

# Alley Cropping at Weavers Way: Maximizing Orchard Space

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*Alley cropping is a type of agroforestry practice where farmers grow annual or perennial crops in “alleys” between rows of trees selected for their environmental and income-producing benefits. This case study highlights a farm that worked with Pasa Sustainable Agriculture and Interlace Commons to design an alley cropping site plan that would accommodate its unique goals.*

Weavers Way Cooperative operates member-owned food markets in Philadelphia, as well as a three-acre vegetable farm on land leased from the city’s W. B. Saul Agricultural High School, and manages additional nearby farmland and a two-acre orchard on school grounds. The farms’ produce is marketed through Weavers Way’s three cooperative grocery stores, a farm stand, and a community-supported agriculture (CSA) program. The farms currently produce a wide variety of vegetables, herbs, cut flowers, fruit, and nuts, some of which are also integrated into the high school’s cafeteria lunches for students. Growing fresh local food, and connecting city students and families to fresh food and farming, motivates Weavers Way staff and their many volunteers. Weavers Way sought to integrate alley cropping into its production model to expand both its crop diversity and to increase crop production and sales.

## Challenges

There are many difficulties running an agricultural operation both on school grounds and within an urban setting. Despite the city setting, deer predation on crops from the adjacent Wissahickon Park—an 1,800 acre forest—is substantial, and cuts into production and profits. Heat-island effects exacerbated by climate change make it hard for staff and volunteers to work through the day in summer months, and add to higher water use and cost. Invasive plant and insect species are a constant pressure. Poor fencing, limited space and equipment, public tours, and farm stand visits can also be management challenges.

Alley cropping would help Weavers Way address heat stress by adding more trees and shade over time. The farm is also purchasing and installing deer fencing to make sure the investment in new trees is economically worthwhile.



Saul High School students and the Weavers Way farm crew work together to plant trees



## Alley cropping site design

Unlike most other farms embarking on an alley cropping project, Weavers Way already had mature trees on their property. Weavers Way Farm Manager Nina Berryman and her staff collaboratively developed an alley cropping plan that would revamp and expand fruit and nut trees and shrubs at their existing two-acre orchard, and would incorporate perennial vegetables in the rows between the trees and shrubs. They choose crops based on their local commercial popularity, evidenced by sales data and customer requests. Crops were also selected to align with staff and volunteer maintenance knowledge, student interest, and their ability to be integrated into high school meals.

### PLANT LIST

#### Trees/shrubs:

Asian pears, paw paws, figs, kiwi, winterberry, pussy willow

#### Annuals/perennials:

Mountain mint, spotted bee balm, Joe Pye weed, ramps, rhubarb



Weavers Way farm staff Lauren Todd, Ash Phillips, and Nina Berryman

### Insights

Weavers Way initially had to decide between two different alley cropping design scenarios they could pursue. They could either add trees to their three-acre vegetable farm to add shade, soil amendments, and more diverse production, or they could conversely add rows of vegetables between their existing orchard trees. They ultimately chose to focus on the latter because it would better allow them to respond to consumer interests and demands, and also because adding perennial vegetables would blend well with the schedule, sun and water requirements, and maintenance and harvest needs of their existing orchard.

The farm's financial situation also argued for production in the short-term rather than waiting five to seven years for fruit and nut trees to mature. They expect the asparagus and garlic they chose to plant in their orchard will sell out with customers and provide a new revenue stream in the short term. They also have a land lease arrangement with the school district that must be renewed every five years with no guarantee of renewal, which also tilted the scale against an investment that would take longer than five years to start generating any income.



Planting trees to expand Weavers Way's existing orchard

*Funding for this project was provided by a state Conservation Innovation Grant awarded by the Pennsylvania office of the Natural Resource Conservation Service and the Philadelphia Committee of the Garden Club of America. Find this case study and others at [pasafarming.org/resources](https://pasafarming.org/resources).*