

Localize it? UCSB researchers size up the sustainability of the county food system

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In January 2005, when the railroad and Highway 101 were shut down for a few days by the La Conchita mudslide, some locals started to get antsy about their food supply.

At area chain grocery stores, produce shelves started emptying out. And local farmers, who had fields full of fruits and vegetables, approached the stores, according to David Cleveland, a professor of environmental studies at UCSB.

"They'd say, 'I've got broccoli, I've got strawberries, you want some? I'll sell them to you.' And they'd (the grocery store managers) say, 'We've got contracts with distributors. We can't do it.'"

"The system's been set up in a way that separates local food production with local food eaters."

Beginning in fall 2009, Dr. Cleveland and a team of student researchers took a closer look at the flow of produce within Santa Barbara County's agrifood system to shed light on the impacts of localizing food consumption.

Their work was funded by a \$25,000 university grant Dr. Cleveland received as the first UCSB Campus Sustainability Champion in 2009-2010, and a paper on their research, which is continuing this year, was recently submitted for review to an environmental science journal.

In his undergraduate class, "World Agriculture, Food and Population," the professor teaches about the environmental, social and economic effects of agriculture, including world food crises and hunger.

One assumption many people make is that localizing agrifood systems --increasing the consumption of locally grown food -- will help address not only the hunger crisis, but the obesity epidemic, as well as nutritional and environmental problems, while bolstering food security and local economies.



UCSB environmental studies professor David Cleveland, center, leads a team of students, including Sean Andersen, left, and Kai Hinson in research on food localization. They're pictured outside UCSB's De La Guerra Dining Commons, with boxes from Farmer Direct Produce, one of the regional food hubs they've been studying. Photo: Nik Baskovich/NEWS-PRESS

"Everyone talks about localization as a way to combat this globalized corporate food system that seems to be causing a lot of problems," he said. But what measurable difference does localization actually make?

With a group of about nine undergraduate researchers, recruited from his world agriculture and small-scale food production classes, Dr. Cleveland decided to look at the case of Santa Barbara County.

"Sustainable" and "local" have become buzzwords regularly used for marketing products, but they don't always deliver on their promise of being better for human health and the environment. So the team specifically used improved nutrition and reduced greenhouse gas emissions as indicators of sustainability.

But first they had to measure the flow of food in and out of Santa Barbara County.

"If you really want to find out how local a system is, you need to know how much food that's produced there is consumed there, but no one keeps track of it," said Dr. Cleveland. "We were amazed that there was just no data on it. There's plenty on what's produced and how much it's worth and how much it weighs, but no one tracks where it goes to because we have a system that only tracks dollars."

To make the task more manageable, they focused on fruits and vegetables, which make up the bulk and value of the county's agricultural products and are nutritionally dense.

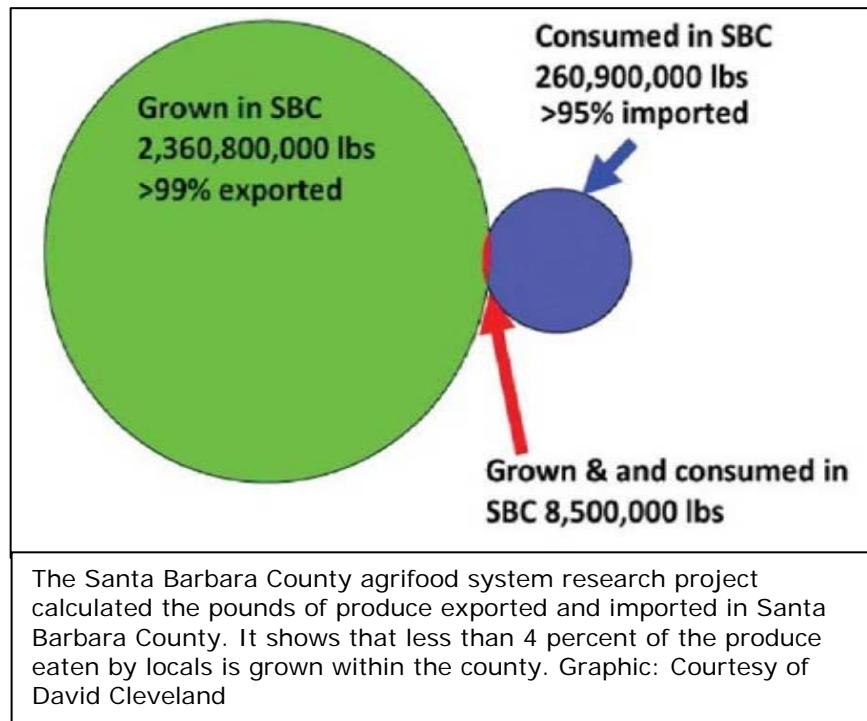
To collect data, students fanned out to various businesses that sold county-grown produce, including grocery stores, the Santa Barbara Certified Farmers Market, local farm stands and Community-Supported Agriculture programs. They also talked with large institutions, like UCSB's dining services, that purchase locally grown food.

Their calculations took into consideration spoilage and were in some cases based on broad assumptions (such as that food purchased from county stores was consumed locally) and estimates.

But what they found was surprising: Less than 4 percent (8.5 million pounds) of the fruits and vegetables consumed in Santa Barbara County is locally grown. The rest (about 252 million pounds) is imported.

