By Brooke Sheridan

The Future of Alaska Food

There is a difference between being fed and being nourished — both fill the belly, but only one sustains the body. In many remote Alaska villages, getting healthy food is difficult, uncertain and expensive.

It's not much of an overstatement to say villagers don't always know where the next season's meals will come from. Consider fishing: each year there is the possibility that the salmon fishery on the Yukon River might be closed. When that happens, villagers along the river catch fewer fish, which increases the need to bring in a moose for a fresh meat source. Weather and seasonal variations, however, have altered the behavior and distribution of moose. They no longer congregate reliably near the river, forcing hunters to travel further inland by four-wheeler or snow machine, which can be prohibitively expensive due to fuel costs.

There are lean hunting seasons when villagers are often left with only one option: the local store. Fresh foods are hard to find in village stores, and what remains are usually highly processed boxed and canned goods with little nutrient value. The imminent threat is not starvation, but clinical malnutrition. The prevalence of food-related health problems such as type II diabetes, obesity and heart disease are at an unprecedented high in many villages.

"Villages are vulnerable right now," says Craig Gerlach, professor of anthropology, and many villagers "are malnourished, especially where access to country foods is limited."

Part of his solution: bring back the old-style kitchen garden, now familiar mostly to community elders, and turn it into a larger, village-shared, village-run garden. Sounds easy enough, but as any first-time gardener knows, the first few years establishing a garden are incredibly labor-intensive, and the process is not necessarily intuitive — especially when gardening has been effectively out of fashion for two or more generations.

Sustainability is a key goal in Gerlach's work, a collaborative effort that includes the development of long-term, community gardens in many remote Alaska Native villages. Gerlach is a professor in UAF's Center for Cross-Cultural Studies, and has faculty research appointments in the Engineering, Science and Technology Experiment Station and the Institute of Arctic Biology. He also works closely with colleagues in the School of Natural Resources and Agricultural Sciences. The projects are integrated under the social vulnerability study of Alaska's rural communities, the Alaska Center for Climate Assessment and Policy, and various village-supported farming and gardening initiatives.

From people whose food-procurement traditions hinge on hunting and fishing, the argument frequently arises that "we're hunters, not farmers." But Gerlach emphasizes the difference between agriculture as a way of life and gardening as a supplement to the traditional, meat-based diet. Villagers are witnessing the positive effects of maintaining community gardens, and are beginning to understand their power to augment lean hunting years on their own, without outside help. The term villagers use is not "sustainability," but "self-reliance" — the power of individuals to contribute to the long-term health of their communities.

A major factor in determining the success of the gardens is, of course, Alaska's climate. "The growing season is short," says Gerlach, "but incredibly productive." The further north, the shorter the season, but high tunnels (see *Aurora*, spring 2010) and greenhouses can artificially extend the growing season.

UAF alumna in this story: Heidi Rader, '06

The question Gerlach says he gets most often is not "Why?" but "How do we start?" He often directs villages in the Tanana Chiefs Conference to Heidi Rader, who works for UAF's Cooperative Extension Service as a TCC tribes extension educator. Rader has been been invited to 21 of the 37 villages in the region, where, among other things, she has introduced different types of mulches and shelters to village gardeners.

"I'll bring out infrared-transmitting plastic mulch, which heats up the soil and blocks weeds, or frost cloth, which is kind of like a blanket for plants but it lets in light and water," Rader says. "Season extension can be a little more high maintenance because you have to find another way to water [than from rainfall], which can be an issue for villages without running water."

Gerlach emphasizes that gardens are not meant to replace subsistence, but to improve food security with supplementary, even alternative food resources. The success of fishing and the hunt varies from season to season, and it's important for people to be able to get other sources of fresh food. It's more cost-effective than relying on the store, and it contributes to the health of the individual and the overall health of the community.

Sustainability is not a goal specifically for remote villages. The idea of "locavorism," or the consumption of locally produced goods, is gaining popularity in many parts of the country. Alaskans, however, face a unique challenge, when compared with models of food production in the rest of the country, in the form of shorter growing seasons. Gerlach has studied farming in Sweden, and notes that, given parallels in the two ecosystems, some Swedish systems could be applied to sustainable food production in Alaska.

