How much land do you really need to make a living farming? Is it possible to do on a sub-acre plot of land? On 24 July, about 50 people gathered under the glare of two 5-million gallon red-and-white checkered water tanks to find out. There, on land owned by the Philadelphia Water Department, Steve and Nicole Shelly, together with assistant farmer Mira Kilpatrick, cultivate the 1/2 acre known as Somerton Tanks Farm, and produce enough food that last year they generated over $50,000 in gross sales.

The sold-out crowd at this farm field day, co-sponsored by the Pennsylvania Association for Sustainable Agriculture (PASA) and Pennsylvania Women's Agricultural Network (PA-WAgN), is a testimony to two daunting challenges facing those trying to break into farming: increasingly expensive and hard-to-find farmland and lack of sufficient start-up capital. But the crowd is also evidence of the hope and belief that there is a viable alternative to large-acreage farming. Somerton Tanks Farm (STF) was created in response to these challenges as a joint project of the Philadelphia Water Department (PWD) and the Institute for Innovations in Local Farming (IILF). Together, these two organizations aim to provide a training ground for urban farmers and to foster a Philadelphia-based agriculture industry, while reducing urban water-pollution problems and utilizing underused land within the city. STF is serving as a test bed, demonstrating the economic viability of a sub-acre urban farm.

Somerton Tanks farmers practice “SPIN-Farming.” SPIN (for Small Plot Intensive) farming was co-developed in Saskatchewan by Wally Satzewich and Gail Vandersteen, who farmed 20 rural acres 40 miles north of Saskatoon, the city in which they lived. They realized that their highest-value crops were the ones that they were growing at their city residence. They decided to sell their 20-acre farm, and began farming on rented land -- over 25 residential backyard garden plots in Saskatoon that range in size from 500 sq. ft. to 3000 sq. ft., totaling 1/2 acre.

As Roxanne Christensen, president of IILF and co-founder of the SPIN method, explained to the crowd, there are three concepts key to the SPIN-farming method: farming takes place on a plot or number of plots that comprise one acre or less; space is maximized by relay-cropping; and equipment needs are limited.

Whether farming in one location, as the Shelly’s are doing, or on many backyard plots, as Wally Satzewich is doing, SPIN farmers grow their crops in beds measuring 2’ x 25’, allowing for up to 400 beds per acre. The layout of the beds is based on three levels of production intensity. The highest level of production, the intensive-relay beds, are planted to 3-4 high-value crops per season. Bi-relay beds are planted to two crops per season, and single-relay beds are devoted to just one crop per season. The goal of the SPIN farmer is to earn $100 per bed per crop. The Shelly’s have divided their field into six “zones,” with each zone containing 12 4-bed plots, for a total of 288 beds.

STF started out with the equipment identified by the SPIN-farming founders as essential, including a delivery vehicle, a walk-in cooler, a post-harvest station, a shed, drip and overhead irrigation, a
rototiller, a weedwacker, and traditional gardening hand tools. They have also added an Earthway seeder, a pinpoint seeder, and with the support of a grant from the Pennsylvania Department of Agriculture, a 14’ x 96’ hoop-house. Christensen puts the estimate of the STF start-up costs at less than $25,000.

The Somerton Tanks farmers grow 60 types and 100 varieties of vegetables during their entire growing season. Such a diverse crop mix coupled with the sequential cropping within some of the individual beds mandates a very strict crop-rotation plan. Nicole uses an Excel spreadsheet to help her manage a 3-year crop rotation. To maintain soil health under such intensive growing conditions, they work cover crops into their rotation, growing either peas or buckwheat during the summer and a rye/vetch mix over winter. They also incorporate an inch of imported mushroom compost from Laurel Valley and municipal compost into their field each year.

Steve, Nicole, and Mira market their produce at three city farmers markets, as well as to a restaurant, a caterer, and a 45-member CSA. Running the CSA forces them to grow some low-value crops that they might not otherwise — such as watermelon — and adds an extra element of record-keeping. But it also provides them with an infusion of cash each spring that they need to keep the farm running smoothly. While Steve and Nicole do not work off the farm (except for a few winter-time substitute-teaching days on Steve’s part), the farm continues to receive some financial support from outside sources. The farmers did not shoulder the start-up costs. According to the SPIN-Farming website, “the farm has received the support of the Pennsylvania Department of Agriculture, the Philadelphia Workforce Development Corp., the City Commerce Department, the USDA Natural Resources Conservation Service, the Pennsylvania Department of Environmental Protection, and the Pennsylvania Department of Community and Economic Development.” That said, as Nicole Shelly explained, the non-farm support has decreased as the farm’s revenue increases, and all involved are hopeful that the farm is quite close to becoming a self-sustaining operation.

As their tour came to a close and the farmers fielded questions from their audience, the three reflected on how it may be difficult for someone to single-handedly run a similar operation. They each specialize in certain tasks, allowing them to become more efficient and focused. Steve, for example, manages all things related to their salad mix, which they sell during their entire growing season. Nicole takes care of the farm’s detailed records, and Mira specializes in herb and cut-flower production.

Whether or not one person could manage this diversity of tasks on this scale (and do them well) is an unknown. But hopefully, as STF continues to serve as a training ground for urban farmers, there won’t be a shortage of new farmers willing to give it a try.