

# 2022 Industrial Hemp Conference

**VIRTUAL on March 15, 9am—1pm and March 16, 12:30—4:30 pm**

The **University of Vermont Extension Northwest Crops and Soils Program** and the **Vermont Agency of Agriculture, Food & Markets** invite you to the **Fourth Annual Industrial Hemp Conference**! This event will be held virtually over two days – **Tuesday, March 15, 9am—1pm** and **Wednesday, March 16, 12:30—4:30pm**. The conference website will include the agenda, links to the live presentations, speaker biographies, sponsor information, and additional resources.

**TOPIC HIGHLIGHTS:** hemp trends, consumer knowledge, economics, CBD, grain hemp, fiber hemp, pest and disease management, oil presses, Vermont rules updates, sampling, insurance, and more.

**SPEAKER HIGHLIGHTS:** Vermont hemp processor Zion Growers, Jessica Lubell-Brand of cannabis programs at UCONN, UVM Extension Ag Engineer Chris Callahan, Kria Botanicals, and a certified organic hemp lab.

Cost is \$50 per registrant. Registration is online through the UVM University Event Services Office, 802-656-5665 ext. 3—[Register Online Now](#).

**Please register by Noon, March 11, 2022.**

Prior to the conference, you will receive an email with your username and password to log into the virtual conference platform.

**Certified Crop Adviser CEUs and Pesticide Applicator Credits (PAT) will be available. Credit information will be noted on the Agenda on page 2 of this brochure.**

## KEYNOTE SPEAKERS



Dr. Jane Kolodinsky and Dr. Tyler Mark will share information on the National Hemp Survey and Hemp Trends. They will talk about consumer knowledge, economics, and markets.



On day two, we will hear from Stephanie Smith and Michael DiTomasso from VAAFM on the hemp rules updates, pre-sampling protocol, and hemp insurance.



United States Department of Agriculture  
National Institute of Food and Agriculture

*Additional funding provided by the University of Minnesota Digital Center for Risk Management Education Center under USDA/NIFA Award Number 2018-70027-28584. USDA and the University of Vermont are equal opportunity providers and employers.*

If you require an accommodation related to a disability, please contact UVM Student Accessibility Services at [access@uvm.edu](mailto:access@uvm.edu) or (802) 656-7753.

**NORTHWEST CROPS & SOILS PROGRAM**



THE UNIVERSITY OF VERMONT  
**EXTENSION**



THE UNIVERSITY OF VERMONT  
**EXTENSION**

**Northwest Crops and Soils Team | 278 South Main St, Suite 2 | St. Albans, VT 05478**

802-524-6501 or 1-800-639-2130 | [susan.brouillette@uvm.edu](mailto:susan.brouillette@uvm.edu)

[www.uvm.edu/nwcrops](http://www.uvm.edu/nwcrops)

## CULTIVATING HEALTHY COMMUNITIES

*Additional funding provided by the University of Minnesota Digital Center for Risk Management Education Center under USDA/NIFA Award Number 2018-70027-28584. USDA and the University of Vermont are equal opportunity providers and employers. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. University of Vermont Extension, Burlington, Vermont. University of Vermont Extension, and U.S. Department of Agriculture, cooperating, offer education and employment to everyone without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status. Any reference to commercial products, trade names, or brand names is for information only, and no endorsement or approval is intended.*

