

# 2021 SOYBEAN BREEDERS WORKSHOP

## Entomology and Breeding Innovation

February 22-24, 2021

[https://www.soybase.org/meeting\\_presentations/soybean\\_breeders\\_workshop](https://www.soybase.org/meeting_presentations/soybean_breeders_workshop)

### February 22 (Session chairs: Bo Zhang and Raymond Kennett)

9:00-9:10 am. Greeting, acknowledgement and introduction of the topics.

#### International soybean research (Bo Zhang)

- 9:10-9:30 am. Lijuan Qiu (Chinese Academy of Agriculture Sciences, China). China's Soybean Germplasm Perspective of Genome
- 9:30-9:50 am. Istvan Rajcan and Huilin Hong (University of Guelph, Canada). Genetic Analysis of Soybean [*Glycine max* (L.) Merr.] Seed Quality Traits for Adaptation to Mega-environments of Canada and Ukraine
- 9:50-10:10 am. Rodolfo Rossi (University of Buenos Aires, Argentina). General Soybean Breeding Status in Argentina and Our Collaboration
- 10:10-10:30 am. Q and A
- 10:30-10:45 am. Break

#### Voice from Stakeholders (Raymond Kennett)

- 10:45-11:05 am. Lisa Weaver (USB). USB Updates
- 11:05-11:25 am. Scott Raubenstine (Perdue Agribusiness), Specialty Crop Seed Traits – The Microchip of the Ag Industry
- 11:25-11:45 am. Michael Kidd (University of Arkansas). Linear Programming Overview for Broiler Diets
- 11:45-12:05 pm. Q and A

#### Soybean Tutorial (Rex Nelson)

1:00-2:30 pm. Rex Nelson (USDA). Soybase Tutorial

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### February 23 (Session chair: Aaron Lorenz)

9:00-9:05 am. Introduction of the topics

#### Aphids (Aaron Lorenz)

- 9:05-9:25 am. Robert Koch (University of Minnesota). Rethinking Insecticide-based Management for Soybean Aphid
- 9:25-9:45 am. Andrew Michel (Ohio State University). Molecular and Genetic Interactions Between Soybean Aphids and Aphid-resistant Soybean
- 9:45-10:05 am. George Heimpel (University of Minnesota). Biological Control of Soybean Aphid
- 10:05-10:15 am. Break
- 10:15-10:35 am. Matthew Hudson (University of Illinois). Fine Mapping of and Structural Polymorphism in the Aphid Resistance Genes Rag1 and Rag2
- 10:35-10:55 am. Gustavo Macintosh (Iowa State University). Soybean Aphids Manipulate the Plant's Phytohormone Crosstalk to Suppress Soybean Defenses
- 10:55 – 11:15 am. Ashley Dean (Iowa State University). Developing a Decision-making Framework for Pest Management
- 11:15-12:00 pm. Q and A
- 12:00 pm. Adjourn
- 2:00 to 4:00 pm. **POSTER SESSION**

## February 24 (Session chairs: Bo Zhang and Kyle Kocak)

9:00-9:05 am. Introduction of the topics

### Entomology (Bo Zhang)

9:05-9:25 am. Thomas Kuhar (Virginia Tech). Insect Pest Response to Vegetable Soybean Genotypes Bred for Commercial Edamame Production in Virginia

9:25-9:45 am. Firku Haile (Corteva). Potential Risk to US Soybean from Invasive Old-world Bollworm, *Helicoverpa armigera*

9:45-10:05 am. Q and A

10:05-10:15 am. Break

### Breeding Innovation (Kyle Kocak)

10:15-10:35 am. Raman Bhullar (Bayer, genomics). Gene Editing in Crops: From Bench to Field

10:35-10:55 am. James Schnable (University of Nebraska). Identifying Genetic Markers Linked to Pleiotropic or Non-pleiotropic Loci by Integrating Data across Traits and Trials

10:55-11:15 am. Changying “Charlie” Li (University of Georgia). Robot-assisted High Throughput Phenotyping Technologies

11:15-11:35 am. Seth Murray (Texas A and M). Transdisciplinary Plant Phenomics and Phenotyping for Breeding and Genetics

11:35-12:00 pm. Q and A

12:00 pm. **ANNOUNCEMENT OF POSTER WINNERS (KYLE KOCOK)**

12:05 pm. Wrap up and adjourn (Bo Zhang)

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### WORKSHOP ORGANIZERS

Bo Zhang, Virginia Tech, Blacksburg, VA

Aaron Lorenz, University of Minnesota, Minneapolis, MN

Rex Nelson, USDA-ARS, Ames, IA

### EXECUTIVE BOARD OF COMMERCIAL SOYBEAN BREEDERS

Raymond Kennett, BASF

Kyle Kocak, Corteva Agriscience

Wes Hancock, Syngenta

Clint Steketee, Syngenta

Mehul Bhakta, Bayer

Martin Sarinell, GDM Seeds