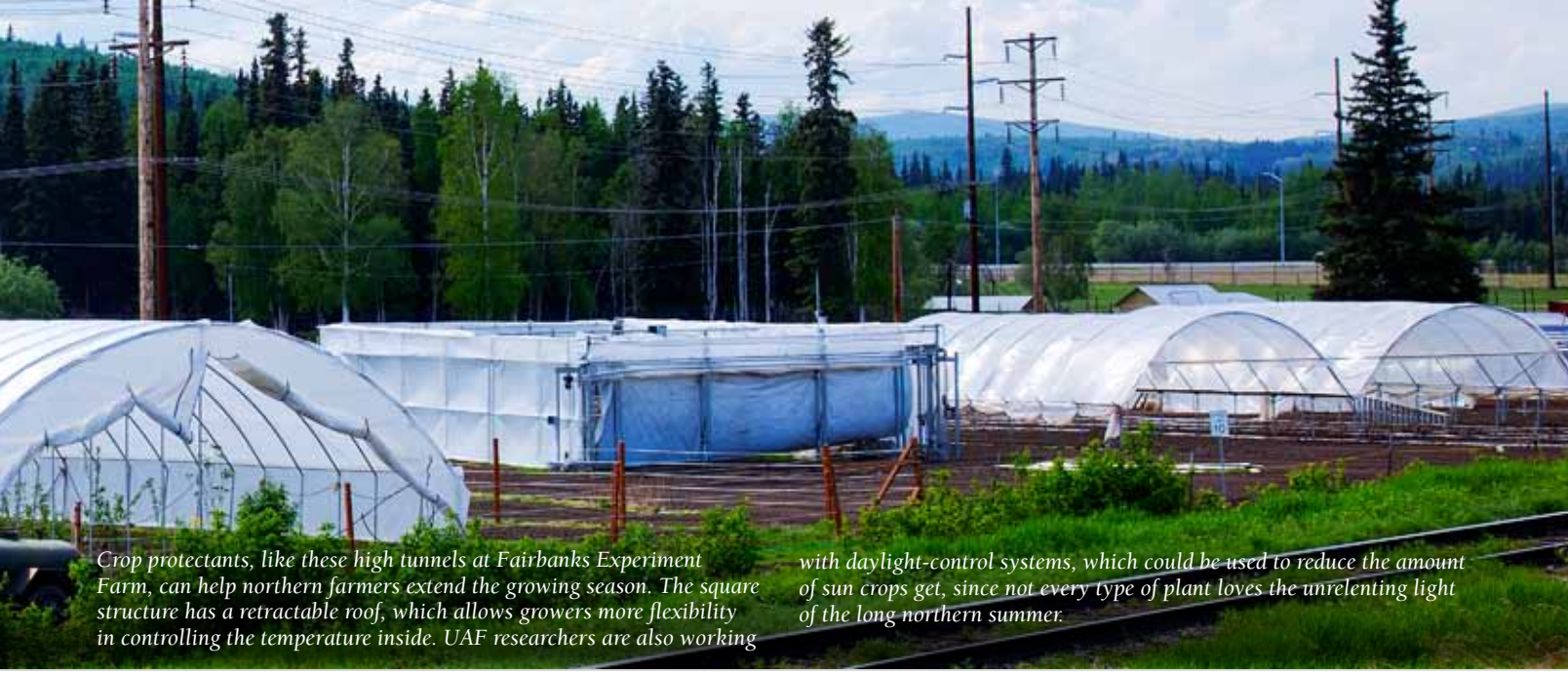
Sweden does have more integrated subsidy and regulatory systems. Alaska efforts to produce and distribute locally raised foods face stumbling blocks in the forms of economics, policy and U.S. Department of Agriculture regulations, which are based on Outside models of agriculture, many of which can't be applied in Alaska. Also, Alaska has a much smaller population and less infrastructure for moving goods cheaply and efficiently. Some individual growers are finding small success in an unofficial barter system, but in order to establish a market dominated by locally produced food, growers need to find effective methods to process and distribute their products, and pioneer methods that will adhere to regulations without costing growers more than they'll eventually earn. Prospects are improving, however: the USDA is beginning to recognize the need for a separate set of regulations specifically for Alaska. Gerlach believes this change will become evident in the next few years.

Regulations and other logistics aside, the most crucial elements in creating a sustainable food culture in Alaska are Alaskans themselves. Enthusiastic community leaders, in particular, are instrumental in generating local awareness and support for new ways of growing, eating and buying food. In rural Alaska, many villagers are taking the initiative in promoting local sustainability by writing grants, working with agricultural research services and cultivating their own expertise in gardening.

"Success will come from the bottom up," says Gerlach, "not the top down." The communities themselves are the most important elements of the process. "We have to modify Lower 48 models of gardening to the specifics of Alaska ecosystems. It will take local solutions and a lot of innovation.

"I think we well know what does not work here, but we are still thinking through and researching what will work here, what will allow Alaska growers to feed Alaska's population."

Brooke Sheridan, '10, lives, writes, bakes bread and plays guitar in a cabin in the woods.



Crop protectants, like these high tunnels at Fairbanks Experiment Farm, can help northern farmers extend the growing season. The square structure has a retractable roof, which allows growers more flexibility in controlling the temperature inside. UAF researchers are also working with daylight-control systems, which could be used to reduce the amount of sun crops get, since not every type of plant loves the unrelenting light of the long northern summer.

Local livestock: It's what's for dinner

"Healthy food and healthy farm economies" — this is what Craig Gerlach and Milan Shipka have in mind when discussing raising livestock in Alaska. Alaskans import more than 85 percent of the milk and red meat they consume. There are relatively few farms and farmers in Alaska, but developing infrastructure and marketing strategies can help farmers in Alaska meet the state's needs.

The same problems that are inspiring the rebirth of the community garden — unpredictable hunting and fishing seasons, lack of availability of affordable fresh food — are inspiring a new generation of farmers in Alaska. Gerlach and Shipka believe that raising livestock in Alaska for Alaskans should be fostered as an integral part of food security. As with gardening, new models of farming and raising livestock must be developed for Alaska's high-latitude conditions.

Alaska farmers are currently raising reindeer, elk, yak, cattle, sheep, goats, poultry, waterfowl and, more recently, bison. However, relatively few farms and ranches are producing meat on a commercially viable scale for local markets and in-state consumption.

Wild game has long been considered the best or only source of red meat. But Alaska's changing ecosystems mean wild game can't be relied on. Sustainable domestic livestock-production systems must be created, Gerlach and Shipka contend.

The high-latitude agriculture group and others in the School of Natural Resources and Agricultural Sciences are working with Alaska farmers and policy makers to develop systems so local producers can provide steady, healthy and dependable food supplies for a growing population.

Learn more about Alaska's food supplies at **www.uaf.edu/aurora/**.