

## Why Demonstrate Agroforestry at Silverwood Park?

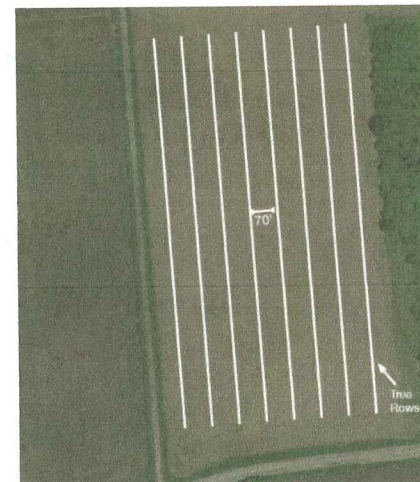
Integrating perennial cover into agricultural systems offers numerous environmental benefits. Riparian buffers improve water quality through increasing infiltration and reducing runoff and erosion. Harvestable buffers of mixed perennial crops that also achieve water quality improvements allow farmers to continue to “use” the land. For property owners, such a system can offer added incentive to set aside riparian zones by providing the potential for an additional income. Likewise, integrating strips of perennial cover into annual crop fields increases pollinator and wildlife habitat, sequesters carbon, and increases soil permeability and infiltration. However, few models of integrating of perennials into agriculture exist in the Midwest. Providing demonstrations of these practices in a publicly-accessible venue will aid in more widespread adoption by offering a proof of concept to risk-averse farmers. Dane County's Silverwood Park, already dedicated to agricultural education and experimentation, is an ideal venue for such a demonstration. We propose installation of two production-scale demonstrations that integrate woody perennial crops for environmental benefit. These demonstrations will be managed as an incubator project for beginning farmers, providing training infrastructure in growing perennials for the next generation of farmers in Dane County.

***Multifunctional Riparian Buffer Demonstration*** – In an area that currently tends to form gullies during heavy rains, we will install rows of fruit and nut shrubs along the contour lines interspersed with native prairie species. This model will demonstrate ecological restoration and agriculture working together to address water quality and infiltration issues on the landscape.

***Alley Cropping Demonstration*** – Tree and shrub crops can be integrated into row cropping systems with relatively little disturbance to the farming practice. While rows of fruit- and nut-bearing trees remove a small amount of land from row crop production, they yield environmental benefits for soil, water, and wildlife and provide farmers with a valuable secondary market crop.

**Timeline:** Site layout and preparation in winter and early spring 2019. Work with current rental farmer to ensure design meets equipment specifications. Plant trees in April/May 2019 and protect with tree tubes. Install weed mats and perennial ground cover at time of planting and maintain throughout the summer by periodic mowing.

**Partners:** Friends of Silverwood Park (FOSP) will partner with the not-for-profit Savanna Institute for the design and installation of the demonstration plantings. The Savanna Institute specializes in the development and adoption of resilient, scalable agroforestry. Organic grower Mark Doudlah, who currently rents the field proposed for the alley cropping demonstration, has been consulted and is willing to move forward with the proposed plan. Staff of the Dane County Parks Division has expressed full support of both of the proposed projects.



**Agroforestry Demonstration Projects Proposed for Silverwood Park in 2019: Proposed Budget**

	Unit Cost	Quantity	Cost	In-Kind Source
<b><i>Alley Cropping Demonstration</i></b>				
<i>Site Preparation</i>				
Planning and site assessment	\$ 20.00	80	\$ 1,600.00	Savanna Institute
Labor	\$ 20.00	40	\$ 800.00	SI/FOSP/volunteer
Equipment/Supplies	\$ 500.00	1	\$ 500.00	
Soil testing	\$ 50.00	5	\$ 250.00	
<i>Nursery Stock</i>				
Potted mature trees	\$ 40.00	100	\$ 4,000.00	
Bareroot trees (multiple types)	\$ 8.00	1500	\$ 12,000.00	
<i>Installation</i>				
Labor	\$ 20.00	300	\$ 6,000.00	SI/FOSP/volunteer
Tractor/Tree Planter (per day)	\$ 200.00	2	\$ 400.00	Dane County Parks
Soil amendments and fertilization	\$ 1.00	1600	\$ 1,600.00	
Tree Tubes and Stakes	\$ 5.00	1600	\$ 8,000.00	
Weed Mats	\$ 1.00	1600	\$ 1,600.00	
Mulch	\$ 1.00	1600	\$ 1,600.00	
Seeding of Tree Row Groundcover	\$ 1.00	500	\$ 500.00	
<i>Land Rental</i>				
Per-Acre Rental Value	\$ 250.00	15	\$ 3,750.00	SP/Dane County Parks
 <b><i>Riparian Buffer Demonstration</i></b>				
<i>Site Preparation</i>				
Planning and site assessment	\$ 20.00	80	\$ 1,600.00	Savanna Institute
Labor	\$ 20.00	80	\$ 1,600.00	SI/FOSP/volunteer
Equipment/Supplies	\$1,000.00	1	\$ 1,000.00	
Soil testing and site assessment	\$ 50.00	3	\$ 150.00	
<i>Nursery Stock</i>				
Bareroot trees (multiple types)	\$ 8.00	500	\$ 4,000.00	
<i>Installation</i>				
Labor	\$ 20.00	300	\$ 6,000.00	SI/FOSP/volunteer
Tractor/Tree Planter (per day)	\$ 200.00	1	\$ 200.00	Dane County Parks
Soil amendments and fertilization	\$ 1.00	500	\$ 500.00	
Tree Tubes and Stakes	\$ 5.00	500	\$ 2,500.00	
Weed Mats	\$ 1.00	500	\$ 500.00	
Mulch	\$ 1.00	500	\$ 500.00	
Seeding of Tree Row Groundcover	\$ 1.00	500	\$ 500.00	
<i>Land Rental</i>				
Per-Acre Rental Value	\$ 250.00	5	\$ 1,250.00	SP/Dane County Parks
 <b><i>Sitewide Expenses</i></b>				
<i>Year 1 Maintenance</i>				
Labor	\$ 20.00	80	\$ 1,600.00	SI/FOSP/volunteer
Mobile Irrigation Tank and Pump	\$1,200.00	1	\$ 1,200.00	
Drip Irrigation Line (500 ft)	\$ 50.00	40	\$ 2,000.00	
<i>Interpretation</i>				
Interpretive Sign Design	\$ 50.00	40	\$ 2,000.00	
Interpretive Sign Fabrication	\$ 500.00	4	\$ 2,000.00	
			<b>TOTAL</b>	<b>\$ 71,700.00</b>
			<b>IN-KIND TOTAL</b>	<b>\$ 24,800.00</b>
			<b>REMAINING</b>	<b>\$ 46,900.00</b>