

## **FARMSCAPING at *Spring Valley Ecofarm***

Farmscaping is agriculture adapted to the landscape. It is "Designing with Nature". It means understanding the history of a site and its influence on the interaction of topography, soils, and water drainage, and then designing a farm in harmony with these interactions. It is landscaping of a farm that considers the environment, past and present. Farmscaping has transformed Spring Valley Ecofarm from a homogeneous cotton monoculture to a farm that is adapted to the varying landscape and the multiple niches that actually exist on its 100 acres.

For over a century, the land that is now Spring Valley Ecofarm was a cotton plantation owned by the descendents of a Civil War Veteran. Cotton farming in those days was very destructive of the soil. Fields lay barren during the winter, and heavy rains washed away the good topsoil. To partially counteract the erosion down the slopes, the landowners built a series of terraces that ran along topographic contours. Those terraces, with a drop of several feet between each, are still in existence.

The topography of Spring Valley Ecofarm consists of rolling hills, ranging from an elevation of 690 feet above sea level in the creek bottom to 770 feet on the hill tops. As one walks upslope from the creek bottom, the habitat changes dramatically. Along the edge of the creek there is bottom-land forest, a buffer to protect the stream. It is habitat for a wide diversity of native plants such as wild azalea, and animals including a variety of amphibians and reptiles. The soil is deep, and there is a thick layer of soil organic matter derived from the decaying litter of the forest. Unfortunately, it has been invaded by privet, an invasive shrub that dominates bottomland and makes the habitat less friendly for many native species. The impenetrable thicket of privet in the background of this picture contrasts to the cleared area in the foreground.



At the upper edge of the buffer zone is the lowest terrace. It is where most of topsoil eroded from higher elevations has accumulated, resulting in soils relatively high in organic matter and nutrients. This terrace is dedicated to vegetables, because most vegetables have high nutrient requirements. The organic matter in the soil also helps retain soil structure during the frequent cultivation required for annual vegetables.



Within the terrace we have planted hedge rows of "false indigo", a shrub that contributes nitrogen to the soil and provided habitat for beneficial insects that prey upon insect pests. In this photo, the hedgerows border an "alley" of corn and beans.



At the lower edge of each terrace, soil was mounded up by the cotton farmers to slow the downslope flow of water during rains. Along these bunds we have planted fruit trees - peaches, apples, pears, plums, apricots. The soil in the mounds is relatively permeable, allowing for better drainage and root growth of fruit trees. The bunds, and thus the rows of trees are widely spaced. Air drainage is good and as a result, the problem of plant disease is lessened.



On the flat slopes between the mounds there is pasture for cattle and horses.



Soil on top of the hills is highly eroded. It is pure red clay, and becomes like brick when it dries. Although the soil is poor, we have planted blueberries and grapes because it is cost-effective to add mulch and compost to the base of each shrub and vine. Because blueberries and grapes are perennial crops, their soil does not need tilling. As a result, soil quality will improve.



Water drainage on the farm also influences the farmscape. The farmhouse is located on an upland that divides drainage between the East Branch of Trail Creek and Shoal Creek. Two hundred yards below the farmhouse, Trail Creek was dammed in the past century to form a pond for watering cattle. Past erosion partially filled it with sediment, and it is no longer usable. However the pond and the secondary forest that have grown up around it provide habitat for wetland species. Below the dam, the creek becomes permanent. In the lower reaches, a spring feeds into the creek. It is now the source of our water for irrigation and watering of livestock.

Between the farmhouse and the pond is a three-acre stand of old growth oak and hickory, some of which are close to 150 years of age. Soil under the stand is a thick layer of topsoil, suggesting that the stand was never plowed or cultivated. The area is being preserved as an example of what the original pioneers found when they settled the area.



Other upland areas of the farm are in forest. In some areas previously in pasture, we have established stands of mixed species, which begin to mimic the diversity of natural forests. In other areas there is secondary forest that originated when cotton plantations were abandoned in the 1930s. First to come into these areas was loblolly pine. They reached maturity in the early 21st century, and in 2009, the pines were logged to allow the release of the oak and hickory saplings in the understory.

### *Animals in the farmscape*

The natural vegetation of the Georgia Piedmont is forest. Trees are well adapted to the humid climate of the Southeast. Their deep roots prevent erosion, and take up nutrients that otherwise would be lost to leaching. However, pre-colonial Georgia was not completely covered by forest. There were patches of "Piedmont Prairie", savannas that resulted from fires set by indigenous peoples who maintained the grassy savannas to feed grazing herds of bison and elk.

When indigenous peoples lived and hunted in what is now Georgia, the elk and bison continually migrated. They were always moving toward freshly burned areas where grass was thick and abundant. In areas that are overgrazed, shrubs and broad leaved trees and pines will invade. To mimic the effect of migrating grazers, we have experimented with what is called "intensive grazing management". Grazing animals have been kept in paddocks of about a half acre surrounded by an easily portable electric fence. They are moved every few days, before the roots of the grass begin to die off due to overgrazing.



An advantage to keeping animals on the farm is that their manure can be used for compost that will fertilize the vegetable garden. Ducks, chickens, geese and turkeys inhabit pens at Spring Valley Ecofarm. We line their pens with wood chips or straw that absorb their droppings. The resulting mixture is collected, piled, and allowed to compost.



### *Art in the Farmscape*

Art and beauty in the landscape of cities is justified for the aesthetic pleasure and spiritual uplifting that it gives to city dwellers. Art and beauty at Spring Valley Ecofarm is similarly justified for the experience it gives to the children, the college students, and the adults who visit Spring Valley Ecofarm.



It is important for practical reasons too. The blossoms of spring and summer at Spring Valley Ecofarm are a source of energy for the pollinators that keep the fruit trees productive.



There is beauty also in winter.



*Farmscaping involves the understanding of how soil and water influence natural ecosystems, and then applying this understanding to managing agricultural ecosystems. What farmscaping does is to work with the forces of nature, rather than against them, and thereby achieve an ecosystem that is sustainable, that is, an ecosystem that takes advantage of the natural processes and resources within that system.*