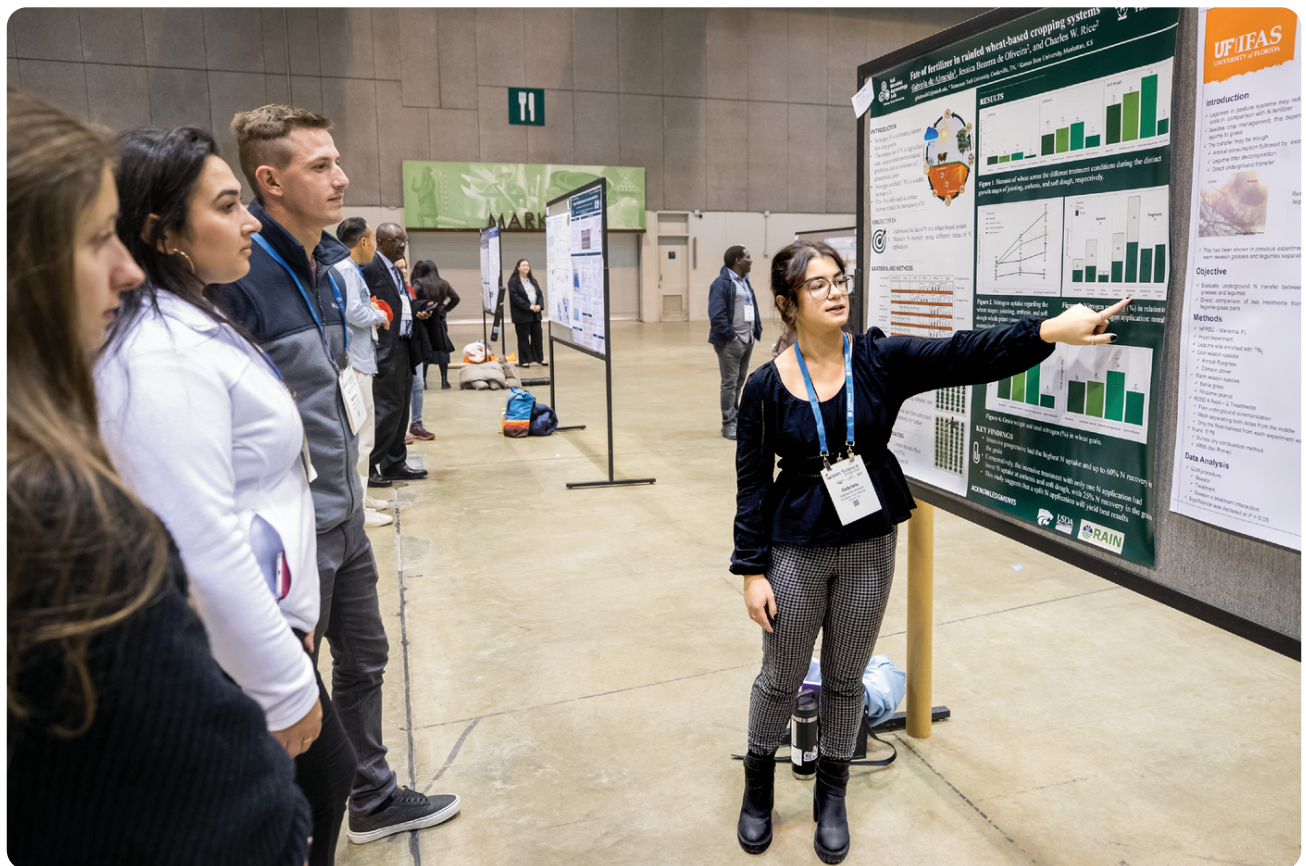




A Roadmap for Excelling in Conference Presentations

By Ravi Teja Seelam, University of Georgia; and Jessica Bezerra de Oliveira, Kansas State University

| April 17, 2024



Typically, on the day of the poster session at the ASA, CSSA, and SSSA Annual Meeting, you will be stationed near your poster for about two hours, fielding questions from various

attendees.

