

USES OF PINE TREES ON THE FARM

THROUGHOUT New Zealand many different kinds of trees have been planted for timber, for shelter, for beauty, and for protection against erosion, but for shelter purposes some species of evergreen, particularly of the cypress and pine families, are the most important. Characteristics of the better-known pines and the uses to which they may be put are the subject of this article by H. M. Steven, formerly Assistant Farm Forestry Officer, Department of Agriculture, Wellington.

PINES are used widely for shelter in all districts of New Zealand, but few of these belts are entirely satisfactory. No doubt the ease with which the trees transplant and the rapidity with which they grow are the main factors for their wide popularity, for in 4 to 7 years after being planted the insignis pine (*Pinus radiata*) provides a very effective windbreak and shelter for the farm. Unfortunately, this efficacy is short lived. Before they are very old (from 15 years onward) they tend to become open at the base and draughty because of the loss of their lower limbs, so that, though they still act as a break to the wind, they cause chills to stock which endeavour to shelter under them. To some extent this opening up can be



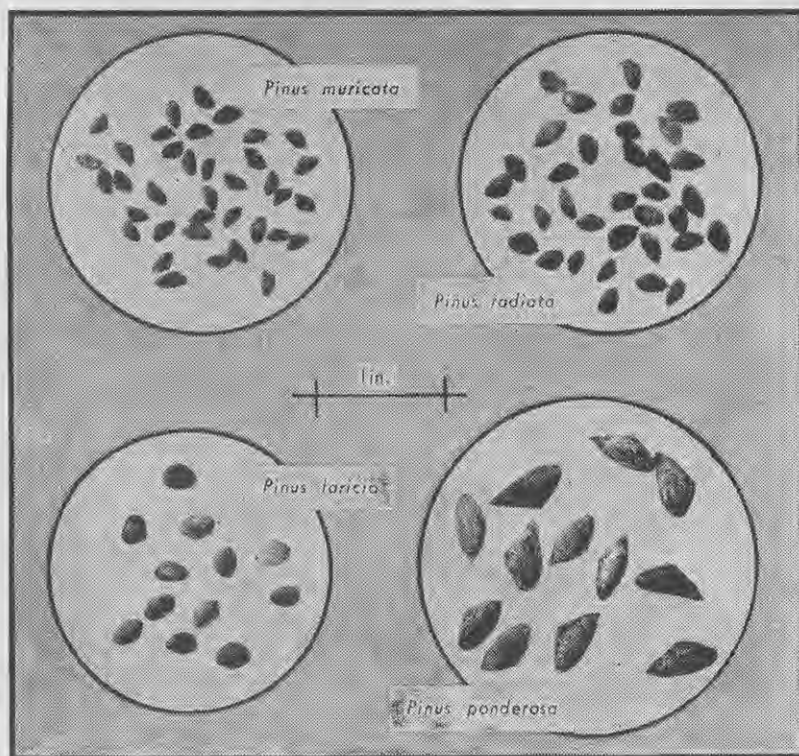
Pinus radiata being cut up for firewood.

delayed by allowing the trees room to spread their lower branches and by leaving ample room between the trees and the fence to prevent stock reaching and damaging the trees. Pines in a mixed belt can also contribute to efficient shelter.

Characteristics of Pines

Pines belong to the class *Coniferales*, which includes families of cypresses, firs, and spruces, all trees in which the seed is borne in cones. The character and appearance of the cones differ widely and provide a good means of distinguishing species. The branches of pines grow in regular circlets on the trunk and extend sideways, especially in young trees; in old trees the pyramidal habit is lost and the trees become flat topped with spreading crowns. The leaves are needle-like and borne in clusters of two, three, or five.

The terminal winter buds vary between species in colour, shape, and the character of the scales, which may be resinous or non-resinous, tightly pressed to the bud or free at the top, and with or without their tips curved back (reflexed). Male and female flowers occur on the same tree in spring or early summer. The small, male cones, borne in clusters, are usually yellowish but may be red or orange. The female cones, insignificant at first, are carried in clusters of two to four near the growing tips. They are composed of a number of spirally arranged green scales or bracts which open in the first year to receive the wind-borne pollen and close again afterward. They then increase in size and take two or more growing seasons to mature, by which time the cone scales are brown and thickened and often have protuberances, which may be sharp and prickly as in the prickly-cone or Bishop's pine (*Pinus muricata*). The seeds are carried on papery scales within the cone, and when the cone scale opens the seeds escape attached to a well-developed wing which aids in their dispersal by the wind.



Seeds of some of the more common species of pines.