics or similar majors may have students looking for part-time experience, if you're willing to accommodate class schedules. Could you offer enough flexibility that your farm driving opportunities would appeal to college students? For example, could additional hoppers or waiting semis expand the trucking day beyond the daylight harvest crew operations, and thereby accommodate student course schedules?
- Trucking industry upheavals (like Yellow Freight*) have resulted in mass layoffs and worker skepticism about job security. Could your efforts towards positive workplace culture and your farm's long-term stability be appealing to drivers looking for a change?
- Benchmark to make sure your pay rates are competitive. According to online job board, Indeed, harvest truck drivers in Wisconsin expect \$17.50-\$21.50 (ave. \$19.57) per hour. Experience, clean driving records, and CDLs will often drive this wage expectation higher. Push a pencil and see what makes the most sense for your farm. Some drivers may consider per load or "cents per mile" arrangements.

Recruiting during a busy harvest season can certainly be daunting! Remember to leverage your network and think through all the reasons working on your farm could be the perfect opportunity for the right candidate!

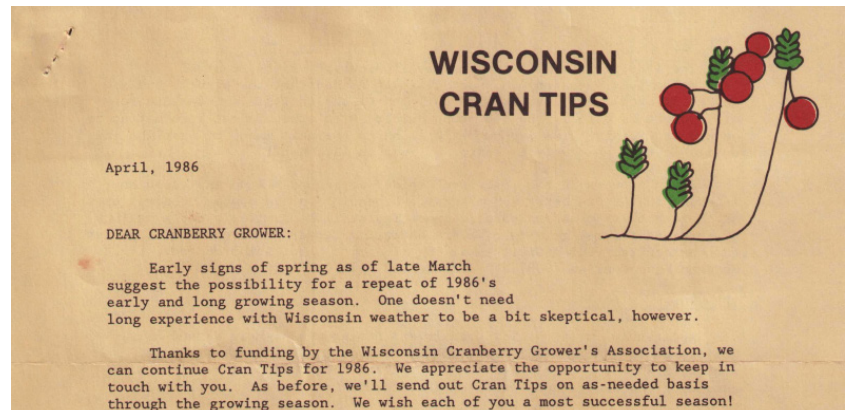
**Supply chain icon, Yellow Corp, filed for bankruptcy in July 2023 after nearly 100 years in business. The resulting business closure led to over 30,000 worker layoffs.*

Expanding our Cranberry Crop Management Archives

By Allison Jonjak

The Cranberry Crop Management Journal concludes its 36th volume with today's issue, but until this year, only volumes 23-26 were available online. Volumes 1 - 26 contain not only cranberry history, but also the results of research and trials that were unpublished elsewhere. In an attempt to track down research work from a year prior to 2010, a crack team assembled to make all prior Cranberry Crop Management Journals (as well as

its predecessors, the Cranberry Crop Management Newsletter, and Wisconsin Cran Tips) available to growers. Articles are still in the process of being scanned and uploaded, but we wanted to make growers aware of the resource now, as the project will be completed within a short few months.



The 'modern era' of CCMJs can be found here: <https://fruit.wisc.edu/cranberries/cranberry-crop-management-newsletters/>

The more recent past, from 1993 to 2008, is available here: <https://fruit.wisc.edu/cranberries/cranberry-crop-management-newsletters/cranberry-crop-management-journals-archive-1993-2008/>

And older issues, beginning with Cran Tips, can be found here: <https://fruit.wisc.edu/cranberries/cranberry-crop-management-newsletters/wisconsin-cran-tips-archive/>

Thanks are owed to:

- the archiving work of Mackenzie Ryan¹ at the Steenbock Library, for scanning and assembling these documents
- the publishing work of Josie Russo², for organizing and uploading them
- Mike Bretl³, for maintaining and sharing physical copies of CCMJ's from 2007 and 2008
- Russ Rifleman⁴, for maintaining and sharing physical copies of Cran Tips, Newsletters, and CCMJ's from 1985 through the beginning of our archive

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Grower Updates

Flying Dollar Cranberry

By Seth Rice

Hello everybody! Well it's been a whirlwind of a year so far to say the least. The drought conditions continue to be a major role of most of the region here in central Wisconsin. Some growers are to the point of having to start the main harvest early because of water levels. The running of wells and lift pumps are a common sight around here. From what we are hearing the crop overall looks good....so far. Growers have worked really hard to get to this point to get here at harvest time. It's a stressful time but also a time to see the beauty of things changing.

It's also been a bumpy year with the changes with Diazinon to growers having Flea Beetle issues this year especially. Special thank you to everyone at WSCGA as well as UW Extension for making everything come together and helping out where they can. Also happy retirement to Tom as we are in this transition, he has been doing this job longer than I have been alive.... literally. I wish a happy and safe harvest to everybody! See you next year!

Vilas Cranberry

By Jeremiah Mabie

Hello everyone, I hope that you are all enjoying this cool weather and the changing of the seasons! I know it's my favorite time of the year... harvest! Several marshes up north are off to the races on the early varieties, including me. General complaints heard around are the size of fruit and smaller yields than last year, but overall average or above. Seems that budding is looking good across the marshes so that's promising.

Everyone seems happy as it's only the first week of no sleep, haha! Moisture is always welcomed but this weather certainly has been enjoyable for harvest. Happy Harvest everyone! Here's to a safe and bountiful harvest!



Update from the Wisconsin Cranberry Research Station

By Wade Brockman

With harvest fast approaching we, like many growers, are in need of water. Harvest may be slower this year due to flooding constraints. Warm overnight temperatures have slowed the color process down somewhat, but still looking at harvest the first week of October. Good luck to all the growers out there.

Below is a photo of Allison Jonjak harvesting yield plots for the Cranberry Screening Program.

