

Agroforestry Forest Farming: Christmas Trees

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Christmas trees don't fit precisely into the definition of forest farming, but they are a non-timber forest product (NTFP) and produce income for the grower in a shorter period of time than timber.

Kentucky has always had a Christmas tree industry, although at a very small scale. About 25 years ago two extension specialists—Dr. Bonnie Appleton, then a horticulturist at Kentucky State University, and I—began to develop this industry with a combination of workshops and materials (print and video). The benefits of producing Christmas trees include guaranteed market every year, a short growing period relative to other tree crops, periodic intensive management (planting, shearing, marketing) but otherwise not much time required in management, and a good return on investment.

Today we suggest that Christmas trees should be grown in agroforestry systems. This could include growing trees along fence rows (as in a *silvopasture* system), in single or multiple rows intercropped with annual agronomic crops (as in *alley cropping* systems), or in the “shrub” area in a *riparian buffer strip* or *windbreak* system, as the trees will be removed when they are relatively small (6-8 feet tall). Planting every year in these last two systems would ensure that there would always be trees in the ground, where they protect against soil erosion and where their presence in the intercropped system diversifies or strengthens the whole system.

Potential growers need to know that the Christmas tree business demands a lot of interaction with the public. Although all Christmas tree farms can determine when they will be open for customers, growers are very busy between Thanksgiving and Christmas Day, so be advised! Also, choose-and-cut growers (most profitable method) must have appropriate liability insurance for having the public on their property using sharp objects such as saws and hatchets. Many growers have developed Christmas tree sales on their property into a whole family outing experience. Growers offer hot coffee, cocoa or cider; some offer hay rides into the



plantation and some have small shops where they sell wreaths, ornaments, tree skirts, homemade foods or other items. Some growers have said that their shops make more money than the trees!

Christmas trees (pines, spruces, firs) grow successfully on soils that may not be suitable for other crops. Conifers prefer a more acid soil than is common in parts of Kentucky, but many Christmas tree species have been grown successfully all over the state. White pine (*Pinus strobus*) is the most desirable disease-resistant pine species to grow. Since its needles are long and soft, they must be sheared tightly so that ornaments can be successfully hung on the branches. Virginia pine (*Pinus virginiana*) is another possibility; it grows very rapidly and needs careful management in its early growth. Norway spruce (*Picea abies*), Colorado blue spruce (*Picea pungens*) and Douglas-fir (*Pseudotsuga menziesii*), although slower growing than the pines, have been reliable species for Kentucky growers. An advantage of these last three species is that their normal growth habit is conical, so they require less shearing and pruning for market and can be managed during the dormant season. The pines need to be sheared during

the growing season to encourage appropriate bud set for the next year's growth. Recently, several Kentucky growers looked at a variety of other exotic tree species to grow as Christmas trees here. After several years, the growers concluded that Nordmann fir (*Abies nordmanniana*) and Meyer's spruce (*Picea meyeri*) could be successful. The Cadillac of Christmas trees, Fraser fir (*Abies fraseri*) needs to be either farther north in latitude or higher in elevation to grow successfully with minimal insect and disease problems. Canaan fir (*Abies balsamea* var. *phanerolepis*), a variety of balsam fir (*Abies balsamea*), can be grown in Kentucky and has been popular with several of our growers. Another possible species for our area is Leyland cypress (*X Cupressocyparis leylandii*). Its natural growth habit is also columnar or conical, and it grows rapidly—possibly producing a marketable tree (6-foot industry standard) within three or four years.

To start, plan where you want the trees to be, both immediately and in the future. A variety of commercial nurseries in nearby states sell growing stock for Christmas trees. Pine species are available through the Kentucky Division of Forestry nurseries. Planting is done in the early spring (late February through early March) so that trees can establish their roots before the warmer (and often drier) weather begins. Pine seedlings are one to two years old in the nurseries; spruce and fir seedlings are two to three years older, as their seedlings take longer to grow to transplant size. Growers use herbicide to clear the planting spots for the seedlings, or they cultivate and then mulch the seedlings heavily with woody mulch (chips or sawdust) once planted. Mulch is important for the first year or two as the seedlings become established, but applying mulch is labor intensive. Mulch retains water in the root zone for the seedlings, keeps the soil temperature cooler, discourages weed growth around the base of the seedlings, and eventually decays into nutritious organic matter. Most growers find that they need to re-apply mulch every two or three years in the normal five- to eight-year growing cycle for Christmas tree production.

Christmas is an annual holiday, and people who buy real Christmas trees buy a new one each year, so many growers do very little advertising. Growers find their clientele grows annually through word of mouth from

satisfied customers. Many growers advertise only the week before Thanksgiving or the weekend just after Thanksgiving. That is when the season “officially” opens and when potential buyers are looking for trees. With greater concerns about the cost of gas mileage, locally grown trees will become more attractive. Providing “extras” such as tree disposal bags, netting or twining of the purchased tree, and shaking out of dead needles will all encourage your buyers to return. Keeping a mailing list of your customers and sending them a reminder the following year also retains and grows your client list.

Growing Christmas trees is a rewarding experience but requires patience and a willingness to serve the public. However, during the holiday season, there is nothing like the smell of a fresh Christmas tree in the home.

Additional Information

Kentucky Christmas Tree Production Workbook (FOR-26) http://www.ca.uky.edu/forestryextension/publications_nontimber.php or from UK Forestry Extension in hard copy (\$15).

Pruning and Shearing Christmas Trees video. University of Kentucky, Department of Agricultural Communications.

Kentucky Christmas Tree Association at www.ky-christmastreefarms.com. This organization is tremendously helpful to its members, sharing both successes and failures and giving advice freely. The association sponsors an annual plant auction in Lexington each spring and has a second meeting in the fall on one of the Christmas tree farms.

Agroforestry in Kentucky

FOR-111 Alley Cropping

FOR-112 Riparian Buffer Strips

FOR-113 Silvopasture

FOR-114 Windbreaks

FOR-115 Forest Farming

<http://dept.ca.uky.edu/agc/pub-dept.asp?dept=Forestry>