COLLEGE OF AGRICULTURE AND LIFE SCIENCES

# AGENDA

## 2022 Industrial Hemp Conference

**Tuesday, March 15, 2022**

Time	Session 1—11:15am to 11:55am	Session 2—11:55am to 12:35pm	Session 3—12:35pm to 1:00pm
9:00 am—9:30 am	<b>Welcome— Heather Darby; Federal Grant Opportunities with Andrew Jermolowicz</b>		
9:30 am—10:30 am	<b>Keynote Session— Jane Kolodinsky and Tyler Mark - An Industry Finding Its Way. CEU PD 1.0 Credit</b>		
10:30 am—11:00 am	<b>Student-Led Lightning Talks. Led by Steven Kostell. Presenters include Ashia Ellison, Michael Forozis, Isabel Pichardo, and Anaya Ware.</b>		
11:00 am—11:15 am	<b>Break</b>		
<b>Track 1</b> CEU CM 1.5 Credits	Jessica Lubell-Brand—Creation, Performance, and Benefits of Triploid Hemp	Andrea Garfinkel—Understanding and Breeding for Powdery Mildew Resistance in Cannabis	John Bruce—2021 Variety Trial Evaluations
<b>Track 2</b> CEU PD 1 Credit	Tyler Jenkins—Lessons from Fiber Field Grows in North Carolina <b>PD Credit</b>	Travis Samuels—A New Hemp Venture with Zion Growers: Fiber Processing <b>PD Credit</b>	Heather Darby and Laura Sullivan—Clothing is Agriculture, UVM Extension NWCS Hemp Fiber Trials <b>CEU CM .5 Credit</b>
<b>Track 3</b> CEU PD 1.5 Credits	Where will the supply chain take the industry? Presenters include Amanda Falkner, Hannah Lacasse, Jonathan Shephard, and Aaisha Al Maamari. <b>1. Production; 2. Consumer</b> —Searching for hemp: A national outlook on consumer information seeking and use of hemp products; <b>3. Impact</b> —Estimating the economic impacts of hemp production in the U.S. and <b>4. Regulatory</b> —Content Analysis of State and Tribal Hemp Production Plans		

**Wednesday, March 16, 2022**

Time	Session 1—2:45pm to 3:25pm	Session 2—3:25pm to 4:05pm	Session 3—4:05pm to 4:30pm
12:30 pm—12:45 pm	<b>Welcome</b>		
12:45 pm—2:10 pm	<b>Keynote Session Part 1— Stephanie Smith and Michael DiTomasso - USDA VT Rules Updates, Pre-Sampling Protocol. CEU CM 1.0 Credit</b> <b>SPONSORED BY BIA DIAGNOSTICS, LLC</b>		
2:10 pm—2:30 pm	<b>Keynote Session Part 2—Alex Sereno—Risk Management Options for Hemp Producers</b>		
2:30 pm—2:45 pm	<b>Break</b>		
<b>Track 1</b> CEU IPM 1.5 Credits	Kadie Britt—Arthropod Pest Management in Hemp <b>PAT Credit</b>	Nicole Gauthier and Misbakhul Munir —Minimal Munitions: Disease Management in Field Hemp <b>PAT Credit</b>	Ann Hazelrigg and Scott Lewins—Updates on UVM Research Trials on the Efficacy of Organic Fungicides for Control of Hemp Diseases <b>PAT Credit</b>
<b>Track 2</b> CEU CM 1 Credit	Chris Callahan—Cold Pressing Oil: Experiences from Oilseed Crops in the Northeast <b>CEU PD .5 Credit</b>	Heather Darby—Growing Hemp for Grain <b>CM Credit</b>	Heather Darby—Grain Trial Results <b>CM Credit</b> <b>SPONSORED BY DELMHORST INSTRUMENT CO</b>
<b>Track 3</b> CEU PD 1 Credit	John Hanchar—Risk Management for Improved Viability of the Northeast Hemp Industry <b>PD Credit</b>	Dan Chang and Bill Lofy—Adapting to the Changing Landscape in the Hemp Economy <b>PD Credit</b>	John Bruce—Hemp Storage and Timing for Harvest Quality <b>CEU CM .5 Credit</b>
<b>Track 4</b> CEU PD 1.5 Credits	<b>Vermont State Cannabis Board</b> representative will share what that program currently looks like and what the roll out will be to the industry. Presenters include Kyle Harris and Stephanie Smith.		

**Certified Crop Adviser (CCA) CEU categories – CM, Crop Management; IPM, Integrated Pest Management; and PD, Professional Development. PAT is Pesticide Applicator Training credit (must attend 2 sessions for 1 PAT credit).**

## Presentation Descriptions for Tuesday, March 15, 2022

**9:00 – 9:15 am—Welcome—** Dr. Heather Darby, UVM Extension

**9:15 – 9:30 am—Federal Grant Opportunities** with Andrew Jermolowicz of USDA Rural Development

**9:30 – 10:30 am—KEYNOTE —An Industry Finding Its Way—** Dr. Jane Kolodinsky from UVM and Dr. Tyler Mark from the University of Kentucky. A high-level overview of the hemp industry using a variety of data sources from production to consumption.

