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Sweet Basil:
Managing Basil Under Increasingly Challenging Conditions
A Virtual Workshop

Hosted by University of Massachusetts Amherst in collaboration with Rutgers, The State University of New Jersey, the University of Florida Institute of Food and Agricultural Sciences and Cornell University as part of our USDA/SCRI/NIFA supported Sweet Basil Research Initiative

Funding for real time closed captioning was provided by the Models to Medicine Center at the UMass Amherst Institute for Applied Life Sciences

Zoom Link: [will be provided to registered participants]

REGISTER HERE: <https://forms.gle/iofJ79idzyG3j48ZA>

Note that before being connected to the workshop, the Zoom link will require you to enter your name and email address even if you previously registered for the workshop

Contact: basilworkshop2020@umass.edu

All Times are Eastern Standard (EST)

Thursday December 10, 9 am to 5:15 pm
Back to Basics

9:00: Welcome to the 2020 Basil Workshop & the University of Massachusetts
Sue Scheufele UMass Extension intro

9:10: Overview to the Basil Workshop and the Objectives of the Basil Consortium
Jim Simon, Rutgers University

9:30: Control of foliar oomycete diseases with oxathiapiprolin mixtures
Yigal Cohen, Bar Ilan University, Israel

9:50: Best Management Practices for Producing Basil
Moderator: Rick Van Vranken, Rutgers University

9:50-10:20: Greenhouse basil production basics from container grown to indoor production systems
Neil Mattson, Cornell University

10:20-10:50: Hydroponic basil production
Dave Specca, Rutgers EcoComplex

10:50-11:10: Basil production in Hawaii: An update and current challenges
Joshua Silva, Univ. of Hawaii Coop. Extension Service

- 11:10-11:20: **Basil production in the Midwest**
Alan De Young, Van Drunen Farms, Illinois
- 11:20-11:30: **Food Safety News: The Basil Cyclospora Recall**
Don Schafer, Rutgers University
- 11:30-11:35: Q&A

11:35-12:00: **Reflections on Fusarium Wilt Disease on Sweet Basil**
Prof. Rob Wick, UMass Amherst

Noon: **Brief Break, please get your lunch**

Afternoon Sessions

12:20-1:00: **From the Trenches: Grower Observations: The Good, the Bad & the Ugly**
Moderators: Andy Wyenandt, Rutgers University & Meg McGrath, Cornell University
Open discussion session with all growers encouraged to participate with comments and questions. Session will start with comments from Bob Hoffman (Shenandoah, greenhouse grower by phone), Mike Cipro (Bibola Farms), Walter Gaipa (Marion Gardens Organic Herbs), Carl Smits (Smits Farms Inc).

Genetics and Breeding for Basil Downy Mildew Resistance

- Moderator: Jim Simon, Rutgers University
- 1:00-1:40: **Progress in Genetics and Breeding for BDMR**
Jim Simon & Rob Mattera, Rutgers University
- 1:40-2:10: **Progress in Genetics & Breeding for BDMR from Israel and Insights into the BDM Pathogen**
Yariv Ben Naim, Bar Ilan University, Israel
- 2:10-2:25: **Breeding for Fusarium Wilt Resistance in Sweet Basil**
Kathryn Homa, Andy Wyenandt and Jim Simon, Rutgers University
- 2:25-2:35: Q&A

Weed Control and Organic and Conventional Pesticide Updates

- Moderator: Rick Raid, University of Florida
- 2:35-2:50: **Weed control update and management on Sweet Basil:**
Thierry Besancon, Extension Weed Control Specialist, Rutgers University
- 2:50-3:20: **The IR-4: New Pesticide Projects & Current Registrations for Basil**
Kathryn Homa, Rutgers University and IR-4
- 3:20-3:30: Q&A

Downy Mildew Occurrence in 2020 & Updates on Managing Downy Mildew

- Moderator: Meg McGrath, Cornell University
- 3:30-3:45: **New online website for monitoring BDM occurrence**
Meg McGrath, Cornell University
- 3:45-4:05: **BDM management in Florida**
Rick Raid, University of Florida, Everglades Agricultural Station
- 4:05-4:25: **BDM management in mid-Atlantic region** Andy Wyenandt, Rutgers University
- 4:25-4:45: **BDM management in the Northeast** Meg McGrath, Cornell University
- 4:45-5:15: Q&A

5:15: **Day 1 Session Ends. We thank you for joining us**



Sweet Basil: Managing Basil Under increasingly Challenging Conditions

A Virtual Workshop Day 2

Friday, December 11, 9:00 am to 12:30 pm

Updates on Sweet Basil Research

Research Updates in Sweet Basil Disease Resistance

Moderator: Anne Gershenson, UMass Amherst

- 9:00-9:15: **CRISPR-editing of sweet basil for improved downy mildew resistance**
Di Rong, Rutgers University
- 9:15-9:25: **Developing molecular markers for BDM resistance**
Kelly S. Allen UMass Amherst
- 9:25-9:35: **Identification of a Fusarium isolate that bypasses resistance in the sweet basil cultivar 'Newton'**
Jacob Maman UMass Amherst
- 9:35-9:55: Q&A

New Technologies and Approaches in Improving Sweet Basil

Moderator: Jim Simon, Rutgers University

- 9:55-10:15: **Effect of cold plasma on physical and quality parameters of hydroponically grown sweet basil**
Mukund V. Karwe, Rutgers University
Deepti Salvi, North Carolina State University
- 10:15-10:35: **Descriptive aroma profiles of fresh sweet basil cultivars: relationship to volatile chemical composition**
Regina O'Brien & Bev Tepper, Rutgers University
- 10:35-10:55: **The enzymatic diversity of defense and flavor molecules**
Sibongile Mafu, UMass Amherst
- 10:55-11:15: **Challenges and progress in breeding basil for chilling tolerance**
Lara Brindisi, Rutgers University
- 11:15-11:30: Q&A

Seed Technologies

Moderator: Andy Wyenandt, Rutgers

- 11:30-11:35: **Growing organically certified basil for the seed industry**
Grant Bouwer, VDF Specialty Seeds
- 11:35-11:50: **Cold plasma treatment strategies for the control of *Fusarium oxysporum* f. sp. *basilici* in sweet basil**
Kathryn Homa, Rutgers University
- 11:50-12:00 **Discussion**

12:00-12:20: Updates from Industry: 3 minute max 'introductions'

12:30: Workshop Concludes: Stay tuned for a follow-up Basil Workshop in April, 2021

We thank you all for taking the time to join us for this basil workshop.

On behalf of our basil consortium:

To growers: we hope your 2021 growing season will be successful;

To research, extension and industry we hope 2021 will be a breakthrough year in new discoveries that support the commercial basil growers and processors.

From:

Rutgers University: Jim Simon, Andy Wyenandt & Rick Van Vranken

University of Massachusetts Amherst: Li-Jun Ma, Anne Gershenson & Rob Wick

University of Florida/IFAS: Rick Raid & Ann Hartmann

Cornell University: Meg McGrath

To members of our USDA/SCIR/NIFA Basil Consortium: We reconvene at 2pm-5pm using another invite to review and discuss our collective plans for 2021.