

The Longleaf Planting Density Debate

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During this election year, I'm sure you have seen your share of political debates. You know the ones where one party or candidate seems so right or so smart – that is, until the other candidate gets his opportunity to offer a rebuttal. We can also gain wisdom from God's Word on this matter in Proverbs 18, verse 17 [NIV], where it reads, "The first to present his case seems right, till another comes forward and questions him." So debate is not a bad thing, it helps everyone to hear both sides on an issue.

Forestry issues are not immune from this type of heated debate. The subject of "planting density" in newly established longleaf pine stands is the latest hot topic in forestry circles. If one asks, "How many seedlings should I plant to get an adequate longleaf pine stand?" the answer will vary, depending on who you ask. If you ask a wildlife biologist concerned with threatened or endangered species associated with longleaf pine ecosystems, the answer might be 300 to 400 seedlings per acre. If you ask the same question of a forester that is interested in growing high-quality pole timber and saw timber, the answer might

be somewhere in the range of 550 to 725 well-spaced seedlings per acre.

Well, who is right? The answer is that both are correct. At least, depending on the landowner's objectives, they both *could* be right.

Wildlife biologists are correct in prescribing a density of 300-400 seedlings per acre to provide sunlight to the forest floor for a longer period before crown clo-

sity of quality trees also provides for increased income from timber harvest.

Both objectives are good, wholesome, and practical. Private landowners are free to choose for themselves which objective they want to manage on their property. The controversy arises when federal and state agencies begin providing financial assistance. Along with the assistance come standards, restrictions, and specifi-

cations to meet the purposes of the various programs of each agency.

In delivering financial and technical assistance to landowners, we (I say "we" because I am a forester working for a federal agency) sometimes have margins that are too narrow. Narrow margins do not give landowners enough flexibility to meet a broad range of goals.

Recently, I had the pleasure of attending a meeting at the Jones

Ecological Research Center at the Ichauway Plantation in southwest Georgia. It is a unique place full of history and beautiful longleaf pine forests. One of the many goals at the research center is longleaf restoration and management. It was interesting to hear Dr. Lindsay Boring, Director of Forest Ecology at the Center, make a statement regarding their



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Fully-stocked stand of approximately 500 to 550 trees per acre.

sure. The sunlight increases growth of native grasses, forbs, and wildflowers that are vital to many wildlife species.

The forester is also correct in prescribing a denser stand of 600+ trees per acre to ensure a well-stocked stand that will reach canopy closure sooner and begin naturally pruning some of the lower branches at an early age. The higher den-

longleaf plantings over the years, “The low-density plantings were a disaster.” Later I had the opportunity to see the stand he was referring to, and it was just as I expected. The majority of trees in the stand had poor form and large limbs.

Low-density stands have very little margin for error. Many different problems can reduce seedling survival. In the case of the stand at Ichauway Plantation, drought-induced mortality had seriously reduced the density below the 350-400 trees per acre. Low-density stands reduce the margin of safety in getting a fully-stocked stand.

They have since modified their planting density to average planting 600-700 trees per acre. The increase from a low-density stand of 350 trees per acre up to 600 trees per acre has had an obvious positive effect on the natural pruning of the lower branches during the early development of the stand.

Recently, the State Technical Committee for Alabama approved a change in the planting density to allow landowners/producers to plant up to 622 trees per acre in the EQIP (Environmental Quality Incentives Program). This is an increase from the previous maximum of 545. The change does not require the landowner to plant this many, it only provides the opportunity for landowners with a definite forestry objective to plant at a denser spacing if they choose. The planting density must be within the range recommended in the conservation plan, and the NRCS (Natural Resources Conservation Service) restrictions require that a stand be within 400 to 622 trees per acre.

This change does not impact the planting requirements within the WHIP (Wildlife Habitat Incentives Program); that range remains 400 to 454. The WHIP program obviously has a wildlife objective and is available to benefit and improve wildlife habitat.

As my friend and wildlife biologist Eric Spadgenske says, “More scientific research is needed.” He is right. Without good scientific research, this debate is sure to continue. Debate without scientific data becomes a battle of wills.

At least for now, landowners with a strong belief that a denser stand will be more economical for their timber investment will have a slightly higher planting density within the EQIP program.☞

The author observing a “limby” stand.

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