**10:30—11:00 am—Student-Led Lightning Talks—** Led by Steven Kostell. Each summer, from 2021-2023, 15 undergraduate students from US institutions, representing diverse academic backgrounds, are provided an opportunity to conduct path breaking interdisciplinary research on the cultural, economic and scientific roles of the agricultural transition toward industrial hemp production. These student-led lightning talks will summarize the research experience conducted by the Summer 2021 REEU fellows while in residence at the University of Vermont. Students presenting include Ashia Ellison, Michael Forozis, Isabel Pichardo, and Anaya Ware.

**11:00—11:15 am—Break**

### Session 1—11:15 - 11:55 am

*Note: T1-Track 1; T2-Track 2; and T3-Track 3*

**T1, Creation, Performance, and Benefits of Triploid Hemp** — Dr. Jessica Lubell-Brand will delve into the development of tetraploid hemp for use in creating triploid hemp. Experiments with crossing tetraploid and diploid parental plants to create triploids will be discussed. Greenhouse evaluations of triploid hemp sterility and performance will be covered.

**T2, Lessons from Field Grows in North Carolina—** In this lecture, Tyler Jenkins will share observations from 5 years of field grows in North Carolina, documenting primarily hemp fiber production. In addition to field production, we'll discuss successes and failures with seed selection, harvesting techniques and market access. Finally, we'll talk about hemp's potential in the future, and current research efforts.

**T3, Where will this supply chain take the industry?** Presentations on the production, consumer, impact, and regulatory aspects of hemp.

### Session 2—11:55 am - 12:35 pm

**T1, Understanding and Breeding for Powdery Mildew Resistance in Cannabis** — Andrea Garfinkel will highlight the work she has done to characterize the species of powdery mildew infecting hemp and their relative distribution in the Pacific Northwest, and describe the research she has conducted to identify the first resistance gene to be found in cannabis that confers complete resistance to powdery mildew. She will also discuss how this work is relevant for disease management and the successful cultivation of hemp around the country.

**T2, A New Hemp Venture with Zion Growers** - Travis Samuels. Learn how ZION Growers evolved from a CBD-focused venture to a fiber-based processor, the pitfalls they encountered, the market research they did to assess and confirm the potential for their current iteration. For growers seeking to grow bulk fiber learn what it takes.

**T3, Where will this supply chain take the industry?**

Presentations on the production, consumer, impact, and regulatory aspects of hemp. Presenters include Amanda Falkner, Hannah Lacasse, Jonathan Shepherd, and Aaisha Al Maamari.

### Session 3—12:35 pm - 1:00 pm

**T1, UVM Extension Northwest Crop and Soils Program (NWCS) 2021 Variety Trial Evaluations on Triploids—** The John Bruce will present information on research results from their 2021 hemp variety evaluation trials. Highlighting varieties that perform best in our northeast climate showing good pest tolerance, excellence in yields, and quality attributes that meet both grower and regulatory standards.

**T2, Clothing is Agriculture, UVM Extension NWCS Hemp Fiber Trial.** Dr. Heather Darby and Laura Sullivan of UVM Extension Northwest Crops and Soils Program. In this lecture, we will discuss the current state of petroleum-derived global fashion and the alternative possibility of a circular, soil-derived textile industry, where textiles could sink carbon back into the ground at the end of their lifespan, as nature intended.

**T3, Where will this supply chain take the industry?**

Presentations on the production, consumer, impact, and regulatory aspects of hemp. Presenters include Amanda Falkner, Hannah Lacasse, Jonathan Shepherd, and Aaisha Al Maamari.



