

SELECTION, BREEDING, AND GENETICS.

Earlier workers have collected tenax plants outstanding for strength, coarseness, colour, stripping quality and content of fibre. Many of these have been multiplied vegetatively until now we have plantations up to 100 acres of one clonal variety. Many of our best varieties were selected originally by the Maoris. From the best of these clonal varieties large numbers of seedlings have also been raised to fulfil the planting programme. To produce finer types of fibre several crosses have been made between varieties of tenax and colensoi and one of these has already given promising results in preliminary tests.

DISEASES.

Yellow leaf, the most serious disease, was dealt with in some detail. A concerted effort is being made at present to find its cause and cure, both still unknown. The course of the disease appears to be -

1. Appearance of lesions in the roots followed by breakdown and rotting of the rhizome.
2. Rotting spreads fairly rapidly and results in yellowing on the leaves, the first sign usually noticed. Sometimes the rot spreads so rapidly that the leaves roll and collapse without preliminary yellowing.
3. When the rhizome rot spreads above ground the fans can easily be knocked out and the plant soon dies.

The disease appears in most P. tenax areas of the North Is. and has been reported from the South: it appears in many different soil types and seems to be independent of most variables so far observed. It occurs sporadically in plantations and natural areas. There is a tendency for a group of plants in a plantation row to go off together, while beside them in the row or adjoining rows plants continue to grow vigorously. No certain case of recovery has been observed in spite of transplanting and manurial treatment. No success has attended efforts to transmit the disease by planting healthy and diseased fans together, by core injection, by contact of cut surfaces, and by planting healthy fans in positions occupied by diseased ones. Many isolations from diseased plants have failed to reveal any fungus or bacterium likely to be a primary pathogen. The possibility of virus disease has not been overlooked and the question of trace element disease is being fully investigated.

The talk showed that there is still much to be learned about phormium, one of our first known and most familiar plants, the fibre from which has been of commercial value for 150 years, and at times one of our most important exports.

MIRAMAR GULLY.

The August excursion, attended by about twenty people, was an afternoon trip to the gully beyond the Miramar tram terminus. The vegetation has changed much since Buchanan wrote of it in (Trans. N.Z.I. vol. 5, 1872) but the remnant of native scrub has escaped burning over a considerable number of years and now shows a fair range of species, about sixty being noted.

Species characteristic of the exposed coastal rocks here grow more luxuriantly, for example Phormium colensoi, Hymenanthera crassifolia, Olearia solandra, Macropiper excelsum, Poa anceps, Aciphylla squarrosa, and especially Coprosma propinqua, which in the broader of the two valleys forms considerable thickets of shoulder-high, twiggy bushes. Hybrids between this species and C. robusta are abundant: C. lucida is also present, and C. rhamnoides was covered with translucent ruby-red berries. Pittosporum tenuifolium that had been planted freely in the grassy floor of one valley was not seen growing naturally.

Conspicuous exotics were broom, the yellow-flowered daisy bush Osteospermum moniliferum (bush tick berry), Pinus radiata, and Berberis darwinii, the last-named a garden escape that is becoming naturalized rather freely in a number of places about Wellington.