In the meantime, more than 99 percent of the 2.4 billion pounds of produce grown in the county is exported. That's tons of broccoli, cauliflower, lettuce, celery, strawberries, avocados and more, flying out the door. In other words, locals consume less than 1 percent of the county's output.

"The surprising results were just that Santa Barbara County isn't very local," said Sean Anderson, a senior at UCSB who joined the project last spring. "What we found basically is Santa Barbara County is getting most of their fruits and vegetables elsewhere. Or it's leaving Santa Barbara and coming back. It's hard to know.



"You'd think in a major agricultural county that that wouldn't be the case. We have great farmers markets and it seems like there's a lot of interest in local food, sustainable eating, green stuff, but it's just not really there."

Dr. Cleveland compares the phenomenon to two trains passing in the night. "We're producing all this stuff, the semis are rolling into L.A. and the semis are rolling up from L.A.," he said. "There's a tremendous disconnect between our food production (and consumption).

"I mean, what's the purpose for our food production, ultimately? It's for people to eat it. But the purpose of the food system's been kind of taken over by corporate profit-seeking, so the purpose of growing food becomes how can we make the most money?"

However, the second part of the study found that even if county residents ate 100 percent of their fruits and vegetables from local sources, it wouldn't have a great impact on reducing greenhouse gas emissions based on the entire life cycle of the agrifood system.

That's because more emissions come from other processes related to agribusiness, including production (from fertilizers, for example), processing and packaging, versus direct transportation.

"We would save in terms of greenhouse gas emissions, but those food miles (as defined from farm to retail stores) themselves are such a small part of the agrifood system," said Dr. Cleveland.

And it wouldn't improve overall nutrition within the county, since other factors, such as household incomes, availability and access to nutritious foods, prove to be bigger barriers to increasing produce consumption.

(A study by the California Center for Public Health Advocacy found that fast-food restaurants make up half of the total retail food outlets in Santa Barbara County; supermarkets, produce stores and farmers markets are only 25 percent.)

"You could say, 'Oh we're so sustainable, because we're buying all local food,' " Dr. Cleveland said. "Well, you not only have to buy local food, but you have to make sure that that local food system is (set up) in such a way that it really is having an impact that you believe local stands for."

For example, buying from food hubs, such as a "localized" grocery store like the Isla Vista Food Cooperative, a local food section in a chain grocery store, or service that delivers locally grown foods, like Plow to Porch Organics, would be more fuel-efficient than driving out to individual farm stands.

Going meatless -- especially forgoing beef -- one day a week would have a greater overall environmental impact than obtaining all of your produce locally, according to the group. Meat production generates more emissions than transportation, accounting for nearly one-fifth of global greenhouse emissions, according to the United Nations Food and Agriculture Organization. It also contributes to pollution and intensively uses resources, from land and water to fossil fuels.

And preparing your own foods at home may have a greater impact than buying locally grown foods that have been prepackaged, processed, refrigerated and the like.

As part of its ongoing research, the team is exploring ways that different parts of the local food system, from food acquisition and preparation to agricultural production, could be leveraged to create a greater impact on nutrition and the environment.

They're documenting localization efforts within the county, such as partnerships, distribution hubs and educational programs, and planning to call attention to what works.

One program is UCSB's residential dining halls, which serve some 2.2 million meals a day. In recent years, the university started buying some of its food from Farmer Direct Produce, a locally based distributor that handles bulk deliveries from area farmers to large institutions.

The agrisystems group will conduct a study to see whether educating students about the benefits of local and sustainable food through signage in some of the dining halls will influence their food decisions.

They'll also look at how the Foodbank of Santa Barbara County and the county public health department are working together to increase access to local, fresh produce for food assistance recipients.

Despite the researchers' findings, efforts toward sustainability, such as reducing "food miles," are important, according to the group. Buying local just can't be seen as a cure-all.

"If we only focus on localization, it wouldn't be enough to reduce our carbon footprint," said Corie Radka, a research assistant and UCSB graduate who worked on the study. "But in the paper, we talked about all the other synergies that happen when you localize your food systems, from ... (creating) more community to less pollution in your community to having a better connection with your food. Then it made us look other places" where emissions could be reduced and nutrition increased.

For example, post-consumer waste -- if not composted -- creates methane and other greenhouse gases when it's sent to landfills.

Measuring the environmental impacts of the agrifood system and our myriad activities is no easy feat. "It's just so complicated," said Dr. Cleveland. "If you analyze everything, you're just going to be frozen in perpetual anxiety."

But one must be sure "the indicators you're using are really moving you to those goals. I think it really requires that people have a sense of deep community."

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FYI

Professor David Cleveland will appear on a panel addressing the question "Will Urban Agriculture Change the Way We Eat?" at 9:45 a.m. Jan. 29 at Hotel Mar Monte, 1111 E. Cabrillo Blvd.

The talk is part of the Edible Institute, a weekend conference on the local food movement, the future of food publishing, and more. It features food and agriculture experts, activists and journalists from around the U.S. and is sponsored Edible Communities.

The conference is sold out. However, a waiting list is being compiled; additions to the list will be accepted through Friday. For more information, call 505-989-8822, e-mail info@ediblecommunities.com or go to www.ediblecommunities.com.

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Professor Cleveland is organizing a conference, "Localizing the Agrifood Systems: Bridging Research and Action," May 20 and 21 at UCSB. For more information, e-mail Dr. Cleveland at cleveland@es.ucsb.edu.