Minutes of the NCERA – 137 Soybean Diseases Technical Committee Meeting
March 6, 2018 – Pensacola Beach, FL

Administrative Advisor: Dr. Terry Niblack, Ohio State University

Chair: Dr. Daren Mueller, Department of Plant Pathology and Microbiology, Iowa State University, Ames, IA 50011

Secretary: Dr. Travis Faske, Department of Plant Pathology, University of Arkansas – Division of Agriculture, Lonoke Extension Center, Lonoke, AR 72086

Immediate Past Chair: Dr. Damon Smith, Department of Plant Pathology, University of Wisconsin-Madison, Madison, WI 53706

Members and guests in attendance: (37 total)
Ed Sikora (Auburn University)
Travis Faske, John Rupe, Terry Spurlock (University of Arkansas)
Daren Mueller, Steve Whitham, Yuba Kandel, (Iowa State University)
Nathan Kleczewski (University of Illinois)
Darcy Telenlco (Purdue University)
Doug Jardine (Kansas State University)
Carl Bradley, Kiersten Wise (University of Kentucky)
Trey Price, Teddy Garcia, Boyd Padgett, Patricia Bollich, (LSU Ag Center)
Marty Chilvers (Michigan State University)
Kaitlyn Bissonnette (University of Missouri)
Dean Malvick (University of Minnesota)
Tessie Wilkerson, Tom Allen (Mississippi State University)
Terry Niblack (Ohio State University)
Gary Bergstrom (Cornell University)
Albert Tenuta (Ontario Ministry of Ag)
Sam Markel (North Dakota State University)
Loren Giesler (University of Nebraska)
Emmanuel Byamukama, Fabina Mathew (South Dakota State University)
Heather Kelly, Rachel Guyer (University of Tennessee)
Rubella Goswarui (USDA)
Kelly Whiting (United Soybean Board)
Steve Ronyak (AgBiome, Durham, NC)
Damon Smith, Christina zambrana (University of Wisconsin-Madison)
Danise Beadle (Eurofins)

The meeting of the NCERA 137 Soybean Diseases Committee was held in Pensacola Beach Florida at the Hilton hotel on March 6, 2018. Dr. Daren Mueller welcomed attendees at 9:00 am. Group introductions followed the welcome. Brief oral reports on the status of the soybean crop and prevalent diseases were given for each state.

State Reports

- Alabama: (ES) SDS, TS, SBR on Kudzu, TRD, SVNV found in 27 or 28 counties. Yield loss to SVNV inconclusive.
- Arkansas: Avg. yield 50 bu/A but up 4 bu/A over 2016. RKN, SC primary with TS, CLB, and Bacterial blight of concern. Major issues in 2017 were dicamba more than disease. Summary of southern root-knot nematode research.
- Delaware: (NK) Southern blight, SDS, stem canker picking up in some fields. Pocket guide publication for disease identification available.
- Kansas: dry conditions avg. yield 40 bu with a wide range of yield across the state. Low disease pressure. Reemerging disease PRR. Charcoal rot was again a major issue.
    - Discussion of percent growers using a seed treatment 70% is a good estimate.
- Kentucky: (CB) Highest yield on record. Main diseases, southern stem canker, frogeye leaf spot screening for QoI-Resistance and interaction with fungicides QoI-Resistance in *Septoria glycines* detected in IL and KY.
- Louisiana: (TP) Various diseases from aerial blight, CLB (at least three species to that group), continue working on resistance with CLB, FLS lower than in past but still a problem, SBR fungicide trials, RKN and TRD are more common.
- Iowa: SCN, white mold, SDS, and frogeye leaf spot are among the top issue. "Top dieback" (made up disease) but it seems to be more frequent. Initial isolations were inconclusive but later were tobacco ringspot, but yet to be substantiated. Odd disease: snapping off at soil line, but found larva, insects, gall midge larvae, more work needed.
- Michigan: (MC) White mold and SDS are main diseases, resistance and ILeVO use to control SDS. Dry bean root rot survey, *F. brasiliense* detected in MI, so trying to understand interaction. Lab focus on resistance loci of SDS.
- Minnesota: (DM) Greater yield in southern part of the state. White mold, brown stem rot, top dieback, and SDS. Research: fungicide trials with white mold, brown stem rot outbreaks and resistance response can be dramatic; characterize resistance to *R. solani* and maybe more accurately tolerance to the disease. Impact of resistance and seed-applied fungicides on yield to the point that both can be helpful in some situations.
- Mississippi: (TA) CLB, TS, RN, Septoria brown spot. TS and SC and concern about OVT cultivars and upcoming narrowing resistance options with new herbicide technology.
- Missouri: (KB) SDS, SCN and white mold in NW MO.
- New York: (GB) State contest winner at 78 bu/A. Survey of disease update eight new diseases on soybean most mid-west like. SCN positive in one county, which is first report.
- Nebraska: (LG) 57 bu/A avg. Tax on irrigation may be reality in NE to add cost to producers. White mold, SDS, FLS picking up, SCN sampling, 2nd coalition on raising awareness. Discussed information on SCN coalition pamphlets as it applies to other states.
- North Dakota: Drought with some rain in august. SCN, white mold and charcoal rot are main issues. SCN is primarily the most widespread with "hot spots" along the Eastern part of the state. Extension publication on diagnostic of soybean diseases available.
- Ontario: (AT) Hot and dry conditions but conditions did favor white mold, SDS, SCN and some PRR. Avg. 45 bu/A.

