

Teaching an Old Dog New Tricks: **Silvopasture**



By Robert Clement, Marion County Forester, Alabama Forestry Commission

Although owning and managing timberland is not for everyone, it can be a great investment if you enjoy being outdoors and working with the land. I have been fortunate to be a timber landowner for most of my adult life. It has been hard work, but I take great satisfaction in watching trees I have planted grow to maturity. For most forest landowners, growing trees is a secondary income source and a wise investment, because only minimal finances and little day-to-day work are needed for growing a successful pine plantation.

While it is a profitable investment, the return is not immediate. When I was younger, timber was an attractive investment: it was long term, it was tangible, its value seemed to have a good growth potential, and it had aesthetic value. However, as I approach retirement, I have begun to consider other uses for my land along with growing timber.

On April 27, 2011, a tornado blew down and damaged 30 acres of my trees. I arranged to have a salvage cut prior to a deployment to Afghanistan. Upon my return, it was like a jungle underneath the pines that remained. This event was the spark I needed to try something new with my property that provided a quicker return. Even though I had not yet retired, I was looking for something that would supplement my retirement years and keep me occupied as well. I had been aware of the practice for decades, but only now did I implement it personally, and I asked my sister if she would be willing to be a partner in the operation . . . silvopasture, the deliberate integration of trees and grazing livestock on the same land.

To establish silvopasture, you need to either plant trees in an existing pasture, or establish grass under existing trees. If you choose to plant trees in an existing pasture, slash pine seems to be the preferred species for farms in the Southern part of the state, but loblolly and longleaf are also well suited, along with hardwoods such as nut or fruit trees. Livestock can damage young trees, but once established to a point they cannot push them down, damage is very minimal.

It is much easier to plant trees in a pasture, but most of you are probably already growing timber now, perhaps seeking to diversify your farm, as we were. In the winter of 2013-14, I began getting my place ready for livestock. I chose to fence in a ten-acre spot of land that had been thinned to a 70 basal area. It didn't take long to realize that I should have cut even more trees to begin this process. The plot had too much shading, and it provided poor access for farm equipment. Nevertheless, I proceeded to plant shade-tolerant orchard grass.

Numerous planting schemes are suggested online, but you need to consider the type and size of equipment you have. I am planning to thin my timber more by cutting corridors so my tractor and other equipment can pass through with ease. The width of rows needs to be narrow enough so that fertilizer spreaders and sprayers will give adequate coverage. Plan so that your spreaders/sprayers will not only cover the grassy area, but also penetrate half the area left in trees with a slight area to overlap. That way, herbicides and fertilizer get good coverage. Be sure to leave plenty of room at the end of each row to allow for turning larger equipment. Lime is probably the most important thing you

will dispense, and often soil tests call for as much as 2-3 tons per acre! This spreader equipment is very large and heavy, and needs plenty of clearance.

In the spring of 2014, I bought nine goats. I was amazed at how quickly they went to work. Goats tend to have a reputation for being nasty, cantankerous, and tough, all of which are not true in my opinion. I have discovered that they do not always live up to that reputation, except for maybe the cantankerous part, and male goats do have an odor. A few months later we bought three calves that we had to bottle feed. I discovered that cows not only presented a fly problem, they are also more difficult to clean up after in the barn.

Goats also have a reputation of eating anything, which is also not totally true. Their preferred diet makes them well suited to silvopasture. Goats eat weeds and leaves, while cows prefer grass. Although there are herbicides that are safe for grazing animals, the goats eat many of the weeds, minimizing the need for herbicides and helping keep the land ready for grazing cattle. Allowing the goats and cows to graze together in the same field seems to work out well, except for the occasional pushing and shoving at feeding time. It is best to try and keep them separate then.

The goats seem to have been a wise investment. We are even contemplating selling the cows and having goats as our only livestock. When we bought the goats, their price per pound was actually higher than the cost per pound for the cattle. However, goats do require more maintenance than cows. Experience has shown that goats are much more susceptible to the weather, disease, intestinal worms, and predators.

People warned me about how difficult it was to keep goats in the pen. While that has not been a problem, we have had a problem with keeping predators out. One day while my sister and I were at work, dogs got into the pasture killing five and injuring two of our goats. Immediate efforts were made to beef up security. Discovering a small dip underneath the fence where the dogs had entered the pen, I plowed a small dirt berm along the entire perimeter. We also added an electric fence and guard dogs. Serving only to keep the animals from pushing on the fence, I don't think the electric fence has been cost-effective as a whole, but it does make me feel better.

