

(c) *Pasture Species and Strains*.—These trials are carried out in collaboration with the Grasslands Division, Department of Scientific and Industrial Research. While the areas sown down some time ago are now being closed, a new series of trials, including an investigation of seeding rates and mixtures, is being laid down this autumn. Paddock-scale trials with short-rotation rye-grass continue to provide valuable information concerning the merits, behaviour, and general place in the farming economy of this new and useful plant, and 35 such trials are now open. Only a few subterranean-clover trials are now open, but a new series of trials involving the surface sowing of legumes (including subterranean clover) on hill-country pastures is being laid down in considerable numbers this autumn.

(d) *Trials on Depleted Land: Soil Erosion Control*.—The Pisa Flat Experimental Area continues to provide most valuable information concerning the potentialities of various native and introduced species of grasses and clovers in recovering the depleted land of Central Otago, and this work will be considerably expanded in the coming years.

The problem of soil conservation generally is being undertaken in collaboration with other Government Departments as part of the national scheme being organized by the Soil Conservation and Rivers Control Council, and the work of the Fields Division in this connection will be considerably increased in the near future.

(e) *Miscellaneous Pasture Trials*.—These trials include investigations concerning sweet clover and a few other species of possible value; surface-sowing trials; trials with special treatments to improve hay quality; and seed-production trials. Investigations into grass- and clover-seed production, including management, top-dressing, and cultivation, will form an important section of future work.

(2) *Annual Crops*

(a) *Wheat-manuring Trials*.—Eight trials were laid down to investigate the response of wheat to superphosphate and serpentine-superphosphate and to see if different varieties behaved differently in this respect. Results to hand indicate that Cross 7 and Solid-straw Tuscan respond in a similar manner to phosphate, but there are still a number of results to come to hand. Manurial trials next year will start a comprehensive programme into the requirements of wheat in relation to soil type. This work will extend over a number of years.

(b) *Wheat Variety Trials*.—Seven trials, including new crosses bred by the Wheat Research Institute, were laid down in collaboration with that body. Results from wheat trials generally have been affected by the adverse weather conditions experienced last year and much of the work will be repeated in the coming season.

(c) *Oats*.—Two trials, one at Gore and one at Winton, compared new introductions—Royal Scot and Binder—with standard varieties. Yields are not yet to hand. Work with oats and all crops other than wheat is carried out in collaboration with the Agronomy Division, Department of Scientific and Industrial Research.

(d) *Barley*.—Five trials with new introductions of malting-barley compared with standard varieties were laid down in North Canterbury and Central Otago. Final results are not yet to hand.

(e) *Brassica Crops*.—These trials include turnip and swede variety trials in which New-Zealand-produced seed is compared with imported lines of the same variety; swede variety trials with the new "Dryland" variety; rape variety trials, including new strains bred by the Agronomy Division and a club-root-resistant strain originally produced by the Plant Diseases Division, Department of Scientific and Industrial Research; rate-of-seeding trials with turnips and swedes; and manurial trials, including comparisons of serpentine-superphosphate, reverted superphosphate, and various proprietary mixtures. In all, 18 of these trials are now in progress.

(f) *Linen Flax*.—On a specially leased area at Pleasant Point, trials were continued this year. These include a manurial trial with lime, superphosphate, potash, and borax treatments; a variety trial with Concurrent, Liral Crown, Stormont Cirrus, Stormont Gossamer, and Norfolk Earl varieties; a trial with various rates of seeding sown with ordinary coulter and a new type designed to give a more even spread of plants; a size