

UF/IFAS Plant Nutrient Oversight Committee Meeting

Meeting Minutes

May 1, 2025

Attendees:

Michael Dukes, Rob Gilbert, Jay Ferrell, Saqib Mukhtar, Chris Gunter, Lincoln Zotarelli, Cheryl Mackowiak, Sanjay Shukla, Ali Sarkhosh, Lakesh Sharma, Samira Daroub, Eric Simonne, Hardeep Singh, Rao Mylavaram, & Jerry Fankhauser

Meeting Summary

- There was much discussion about specifics with “new” interim rate recommendations. When does the interim rate go on the clock and what if no permanent rate recommendation is approved after two years were two issues debated by several on the committee.
- Peach nutrient management rates per area usage have been changed in two pending EDIS publications, going from pounds per acre to pounds per tree.
- Sufficiency range for nutrients in peach production were also updated based on a review of peach nutrient publications from around the world.
- Nitrogen (N) rate studies in cotton show that N use efficiency was reduced significantly beyond 135 pound per acre.
- Using a yield based goal approach, the recommendation is 45 pounds of N per bale of cotton.
- Results to date point to a N rate recommendation of 280 pounds per acre in field corn. Work continues on evaluating study data and firming up conclusions with publications coming soon after.

Opening Remarks & January 14, 2025 Meeting Minutes

Associate Dean of Extension and Interim Chief Operating Officer for the UF/IFAS Plant Nutrient Oversight Committee (PNOC), Michael Dukes, opened the meeting at 10:00 am and showed all the meeting agenda which included multiple presentations and other topics. The January 14, 2025 meeting minutes reviewed and discussion ensued over the interim versus more permanent rate recommendation language – essentially there will be a two-year window and then the rate would automatically sunset if no action was taken. A vote could be taken to reaffirm for one more year. This process would give more time to learn more from ongoing research. Cheryl Mackowiak questioned the two-year length... could it be shorter? Michael Dukes responded that it could be less. Samira Daroub wondered what the outcome would be if the committee does not accept a proposed rate – would stay with the old rate or provide guidance from recommendations from other states? This has been done with the P rates when evidence from the grower(s) is/are provided. Michael Dukes asked for approval of the minutes with the revisions but not with current discussion points – a motion and second were made and the minutes were approved by general consent. Michael then reaffirmed that PNOC has wrestled with aspects of what is an interim rate and then a more permanent/approved rate but for the sake of clarity, it is good to have a written definition of an interim rate.

Peach Nutrient Management Guidelines - Update

Michael Dukes then asked Ali Sarkhosh to lead a discussion on changes made to his two EDIS documents on peach production. Ali took comments he received from the last PNOC meeting where he presented proposed guidelines for nutrient management in peaches and included them in two documents. He changed the rate per area usage in these documents – going from pounds per acre to pounds per tree. Sufficiency range for nutrients were also updated based on a review of peach nutrient publications from around the world. Samia Daroub then questioned the use of exact poundage versus rounding up or down or using grams per tree. Ali responded that he add can provide a grams per tree amount in parenthesis. Samira also recommended that he be consistent in the documents with the use of N, P₂O₅, and K₂O based guidelines. With no other comments, Michael Dukes asked for a motion to approve with suggested changes. Saqib Mukhtar made the motion and following a second by Samira Daroub, further discussion ensued on the EDIS process with the motion at hand being approved by general consent.

Cotton Nutrient Rate Recommendation Presentation

Michael Dukes then introduced Hardeep Singh and asked him to present his findings on nitrogen studies with cotton. His PowerPoint presentation can be found on the PNOC Teams site (see Documents > General > PNOC Meetings > 1 May 2025). Rate studies were needed to better understand current N needs in cotton given that the approved N rate is 40-45 years old. Hardeep's presentation summary showed that cotton lint turnout decreased with increasing N rates and the quality of lint did not improve with increasing N rates. Nitrate leaching increased when the amount of N applied exceeded 135 pounds per acre. Using a yield-based goal approach for N rates, Hardeep determined that 0.09 pounds of N per 1 pound of cotton (45 pounds of N per bale) is the best recommendation for Florida cotton production.

When viewing the draft EDIS publication, Saqib Mukhtar wondered about the rate of 90 pounds per acre leading to no lint yield decrease but it also notes that the 105 pounds per acre N rate is the overall recommendation. Hardeep responded that the 105 pounds per acre rate was determined based on compiling data from all five study sites and he and his team are still working on publications derived from this work. Samira Daroub noted how well this research was structured but did recommend that numbers be rounded up or down for clarity. She also agreed with Hardeep that, when doing on-farm studies, compensating growers for yield loss is important but finding funding to do so can be difficult. Cheryl Mackowiak then asked what is the rate that you are recommending... does it include the irrigated study? Hardeep said that it did due to no significant difference with dryland versus irrigated production and did include data from all five sites. Michael Dukes then reinforced to all that he has been advising all researchers to think about a yield based recommendation. The reason for that is that UF/IFAS has used single rate recommendations and in doing so, it is more of a guideline given production and management variability. The grower's individual yield goal is a conversation that will be had with FDACS-OAWP and not UF/IFAS. Rao Mylavarampudi wondered why the recommendation has to be 105 pounds N per acre – past studies showed rates closer to 90 pounds per acre N and the higher rate is a lot to apply at one time. Hardeep responded by noting that the previous crop (for a N credit) and type of soil can and does affect rate selection for growers.

Michael Dukes then talked about what action on this proposed rate recommendation. We could consider a N rate recommendation change today or just wait until PNOC meets again in September. There is no draft EDIS publication at present. Samira Daroub made a motion with a second from Saqib Mukhtar to approve an interim N rate recommendation in cotton based on yield goal – motion was approved by general consent.

Field Corn Nitrogen Rate Recommendation Presentation

Michael Dukes then asked Lakesh Sharma to give his informational presentation on N studies in field corn. His PowerPoint presentation can be found on the PNOC Teams site (see Documents > General > PNOC Meetings > 1 May 2025). N rates in field corn are quite outdated with newer genetics and management system coupled with some environmental concerns. Objectives for the studies included updating N rate recommendations for irrigated field corn and also assessing N Use Efficiency (NUE) at different rates. Lakesh Sharma's data and results pointed to an overall N rate recommendation of around 280 pounds per acre in irrigated field corn. Michael Dukes then thanked Lakesh for his presentation and noted to all that it was mostly informational ahead of publications later this year.

Michael Dukes then noted that Rao Mylavarapu has submitted an EDIS publication titled *Optimizing Nitrogen Management for Sustainable Tomato Production in North Florida* and it has been approved and now only awaiting formal PNOC approval. Samira Daroub asked about the lack of data in the publication with Rao responding that the focus of this publication was long term work with controlled-released fertilizers (CRFs) – this EDIS publication will reinforce that CRFs are a good BMP for plant nutrient delivery and uptake. Saqib Mukhtar added that this EDIS publication on use of CRFs highlights that such use is a recognized BMP by FDACS-OAWP. This fact should be added in the conclusion section. Michael then encouraged all to review this document over the next month with comments then going to Rao – once edits are made, this document can be approved as soon as this September.

Michael Dukes then worked to wrap up the meeting by noting upcoming meetings. Two are scheduled in September with maybe one later in the fall (November 4, 2025?) being in-person. The location of the in-person meeting could be PSREU-Citra or MREC-Apopka. With no clear consensus for meetings later this year, Michael said that he will follow up with all with an email in order to offer fall meeting dates and locations.

Michael Dukes then thanked all for their time and input and the meeting was adjourned at 12:00 pm.

Submitted by: Jerry Fankhauser