PARASITIC WORMS OF LIVE-STOCK.

RECENT ADVANCES IN TREATMENT.

H. A. REID, F.R.C.V.S., D.V.H., F.R.S.E., Officer in Charge, Veterinary Laboratory, Wallaceville.

FOLLOWING the exceptionally wet summer through which we have passed, the prospect of more or less severe infestation of stock by parasitic worms calls for notice of some of the investigations which have recently been undertaken in the direction of effective treatment. Carefully conducted observations and scientific tests tend to show that many of the agents formerly employed as worm-destroyers have little actual value, and that they ought to be supplanted by drugs possessing greater potency. The patient studies of modern investigators have served to demonstrate the efficacy of some of these. Hall, Ransom, Cooper Curtice, Wilson, Wigdor, and Foster in America, and Veglia and Green in South Africa, to mention some of these observers, have each contributed important information on this subject, to which the writer acknowledges his indebtedness.

It is scarcely necessary to remind farmers of the detrimental and at times dangerous results which may follow infestation of the various species of domesticated animals with stomach and intestinal worms. Examples of the disastrous nature of parasitism are within the range of most stock-breeders' experience. Already in the present year some valuable thoroughbred horses have been lost through the fatal effects of round worms, and it is to be feared that during the autumn and winter months further losses embracing other classes of stock may occur. The object, therefore, of this article is to direct attention to the beneficial effects of certain drugs which, when judiciously employed, may be relied upon to achieve definite results. For the sake of clarity it is proposed to take in order the species of domesticated animals chiefly concerned, to mention some of the more important worm-infestations from which they may suffer, and to suggest the most suitable antidote.

HORSES.

Parasites of the Stomach.

The parasites in this situation with which New Zealand farmers are most familiar are the "bots." These represent the larval stage of the Oestridae or bot-flies belonging to the genus *Gastrophilus*. Of the eight species described, at least three are known to occur in New Zealand—*Gastrophilus equi*, *G. haemorrhoidalis*, and *G. nasalis*.

The question as to the seriousness or otherwise of infestation by these parasites is largely a matter of opinion. Some authorities affirm that bad or even fatal results may follow, while others are inclined to view the presence of bots with far less apprehension. The parasites live upon the tissue-juices, which they absorb from their host, and the lesions set up consist of a slight diffuse gastritis and localized ulceration over the area of the stomach, or, in the case of *Gastrophilus nasalis*, first part of the bowel (duodenum) occupied by the bots. Their sojourn