

## **Silvopastures: Silvo-WHAT NOW?**

**By: Matthew Brinckman, Virginia Tech**

The first part of the word, silv, is a Latin root meaning forest. The second part of the word, pasture, well we all know what that is. More specifically, silvopasture is an agroforestry practice that intentionally integrates trees, forage crops, and livestock within one management system to enhance diversity and overall productivity. This means that plants and animals are managed intensively on the same piece of land to sustainably produce wood products, high quality forage, and healthy livestock. The benefits of silvopastures to landowners include multiple marketable products, resource conservation, and ecosystem services.

Silvopastures are one of the most frequently asked about agroforestry practices in the South. While some Virginians practice what is known as integrated forest grazing by allowing livestock access to browse in wooded areas, it is important to note that silvopastures are different. They require greater initial investment and constitute an active and simultaneous combination of tree, livestock, and forage tending via silviculture, animal husbandry, and forage crop and soils management.

### **Thoughts about Establishing and Managing Silvopastures**

Silvopastures are complex. It is necessary to carefully consider the types of livestock, forage, and trees that are best suited to a landscape's characteristics and a landowner's objectives. Soil productivity and structure, climate, slope, landscape position, and the way the trees, forage, and animals will interact are important considerations. For instance, you may want to manage for a grass that will produce well in your climate while also tolerating the amount of shade anticipated from your trees. Timing is equally important. Most trees likely need a few years to establish before livestock are introduced. How a silvopasture is arranged is another important aspect. It is common to plant trees in rows to allow for equipment to move through easily and to minimize shade to the forage. Often, trees are placed in strips made up of two or three rows of trees, with a wide stretch of forage in between. Finally, markets must be kept in mind. Choosing both animals and trees that have stable, local markets will help increase your bottom line over the long run.

Researchers at Virginia Tech are currently studying the long-term opportunities associated with silvopastures at the University's Kentland Farm near Price's Fork. Trials involving sheep, native forage species, and honey-locust milwood-hybrids and black walnut trees are being evaluated. The locusts and walnuts in the study were planted in the mid-1990's using several different spacing arrangements. The millwood-honey-locust produce pods that make an ideal late-season forage for the sheep and do not grow many thorns, while the black walnut trees produce valuable wood and nuts that can be harvested by the farmer for



**Examples of silvopasture systems. From the top: cattle grazing under planted pines; sheep resting under hardwoods in an agroforestry trial at Virginia Tech's Kentland Farm, and a watering trough for livestock amidst planted pines. Photos courtesy of the National Agroforestry Center (top and bottom) and John Fike (center) Virginia Tech.**

personal use or sale. Black walnut and honey locusts also leaf-out late in the spring and are some of the first trees to drop leaves in the fall, thereby increasing the amount of sun available to forage crops and thus the volume beneath the canopy.

### **Opportunities to Learn More about Silvopasture in Virginia**

Opportunities to learn about agroforestry practices like silvopastures are increasing. Silvopasture workshops were recently offered in New York and North Carolina, while plans to do the same in Virginia are underway.

Federal incentive programs such as the Farm Bill's Environmental Quality and Incentives Program (EQIP) and the Forest Land Enhancement Program (FLEP) are also helping landowners establish and manage silvopastures. At a state level, Pennsylvania's Natural Resource Conservation Service (NRCS) now includes program incentives specific to benefits of silvopastures both in terms of the benefits to a particular landowner and benefits that spread beyond an individual's land such as carbon sequestration, water quality, wildlife habitat, and overall ecosystem health. If you are interested in silvopastures, check with your local Extension agent or forester to see if any programs are available in your area.

While establishing a silvopasture can be complicated at first, there are many resources available to educate yourself. Resources include:

- Establishment of Silvopasture in Existing Pastures by Jarek Nowak, Alan Long and Ann Blount: <http://edis.ifas.ufl.edu/fr145>
- Agroforestry Notes: From Pine Forest to A Silvopasture System by the USDA Forest Service: [http://www.sref.info/resources/publications/print\\_pubs/pub\\_604/?searchterm=None](http://www.sref.info/resources/publications/print_pubs/pub_604/?searchterm=None)
- *North American Agroforestry: An Integrated Science and Practice* by H.E. Garrett, W.J. Rietveld, and R.F. Fisher.

Silvopastures can be rewarding and profitable, consider giving it a try on your land today!

**Matthew Brinckman is an Extension Associate in the Department of Forest Resources and Environmental Conservation; [mdbrinck@vt.edu](mailto:mdbrinck@vt.edu); 540/231-3592.**