- South Dakota: (EB, FM) Top diseases SCN, White mold, SDS, and PRR. New report on SVNV. Update on *Diaporthe/Phomopsis* on soybean and identification of new species.
- Tennessee: (HK) 50 bu/A avg. stem canker one of main diseases and usually FLS, TS, SBR,. Research on tank mix fungicides and cultivar response at various levels of FLS severity.
- Wisconsin: (DS) statewide yield of 47 bu/A, down from 2016. Top diseases: White mold, SCN, SDS, brown stem rot and PRR. Virus symptoms in soybean seem to be more of a problem. Weather model for predicting apothecium development of *S. sclerotiorum*. Population of plant density on 15 in row have more white mold than 30 in row spacing, but grower reluctant to move to 30 in row spacing.

Presentations:

Survey of unknown virus samples - Steve Whitham

- Molecular analysis of suspicious "virus-like" symptoms of soybean. RNA-sequencing process for analysis…challenges with gene bank…detection of Clover Yellow Vein Virus maybe new report chlorotic splotches on plant. SVNV detected and Tobacco Streak Virus (thrips vectored). Mixes of infections maybe common in soybean field samples.

Is the emergence of SVNV linked to the re-emergence of Tobacco Streak Virus? - Cristina Zambrana-Echevarria

- Report of SVNV is seed transmitted. Both transmitted by thrips and seed transmitted so, are these similarities enough for mixed infections. Some reports find both viruses. Future work to study co-infection of these two viruses on cowpea. Preliminary work that they can both infect cowpea.

White mold model update - Damon Smith

- White mold model app to predict apothecial presence during bloom period. Field validation was above 80%. Benefit in growers field with Aproach application at R3 that coincides with prediction model. App is available for android then iphone forthcoming. Cobra (lactofen) is effective on white mold.

Taproot update - Trey Price and Teddy Garcia

- Update on phylogenetic of TRD. Variation based on phylogenetic map from 2017and culture morphology. Based on current research this does appear to be a new species.

Fungicides and pollinators discussion – moderated by Albert Tenuta

- Discussion of fungicides and pollinators. Few have done much, but studies in TN MS and AR by entomologist have shown some QoI in some bee samples (bread, wax…). Data available, but none organized.

In-furrow fungicide applications – Kiersten Wise

- Use of in-furrow fungicides to control seedling diseases. Over time this has transitioned to biologicals and various application techniques. Summary multi-state project with in-furrow fungicides on soybean. Arkansas had positive response with fungicide + fertilizer in 2015. Some increase of plant population in individual trials in Indiana, but not the same as those reported by farmers.

Biologicals and soybean diseases – Steve Ronyak, AgBiome

- 40,000 microbes in their portfolio they are investigating for activity against a several pest or pathogen. Selection is based several screens and utilizing bioinformatics to select biological. Some biologicals had positive trends in seedling disease in Indiana, Iowa, Minnesota and North Dakota. *Bacillus subtillus* (strain AFS32321) is one being carried forward and evaluated in SDS trials. Howler™ biological fungicide (turf, ornamental, later row crops) that will be available commercially.

USDA NIFA update – Rubella Goswami

- National program leader of plant pathology (NIFA). Introduced plant pathologist at NIFA. New budget, again in March 23. Impact of changes, limited personnel with panels, acknowledge NIFA appropriately, contact state liaisons as questions arise. Discussed some of the programs available (crop protection and pest management program, organic research, methyl bromide transitions…). Discussed some of changes to new website.

Take Action Update – Carl Bradley

- Take action was project to manage resistant weeds but now includes fungicides. Now take action website includes FRAC codes, fungicide efficacy and basic plant disease information.

Crop Protection Network - Kiersten Wise

- Update on CPN website which is a collaborative effort among Extension specialist and public/private professionals to provide a "one voice" or unified front on disease control. 154,000 publications printed to date. Update on website 2.1 with twitter feed and collaborators page. New publications. Annual impact page could be helpful for reporting to Administration. Finally a summary on how to create CPN publications and how to participate.

SCN Coalition Update - Sam Markell or Albert Tenuta

- Low percent (<35%) realize SCN is an issue and core group met in Florida. See handout. Launch was first week of March. Resources are available to send information to local media beyond soybean and corn digest. Future meeting at ICPP and revisit the survey, "did we move the needle".

USB update - Kelly Whiting

- RFP should be available soon (3rd wk. March) for USB funding

Business Meeting

Minutes: Because minutes were sent out early and there were no objections the minutes were approved without a motion (Doug Jardine, parliamentarian).

Administrative Report:

- Project will expire in 2019. Deadline for a new project is September 2018.
- This is Terry Niblack's last year as administrator

Writing Committee:

Daren Mueller (Chair)
Dean Malvick
Travis Faske
Ed Sikora

Secretary Nomination:

Heather Kelly nominated Carl Bradly, Tom Allen seconded, and there was no discussion or other nominations. Carl Bradley was elected unanimously as secretary.

Announcements:

- Travis Faske to send out reminder on impact statements.

- Based on last year's meeting location discussion, the 2019, 137 NCERA meeting will precede the SSDW meeting on March 5, 2019 in Pensacola, FL.

Meeting adjourned at 4:30 pm.

Respectively submitted, Travis Faske