



Photo courtesy: Kentucky Division of Forestry

Hardwood Plantation Establishment in Old Fescue-Filled Pastures

by Vernon “Tad” Norris

Kentucky’s landowners have planted many acres of hardwood trees in recent years, but statewide results have been disappointing. To ensure success, certain issues must be addressed well before any roots are covered. Hardwood planting often occurs in fescue fields, and planting in these abandoned pastures creates several challenges. The following recommendation provides one proven approach to deal with planting in these old fields.

Oftentimes when hardwoods are planted into fescue, the fescue winds up out competing the tree seedlings. The denser the fescue is, the worse it is. If you have fescue, try to pull up a handful, roots and all. Notice the thick, hairy, and tenacious roots. If hardwood seedlings do get a start, they usually grow very little and finally give up. Studies have shown that fescue actually emits a chemical that is toxic to seedlings. If you have fescue, you are better off getting rid of it. The experiences of many foresters and many landowner testimonials have shown that two properly executed applications of a suitable herbicide can do the trick. I have worked mainly with glyphosate chemicals (like Roundup), but others will do. Glyphosate works on actively growing plants. Fescue is a cool-season grass, which means that it does most of its growing in spring and fall. During the summer, it puts on a hard-to-penetrate, dark green sheen, and growth slows. When things aren’t moving around much

inside of the plant, neither will the herbicide. We are thus limited to a cool-season spraying.

Go ahead and acquire your herbicide in January (this will give you almost enough time—if you’re like me—to understand the label). You might also contact your forester, county Extension agent, or local progressive farmer to get any remaining questions answered. Simpler is better, and using more chemical than is recommended doesn’t mean you will get better results.

Start checking the area by mid-March. Look for a green-up and new fescue growth. It usually starts two to three weeks before Easter. If the area wasn’t mowed last fall, it should be cut to less than eight inches. Then, give it a week to put on tender new growth. At this point, fescue is most vulnerable, and this is when you should spray. Remember to leave unsprayed buffers along any waterway.

In such fields, there are often small pockets overgrown with brush and small trees. There may be pockets of hardwoods such as osage-orange (“hedge-apple”), redcedars, clumps of multiflora rose, golden-rods, ironweed, teasel, and such. With any luck, you’ll have some cane and wild rye. These grown-up patches will typically be on the roughest ground—places

where mowing has been difficult. If native species are present, you should leave them there. However, if undesirable and aggressive species are present, they should be dealt with. Trees and shrubs with a stem diameter of more than two inches are best removed by cutting and stump spraying with an appropriate herbicide. Multiflora rose is simply a pain (especially when riding a setter, and the tractor straddles one). Most landowners have their favorite “multiflora mix,” but your Extension agent can help with suggestions. This is only two of many plants that can be a problem. Be prepared, and make adjustments as needed.

Take it easy for a while. You might mow in the early fall to knock the heads off the “new” weeds, but this isn’t always needed. Base your decision upon what shows up. This is also the time to order seedlings. I don’t have room for details, but know that some species have very particular site requirements. Your forester can help with what to plant. He/she can also provide specifics on soil depth, texture, and drainage.

Spray again during fescue’s fall growth spurt. You may say to yourself, “I killed this last spring!” But if you look hard, you’ll likely find patches the sprayer missed and spots where fescue reinvaded. Remember to time your application so that tender new growth is present, usually late September to early October. After this spraying (two weeks), plant a cover crop. Wheat works wonderfully and is best planted by mid-October to provide the best cover. This will slow erosion and also discourage fescue’s return. Consider planting with a “no-till” drill. Doing so protects you from the unpredictable array of annuals just waiting for the soil to be turned.

It’s winter now, and your wheat is a deep green, deer are keeping it “mowed,” and the weather is dry. Cabin fever has you thinking about planting. You can plant anytime during the dormant season as long as soil conditions are right: dry enough to use equipment and dig holes but not frozen. March and April are usually the most reliable.

Even with the inevitable breakdowns, a crew of five with a good tractor and setter can plant 2,500 trees a day. “Why,” you say, “does one need so many people?” Let me answer by saying that tree planting’s most important job is that of “walking seedlings in.” Each seedling needs to be inspected and gently “tamped.” Place one foot on each side of each seedling, and let your weight settle the soil. This will place the fine roots into contact with soil and force out air pockets. There will also be an occasional seedling buried by the onrushing tide of soil ahead of

the packing wheels. Dig a bit with your hands and replant. Walkers will also sometimes find a seedling completely atop the closed-over furrow. Don’t get mad at the setters; they may have jostled over a big slab of limestone. Drop and replant. If your helpers are few, stop often and “walk in” what you have just planted.

Seedlings must be kept fresh. The Division of Forestry has shipping arrangements, but there is no substitute for getting freshly packed bags straight from the nursery’s cooler. This can be arranged with the superintendent, but be sure to call a month before you wish to do so. If you have planned correctly and the weather holds, you should start planting that afternoon. Keep them in a cool and dry place overnight.

Take great care while planting. Never take seedlings out of a bag and place them in the setter’s carriers. A few minutes of wind and sun will dry them out. For best results, have a five-gallon bucket for each person riding the setter. Fill each to halfway with water and then add seedlings. Don’t add too many, since roots will be tangled, and you’ll need some “wiggle” room. Consider ordering a wetting agent from one of the nursery catalogues. When used correctly, it forms what looks like a mangled jellyfish all over the roots.

Let’s discuss layout. I believe I can drive in a straight line. But, when chided, I’ll tell you that I can pack more seedlings into a curved row. Ha! Consider using wire flags for guidance. If your job is cost-shared, spacing will be pre-determined. If, however, it is not, remember that tighter is better. Many will argue that tight spacing means earlier and more frequent thinning, and others will say that a wider spacing is better for

nut production. Most plantations, though, have a high rate of mortality, and our overriding goal is

quick crown closure. We want trees to make use of all of the available growing space (and thus shade out any competition) as quickly as possible. This means we will use less herbicide and do less replanting. With deer, rabbits, droughts, runaway bush hogs, sneaky calves, less than perfect planting conditions, and many other unknown variables working against you, doesn’t planting “too many” make sense?

If you have followed these recommendations, ridded yourself of fescue, established a good ground cover, and planted the right species of tree in the right way, you have set yourself up for a great plantation.



*Young black walnut plantation.
Photo courtesy: Jeff Stringer*

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