IMPACT COMMUNICATIONS TOOLKIT

Committee on Controlled Environment Technology & Use (NCERA-101)

ABOUT THE IMPACT STATEMENT

SUMMARY: For over 40 years, a committee of land-grant university researchers, Extension specialists, and industry and international partners has worked to advance the design and operation of controlled environments such as growth chambers and greenhouses. Optimizing controlled environments is key to ensuring crop production, especially in the face of climate change and population growth. Controlled environments are also essential for research and education.

LINK: bit.ly/MRF-controlledenvironments

PROJECT FUNDING & PARTICIPATION: This project is supported in part by USDA NIFA through Hatch Multistate Research Fund allocations to participating State Agricultural Experiment Stations at land-grant universities and other partners, including: University of Alaska, University of Arizona, Brigham Young University, University of California, Clemson University, University of Connecticut, Cornell University, University of Delaware, Duke University, University of Florida, University of Georgia, University of Guelph, University of Hawaii, University of Illinois, Iowa State University, Kansas State University, University of Maryland, McGill University, Michigan State University, University of Minnesota, NASA - Ames Research Center, NASA - Kennedy Space Center, North Carolina State University, Ohio State University, Penn State University, Purdue University, Rutgers University, University of Tennessee, Texas A&M University, USDA-ARS, Utah State University, West Virginia University, University of Wisconsin, University of Wyoming. Previous iterations of this project may include other participants. Participants may receive additional funding from other sources.

PROJECT DETAILS: controlledenvironments.org and nimss.org/projects/18794

HOW CAN YOU USE THE IMPACT STATEMENT?

- **SEND** to department heads, Experiment Station/Extension Directors, and communications staff
- **DISCUSS** with legislators, stakeholders, potential partners, and others
- **PITCH** to magazines, newspapers, and other traditional media outlets
- **INCLUDE** in presentations, grant proposals, briefs, meetings, and reports
- **SHARE** in social media posts, blogs, and newsletters
- **UPLOAD** to websites and databases
- **ANY WAY YOU WANT!** The Impact Statement was created to help promote your work so you may use/share it as you deem appropriate

SHARING ON SOCIAL MEDIA

Write a post. Use the sample posts below or create your own original posts to feature the project and Impact Statement on your social media channels.

Link. Include a link to the Impact Statement.

Stand out. Include photos or other simple visual aids. Provide attribution and alt text. If your institution does not have suitable images, try these free image libraries:

USDA Flickr
USDA-ARS Image Gallery
Unsplash

Connect. Add relevant hashtags and/or handles for your institution, funders, partners, and stakeholders. Consider timing your posts to connect with related events (e.g., major conferences, holidays, seasons, news).

@USDA_NIFA #NIFAimpacts
@USDAScience
@AgIsAmerica @APLU_Ag #AgIsAmerica
#landgrantuniversities
@MRFimpacts
@NCRegionalAssoc

#ControlledEnvironment #CEA
#ControlledEnvironmentAgriculture
#UrbanAg
#VerticalFarming
#AgTech
#hydroponics
#SustainableAg #SustainableAgriculture
#EnergyEfficiency

March 11-12, 2025 | Indoor Ag Con
@indooragcon #IndoorAgCon

SAMPLE POSTS

For 40+ years, a multistate research & Extension committee has worked to optimize the design & operation of controlled environments to ensure efficient resource use & sustainable crop production. Controlled environments are also essential for research & education. bit.ly/MRF-controlledenvironments

To help optimize controlled environment design & operation, a multistate committee of land-grant university scientists & Extension specialists has developed protocols, standards & guidelines. See other ways the committee impacts #CEA: bit.ly/MRF-controlledenvironments

See how a multistate research & Extension committee is using professional development, hands-on K-12 STEM education, YouTube series & more to improve knowledge about #CEA & develop the next generation of controlled environment researchers, engineers, managers & growers. bit.ly/MRF-controlledenvironments

As part of a multistate research & Extension project on #CEA, researchers demonstrated how to leverage #AI to automate climate controls & optimize other operations in greenhouses. See more impacts: bit.ly/MRF-controlledenvironments

As part of a multistate research & Extension project on #CEA **@UCDavisCAES** showed the differences in energy requirements for greenhouses with different shapes, orientations, and locations. See more project findings: bit.ly/MRF-controlledenvironments

Using findings from **@RutgersSEBS** to design greenhouses & update operational strategies, growers had energy savings of 5-30%. Average-sized greenhouse businesses saved ~$25,000/yr in operation & maintenance costs. See more impacts from this multistate committee on #CEA: bit.ly/MRF-controlledenvironments

@UGA_CollegeofAg showed that lettuce can tolerate daily light sum fluctuations. If greenhouse growers could cut back on lighting, they could save $6,000-9,000 per acre per year. See more findings from a multistate project on #ControlledEnvironment technology: bit.ly/MRF-controlledenvironments

Part of a multistate research & Extension committee on #CEA technology & use, **@aglifesciences** studies suggested lighting strategies that can boost red leaf lettuce quality while also reducing energy consumption by 15-25%. See more findings: bit.ly/MRF-controlledenvironments

Lighting strategies developed by **@CANRatMSU** & **@UDcanr** can help greenhouse floriculture growers boost growth, time flowering for specific market dates & reduce labor costs. Learn more about these & other impacts of a multistate research project on #CEA: bit.ly/MRF-controlledenvironments

As part of a multistate project on #CEA, **@AuburnAg** suggested a method for growing vegetables in brackish water, which would allow #aquaponics systems to cultivate higher-value fish while still producing vegetables thus improving the economics of aquaponics. See more impacts: bit.ly/MRF-controlledenvironments

Land-grant university scientists are helping **@NASA** develop plant growth chambers that can be used in space. For example, **@UDcanr** studies facilitated spectral customization for space crop production. See other ways land-grant universities are advancing #CEA: bit.ly/MRF-controlledenvironments

@UArizonaCALES scientists were instrumental in developing technology for & building an efficient greenhouse complex that has revolutionized how Bayer develops new corn varieties for animal feed. Learn more about this & other work to advance #CEA: bit.ly/MRF-controlledenvironments

To improve knowledge & use of #CEA tech, members of a multistate committee have hosted workshops for thousands of growers. After a 2023 climate control course by **@CornellCALS** & **@RutgersSEBS**, 80% of surveyed growers planned to implement new practices. See more impacts: bit.ly/MRF-controlledenvironments

As part of a multistate project on #CEA technology, **@CFAES_OSU** leads the Indoor Ag Science Café webinar series (https://www.scri-optimia.org/cafe.php), which shares research updates that can facilitate sustainable, profitable #IndoorAg. See other ways the project is advancing #CEA: bit.ly/MRF-controlledenvironments

Multistate Research Fund IMPACTS

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