United States Department of Agriculture  
National Institute of Food and Agriculture



Additional funding provided by the University of Minnesota Digital Center for Risk Management Education Center under USDA/NIFA Award Number 2018-70027-28584. USDA and the University of Vermont are equal opportunity providers and employers. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. University of Vermont Extension, Burlington, Vermont. University of Vermont Extension, and U.S. Department of Agriculture, cooperating, offer education and employment to everyone without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status. Any reference to commercial products, trade names, or brand names is for information only, and no endorsement or approval is intended.

COLLEGE OF AGRICULTURE AND LIFE SCIENCES



## Presentation Descriptions for Wednesday, March 16, 2022

**12:30 – 12:45 pm—Welcome—** Dr. Heather Darby, UVM Extension

**12:45—2:10 pm—KEYNOTE Part 1—USDA VT Rules Updates and Pre-Sampling Protocol** with Stephanie Smith and Michael DiTomaso of VAAFM

**2:10—2:30 pm—KEYNOTE Part 2—Risk Management Options for Hemp Producers** —Alex Sereno of USDA's Risk Management Agency. This presentation will provide an overview of the Federal Crop Insurance program, with an emphasis on products available to hemp producers.

**2:30—2:45 pm—Break**

### Session 1—2:45—3:25 pm

**T1, Arthropod Pest Management in Hemp**—Kadie Britt from University of California. Arthropod pest management in hemp continues to be a challenge even though the crop has been widely produced in the United States for several years now. One of the most prominent pests to emerge has been the corn earworm, *Helicoverpa zea*. This presentation will focus on currently available information regarding pest management of insects and mites in hemp with a specific section focused on corn earworm.

**T2, Cold Pressing Oil: Experiences from Oilseed Crops in the Northeast** —Chris Callahan, University of Vermont. Pressing oil from oilseeds such as hemp can provide a highly marketable, value-added product. This session will discuss the basics of oil seed presses used for “cold pressing” without extraction solvents. Oil press designs and operation will be discussed based on models commonly available. Lessons learned from earlier work related to oilseed-based biofuel feedstock and culinary oils will be discussed.

**T3, Risk Management for Improved Viability of the Northeast Hemp Industry** —John Hanchar will discuss production, marketing, financial, legal and human resources risks and uncertainties negatively affect hemp value chain participants' entry, production, marketing and other decisions. This presentation covers a Northeast Extension Risk Management Education funded project designed to improve NE hemp value chain firms' abilities to successfully manage risks and uncertainties.

**T4, Vermont State Cannabis Board**—Join Kyle Harris from the VT Cannabis Control Board to learn about the licensing and regulation of the proposed VT program. He will discuss the state of the proposed rules as well as timelines for implementation. He will be joined by Stephanie Smith from

the VT Agency of Agriculture, Food & Markets to compare and contrast the hemp and cannabis laws and how these might impact farming operations.

### Session 2—3:25 to 4:05 pm

**T1, Minimal Munitions: Disease Management in Field Hemp** — In this session, Dr. Misbakhul Munir and Dr. Nicole Gauthier of the University of Kentucky will present some of the most destructive diseases in field hemp in Kentucky. These include root rots, stem cankers, leaf spots, and flower blights. With limited fungicide products available, growers must consider cultural practices for management. Potential management options, their benefits, and their limitations will be covered.

**T2, Growing Hemp for Grain**—Heather Darby will present information on research results from studies evaluating variety and fertility management in grain hemp production. Information on basic agronomics, harvesting, cleaning, yields, and quality will be highlighted.

**T3, Adapting to the Changing Landscape in the Hemp Economy** —Dan Chang and Bill Lofy of Kria Botanicals. Vermont's hemp economy has undergone significant changes in the past few years and Kria Botanicals has been a leading business in this ever-changing economy. Kria's co-founders, Bill and Dan, share their experiences, lessons, and thoughts on the future of this growing industry.

**T4, Vermont State Cannabis Board**—Continued.

### Session 3—4:05—4:30 pm

**T1, Updates on UVM Research Trials on the Efficacy of Organic Fungicides for Control of Hemp Diseases**—Ann Hazelrigg and Scott Lewins of University of Vermont. For the past two years Heather Darby and Ann Hazelrigg have done replicated trials of organic fungicides and their effect on powdery mildew, botrytis bud blight and foliar leafspot diseases in hemp, in low tunnels and in the field. Ann will discuss the results of these trials.

