

28. "It emphasizes the importance of mechanization in afforestation work."

As far as the mechanization of the actual work of tree-planting is concerned, New Zealand so far has done little, but it is doubtful if any country has used mechanical equipment to a greater extent for the preparation of the land for actual planting. Power-operated machines, principally American, have been used in the preparation of roads, fire-breaks, &c., for many years, and it is proposed shortly to undertake trials with various types of tree-planting machines.

29. "It seems that the general economy of a country is influenced by the proportional distribution of forest and cultivated land. This distribution has considerable influence on the total economy of water and the maintenance of soil fertility. Studies of the most suitable proportion between forests and cultivated surfaces under different climates seem to be desirable. Protection of soils and water economy, and the maintenance of climatic equilibrium justify in certain cases the creation of protective stands, even if the trees which comprise them have in themselves only slight technological value."

The maintenance and expansion of high-level protection forests are essential elements of New Zealand forest policy in the national interests of the protection of soil and water economy. (See para. 53.)

C. Forest Genetics

30. "The importance of genetics as an indispensable basis of forest economy cannot be questioned at the present time."

31. "The Congress RECOMMENDS

- (a) "That the Governments should take steps to facilitate the rapid exchange of seed and living plant material in small quantities between State Forest Services or Forest Research Institutes.
- (b) "That Governments should study the possibility of exempting such material from customs duty when accompanied by an internationally standardized declaration emanating from the above-mentioned services or institutions."

Such material is exempt from New Zealand Customs duty. The 1949 revision of the Forests Act provides for protective measures against introduction of plant diseases and insects.

34. "In the question of seed production it appears that the practical and inexpensive system of seed orchards is destined to provide tree seed in significant quantities. While awaiting the realization of this technical progress, it is recommended that, where practicable, the seed harvest should only be derived from recognized elite stands of trees."

Research on the practicability of perpetuating the best stands of exotic species has been commenced by the Forest Research Institute; in the meantime the Forest Service and enlightened private organizations may be expected to continue to practice and advocate the accepted practice of collecting seed only from the best available stands.

SECTION II—FOREST SURVEYS

35. "The general conviction was that the most effective basis of determining the yield available for utilization upon a sustained and progressive basis is the knowledge of growing stock and its increment, including problems of the accurate determination of these factors."