

C I N T R A F O R

Special Paper 38

Small Diameter Timber: A Review of the Literature

Dorothy A. Paun and David Wright. 2001

Abstract

The goal of this study is to provide a literature review summarizing published research on small diameter timber (SDT) and to offer discussion on potential new markets and products. This report surveys the status of SDT, drivers influencing the supply of this resource, current markets and products, and how future developments might influence expanding markets and new products. It is hoped that the SDT marketing planning worksheets are useful to government agencies needing to enhance the attractiveness of SDT sales; forest products firms striving for increased profitability; and private timberland owners needing to effectively manage harvesting and thinning activities.

Introductory remarks

Often debated is what diameter best defines small diameter timber (SDT), in the literature as well as in the field. This is because perceptions and beliefs about SDT vary depending on whether the specific tree referred to is a hardwood or softwood; the particular species being discussed; the region in which a stand is located; the intended end use or product anticipated; and a host of personal opinions and attitudes about SDT in general. However, there is one common element in these diameter discussions; there seems to be agreement that with the passage of time the diameter at breast height (d.b.h.) that defines SDT continues to decrease with changes in the supply of older, larger trees relative to younger, smaller trees, new harvesting practices, and processing technologies. It was decided that in the context of this publication a good approximation of the opinions presented in the literature is to define SDT as a tree with a nine inches or less d.b.h.

The supply and utilization of SDT depends on a range of factors including public perceptions of existing and proposed land use practices and management paradigms (e.g., landscape management, multiple use management, adaptive management, ecosystem management, and new forestry); land ownership patterns; human and natural disturbance history; and regional forestry practices. Regions like the southern United States, where high-yield, short-rotation industrial forests are common, the vast quantities of lodgepole pine in the Rocky Mountains, and the north central United States, where large volumes of non-plantation aspen and poplar exist, encourage using smaller trees for pulp and paper, solid wood, and composite products. In other regions, such as the Pacific Northwest, the volume of SDT is due in part to past harvesting and disturbance regimes, fire prevention measures, and a political situation that led foresters who previously relied on larger, older trees to seek alternative sources of supply. How SDT are used depends on many factors like quantity and reliability of supply; age; quality; harvesting methods and associated costs; and the ability of current manufacturing technologies to process small logs within specified cost parameters. Small trees are used in varying degrees, but the trend is toward continued refinements in harvesting and processing to accommodate ever smaller trees as the supply of larger trees becomes increasingly less secure. Technical refinements aimed at more effectively using SDT include making veneer from increasingly smaller logs; using juvenile wood for pulp and paper manufacturing; and producing solid wood and composite products from smaller trees. The impact of rising import and export competition from timber suppliers and forest products companies from New

Zealand, Chile, Brazil, Russia, and Canada (Sedjo and Lyon 1990) is noteworthy. Rising timber inventories in off-shore plantations infer that innovative methods for utilizing SDT may continue to be developed within North America but only so long as domestic small diameter resources remain cost competitive relative to imported timber.

Back to [Publications List](#)

To [Ordering Instructions](#)