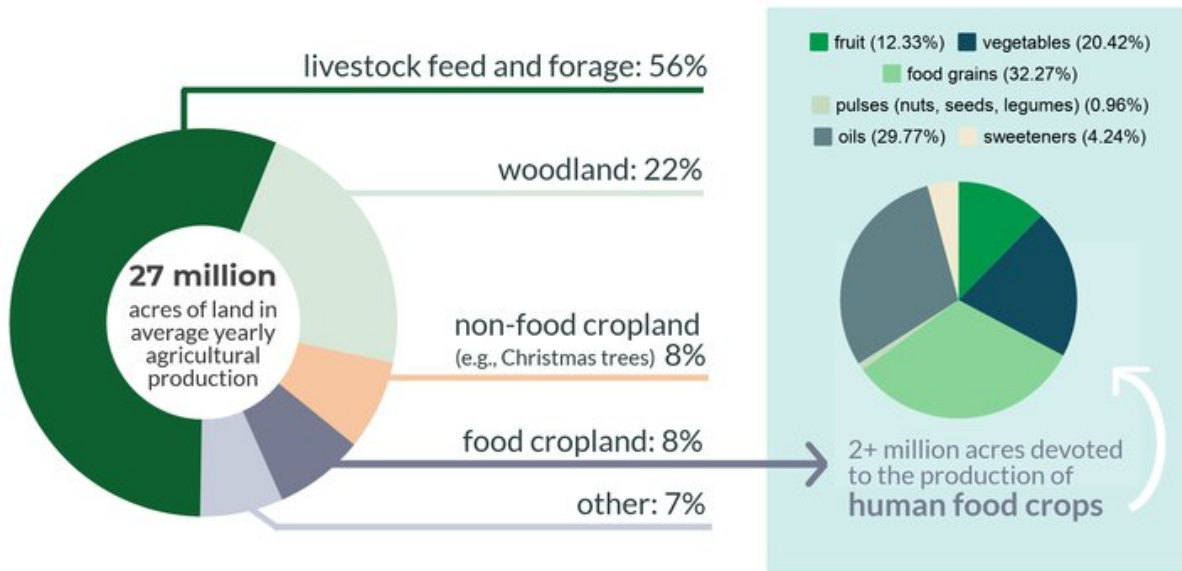


Study of Northeast food system advances understanding of regional potential

October 22 2018, by Kristen Devlin



Source: Griffin, T., Conrad, Z., Peters, C., Ridberg, R., & Tyler, E. (2015). Regional self-reliance of the Northeast food system. *Renewable Agriculture and Food Systems*, 30(4), 349-363. doi:10.1017/S1742170514000027

One of the studies undertaken by EFSNE researchers reveals quite a bit about land use in the Northeast region. From 2001 to 2010, an annual mean of 27 million acres of land in the Northeast — or about 21 percent of the region’s total land area — were used for agricultural production. Credit: Pennsylvania State University

After seven years of analyzing a number of consumption, distribution,

production, and other aspects of the Northeast U.S. food system, researchers from Penn State and 10 other universities and organizations have made significant gains in understanding the extent to which the region can increase production of certain foods, and potentially better meet the food needs of low-income populations in the locations they studied.

Findings and outputs from the project, which concluded earlier this year, will be useful to food system planners, policy makers, researchers and advocates interested in advancing regional food systems.

"The Northeast is home to roughly 22 percent of the nation's population, but only about 6 percent of farmland, which raises questions about how food secure we are as a region," said Project Director Stephan Goetz, professor of agricultural and regional economics in Penn State's College of Agricultural Sciences and director of the Northeast Regional Center for Rural Development. "We wanted to know whether a stronger regional food system, which operates at a large geographic scale, might improve [food security](#) while also reaping environmental and economic benefits."

To answer that question, Goetz joined forces with researchers and educators at 11 institutions and organizations in 2011 to take the first interdisciplinary, system-wide approach to studying a multi-state food system. The project, called [Enhancing Food Security in the Northeast \(EFSNE\)](#), engaged more than 40 individuals and 45 students during its seven-year run.

Team members formed several sub-groups to study the region's agricultural production capacity, supply chains and distribution systems, and the experiences, preferences and shopping patterns of consumers at nine low-income rural and urban locations. The researchers selected eight foods—collectively referred to as the project market basket—to

serve as the focal point of their research efforts.

"The market basket, which included fresh and processed foods, allowed us to examine the same foods through the lenses of multiple disciplines," said EFSNE Deputy Director Kate Clancy, an independent food systems consultant. "As a result, we're able to tell a rich story about this specific set of foods, their supply, and what opportunities exist to enhance their production and distribution in the region."

All told, the team conducted dozens of analyses that have resulted in a much greater understanding of the capacity for regional food systems to supply regional, and in some cases, national food needs. Team members have presented their findings at more than 100 venues and in 22 peer-reviewed publications, with several additional manuscripts planned for release later this year. Some key findings that have emerged include:

- A small number of crops occupy a large portion of the 27 million acres of farmland in the Northeast. From 2001 to 2010, roughly 35 percent of the region's farmland was devoted to non-food crops or was fallow. Roughly 65 percent contributed directly to the food supply. More than half of that was devoted to feed and forage crops for animals, while less than 10 percent was devoted to crops eaten by people.
- The Northeast produces more animal-derived foods than plant-derived foods. For example, the region produced enough dairy and eggs to meet 76 percent and 71 percent of regional demand, respectively, and enough fruits and vegetables to meet 18 percent and 26 percent of demand. (These findings illustrate how regional production compares to regional demand overall. It is not meant to imply that what was produced in the region was actually consumed in the region).
- Supply chain case studies, which looked at 11 independent supermarkets in low-income locations and traced how certain

foods made their way from grower to store, revealed that supply chain activities for these foods add significant economic value to the region, even if the food is not produced in the Northeast.

- Economic demand is the largest contributor to the number of supermarkets in an area; that is, large stores shy away from areas where demand is not sizable. All except one of the food stores that participated in the study are independent supermarkets that have the capacity to cater to customers in a way that many national chain stores cannot. Some are losing market share to niche chain stores, dollar stores and superstores, and several closed during the life of the project.
- The concept of regional compared to [local food](#) systems is ambiguous and amorphous to most consumers. There are opportunities to grow support for regional food system expansion that do not rely on widespread consumer appreciation of the benefits of regional approaches.
- A study using three different datasets to characterize differences in purchasing patterns across income levels and rural-urban status of Northeast food shoppers revealed useful insights, including that rural residents are more likely to shop at superstores than urban residents and that children in a household led to greater purchasing of the items in the project's market basket.

"We are optimistic that as our findings become more widely known, that those interested in regional food systems, including policy makers, will develop deeper insights into how these systems operate in our Northeast region," said Goetz. "Our research provides data on issues relevant to all actors across the supply chain, with many in-depth analyses that people in both public and private sectors, including farmers, can make use of to build the regional marketplace."

Beyond their research accomplishments, the team pursued multiple education and outreach objectives. For example, several [team members](#)

implemented a community-based experiential internship program at Penn State through which five undergraduate interns helped with data collection, analysis and outreach.

Others implemented two new courses at Tufts University, and incorporated [food](#) system elements to existing courses at Penn State and Delaware State University. Members of the project's outreach arm organized multiple events aimed at engaging stakeholders around project findings, including a national conference, six community-based events, a community-readiness study, and a two-day workshop for project researchers, store owners and community leaders to share their perspectives with one another.

Provided by Pennsylvania State University

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