Upcoming Meeting: Tuesday, February 15, 2022 – 6:30 PM

Join us for our upcoming meeting which will take place on Tuesday, February 15, at 6:30 PM in Moore Hall (Room 351 - Enter Moore Hall from the east side and take a left down the hall). Free parking is available in Lot 40.

We will be welcoming Dr. AJ Bussan, Director of Agronomy and Quality at Wysocki Family of Companies. Previously, Dr. Bussan served as an associate professor and a Potato and Vegetable Production Extension Specialist for the University of Wisconsin in the Horticulture Department. Additionally, he was a leading participant for various nationally funded potato research projects. What’s more, Bussan has been honored THREE separate times and the Wisconsin Potato & Vegetable Growers Association Researcher of the Year as well as one WPVGA Industry Appreciation Award. Please join us on Tuesday in welcoming decorated senior researcher Dr. AJ Bussan.

Welcome Back!

We are so excited to see everyone again this semester. Our club has a lot to look forward to this semester as we plan to provide each of you new opportunities, unique experiences, and multiple networking opportunities!

Good luck this spring!
Madison Capitols Hockey Trip

Join us as we head to the Bob Suter Capitol Ice Center on **Friday, February 18**, to watch the Madison Capitols face the Chicago Steel! The puck will drop at 7:05 PM. Members interested in attending need to sign up before or at the meeting on Tuesday, February 15, 2022. Members who have paid dues will get their tickets for FREE! Others must pay $10 for their ticket. Tickets include admission to the game as well as bus transportation to and from the ice center. Time and location of bus pick-up TBD.

If you plan to join us, fill out the form below ASAP so we can get a headcount for tickets. Tickets will be ordered on February 3, 2022.

Form link: [https://docs.google.com/forms/d/e/1FAIpQLSezCjmaqLsNVhWRHnnCvNX4chT_OecBxJk4TZU-2RTIzZBGw/viewform?usp=sf_link](https://docs.google.com/forms/d/e/1FAIpQLSezCjmaqLsNVhWRHnnCvNX4chT_OecBxJk4TZU-2RTIzZBGw/viewform?usp=sf_link)

Senior Spotlight!

**Tanner Oyen** - BBC President

**Major:** Agronomy  
**Certificate(s):** Business Management

**Post-Graduation Plans:** “I am excited to use my college education in the agriculture industry as a sales agronomist with Helena in northeast Illinois! I also plan to pursue a master’s degree in agronomy through Iowa State’s online program. I hope to use this additional degree in a management role in the private sector and help industry leaders advance improved, science-based practices into modern agriculture.”

**Favorite BCC Memory:** “There have been so many enjoyable experiences in my three years with BCC, but I would have to say the most memorable would be the relaxing and laid-back conversations I’ve had with members and guest speakers after general meetings. I love learning about everyone’s unique story and how they got to where they did and what motivated them to do so. In my experience, the people were what made our club so special.”

**Advice for Underclassmen:** “Be involved! I do not regret joining any of the student organizations that I did. They provide great opportunities to meet new people, experience new things, and build your network. Additionally, make sure to have fun. Life cruises so fast and for that reason it is very important to make sure you are enjoying the ride.”
Opportunity #1

CALS faculty: Jingyi Huang (Department of Soil Science)

Research Background of Dr. Huang’s Project: The soil greenhouse emission dataset collected by the student will be used for building models developed by the PI’s group (Assistant Professor Jingyi Huang) if funded by the Hatch-Multi-State project. With high spatial (20 m) and temporal resolutions of soil greenhouse gas (e.g., CO2, N2O) emission measurements collected from the different cropping systems of Wisconsin, the models will be greatly improved, which can be used to guide nutrient management to improve nitrogen use efficiency and reduce environmental footprint of the intensive agricultural production in Wisconsin.

Internship description:
50% Collection of Soil Water and Measure Soil Nitrate Content The student intern will assist Dr. Huang by collecting measurements of soil greenhouse gas fluxes every three days (approximately 3 hours per day) on the selected plots (e.g., ~40 plots in total). The student will be trained on 1) installing soil gas chamber sensors and collect automated soil gas emission flux dataset for monitoring soil greenhouse gas emission (e.g., CO2, N2O) under different management practices during the cropping season.

50% Research Station Crop Scout The student intern will be trained and have on the job mentoring to do crop scouting of production and research fields at the Arlington Ag Research Station. Emphasis on timely scouting techniques for weed, insect and disease pest problems. Scouting reports will be composed and reviewed with the supervisor to determine control plans and treatment options. Other duties might include assisting other research programs with data collection, monitoring insect populations at two station traps and report numbers to DATCP, targeted pesticide applications with hand sprayer, operate GPS equipment to verify field boundaries, attend UW-Extension outreach field days, and assist with activities at the station’s commercial seed cleaning facility. The student will spend a large portion of the internship outside and should be prepared for light physical work (example- help stack small square bales of straw).

The duration of the internship is 12 weeks (approximately mid-May to mid-August)

Opportunity #2

Project title: Estimating alfalfa yield and quality using satellite remote sensing and field data
CALS faculty: Zhou Zhang; Department of Biological Systems Engineering

Research Background of Dr. Zhang’s Project: The yield and nutritive quality of alfalfa directly affects its market price, which affects the profitability of livestock production operations using alfalfa as hay, silage, or in mixed rations. Traditionally, alfalfa quality variables were determined by laboratory chemical methods. However, these methods are costly, time-consuming and can also generate hazardous waste that must be disposed. Since the 1970s, near infrared reflectance spectroscopy (NIRS) has become an alternative approach for providing timely forage quality data, which is comparable to the chemical
procedures. However, it is still time-consuming because it requires collecting, drying, and grinding forage samples. The advances of satellite remote sensing techniques have provided a nondestructive, and efficient way to monitor the crop growth. Publicly available satellite imagery offers unparalleled opportunities for land surface monitoring and characterization over space and time domains, with far-reaching socioeconomic benefits. In summary, this project aims to estimate alfalfa yield and quality using publicly available satellite images along with the ground truth alfalfa field samples.

**Internship description:**

50% Alfalfa Field Sample Collection to Measure Yield and Quality The undergrad student will be working with Dr. Zhang and a graduate student to collect and process alfalfa from research station fields. The acquired field samples will be used as ground truth data for training a deep learning model for alfalfa yield and quality estimating through satellite imagery. The undergrad student will also assist with the satellite image acquisition and processing.

50% Research Station Crop Scout The student intern will be trained and have on the job mentoring to do crop scouting of production and research fields at the Arlington Ag Research Station. Emphasis on timely scouting techniques for weed, insect and disease pest problems. Scouting reports will be composed and reviewed with the supervisor to determine control plans and treatment options. Other duties might include assisting other research programs with data collection, monitoring insect populations at two station traps and report numbers to DATCP, targeted pesticide applications with hand sprayer, operate GPS equipment to verify field boundaries, attend UW-Extension outreach field days, and assist with activities at the station’s commercial seed cleaning facility. The student will spend a large portion of the internship outside and should be prepared for light physical work (example- help stack small square bales of straw). The duration of the internship is 12 weeks (approximately mid-May to mid-August).

If interested, please email Mark Kendall (mark.kendall@wisc.edu) with your contact information and resume.