**T2, UVM Extension Northwest Crops and Soils Program 2021 Grain Trial Results.** Heather Darby will continue with her presentation on Growing Hemp for Grain and will share 2021 grain trial results.

**T3, Hemp Storage and Timing for Harvest Quality**—John Bruce will present information on research results from studies evaluating the impact of hemp flower harvest timing and storage on quality.

**T4, Vermont State Cannabis Board**—Continued.



United States Department of Agriculture  
National Institute of Food and Agriculture



Additional funding provided by the University of Minnesota Digital Center for Risk Management Education Center under USDA/NIFA Award Number 2018-70027-28584. USDA and the University of Vermont are equal opportunity providers and employers. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. University of Vermont Extension, Burlington, Vermont. University of Vermont Extension, and U.S. Department of Agriculture, cooperating, offer education and employment to everyone without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status. Any reference to commercial products, trade names, or brand names is for information only, and no endorsement or approval is intended.

COLLEGE OF AGRICULTURE AND LIFE SCIENCES

## Bios from all presenters, listed alphabetically by last name

**Jessica Lubell-Brand** is an associate professor of horticulture in the Department of Plant Science and Landscape Architecture at the University of Connecticut. She has 20 years of experience working with the horticulture industry. Dr. Lubell-Brand has conducted research with hemp on feminized seed production by masculinization, phenotypic and genotypic analysis of selfed and outcrossed feminized seed, production of polyploids, and tissue culture micro-propagation.

**Kadie Britt** is currently a postdoctoral scholar working with Dr. Houston Wilson, University of California, Riverside Entomology, located at the Kearney Agricultural Research Extension Center in Parlier, CA. Her postdoctoral research is focused on arthropod pest management in hemp and cannabis, management of navel orangeworm in almonds, and monitoring and management of black fig fly in figs, with an ultimate goal of improving the sustainability of pest management in these agricultural systems. Prior to arriving in California, Kadie earned her PhD working with Dr. Thomas Kuhar in the Virginia Tech Department of Entomology where her doctorate research focused on arthropod pest management in hemp. Kadie has worked with growers and Extension personnel in California, Virginia, and beyond to learn about and help alleviate issues faced by those growing hemp in field and indoor settings. Her passion within entomology is Extension and the opportunity to work with growers.

**John Bruce** is an Extension Research Specialist at the University of Vermont and focuses on applied hemp research. He works with hemp growers on a variety of agronomic topics.

**Chris Callahan, PE**, is the Extension Associate Professor of Agricultural Engineering at the University of Vermont and focuses on postharvest handling and storage, protected culture, and sustainable energy. He works with hemp growers on postharvest handling, drying and curing, and storage systems.

**Dan Chang** co-founded Kria Botanicals after a career as a brewery owner, Peace Corps Volunteer, and hemp grower. Dan is head of Kria's operations, responsible for all aspects of the production process, from extraction to bottling.

**Dr. Heather Darby** is an Agronomist with UVM Extension. Heather developed the UVM Hemp Program in 2015. She has conducted research on industrial hemp including projects to identify best management practices for grain, fiber, and flower production. Heather has also developed the first undergraduate hemp course for the UVM Plant and Soil Science Department.

**Michael DiTomaso** is the Hemp Program Inspector with VAAFM. In addition to inspections, Mike handles the hemp registration process, aids in program development, and serves as a point of contact for technical assistance related to the program. Mike's background is in agricultural production, education, and food safety, having served the agricultural community in various capacities.

**Andrea Garfinkel** is the Director of Research and Development at Oregon CBD, an industrial hemp seed research and breeding company located in the Willamette Valley of Oregon. Her work at Oregon CBD involves the discovery of genetic markers for use in breeding for new cannabinoids and novel traits. Andrea has several ongoing research collaborations with public universities and government institutions and works to support hemp growers throughout the United States. Andrea holds a Master's in Agronomy from the University of Wyoming and a PhD in Plant Pathology from Washington State University where she specialized in fungal diseases of specialty crops.

