Tussock Deterioration

In connection with this problem, attention is given to the possible influence of insects. Observations in the McKenzie-country reveal that the larvæ of the noctuid moth (*Persectania ewingi*) are the only type of insect universally present in significant numbers. This insect is periodically epidemic on pastures in Tasmania and as a crop pest in lowland Canterbury. At the present time there is not the evidence to show that insects are an important factor in tussock deterioration, but special attention is being given to *P. ewingi* in order to secure data on its place in the problem and as a guide for more extended study.

Red-legged Earth Mite

This mite (*Halotydeus destructor*), a serious pest of subterranean clover in western Australia and of vegetables in South Africa and southern Australia, has become established on the reclaimed Ahuriri Lagoon area at Napier, where it has caused severe damage to spring vegetables. Though the mite has probably reached the subterranean clover at Roy's Hill, there is no evidence of damage there so far. This pest is likely to be a problem where vegetables are grown on light soils, but is unlikely to become of importance in the case of subterranean clover as it is, for example, under the specialized climatic and pasture conditions of Western Australia. A sodium-arsenite chaff bait developed in Australia showed some promise of effective control when frequently applied.

Cheese-mites

The experimental study into the control of cheese-mites (in co-operation with the Dairy Research Institute) has been completed. Waxes, dusts, and fumigants were tested. It was found that mites were able to penetrate a covering of wax and reach the cheese, while dusts proved ineffective as barriers to mite-infestation, the high humidities normal in cheese-stores being an inhibiting factor. In the case of the fumigants both ammonia and methyl bromide are effective acaricides, but the former is unsuitable largely on account of ready absorption by the cheese, while the latter is expensive and lacks the persisting qualities characteristic of dichloroethyl ether. This last was found to be the most satisfactory acaricide in all respects, including cost. Though dichloroethyl ether is effective when applied as a vapour, it is more conveniently applied as a liquid, and its influence is more lasting by that method. Under such circumstances the dosage, applied to the shelving of the curing-room, is at the rate of 1 lb. per 1,000 cubic feet of room space; another equally effective method is to stand the cheese on treated scale-boards.

In the experiments on the inter-relationship of mite species attacking cheese successive counts at regular intervals from the same mite population have shown that the relationship follows a well-defined curve. An attempt is now being made to demonstrate that a similar relationship exists in population samples taken from a number of different cheese-factories. So far the same general trend in preliminary figures is apparent, though inconsistencies are naturally more marked. Observations have been carried out upon conditions associated with mite infestations in cheese-factories and produce stores.

A comparative morphological study of the developmental stages of *Tyrophagus longior* and *Tyrolichus casei* is being carried out, while a systematic work has been prepared on the several species of mites encountered during the investigation.

Timber Borers

A new and effective technique has been developed for simplifying the analyses of data concerning the egg-laying of *Anobium*.

Preliminary tests with the following wood preservatives have been completed: zinc chloride, chlorinated naphthalene, zinc naphthenate, pentachlorphenol, Tanalith, and Celcure. Water-soluble preservatives did not prevent *Anobium* from ovipositing,