The guard dogs, however, are another matter altogether. I read articles and talked to other farmers about guard animals. While donkeys are effective, they can be aggressive towards livestock, as well as the farmer. They are great if you only have cattle, but few farmers recommended them for small animals. We settled on dogs and acquired two Anatolian Shepherds. Research stated they may be more aggressive than Great Pyrenees and can even be aggressive toward the livestock, especially newborn animals. However, these dogs have a purpose and that is to protect the animals in the pasture. It is part of their DNA to do so. We got them as puppies and put them in the pen immediately, as they needed to bond with the animals and not be treated as pets. They also needed to be introduced to the people who would be taking care of the animals as well.



TOP: Mazie, one of the Anatolian Shepherds, keeps a close eye on the cows.

BOTTOM and OPPOSITE: Roxy, the other Anatolian Shepherd, busy guarding the goats.

My sister and I were surprised at how fast the pups adapted to their job. The dogs followed behind the animals from day one. They were so small that they could squeeze through the woven wire fence. I have game cameras surveying the pen for any possible predators or other problems. One day I noticed that the puppies were out of the pen, but amazingly, they snuck back into the fence before we got home. We were afraid this might become a problem, but it never happened again. They just never seemed to be interested in getting out. One day, I left the gate open by accident and although the dogs were curious, it was no problem getting them to go back into the pen.

Thankfully we have not had any more problems with predators. Our two shepherds are nearly full-grown now, even though they still act like puppies at times. They seem to be very protective, and I am almost certain they

will defend our livestock if a predator should encroach on their territory. These dogs really consider themselves part of the herd, always by their side, even sleeping and eating with them! If you decide to raise goats, I recommend getting a guard dog.

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Most people reading this article are timber growers as I was, knowing much more about trees than raising animals, so it is best to think long and hard before you make any decisions. It will not be easy, and it requires learning new things. We read a lot online, but you can't always trust what you read on the internet. I highly recommend attending classes offered by the Extension System, as we did. While it doesn't make you an expert, it provides valuable information and lets you meet other farmers that may have some good advice that they've learned the hard way. We are still novices, but we can share some of the problems we've encountered and offer some guidance. I highly recommend contacting your local extension office for available classes and references for large animal veterinarians.

Many of you may wonder, why even bother with silvopasture? However, statistics show that the combined profit of the products exceeds the profit of what each alone would generate on its own. The goal of silvopasture is to optimize, rather than maximize, production of timber, forage, and livestock. This is due to the fact shading from trees helps reduce heat stress on livestock, the cool season grasses can be lower in fiber and more digestible for livestock when grown in shade (Forage News, Mississippi State University/Extension), and there is more diversification in income sources. Timber production is also shown to increase due to the use of fertilizers. One USDA article indicated that pine production was 30 percent greater on properties where silvopasture was practiced.

Rotational grazing is imperative, more so than in traditional cattle farming. According to a Florida Extension article, regular timber harvests are also a must, thinning down to 40-60 basal area. USDA Forest Service research suggested a good rule to follow is to thin every five years, thinning down to 100 trees per acre at age 20, 50 trees per acre at age 25, 25 trees per acre at age 30, and final harvest at age 35. This is less than half the trees per acre than a traditional pine plantation, but harvested volumes were greater for silvopasture practices.

Another way to make money from the land that we are considering for the future is a pine straw harvesting operation. The pine straw must be removed anyway because it will suffocate your grass. It can be burned, but

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why not harvest it and make a little money? While longleaf and slash pine are better suited, loblolly pine can also be used. Most of the same equipment that is used for raking and baling hay can be used to gather pine straw. This harvesting business is more prevalent in South Alabama than North Alabama because the southern part of the state grows more longleaf and slash pine trees. For this reason, landowners need to research potential customers for their area.

Investing in silvopasture is not like investing in stocks; it requires blood, sweat, and tears. There is a saying that people shouldn't retire from a job; they should retire to something else. When I retire, I need something that is meaningful and will keep me busy. While it may not be the answer for everyone, if you are interested in maximizing the potential profit from your property, silvopasture may be something you want to consider. 🙏