**Dr. Nicole Gauthier** is a Professor of Plant Pathology at the University of Kentucky. Dr. Gauthier has been working with hemp diseases since 2014. Her work includes identification and speciation of hemp pathogens, overwintering potential of disease agents, and cross infection of fungal pathogens. Dr. Gauthier earned her BS in horticulture and her PhD in plant pathology from Louisiana State University.

**John Hanchar** Extension Associate, Cornell University/CALS/CCE/NWNY Dairy, Livestock and Field Crops Program, has research and Extension responsibilities in the farm economics and management areas. Research focuses on developing applied economic analyses to evaluate changes in practices and, or technology, with emphasis on providing information for decision making. Extension efforts focus on reporting research findings, and on developing and delivering education programs designed to increase producers financial and general management abilities.

**Kyle Harris** comes to the Cannabis Control Board from the VAAFM, where he worked in Agriculture Development focusing on emerging issues and economic development. His work focused on dairy innovation, maple initiatives, and hemp business development. He has worked closely with Agency of Commerce & Community Development (ACCD) as a liaison between agencies to facilitate policy and economic discussion throughout Vermont's agricultural portfolio. Most recently, he aided in the development of Vermont's Agriculture and Food system Strategic Plan 2021-2030. Harris has a B.A. from the College of Charleston in South Carolina, and J.D. and a Masters of Environmental Policy from VT Law School. He has a license to practice law in MD.

**Ann Hazelrigg** is a plant pathologist with UVM Extension. She is the Director of the Plant Diagnostic Clinic and does research on pest and disease issues on various vegetable and agronomic crops.



United States Department of Agriculture  
National Institute of Food and Agriculture



Additional funding provided by the University of Minnesota Digital Center for Risk Management Education Center under USDA/NIFA Award Number 2018-70027-28584. USDA and the University of Vermont are equal opportunity providers and employers. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. University of Vermont Extension, Burlington, Vermont. University of Vermont Extension, and U.S. Department of Agriculture, cooperating, offer education and employment to everyone without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status. Any reference to commercial products, trade names, or brand names is for information only, and no endorsement or approval is intended.

COLLEGE OF AGRICULTURE AND LIFE SCIENCES

**Tyler Jenkins** has been organizing industrial hemp grows and research trials since 2015 with support from Fibershed. Over the last decade, Tyler has worked in building the movement towards resilient, thriving local communities in the fields of agriculture, public health, and economic development. Tyler and his family reside in North Carolina, where he currently serves as the Facility Manager for Camp Royall in Moncure, NC.

**Andrew Jermolowicz** serves as the Director of the Business Development Division. In this capacity he oversees the Co-operative Services and Public Private Partnerships branches. He leads the development and execution of policies and strategies to better engage in collaboration with other Federal partners, private-sector companies and other stakeholders to support economic development in rural communities. He also oversees the Biobased Markets Program – a Federal procurement and biobased product certification program. Since 1986, Jermolowicz has served in multiple program and policy positions within Rural Development and maintains interests in rural business development, value added agriculture, food systems marketing and biobased economic development. Jermolowicz received B.S. and M.S. degrees, both in Agriculture Economics, from the University of Kentucky.

**Jane Kolodinsky**, Ph.D. is a Professor, Director of the Center for Rural Studies, and Associate Dean of Research in CALS at the University of Vermont. Her research program is best described as being focused on controversial food system policy issues. A current foci is the resurgence of hemp in the U.S. economy. The University of Vermont, Colorado State, University of Kentucky and University of Alberta research teams have current projects related to the economic impact of hemp, consumer demand for hemp ( and other novel crop) products, the hemp retail landscape, and developing food system metrics related to economics, the environment and communities.

**Scott Lewins** is the Entomology Extension Educator with UVM Extension Northwest Crops & Soils Program, Extension Coordinator with the Agroecology and Livelihoods Collaborative, and Lecturer in the department of Plant and Soil Science at UVM. Scott has worked with a multitude of growers in the region on various crop systems, with a focus on sustainable pest management. He is a key individual on various grant-funded hemp research projects with Dr. Heather Darby, and together they have also developed and taught an undergraduate course on Introduction to Hemp Production at UVM.

