Planning to Increase the Productivity and Competition of Sustainable Strawberry Systems

Rom, C.R. [1], H. Friedrich[1], C.A. Chase[2], S. Gu[3], E. Hoover[3], C. Kubota[5], J.D. Lea-Cox[6], K.S. Lewers[7], A. McWhirt[1], Z. Moon[1], P.J. Nitzsche[8], R. Qin[9], J. Samtani[10], M. Schroeder Moreno[11], M.E. Swisher[2], F. Takeda[7], R. Wallace[12], X. Zhao[2] and S. Zhou[13]

[1]University of Arkansas, University of Florida[2], North Carolina A&T[3], University of Minnesota[4], The Ohio State University[5], University of Maryland[6], USDA-ARS[7], Rutgers NJAES[8], Oregon State University[9], Virginia Tech [10], North Carolina State University[11], Texas A&M University[12], Tennessee State University[13]

Abstract

An SCRI planning grant led by the National Strawberry Sustainability Initiative (NSSI) at the University of Arkansas drew on the expertise of a multi-disciplinary and multi-state group of researchers, extension specialists, growers, consultants, and industry representatives to develop a strategic plan and a nationally competitive grants to address the critical needs for research, outreach, and education to support the a competitive and sustainable strawberry production system. Key activities informed the planning process. An advisory board of growers and industry representatives was established for consulting, survey testing and project oversight. A national strawberry industry needs assessment was conducted to identify barriers to sustainability of strawberry growers, managers, nurserymen, extension educators and consultants. CoPIs engaged in monthly conference calls. A two-day planning workshop was conducted with co-PIs and advisory board members to discuss survey results, identify priorities and discuss a project based on this information. As a result and outcome of these efforts, the critical needs for research, outreach and education, and sustainability, were identified to improve the resiliency and competitiveness of the US strawberry system. The information generated in this project informs the development of a USDA Specialty Crop Research Initiative project proposal.

Four growers, a Driscoll's manager and an Extension Specialist evaluating plots on-farm as part of a 2014 UFL NSSI project. Photo credit, Damion Graves, 2015.

Low tunnel and high tunnel strawberry production systems in Arkansas, 2014 NSSI project.

'Rutgers Scarlet' developed by Rutgers New Jersey Agricultural Experiment Station released in 2013-2014 NSSI project. Photo by Peter Nitzsche, 2014.

Social Media

Social media is an important component of the NSSI program. The NSSI utilizes a blog, Facebook page, Twitter account, YouTube channel, SlideShare account, and Smugmug photo site to keep the public informed and share project outputs.

- Website: strawberry.uark.edu
- Blog: wordpress.uark.edu/sberries
- Facebook: facebook.com/StrawberrySustainabilityInitiative
- YouTube: youtube.com/channel/UC55G_p_ZM58goZtu_OYEtA
- Twitter: twitter.com/s_berries
- SlideShare: slideshare.net/sberries
- Smugmug Photo Site: nssi.smugmug.com

Background & Partners

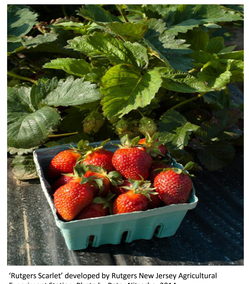
The NSSI was initiated in 2013 at the University of Arkansas Division of Agriculture Center for Rural Sustainability with a gift grant from the Walmart Foundation with the intent of advancing the sustainability of the U.S. strawberry industry. Through a re-granting process, 26 projects in 13 states were funded to address innovation and technology issues. Information on these projects is available at http://strawberry.uark.edu. Because of the impacts, momentum and collaboration developed during this initiative, many project partners are continuing to work together to address strawberry sustainability issues. In 2016, an SCRI planning grant was submitted and received. Project partners are from the University of Florida, North Carolina State University, North Carolina A&T, University of Maryland, The Ohio State University, University of Minnesota, Rutgers, Virginia Tech, Texas A&M, Tennessee State University, Oregon State University and USDA-ARS.

Activities

Primary activities for this planning grant included:

- Developing an advisory board of growers and industry representatives
- An industry-wide survey of growers, managers, nurserymen, extension educators and consultants to identify needs and barriers
- A two-day workshop among collaborators, advisors and stakeholders to discuss results and develop plan
- Monthly conference calls among collaborators
- Engaging a writer to write articles for trade magazines
- Developing a CAP proposal for the 2018 SCRI program

Cover crops are mowed before strawberries are planted in 2014 NCSU NSSI project. Photo Amanda McWhirt, 2014.



'Rutgers Scarlet' developed by Rutgers New Jersey Agricultural Experiment Station. Photo by Peter Nitzsche, 2014.

Project collaborators, growers and industry representatives in the advisory panel meet at the Gulf Coast Research and Education Center in Wimauma, FL, March 2017.

Small group discussion at the Gulf Coast Research and Education Center in Wimauma, FL, March 2017, discussing research and outreach goals.

Results & Outcomes

An advisory committee of 25 growers, grower associations and industry representatives have been involved with the planning process by testing the survey, participating in the workshop and providing input. The national needs assessment was conducted Dec 2016-Feb 2017. Complete survey results can be found in ASHS poster titled "The National Strawberry Sustainability Initiative: National Strawberry Production System Needs Assessment Survey" (Moon et al., 2017). Leading overall limitations that came from the survey included pests, labor, weather, and fumigation. Greatest information needs were indicated for soil health and management, alternative production systems, production practices, and nutrient management. Missing technologies included diagnostic tools, predictive models, remote sensing and smart phone apps.

In the two-day workshop in March 2017, survey results were discussed in a larger group format while breakout groups discussed the goals for horticultural research and outreach, and socioeconomic research and outreach. Eight themes emerged from the event.

Because of the planning grant activities including the survey results, advisory committee input, ongoing conference calls and collaborations, objectives were established that propose a systems approach to developing and advancing adaptive solutions for sustainable and resilient strawberry systems. A SCRI CAP proposal will be submitted to the 2018 program based on this planning project.

Acknowledgements

This project was funded by the USDA Specialty Crop Research initiative, project 2016-51181-25504.

DIVISION OF AGRICULTURE RESEARCH & EXTENSION University of Arkansas System

Center for Agricultural and Rural Sustainability

UNIVERSITY OF ARKANSAS

USDA