

There are two enemies of cutworms which deserve special notice, and from the good service they do should be known by sight to every cultivator. They are the fiery ground beetle or cutworm lion and the black wasp. Both of these are desperate enemies of the cutworms, the former feeding on them in all of its stages; the latter digging them out and storing its nest with them as food for its young grubs.

CHAPTER IV.—INSECT PESTS OF MEN AND ANIMALS, DISEASES OF POULTRY AND TREATMENT OF WOUNDS.

REMEDIES—PREVENTIVE TREATMENT.

There are so many of the external parasites of domesticated animals which, even though very widely different in structure and affinities, have very similar habit and can be reached by practically the same treatment, that a chapter devoted especially to general treatment will be of special importance. We may consider the subject under the heads of "Preventive Measures," "Insecticidal Substances," and "Methods of Application of Remedies."

PREVENTIVE MEASURES.

Prevention is, for a large number of parasitic forms, by far the most desirable plan. For some it is the only plan that can be of any service in avoiding injury.

The attacks of semi-parasitic forms, as mosquitoes, flies, buffalo-gnats, etc., may be abated by operating upon their breeding places and, further, their direct attacks upon animals, where the number to be protected is not too great, may be prevented, in some degree, by smearing the hair of the animals with preparations of fish-oil, tar, train oil and axle grease. Pennyroyal is also recommended as beneficial.

For the bot-flies it is important to destroy the eggs before the larvae hatch, by shaving or clipping off those noticed on horses, or washing them with kerosene emulsion, carbolic acid solution, dipping solution, or if a dipping vat is available, by swimming the animals through the vat.

For the constant external parasites, as lice, itch, mites, etc., quarantine of all animals introduced into a herd, or thorough treatment of such animals to prevent infection of a herd that is free, cannot be too strongly urged. It is the most practical protection against these pests.

INSECTICIDAL SUBSTANCES.

In this enumeration of substances which may be used in treating insects affecting domestic animals, the aim shall be to include all that have a real value in this direction, either individually or in combination, and to indicate their valuable properties and, very briefly, the forms to which they may be applied.