In the world of academia and professional development, the ability to deliver a compelling presentation is a skill that goes beyond mere communication; it's an art form that includes a scientifically curious mind. It is more than just fluency; it is about captivating your audience, leaving them informed, inspired, and even transformed by your words. Engaging in competitions offers a unique platform to hone this skill, providing invaluable experience and exposure. But beyond the recognition, why do we strive to present at conferences like the Annual Meeting of ASA, CSSA, and SSSA? It is about sharing our research, and our discoveries, with a community eager to absorb and debate our findings. As presenters, our responsibility extends beyond simply conveying information; it is about crafting a narrative that resonates, ensuring our audience grasps the significance and implications of our work. Therefore, how do we prepare for such pivotal moments? It requires meticulous planning, thoughtful organization, and most importantly, a genuine passion for our subject matter. Here, we delve into the essential elements that define a good presentation and discover the strategies to captivate any audience.

Crafting Impactful Presentations: Slide Design and Organization

Preparing for a five- or 15-minute presentation requires careful planning and organization to ensure that you effectively address your message within the chosen time. For an efficient presentation, limit yourself to a few words or extensive phrases; even using bullet points, stick to a few per slide. This will help you to keep your slides

concise and focused while avoiding overwhelming your audience with too much information.

Presentations can be made less effective by the actions presenters take, for example, if they feel nervous when speaking, or by the choices they make when designing slides, for example, if they are not skilled in using presentation tools, such as PowerPoint and Canva. Although these tools seem easy to use, making good presentations with them requires new skills and knowledge.

Canva is one of several tools that can be used to prepare a high quality presentation. It makes design easy and provides plenty of presentation templates to use right away that are simple to customize for your organization and presentation objective.

When getting your slides ready for academic purposes like the ASA, CSSA, and SSSA Annual Meeting, consider which aspects of your research are significant and pertinent. Make sure your hypothesis, objectives, and key findings are clear and easy to find. Do not try to put all your results or figures on the slides—select one that you think is the most relevant, and stick with it.

Speak With Impact: Tailoring Your Message for Timely Talks

We can spend hours and hours talking about our research, but that is what makes this type of presentation challenging. Firstly, define your purpose: identify the key purpose of your presentation, and select details that will aid in conveying your message. These details should be the most important aspects of your topic that you want your audience to remember. Create a plan for your presentation: organize your speech into an introduction, body, and conclusion.

Introduction: Start your presentation with a compelling hook to grab the audience's attention. Introduce your topic, state your main points, describe why you are doing that particular research, and why it is important.

Body/Results: Develop each main point with supporting details, examples, statistics, or figures/graphs—anything that you need to explain your research. Make sure the presentation has a logical flow.

Conclusion: Summarize your main points, restate your purpose, and leave the audience with a memorable closing statement or call to action.

General Suggestions

Time Management: Allocate time for each section of your speech. For a five-minute presentation, aim to spend roughly one minute on the introduction, three minutes on the body (one minute per main point), and one minute on the conclusion. For a 15-minute presentation, start with a three- to four-minute introduction, then spend six minutes on the main section, and give yourself two minutes to wrap it up. Leave three minutes at the end for questions. Practice delivering your speech within the set time frame to ensure you do not exceed the time limit.

Engage the Audience: Keep your audience engaged throughout the presentation. Use rhetorical questions, humor, vivid language, or visual aids to maintain interest and enhance understanding.

Use Clear and Concise Language: Be mindful of your language choice and avoid jargon or overly complex terminology that may confuse your audience. Keep sentences short and to the point.

Practice, Practice, Practice: Rehearse your speech multiple times to become comfortable with the content and timing. Practice in front of a mirror, record yourself, or deliver the speech to a friend or family member for feedback. Also, write down your speech on paper, which will help you with content memorization and serve as a presentation guide. "Training with friends was crucial," says Endy Lopes Kailer, winner of the SSSA Soil Biology and Biochemistry Division five-minute rapid presentation competition at the 2023 ASA, CSSA, and SSSA Annual Meeting in St. Louis.

Final Touches: Before the presentation, take a few moments to relax and mentally prepare yourself. Arrive early at the venue to set up any equipment and familiarize yourself with the environment.

Deliver With Confidence: Maintain eye contact, speak clearly and confidently, and project your voice to ensure everyone in the audience can hear you. Remember to breathe and pause occasionally to emphasize important points.

