

ILSI Research Foundation Co-Leads New Effort to Improve US Fruit & Vegetable Supply Chains



Americans are encouraged to eat more fruits and vegetables as part of a healthy, balanced diet. However, meeting increased demand for these highly nutritious foods will be challenging for domestic production regions in the United States. California is the leading domestic source of many fruit and vegetable crops, but climate change coupled with increased competition for land, water and other natural resources will likely limit greater production in that state.

Fruit and vegetable production is only one aspect of overall food system performance. Before reaching consumers, fruits and vegetables pass through many steps: processing, transport, storage, preparation, consumption, and (unfortunately) generation of waste. All of these post-harvest steps consume energy, water, and other resources as well as emitting the very greenhouse gases (GHGs) that contribute to climate change.

The ILSI Research Foundation has long recognized this broad food system challenge, first publishing a keystone [white paper](#) in June 2014, and then identifying fruit and vegetable supply chains as

warranting particular attention. At a 2015 [workshop](#) held at UC Davis, participants from public and private sector organizations shared a range of perspectives and experiences on what is needed for a model-based sustainability assessment of future domestic production, availability, and price for representative fruits and vegetables. Advancing this kind of an assessment requires a skilled, multi-disciplinary, multi-institutional team of researchers, educators, and extension specialists.

To that end, the ILSI Research Foundation and the University of Florida assembled exactly that, and was just awarded a \$3 million, four-year grant from the United States Department of Agriculture National Institute of Food and Agriculture for the project “Climate Adaptation and Mitigation in Fruit and Vegetable Supply Chains.”

Co-led by Dr. Senthold Asseng, University of Florida and Dr. David Gustafson, representing the ILSI Research Foundation, the project team also includes scientists, extension specialists, practitioners and students from the International

Food Policy Research Institute, University of Arkansas, University of Illinois, Washington State University, and World Agricultural Economic and Environmental Services.

The researchers will use crop modeling, economic modeling, and environmental modeling to determine current and future climate and water availability impacts on yield, quality, price, and environmental profile of selected fruit and vegetable crops, specifically: carrots, green beans, oranges, potatoes, spinach, strawberries, sweet corn, and tomatoes. The focus will be on strategies and land use change resulting from relocation of crops from California to new regions in the Pacific Northwest and Southeast.

The ILSI Research Foundation will lead engagement with stakeholders and decision makers throughout the project to ensure that modeling reflects realistic practices and that outputs provide useful intervention strategies, which will then be communicated throughout fruit and vegetable supply chains. Using this integrated, collaborative approach, the team will help the US maintain a nutritious, reliable, affordable, and environmentally-sound food supply.