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NATIONAL



C-FAR

THE NATIONAL COALITION FOR
FOOD & AGRICULTURAL RESEARCH

Program:

ROBOTIC WEED WARS

A New Game, New Players and New Rules

May 22, 2017

PROGRAM

Welcome and Introduction

LEE VAN WYCHEN
NATIONAL C-FAR REPRESENTATIVE

Distinguished Speaker

DR. STEVEN FENNIMORE
COOPERATIVE EXTENSION AND WEED SCIENTIST
UNIVERSITY OF CALIFORNIA-DAVIS



Open Forum

Closing

LEE VAN WYCHEN

NATIONAL C-FAR IS a nonprofit, nonpartisan, consensus-based and customer-led coalition that brings food, agriculture, nutrition, conservation and natural resource stakeholders together with the food and agriculture research and extension community, serving as a forum and a unified voice in support of sustaining and increasing public investment at the national level in food and agricultural research, extension, and education.

ABSTRACT

U.S. vegetable growers are mainly dependent on hand weeding to achieve acceptable weed control since there are relatively few herbicides registered for use in these small acreage crops due to the nearly \$300 million cost of researching, developing, and testing a new herbicide that would meet today's regulatory requirements. Labor shortages have led to higher hand-weeding costs that run \$150 to \$300 per acre, thus vegetable growers have begun to adopt automated robotic weeders. Machine vision technology, together with data processors, have been developed to enable commercial machines to recognize crop row patterns and control automated devices that perform tasks such as removal of intra-row weeds, as well as to thin crops to desired stands. However, it is doubtful that private funding alone from small startup companies will be adequate to develop automated robotic weeders custom-designed for U.S. crops. Public funding is needed to help train students in the multidisciplinary fields of science, technology, and engineering needed to advance the development of automated robotic weeders. Research is needed on more challenging precision weed control technologies, such as lasers or sand abrasives to remove weeds. These public investments would be a win-win for everyone as it generates higher paying jobs in the crop protection industry, leads to the use of lower risk weed control tactics, and maintains a safe and affordable supply of U.S. vegetables.

SPEAKER BIOGRAPHY

Steven Fennimore, Ph.D., is a Cooperative Extension Specialist and Weed Scientist with the University of California at Davis located at a field station in Salinas, CA. Since 1997, Steve has conducted a research and extension program focused on weed management in vegetable crops, cut flowers and strawberries. Dr. Fennimore works extensively on physical weed control tools such as intelligent cultivators as well as steam for soil disinfestation. He helped the California strawberry industry transition away from methyl bromide fumigation, towards safer use of existing fumigants and strawberry production without fumigants. Steve is a member of the Weed Science Society of America where he is a member of the editorial board for Weed Technology, and current chair of the Extramural Grants Committee. He is Past President of the California Weed Science Society.

SEMINAR SERIES DESCRIPTION

National C-FAR's Seminar Series regularly presents leading-edge researchers to address pressing issues confronting the public and Congress. National C-FAR and the Seminar Series serve as a resource to policymakers and staff.

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