Overall, in a five-minute presentation competition, the dynamic is intense and fast paced. Presenters must quickly grab the audience's attention, deliver key points concisely, and leave a lasting impression within a tight time frame. Every second counts, requiring speakers to be extremely focused and strategic in their delivery. The competition is fierce as participants vie to make the most impact with limited time, often resorting to innovative storytelling techniques or attention-grabbing visuals to stand out. Figure 1 exhibits the slides of the winner of the SSSA-wide five-minute rapid presentation competition at the 2023 ASA, CSSA, and SSSA Annual Meeting in St. Louis. Three slides is the maximum allowed for this type of presentation, and they need to be static, which means, without any type of animation.

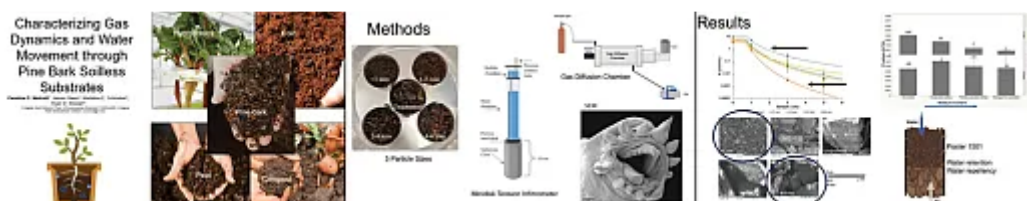


Figure 1. Slides from Caroline C. Wolcott, winner of the SSSA-wide five-minute oral and poster competition at the 2023 ASA, CSSA, and SSSA Annual Meeting in St. Louis.

For a 15-minute presentation competition, there is more room for depth and detail. Presenters can delve into their topic with greater thoroughness, providing more context, examples, and analysis. While there is still pressure to engage the audience and maintain interest, speakers can pace themselves more comfortably and explore nuances that might be overlooked in a shorter format. The dynamic here is one of balance as presenters aim to strike the right mix of slides and engagement within the extended time frame. Table 1 outlines some of the main differences between the five-minute rapid presentations and the longer oral presentations.

Table 1. Understanding the main differences between the five-minute rapid presentations and longer oral presentations: rules and guidelines for ASA, CSSA, and SSSA Annual Meeting.

Five-minute rapid presentations	Traditional oral presentations
Maximum three slides	Recommended 15–25 slides
Five-minute talk	12-minute talk + three minutes for questions
Static slides (no animation)	Animations allowed
Poster required	No poster requirement
Competition	Competition and non-competition options

Crafting an Impactful Poster: Poster Design and Organization


Preparing the poster can be the most time-consuming part. First, you need to know the poster dimension requirements the conference is asking for, which will make things

easier during your poster creation. For the ASA, CSSA, and SSSA Annual Meeting, specifically, posters can be no larger than 44.5 by 44.5 inches. Set the poster dimensions in the program you are using to create the poster (e.g., PowerPoint) to the exact size requirement or smaller. Always double-check the rules of the poster section before starting as rules may change between years.


For the five-minute rapid presentation competition, your poster and oral presentation should be aligned in topic. Use the extra space and presentation time that the poster allows to accommodate additional information and graphics. Typically, on the day of the poster session, you will be stationed near your poster for about two hours, fielding questions from various attendees, who may or may not have attended your oral presentation. Therefore, always explain your research with the assumption that your audience has no prior knowledge of the topic.

Preparing the poster can be challenging. Keep it simple. Avoid a lot of words and invest more in figures, infographics, and tools that capture people's attention. Divide your poster into sections such as Introduction, Methods, Results, Discussion, and Conclusion, depending on the nature of your presentation. Use headings and subheadings to guide the viewer through the content. Use bullet points, short sentences, and visual elements. Focus on key points: take the most important aspects of your research or project and highlight them prominently on the poster.

The figures and graphics should be high quality with colors that grab the reader's attention but are easy to follow. You should select legible fonts and a color scheme that is easy on the eyes and complements your content. Use contrasting colors for text and background to ensure readability; for instance, never use yellow over green as it is difficult to see. Figure 2 is a great example of a scientific poster that successfully illustrates completed research and results.



