Take a minute to think about why you own land... Is it to pass on to your children and grandchildren? Outdoor recreation? Because you enjoy the beauty of nature? Is it part of your farm?

If you answered yes to one or more of these questions, then your land ownership motivations are very similar to most of Alabama’s small-scale private landowners – especially for those who own less than 100 acres. These landowners consistently state that their primary reason for owning land is to pass it on to their heirs, with outdoor recreation and scenic beauty often rounding out the top three.

So where is timber production in all this? Surprisingly, it comes in fifth in order of importance for small-scale private landowners. When surveyed, most landowners indicated they would like to generate some revenue from their land, but believe financial benefits are limited.

However, there are ways to combine multiple land management objectives on the same tract to increase financial returns and ecological benefits. One way is through the application of agroforestry techniques, or the intentional combination of crops with trees. As part of a land management strategy, agroforestry practices have the potential to generate periodic revenue beyond that of traditional forest management, while keeping the land forested. Additional financial and ecological benefits such as native forage establishment, wildlife habitat creation, longleaf pine restoration, and pine straw production may also be achieved with proper management of these systems.

The most common form of agroforestry in the southeastern United States is silvopasture, or managing property for livestock, forage, and timber on the same parcel of land. These systems are designed to produce high quality timber while also providing cash flow opportunities from livestock and forage production.

## Silvopasture Basics

### Timber establishment and management

Southern pines such as loblolly (*Pinus taeda*), slash (*Pinus elliottii*), and longleaf (*Pinus palustris*) are well suited for use in silvopasture systems. Pine silvopasture may be established on...
existing pasture land by planting single or double rows of
trees with forage corridors between them. It may also be
established in existing stands of trees by thinning the for-
est to a desirable level to support forage production, or by
the removal of trees to create corridors or alleyways.

As with traditional forest management, thinning can be
used to control the stocking level of trees and provide
some income from your silvopasture. As trees grow, their
crowns begin to close increasing competition for resourc-
es such as water, light, and nutrients. Crown closure can
lead not only to shading of understory forage, but also
reduced timber growth. Thinning your timber to 25-60
percent canopy cover will keep the desired amount of
light reaching the understory for optimum forage produc-
tion, provide some periodic income, and improve your
stand by selecting for the best crop trees.

Forage establishment and management
Forage includes grasses and legumes in the understory that
are used as hay or food for livestock. While the process of forage
establishment in a silvopasture system is similar to accepted
practices for open pasture establishment, the most productive
forages in agroforestry systems are somewhat shade tolerant.
Bahia grass does best in southern and coastal portions of the
Southeast. Native grasses may be a good option for many land-
owners, with such species as big bluestem (Andropogon gerar-
dii), little bluestem (Schizachyrium scoparium), and eastern
gamagrass (Tripsacum dactaloides). Among legumes, red and
white clover (Trifolium pratense and Trifolium repens) are well
suited to silvopasture systems, as are native legumes such as
white prairie clover (Petalostemon candidum) and showy tick
trefoil (Desmodium canadense).

Introduction of Livestock
Both fences and watering facilities must be established prior
to livestock introduction. Fencing controls animal movement and
is critical to a successful silvopasture management area. Take
time to plan your fence carefully to maximize grazing options.
Water for livestock must also be considered during the develop-
ment of a fence plan. Water tanks can be placed in the fence line
so that they are centrally located and serve more than one pad-
dock. This will promote more uniform grazing of the site and
limit soil compaction around watering areas.

Choice of livestock will vary based on your objectives, but
can range from smaller animals such as poultry, sheep, or goats,
to larger species such as cattle and horses. Remember that young
trees will be browsed or trampled by livestock, so it is best to
delay introduction of any livestock until trees are 10-15 feet tall.
Haying operations may be used early in the rotation prior to live-
stock introduction to promote forage production and produce
some early income.

Once introduced, animals must be controlled through stocking
levels and rotational grazing to improve efficiency of forage uti-
"ilization. Rotationally grazed animals are moved among grazing
management units to allow time for grazed pad-
docks to recover for forage re-growth.

Expanding the Benefits
Agroforestry systems have the potential to pro-
vide additional financial and environmental ser-
vices and benefits beyond timber, livestock, and
forage production. One potential application is
wildlife habitat creation and conservation banking. As wildlife habitat is fragmented or lost, con-
servation banking allows large parcels of land to be purchased and managed for certain wildlife
populations. Most agroforestry systems have the potential to produce high quality wildlife habitat
for certain key species, including open pine habi-
tat for species of concern such as the gopher to-
toise or Northern bobwhite quail.

There is also long-term potential to restore
imperiled longleaf pine forests. Following
European settlement, much of the original longleaf forests were grazed with free-ranging livestock. This fire-maintained forest system was ideal for grazing, as livestock foraged in the open understory of grasses and legumes which were promoted by frequent fire. Today, longleaf pine forests are listed as one of the rarest ecosystems in the United States with less than 5 percent of the original longleaf forest acreage in existence.

As part of the restoration effort, planting agricultural fields in longleaf pine is growing in popularity. Low-density plantings of longleaf (less than 600 trees per acre) are often promoted by cost-share programs to improve wildlife habitat. These low-density stands may be well suited to agroforestry with the potential to use alternative planting strategies that will eventually result in naturally regenerating forested systems.

Finally, there is the added benefit of pine straw production in southern pine silvopasture systems. Sold either by the bale or the acre, income from pine straw can exceed that of any other forestry activity. Silvopastures are ideal for pine straw raking, either by hand or mechanically, because of the clean, open understory and wide row spacing. Stands can usually be raked beginning when the trees are approximately 8 years old and annual production can range from 80 to over 200 bales per acre, depending on tree species and location.

**Considering your Options**

Because livestock and timber are affected by different market pressures, the use of silvopasture allows landowners to diversify their risk while realizing diverse income-generating possibilities from the same acreage. However, silvopasture may not be for everyone because it requires actively managing livestock and timber on the same acre. It is important that you take into consideration all of your goals for your property when making any land management decision. But for many, it is a way of life that allows them the flexibility to meet not only long-and-short term objectives, but also lifestyle and financial needs that are not addressed with traditional forest management systems.

For more information on implementing silvopasture on your property, an instructional video is now available entitled *Silvopasture: 30 Years of Research and Innovation*. Developed in partnership with Auburn University, Alabama Cooperative Extension System, and the USDA National Agroforestry Center, this video features practical information on the development and management of southern pine silvopasture. A copy of the video can be requested by emailing becky.barlow@auburn.edu or nhammond@fs.fed.us. Additional information is also available at [www.unl.edu/nac/silvopasture.htm](http://www.unl.edu/nac/silvopasture.htm).