**Bill Lofy** is Kria Botanicals co-founder and CEO, responsible for day-to-day management of the business. Bill has three decades of experience as a political strategist, chief of staff to the governor of Vermont, Peace Corps Volunteer, and campaign operative.

**Tyler Mark** is an associate professor of production economics in the Department of Agricultural Economics at the University of Kentucky. His applied research interests include hemp economics, broadband availability in rural areas, precision agriculture, and precision dairy. Current projects include the economic impact of hemp production, hemp cost of production, factors that impact the profitability of Kentucky farmers, broadband internet's impact on precision agriculture data transmission, and the development of the Kentucky economy.

**Misbakhul Munir** is a postdoctoral scholar at the University of Kentucky. Dr. Munir earned his PhD from Clemson University and has been working on hemp fungal pathogens since 2021. His current work includes infectivity and pathogenicity studies for *Fusarium* bud and flower blight of field hemp. He is also investigating the potential for mycotoxin production by *Fusarium* spp. in both grain and floral hemp.

**Travis Samuels** is an entrepreneur who grew up in Vermont's Northeast Kingdom, Travis graduated from Johnson & Wales University with a bachelor's degree in Business and Hospitality in 2014. He has traveled the country working in world-class resorts in Florida and landmark hotels in Boston, while researching growing hemp and cannabis. He moved back to Vermont in 2019 to manage ZION Growers as the co-founder and COO. Currently, ZION is establishing its flagship facility for the processing of industrial hemp in St. Johnsbury, VT. Additionally, he owns and operates a property management entity for rental units in the area.

**Alex Sereno** is the Director of the USDA Risk Management Agency's (RMA) Raleigh Regional Office. The Raleigh Regional Office administers the Federal Crop Insurance program along the Atlantic seaboard in the 14 states from North Carolina to Maine. Alex has been with RMA for over 10 years. He has a BS in Agricultural Economics from Clemson University and a Masters' in Economics from North Carolina State University.

**Stephanie Smith** is the Assistant Director for the Public Health and Agricultural Resource Management Division at the Vermont Agency of Agriculture, Food & Markets. She develops and implements policies and programs that support the hemp and plant health industries. She holds a Bachelor of Arts in Environmental Studies from Boston University and a Master of Landscape Architecture from the University of Georgia.

**Laura Sullivan** is a fiber artist and farmer working intimately on the UVM Extension Northwest Crops & Soils Program's hemp fiber research trials at the Borderview Research Farm. With a goal of reviving local fibersheds in the northeast, Laura is deeply interested in disrupting our runaway carbon emissions trajectory through a closed loop textile market where farmers are paid a premium for their raw materials grown with environmental integrity.



United States Department of Agriculture  
National Institute of Food and Agriculture



Additional funding provided by the University of Minnesota Digital Center for Risk Management Education Center under USDA/NIFA Award Number 2018-70027-28584. USDA and the University of Vermont are equal opportunity providers and employers. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. University of Vermont Extension, Burlington, Vermont. University of Vermont Extension, and U.S. Department of Agriculture, cooperating, offer education and employment to everyone without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status. Any reference to commercial products, trade names, or brand names is for information only, and no endorsement or approval is intended.

COLLEGE OF AGRICULTURE AND LIFE SCIENCES



## 2022 INDUSTRIAL HEMP CONFERENCE

### THANK YOU TO OUR CONFERENCE COLLABORATORS AND SPONSORS

CONFERENCE  
COLLABORATORS



United States Department of Agriculture  
National Institute of Food and Agriculture

*Additional funding provided by the University of Minnesota Digital Center for Risk Management Education Center under USDA/NIFA Award Number 2018-70027-28584. USDA and the University of Vermont are equal opportunity providers and employers.*

### CONFERENCE SPONSORS

SILVER LEVEL



**Bia Diagnostics**  
Laboratories

**Delmhorst**<sup>®</sup>  
INSTRUMENT CO  
WHEN ACCURACY IS THE POINT.™

BRONZE LEVEL