Enhancing Nitrogen Management for High-Yielding Corn: Updated Recommendations and Sensor Technology Assessment
Amrinder Jakhar¹, Leonardo M. Bastos¹, Richard Rath²
¹University of Georgia, ²Iowa State University



INTRODUCTION

- Environmental Trade-Off: While nitrogen (N) fertilizers enhance corn yields, they also bring about environmental concerns, notably water contamination and greenhouse gas emissions^{1,2}.
- Economic Concerns: Nitrogen, a significant and expensive input, can impact farmers' financial performance³.
- Evolutionary Needs & Outdated Guidelines: In the past 30 years, while N fertilizer rates for corn in Georgia have increased, corn production has shown considerable variation. Current N application guidelines might not be adjusted to the requirements of contemporary corn hybrids or the erratic weather patterns of today.
- A Revised Approach to N Management: By dividing N applications between pre-planting and side dressing, and using sensor insights, we can refine N management to boost yields and control costs in Georgia.
- Assessing Modern Technology: Real-time feedback from advanced sensors allows for ensuring optimal nitrogen levels and cost efficiency.

OBJECTIVES

- Assess the effects of different nitrogen splits (0/100, 17/83, 25/75, 33/67) on corn yield, nitrogen use efficiency, and net returns.
- Compare fixed and sensor-based N rates (VRM) for optimizing corn yield, partial factor productivity of nitrogen, and economic returns.

MATERIALS AND METHODS

- Study Location and Design: The study was conducted in 2023 at the Powder Mill in Tifton, GA, situated at coordinates 31°37'54.51"N 83°35'45.31"W. The experimental layout followed a randomized complete block design.
- Nitrogen Treatment Regime: We assessed different nitrogen (N) split treatments, including 0+100%, 17+83%, 25+75%, and 33+67%. The first split was applied during planting, while the second was administered at the V6 growth stage. Notably, each V6 treatment also incorporated a variable rate nitrogen (VRM) treatment based on a sensor feedback.
- Nitrogen Quantification: Using a yield target of 150 bushels per acre, we determined the nitrogen requirements to be 300 pounds per acre. For this study, UAN (24-0-0-3) was chosen as the source.
- Spectral Analysis for VRM: The second and third rows of each plot were scanned using a Crop Circle sensor (Holland Scientific, ACS-015) (Figure 3) at the V6 stage. Spectral data (NDRE vegetation index) was used to determine VRM application rates.
- Calculation Method for Nitrogen: For the VRM treatments, the nitrogen rates were calculated using the following equation:

$$N_{app\ rate} = \frac{N_{req} - pre_plant}{(1 - SF)/USEF}$$
 where N_{req} = 300 lb/acre, SF = 0.5, and $USEF$ = 0.99
- Field Data Collection: Yield metrics were meticulously captured using a Zurn 153 plot combine (ZURN USA, Inc., Brooklyn Park, MN) equipped with a yield monitor.
- Partial Factor Productivity of Nitrogen (PFP_N): This was calculated by dividing the crop yield by the applied nitrogen rates used in each treatment.
- Partial Economic Evaluation: The economic implications of the nitrogen treatments were assessed by factoring in the partial profits. For this purpose, we utilized a corn prior benchmark set at \$0.189 per kg (\$4.80 per bushel). Additionally, the cost implications of the nitrogen applications were considered based on a price of \$2.62 per kg, ensuring a comprehensive understanding of the economic returns from different treatment regimes.
- Statistical Analysis: All data was subjected to ANOVA analysis in R version 4.3.2 and held to an alpha level of 0.05.

RESULTS & DISCUSSION

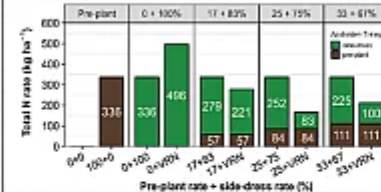


Figure 1. Comparative Bar Graph of Nitrogen Application Rates: Pre-Plant & Side Dressing.

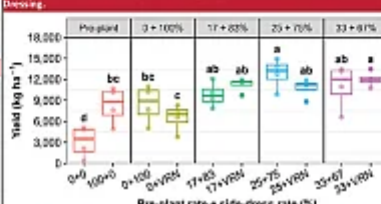


Figure 2. Corn Yield Variations from Nitrogen Treatments. Identical letters indicate no significant difference. All letters are comparable with each other.

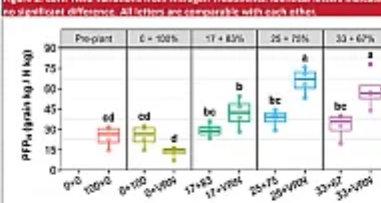


Figure 3. PFP_N Impacted by Different Nitrogen Treatments. Identical letters indicate no significant difference. All letters are comparable with each other.

