Trees on Farms initiative

Summary of Collaborative Research Projects by the Department of Primary Industries and Regions (PIRSA) and the Green Triangle Forest Industries Hub (GTFIH)

Australian Government
Department of Agriculture, Fisheries and Forestry

Green Triangle Forest Industries Hub

Government of South Australia
Department of Primary Industries and Regions

Introduction

- Growing new plantation areas is critical to securing Australia's future wood supply. The integration of trees into farming presents an opportunity to increase South Australia's long-term wood supply and help reduce the need to import timber products.
- To support the South Australian Government's Trees on Farms initiative, the Department of Primary Industries and Regions (PIRSA) developed a project using $500,000 from the Australian Government. Of this, $210,000 was invested in the Green Triangle Forest Industries Hub (GTFIH), who also contributed $120,000, to research five topics that are relevant to farm-based timber plantings.
- The purpose of the research is to provide independent and industry reviewed information to assist farmers and consultants in making decisions around trees on farms. A summary of the results of the five research topics is provided below.

Project 1 - Development of shorter rotation softwood and longer rotation hardwood plantation silviculture

- This project explored current and alternative Tasmanian bluegum (hardwood) and radiata pine (softwood) management (silviculture) regimes. By considering expected time frames for harvest, the farm property plan, and intended markets, there is potential to match a range of forest management regimes to an individual farmer's property and production system.
- Alternative management regimes for softwoods include shorter rotations with higher, the same and lower initial stockings; a reduction in thinning; and a short rotation pulpwood regime. Alternative management regimes for hardwoods include shorter rotations and longer rotations, with and without thinning.
- The main report presents a summary of the harvest age of current and potential softwood and hardwood management regimes and their pros and cons. The appendices provide details of financial analyses, history of silviculture, log products and prices, harvest and transport costs, stocking and wood quality, and other information.

Project 2 - Enhancing commercial viability of plantation trees by addressing limitations in logistics and process requirements

- This project provides an overview of the Green Triangle (GT) forest industry supply chain, from growing plantation forests through to harvesting, information on specialised forestry machines and trucks, the intricacies of selling harvested logs, while specifying the differences for hardwoods and softwoods.
- The report includes a snapshot of GT softwood processors and hardwood woodchip exporters, tables of indicative softwood and hardwood harvest yields, indicative harvesting, and haulage costs, approximate roading costs, and typical mill door prices.
- Eight barriers to harvesting and processing of small private plantation (SPP) resources are identified and discussed in the report. They are: plantation value; silviculture;

plantation location relative to markets; on-property roading; plantation scale; log sale process; harvesting contractor availability; and pre-harvest considerations.

Project 3 - A spatial analysis study of suitable land areas for trees into farming

- This project produced an interactive web map (https://gtfih.com.au/gtfih-plantation-suitability-web-app/) that allows users to explore estimates of saleable wood and carbon credits, in agricultural areas within South Australia and western Victoria, according to a mapped grid. A detailed report also provides information on the development of the web maps and all the layers.
- Four plantation management regimes are modelled using the Agricultural Production Systems Simulator (APSIM), a computer software model that simulates biophysical processes that drive plant biomass. The likely forest wood harvest volumes generated at thinning and final harvest across the project area are shown on the map.
- The Full Carbon Accounting Model (FullCAM) was used to provide the total Australian Carbon Credit Units (ACCUs) that could be available under the Tasmanian bluegum and radiata pine regimes. FullCAM was also used to generate ACCUs that could be available under a permanent environmental planting, which could be a mixture of tree and shrub species that are native to the area.

Project 4 - A comparison of participating in the Emissions Reduction Fund under the plantation forestry method vs farm forestry method

- This project primarily compared two Australian Carbon Credit Unit (ACCU) Scheme vegetation methods that allow landholders to run projects that sequester carbon from the atmosphere and gain carbon credits. The methods are the Plantation Forestry Method Schedule 1 (Plantation Forestry Method), which focuses on new plantation forests for commercial harvest, and the Farm Forestry Method, which incorporates both harvest plantation projects for saleable forest products and permanent planting projects.
- The report has a Detailed Methodologies Comparison section where the methods are reviewed in detail to compare differences in requirements of eligibility, the registration process, and reporting and monitoring over a series of tables. To assist with understanding which criteria could likely be managed with internal business resources versus those that would need external specialist or technical assistance, a difficulty rating was applied where relevant.
- The analysis concluded that if a plantation is established for harvesting wood products, the Plantation Forestry Method is likely to be a better option. A Farm Forestry Method permanent planting is likely to yield more credits, however, this needs to be balanced with the inability to harvest for products and potentially higher project costs for tree measurements, destructive sampling, and statistical analysis.

Project 5 - Development of a definitive statement of taxation treatment of plantation trees for commercial purposes in a farming framework and a pathway forward

- This report provides a distilled account of trees, taxation and superannuation and comprehensive appendices with information sourced from the Australian Taxation Office (ATO) and other sources. The analysis does not seek to provide specific treatment and outcomes but rather demonstrate what may be possible subject to a range of considerations.
- Combining the technical nature of taxation with a need for clear examples, the report makes use of case studies to demonstrate principles and concepts with a caveat that any specific implementation will need to seek specific and current professional advice.
- A motivation to plant trees and intended primary outcome contribute to defining taxation treatment. Motivations can be linked to an individual farmer's or grower's needs and wants, within a framework of a farming enterprise. This includes consideration of succession and estate planning within a farming family.
- Trees can provide shade and shelter as woodlots (deductable expenses) or amenity (a non-deductable expense). Trees with the intent to harvest, as part of primary production carrying out a business activity, are classed as a forest operation with specific taxation treatment.
- The cost of establishment can be claimed at the time of occurrence and used to offset other income to reduce taxable income (subject to non-commercial losses or company taxation provisions) or be claimed at the time of generating an income.
- Taxation treatment of tree related income at harvest and sale of logs to another party with the intent to make a profit are defined by the operating framework, as an individual, a company or by a superannuation fund. These three scenarios are explored, and the potential outcomes presented in the report.

Figure 1. Daniel and Aleisha Campbell conducting diameter at breast height (dbh) and wood density measurements (Photograph PIRSA 2023)

Further information

Fact sheets, the project reports, links to recorded project presentations, as well as other useful information are available from:

Department of Primary Industries and Regions

https://www.pir.sa.gov.au/primary_industry/forestry/trees_on_farms_initiative

Green Triangle Forest Industries Hub

https://gtfih.com.au/trees-on-farms/

Figure 2. Peter Feast inspecting wide-spaced *Pinus radiata* at Mount Schank, South Australia (Photograph PIRSA 2023)