

'GLOBAL APPLICATIONS OF FAST-GROWING TREES IN AGROFORESTRY SYSTEMS'

The Benefits of Pollarding Poplars and Willows to Provide Stock Fodder

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Overview

Poplars (*Populus* L.) and willows (*Salix* L.) are planted extensively in New Zealand pastoral hill country for soil stabilization, but serve other important functions that make them multipurpose trees. One such function that is particularly relevant for agroforestry systems is the ability of poplars and willows to serve as valuable sources of fodder for pastoral farmers.

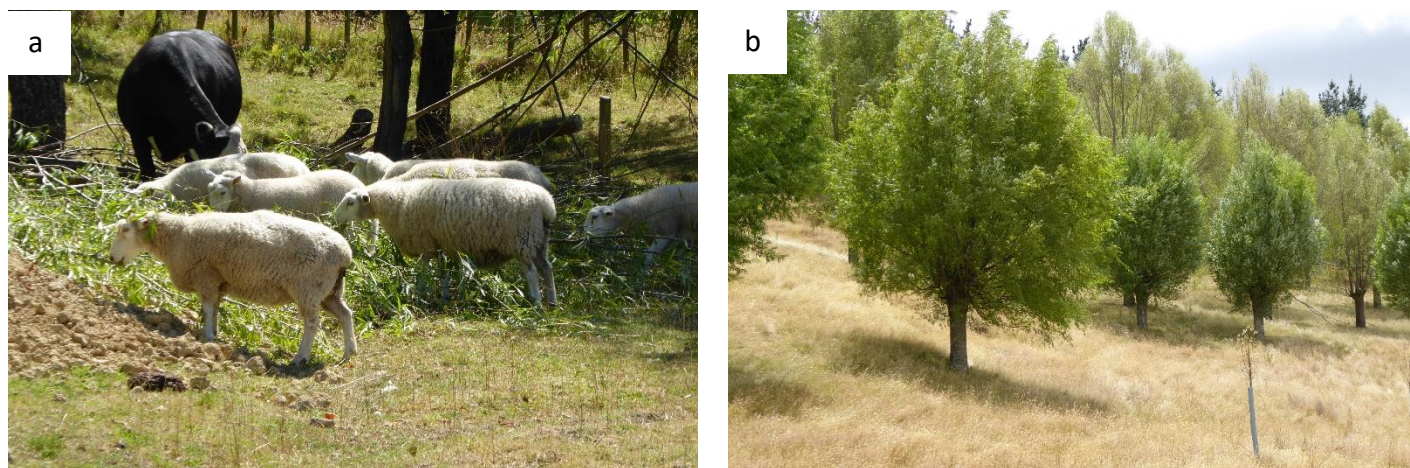


Figure 1. a) Cattle and sheep browsing on freshly cut willow fodder, and b) willows grown for fodder production.

Tree fodder utilization usually occurs during the summer and into autumn when pasture quality is the lowest and trees are in full leaf. Stock animals readily eat the leaves, small stems, and bark of both poplars and willows (Fig. 1). However, willows exhibit several characteristics that make them ideal as a source of fodder. First, while trees aged 5 to 10 years of both genera yield up to 22 kg dry matter of edible forage per tree, willows grow 4 to 5 times the number of new shoots and carry more edible fodder than poplars. Condensed tannins and higher levels of zinc and magnesium compared to typical pasture species are added stock health benefits of willow fodder. Willows are also easier than poplars to manage for harvesting fodder. Harvests for fodder occur every 3 to 4 years, with willow trees being reduced to a pollarded form.

¹The International Commission on Poplars and Other Fast-Growing Trees Sustaining People and the Environment (IPC)

Outcomes

Today, extension activities emphasize the multiple uses of these trees, promote their adoption, and provide information on management for fodder and safe harvesting practices. The intentional planting of poplars and willows for multiple purposes is increasing, with farmers planting a wider variety of clones, seeking information on fit-for-purpose clones, and attending to their management (Fig. 2).



Figure 2. Willows managed for fodder production.

Keywords: Pastoral farms, tree fodder, fodder nutrition, fodder production

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