TreeLines

February 2024 – 2nd Edition

Lower Planting Density – Better Genetics

"What spacing do you recommend I use when replanting my property?"

This question is common for ArborGen Reforestation Advisors and an essential question for landowners and forestry consultants to ask! The initial spacing for reforestation will impact how quickly your trees transition into higher product classes, how large the branches will be, and how quickly canopy closure is reached, which reduces wildlife habitat for certain animals and begins reducing the tree's live crown length. In addition to the biological impacts, the initial stocking rate also impacts the landowner's up-front costs and return on investment in how many trees they will purchase.

Image 1: MCP®-Advanced Atlantic Coast North containers in their third growing season on a 10' x 12' spacing (363 TPA) near Tappahannock, VA. Forestry consultant Steven Peter, South Paw Forest Products Inc.

One thing is sure: when lowering your initial planting density, more emphasis than ever should be placed on the quality of the planted genetics. The new stand will start with fewer stems per acre, allowing fewer chances to reach your desired final stocking rate before final harvest of approximately 120-130 stems per acre of sawtimber/poles. If growing your stand to maximize your financial returns, you need to select trees up front that not only have faster growth but also have superior stem straightness, reduced forking, and improved resistance to diseases such as fusiform rust (*Cronartium quercuum f. sp. fusiforme*).

These MCP in Trinity County, Texas are already 70' tall at 15 years!

Both bareroot and containerized seedlings can be planted at lower stocking rates, but the genetics behind the material planted must be a focal point. After your initial year-one survival, the stock type planted will no longer matter, and the genetics you have selected for that stand will now be in control for the remaining 25-30+ years. Do you know what you planted? Was it a fast-growing, straight, disease-resistant MCP® seedling geared toward sawtimber production, or did you use an unknown cheap container? Time will tell, along with your final return on investment.

Due to the recent pulpwood mill closures and reductions or the faster growth rates achieved through the combination of improved genetics and good silviculture, lower initial planting densities have been a hot topic in recent forestry conversations.

ArborGen Reforestation Advisors commonly advise lowering stocking rates when customers are interested in purchasing MCP® (Mass Control Pollinated) seedlings, as these trees will grow faster and start competing with each other sooner than most open-pollinated families.

According to the annual survey "Costs and Trends of Southern Forestry Practices" conducted by a collaboration between the Alabama Cooperative Extension System, College of Forestry, Wildlife, and Environment at Auburn

University, and the Forest Landowners Association (Maggard, A. and J. Natzke 2023) the current average planting density across the Southern United States for pine is 546 trees per acre (TPA) (representative of a 10' x 8' spacing). Lower initial planting densities of 435 trees per acre (10'x10' spacing) are now being suggested, and even lower planting densities are being considered/implemented (12' x 12' (303 TPA) or 10' x 12' (363 TPA).

Although the branching characteristics on some of these spacings below 400 TPA are still somewhat unknown and being explored, a few immediate advantages to these spacings are that the trees will have more room to grow, transitioning into higher product classes sooner. The wider spacing will also allow for enhanced wildlife habitat for a longer period before canopy closure (Image 1, above-right).

Author: Austin Heine

North Carolina and Virginia
Reforestation Advisor

Sources.

Maggard, A. and J. Natzke 2023. Cost and Trends of Southern Forestry Practices – Forest Landowners

Planting Density: Less CAN be more!

Download Your Planting Density Sheet

Reforestation Advisor Jason Cromer discusses the importance of Planting Density and how planting fewer trees-per-acre (TPA) with advanced genetics such as MCP® can actually deliver more revenue than than OP control families.

Client Results

MCP® Elite at 1 year
Clarke County, AL

35' MCP® Advanced at 8 years
Greenwood County, SC

See More Client Results

[Click here for the previous edition of TreeLines.]

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Austin Heine

North Carolina and Virginia

910-660-3209

See More About Austin

Greg Hay

Arkansas, Northern Louisiana, and Oklahoma

501-350-4217

See More About Greg

Shannon Stewart

Eastern Texas, Southern Louisiana

936-239-6189

See More About Shannon

Paul Jeffreys, Ph.D.

Alabama & Mississippi

Manager Special Projects & Sustainability

205-712-9582

See More About About

Kylie Burdette

U.S. Sales Manager

Reforestation Advisor

South Carolina

864-650-4454

See More About Kylie

Jason Watson

Director, U.S. Sales

Reforestation Advisor

Georgia and Florida

404-840-7489

See More About Jason

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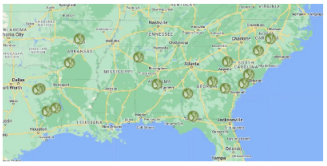

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2011 Broadbank Court
Ridgeville, S.C. 29472

888.888.7158

info@arborgen.com

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