

Samples of honey have been examined for pollen content, and the relative abundance of the different species noted. Pollen of tutu (*Coriaria*) was observed in samples of unmarketable honey, and other lines of investigation have confirmed that the deleterious factor was honeydew collected by bees from the leaves of tutu.

POISONOUS AND MEDICINAL PLANTS

Material from a number of indigenous and exotic species has been gathered for studies on their toxicity to farm animals being made at the Animal Research Station, Wallaceville. Leaves of pigeonwood (*Hedycarya arborea*) and pukatea (*Laurelia norae-zelandiae*) proved toxic to sheep. Strathmore weed (*Pimelea prostrata*) did not prove toxic to sheep.

As there appears to be no indication that any extensive production of medicinal plants is likely to be undertaken in New Zealand, work has largely been in maintaining nucleus stocks of the more important species. The selection of *Datura stramonium* and *Atropa belladonna* have been tested with a view to further elimination of the less productive strains. Selections of various species of wild rose and sweetbrier from local and British sources have been tested, and those richer in vitamin content are being retained.

PHORMIUM INVESTIGATIONS

Fibre and milling tests have been continued, and full reports made. The variety 56 proved of sufficient quality to justify more extensive planting. It gives a strong yarn, and is favourably reported on for rope-manufacture. Ngaro can be utilized for warp yarn, but is more suited to cordage than textile purposes. Leaf from the cross *Phormium colensoi* by *P. tenax* produced a soft pliable fibre of considerably finer thread than Ngaro, with excellent spinning qualities. It works up into excellent sewing-twine. A large area has been established for further trials, and specially selected plants are being propagated for testing.

A survey was made of phormium areas in Southland and a detailed report submitted.

Yellow-leaf has become a serious problem on the Moutoa Estate, and a comprehensive scheme of investigation is under way, aiming at discovering the cause of the disease and methods of control. This work is a co-operative effort with the Soil Bureau and the Plant Diseases Division. All possible aspects of the problem are being studied.

Work on seedling production is in progress to test glasshouse against open-bed methods, to ascertain the relative germination of different strains and the longevity of seed.

TUSOCK GRASSLAND RENOVATION

Seeds of species likely to be of value have been sown in the various experimental plots. Special work has been done on the plot at Molesworth Station. This area has been studied in detail and permanently charted to ascertain the rate of renovation of the tussock and associated grasses, the effects of grazing, the results of spring and autumn burning, the role of scabweed, and feasible methods of sowing down. A number of species from South African and American sources have been sown. The most promising so far are several American species of blue-grass (*Agropyron*), but there is little to indicate that these will be superior to the native blue-grass (*Agropyron scabrum*), which has also been sown. Variegated lucerne gave promise, but was eaten out by rabbits that entered the enclosure. A nursery area has been established near the homestead to supplement the sowings made on the plot. Promising species are being propagated at the Waiwhetu Experimental Area, and good harvests have already been obtained of native blue-grass and certain bromes. A paper has been prepared giving the history and results of regrassing trials on tussock country throughout the South Island.