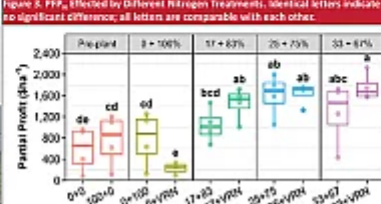


Figure 4. Partial Profit Impacted by Various Nitrogen Treatments. Identical letters indicate no significant difference and all letters are mutually comparable.

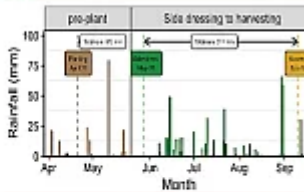


Figure 5. April-September Rainfall patterns. Distinct Colors for Pre-Plant & Side Dressing and Side Dressing to Harvest Stages.

CONCLUSION & FUTURE STUDIES

- The 25+75% nitrogen split emerged as the pinnacle of performance among fixed splits.
- Leaving the sensor-based methodology, the 33+VRM treatment consistently outshined its counterparts in yield, efficiency, and economic returns.
- Future work will focus on comparing nitrogen recommendations from precision sensor vs. those vs. satellite imagery and factoring in environmental cues, like upcoming rainfall, and soil type when discerning optimal nitrogen splits.

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1. A. L. & B. H. (2018). Effect of nitrogen fertilizer application on greenhouse gas emissions and estimates of soil and plant nitrogen use efficiency in corn. *Soil Use and Conservation*, 33(1), 1-10.
2. A. L. & B. H. (2019). Nitrogen fertilizer use and nitrogen use efficiency in corn. *Soil Use and Conservation*, 34(1), 1-10.
3. P. L. (2017). Economic analysis and optimization of nitrogen systems using precision sensor technology. *Soil Use and Conservation*, 32(1), 1-10.
4. A. M. & B. H. (2019). Operation of a variable rate nitrogen sensor in a corn production system. *Soil Use and Conservation*, 34(1), 1-10.

Figure 2. Poster from Amrinder Jakhar, winner of the ASA Sensor-Based Nutrient Management Community poster competition at the 2023 ASA, CSSA, and SSSA Annual Meeting in St. Louis.

How to Access Prior Annual Meeting Presentations

Presentations from previous Annual Meetings are available for viewing at acsmeetings.org. Figure 3 provides step-by-step instructions.

The website is beneficial because it allows access to slides and talks from previous years and even provides access to some posters if they were uploaded before the presentation. One of the primary challenges in preparing a talk or a poster is figuring out how to begin. Therefore, having access to previous talks for feedback or inspiration is immensely helpful in getting started and understanding the expectations of the

Annual Meeting.

To sum up, giving successful presentations (oral or poster) at the ASA, CSSA, and SSSA Annual Meeting demands thorough preparation and strategic execution. Presenters must be clear on the purpose of their presentation, streamline slide design, engage their audience effectively, manage time wisely, adjust to presentation durations, create compelling posters, and utilize resources like old presentations for inspiration. By following this roadmap, presenters can elevate their skills, leaving a lasting impression on their audience and contributing meaningfully to the academic discourse.

1 Go to the Website of the annual meeting >> Program>>Past Online platforms

2 FUTURE MEETINGS
• 2025 Fall Meeting (Nov 16-19)
• 2025 Spring Meeting (Apr 14-17)
• 2025 Summer Meeting (Jul 14-17)
• 2025 Winter Meeting (Dec 14-17)
• 2025 Meeting (Nov 16-19)
• 2025 Meeting (Nov 16-19)

PAST MEETINGS
• 2024 Fall Meeting (Nov 16-19)
• 2024 Spring Meeting (Apr 14-17)
• 2024 Summer Meeting (Jul 14-17)
• 2024 Winter Meeting (Dec 14-17)
• 2024 Meeting (Nov 16-19)
• 2024 Meeting (Nov 16-19)
• 2024 Meeting (Nov 16-19)
• 2024 Meeting (Nov 16-19)
• 2024 Meeting (Nov 16-19)
• 2024 Meeting (Nov 16-19)

3 You will gain access to the entire program for the year, allowing you to access any presentation you may have missed or find relevant for guiding your presentation work.

4 Using the search tool, you can find similar topics to your research and go from there. This is a very nice tool that the annual meeting offers to the community

Figure 3. Step-by-step on how to use the Annual Meeting website to look up past presentations.

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