TODAY, WHEN MOST people want fruits or vegetables, all they have to do is run to the grocery store. But what if they only want to buy from a seller who knows where and how that produce was grown? Alternatives can often be hard to find.

Local farmers markets or roadside food stands may be a solution, but—despite earning better profit margins—the small farmers who sell from them face difficulties in expanding their businesses, which can negate those earnings.

"Knowing where your food comes from matters to ensure that food production and distribution systems are safe, equitable, and healthy," says Assistant Professor Caroline Krejci, who is applying industrial engineering and logistical techniques to help farmers deliver their products more efficiently through food hubs, which are values-based organizations that are concerned about sustainability and social responsibility.

Food hubs are small-scale, socially minded aggregators that benefit both farmers and consumers. Some try to bring the most benefit to farmers and focus on high-end markets like restaurants and specialty stores, while others try to benefit low-resource consumers. Successfully serving both these stakeholder groups is a major challenge, and in the last 10 years, many food hubs have failed or are barely hanging on because they lack logistics expertise.

"There are many ways that industrial engineering can be applied to small-scale distribution, such as backhauling, vehicle routing, quality management, and scheduling," Dr. Krejci says. "For example, we have helped develop an inventory tracking app for farmers and food-hub managers that facilitates collaboration and information-sharing for greater logistics efficiency. To be a responsible citizen, it’s important to be aware of how your food choices can promote longterm sustainability, where everyone in the supply chain benefits."

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