

# Agroforestry Can Be Sustainable Source Of Supplemental Income

LEXINGTON, KY.

Instead of dedicating massive acreage to a traditional, plantation-style Christmas tree farm, think outside the box, says University of Kentucky Forestry Professor, Deborah Brooks Hill. Think small, think sustainably and make your land pay for itself much sooner.

The answer, says Hill, is to plant 200 to 500 trees of mixed species in alleys, with an annual crop in the center.

"Not having row after row of single-species trees planted in a "box" is going to reduce disease and insect problems, because you're not going to have a concentration of one species," she said. "I would like to see people who own farmland or forestland consider growing Christmas trees, not as a fulltime business, but as a supplementary crop."

Hill suggests mixing conifers with black locusts in an alley formation. Conifers typically take five to seven years to produce a marketable 6-foot Christmas tree. Locusts, with their high rot resistance, can produce good material for fence posts after 10 to 14 years. Consequently, a planting scheme would produce two rotations of Christmas trees to one rotation of locust. By planting the trees in two parallel lines, the interior of the alley can be used for an annual crop, thereby making the land pay for itself while the longer term tree crop is growing.

An alley planting scheme decreases the time spent in management.

"For example, if you're doing alley-cropping, you're going to have minimal vegetation control because you're going to be managing the annual crop in the alley, which should keep things pretty clean," Hill said.

She recommends mulching at the time of planting and then one or two times more in the life of the trees, which she admits is labor-intensive, but not as intensive as the management of annual crops. And Christmas trees

bring a good return on the investment, with most seedlings costing a couple of dollars and the mature tree selling for \$25 to \$50.

Intermingling black locust with conifers provides a natural benefit. Locust trees are legumes and, as such, fix nitrogen in the soil. With a constant source of nitrogen, conifers will keep their green or blue-green foliage better.

"Plus, if you have that kind of diversity, you probably would encourage both beneficial insects and beneficial birds that will eat a lot of the problem creatures," she said. "And if you don't have thousands of trees, it's much easier to track them and see if there are any problems and, as it were, nip them in the bud."

Hill said a number of spruces and firs would grow well in this climate, though she would not recommend the disease-prone Scots pine. Redcedars are an option, and a few growers in the state have successfully experimented with a variety of exotics, including the Meyer spruce and Nordmann fir. She said she would also like to see someone experiment with the Leyland cypress, "a pretty, soft foliage conical-shaped tree that grows very fast, so it makes a real pretty Christmas tree." Leyland cypresses could grow fast enough to harvest in 3-5 years.

Farmers shouldn't just restrict their thinking to Christmas trees, however. Hill's recommendation of "out of the box thinking" can include plantings of corkscrew willows, red and yellow twig dogwoods and pussy willows, whose branches all are sought by the floral industry, which buys them by the stem. A renewable crop, the plants can be harvested every one or two years. By pruning out the suitable branches, the grower encourages the shrubs to sprout new growth at each cut, providing countless future harvests.

"Agroforestry is all about sustainability," Hill said. "Mixing long term crops with short term crops is good ecologically and economically." Δ