

The identification of the toxins of paspalum ergot has proved more difficult than anticipated. Light has been shown to affect the toxicity of extracts, and it appears essential to carry out analytical work in the dark for further progress.

PARASITOLOGY

Trials with Phenothiazine in Salt Lick.—Trials with a salt lick containing 10 per cent. phenothiazine indicate that the addition of phenothiazine to salt lick renders it rather unpalatable, consequently lick consumption may be greatly reduced. In addition, lick consumption within the group may be far from uniform, and in a considerable proportion of the animals lick consumption may be inadequate.

Immunity and Resistance to Internal Parasites.—The study of immunity and resistance to nematode infections in sheep was continued. Two groups of lambs were raised under worm-free conditions. One group was given repeated infections with larvæ of *Haemonchus* with the object of producing an infection from which natural recovery would take place. It was found necessary to give anthelmintic treatment on two occasions in order to save the experimental animals. Partial recovery, however, occurred eventually, and a test infection of larvæ was given to both infested and control animals. Both groups were killed on the twelfth and thirteenth days, and a significant difference in the size of the worms recovered from the two groups was observed, a marked growth retardation being observed in the infested group.

Observations were also made on the production of oral, anal, and excretory pore precipitates formed about the ensheathed larvæ incubated in immune serum of experimental sheep. Precipitates of this type were found on the third-stage larvæ of trichostrongyles, both ensheathed and ex-sheathed, and also on the filariform larvæ of *Strongyloides*. The possibility of using this reaction as a test for immunity is being explored.

An attempt was made to break down the resistance of twelve-months-old paddock-reared sheep by repeated and severe hæmorrhage. Four sheep were bled three times weekly until 5 to 6 litres of blood were removed from each animal over a period of six weeks. A test infection of *Haemonchus* larvæ was then given to bled and control animals. Differences between the resultant infections were not significant.

Sheep-dipping Trials with D.D.T. and Gammexane.—Eradication of keds and lice from three flocks which could be completely isolated was attempted using Gammexane in a power-spray unit and Gammexane and D.D.T. in dipping-baths. In the flock treated in the spray unit some of the sheep were exposed to heavy rain shortly afterwards, and the whole flock was redipped. The efficacy of the dipping will be assessed at shearing-time.

Longevity of Embryophores of Echinococcus.—Observations have been continued on the longevity of embryophores of *Echinococcus granulosus* exposed to ordinary climatic conditions. Cysts were detected in the liver and lungs of sheep dosed with material which had been exposed for 131, 140, and 158 days during winter, spring, and early summer.

Cestode Infection in Ferrets.—The possibility of ferrets, stoats, and weasels playing a part in the spread of cestode infections of lambs, particularly *Cysticercus tenuicollis*, has been considered. It is not very likely that they play any significant part in the field, as only on very rare occasions would viable cysts be available to set up an infection in ferrets. Attempts at artificial infection of laboratory-reared ferrets were unsuccessful.

Metabolism of Phenothiazine.—In connection with the photosensitized keratitis which occasionally occurs in calves dosed with phenothiazine, studies on the metabolism of this substance in domestic animals are in progress. The main derivative formed in the alimentary tract of sheep and cattle appears to be phenothiazine sulphoxide, which is absorbed and converted in part to phenothiazone and thionol, probably in the liver. The last-named compounds are more readily conjugated to form excretable products than is the sulphoxide. In calves and pigs the conversion of sulphoxide to phenothiazone