**S-1083 - Annual Business Meeting 2023**

Date: November 15th, 2023 (Wednesday)

Time: 10 am -12 pm (CST)

Online meeting:

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| <https://msu.zoom.us/j/97855020479?pwd=UHpxSy9TbTl3MXorbEZ5NWZJcmg3dz09> |

**Recording:** <https://mediaspace.msu.edu/media/S1083+Annual+Business+Meeting/1_fnd10t53>

**Agenda**

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| **10:05 am – 10:15 am** | Introductions  In attendance:   * Nathan Slaton – Advisor – University of Arkansas * Sean Toporek – South Dakota State * Sydney Everhart - U Connecticut * Sara Thomas-Sharma – Louisiana State U * Soledad Benitez – Ohio State U * Mia Maltz - U Connecticut * Sharifa Crandall – Pennsylvania State U * Terry Spurlock – University of Arkansas * Alejandro Rojas – Michigan State University |
| **10:15 am – 11:30 am**  Research updates: | **Soledad Benitez – OSU**  **Phytobacteriology and agricultural microbiomes lab**  Obj. 1 – Relationship between SCN, soil properties, and fungal communities. Initially defining soil regions and correlating the existing data with SCN infestation. SCN infestation modifies the diversity of fungal communities reducing the variance. Also, in collaboration with Horacio Lopez-Nicora, Soledad’s group is looking SCN – fungi relationships using grid sampling to understand field scale variation.  Obj. 2 – cover crop rotation and soybean interaction. Different rotation systems including corn-soy rotation, corn-rye-soybean, corn-fallow-soybean-wheat-corn. Most of the analysis is focused corn-rye-soybean rotation to develop an understanding of beneficial nematodes, carbon pools, and their interactions. |
| **Terry Spurlock – UARK - UADA**  **Soilborne diseases impacting Arkansas**  Taproot decline continues to impact soybean growers in Arkansas, initially observed in the Southeast of Arkansas, this year the disease impacted fields on the Northeast side of the state causing major damage and it is most commonly observed in the seedling stage. Treatments like in-furrow application of fungicide have an effect on reducing TRD and evaluating cultivars there are some responses that increase stand.  In addition, aerial blight and sheath blight on soybean and rice respectively are causing major issues in this season and causing problems with management. Efficacy is still observed under field trials with foliar applications in soybean. |
| **Alejandro Rojas – UARK/MSU**  **Soilborne pathology and ecology**  Obj 1 – Epidemiology and disease assessment using remote sensing to understand TRD continues with now three years of data. The aim is to use disease severity and molecular diagnostics to understand disease progression and colonization of the pathogen. Yield and plant stand were used as parameters, showing an negative effect of the cover crop on stand unrelate to the pathogen, but this reduced stand increases when the pathogen is present.  The population genetics of *Rhizoctonia solani* AG 1-1A using existing collections at Arkansas, Louisiana and Texas shows a higher diversity in LA versus the other states, this is especially higher in soybean and rice shows discrete populations with reduce diversity or clonal populations.  Obj 2. Working on cover crop rotations within a corn-soybean rotation system, it is also a three year study and data is being finalized to understand effects of multiple treatments of cover crops on soil communities. |
| **Sydney Everhart - UCONN**  *Rhizoctonia*– Survey work on natural and agronomic ecosystems to understand diversity of AG groups. Corn was actually affected by high frequency of *R. zeae.* Also, working in cross-inoculations of isolates originated from grasslands and inoculating those in native grass species vs corn to determine the origin of soilborne pathogens in agronomic fields in Nebraska.  At UCONN, as part of NSF industry collaboration, Sydney’s lab will start experimenting with soil sensors and study how those could measure nutrients and its interactions with soil pathogens. Combining measurements of N and pathogen quantity using ddPCR. |
| **Sharifa Crandall – PSU**  **Resilient Plant Microbiomes**  The Crandall lab is looking at the effect steaming and disinfection of soilborne pathogens in crops and disease in high tunnels. In the case if the steaming, it serves as effective method to control microbial communities, but it is untargeted and therefore is necessary to understand the recovery time of those communities. The research also explores the effect of steaming on beneficial species like T*richoderma.* Key questions is the reassembly of microbiome post-steaming, best time to add beneficials, and how those interactions affect plant health.  High tunnel disease management for soilborne pathogens is difficult and new grant is facilitating the study of steaming disinfection for management within tunnel production for vegetables. |
| **Sean Toporek - SDSU**  Brand new lab working also in high tunnel production and microclimates that these produce for pathogens in these production systems. The idea is to research on the effects of plastic to control soilborne pathogens and weeds, but also landscape fabric and the effect on the soil microbiome. In addition, the second practice to look up is the effects of rootstocks and the effects that these have on soil microbial community recruitment. |
| **Mia Maltz – UCONN**  New group member and her research has been looking at the survival of the teliospores in soil and developing methods to monitor these from soil and the effect of invasive grasses on these soil microbial communities. In addition, in dry lands and the inhabiting of spores of pathogen and the consequences of dispersal of those spores. |
| **Sara Thomas-Sharma – LSU**  New group member also working on *Rhizoctonia solani* on rice and soybean, her lab developed a diagnostic guide and it will focus on management aspects of the disease. |
| **11:45 am – 12:00 pm** | Other business:   * Election of officer/secretary for 2024 * Preparing the 2023 report   Chair and vice chair were nominated by Sydney. Sharifa was nominated as chair and Sara was nominated as vice-chair.  Both accepted the nomination and were selected.  Chair: Sharifa Crandall  Vice-chair: Sara Thomas-Sharma  Planning for the meeting either as online or in conjunction with professional society meeting is ok, but participation should be encouraged, with the aim of strengthen collaboration between participants. The goal is to enhance collaboration and support members, especially those that are new members and assistant professors. |
| **12:00 pm – 12:15 pm** | Opportunities to collaborate:  Review paper: “Soilborne plant disease across time and space: the next frontier in integrative research”  A final draft of the paper should be share with the full group in the next month. |