

to seven-eighths of an inch. The head end of the female is bent and resembles a hook in outline. The body of this worm is of uniform thickness for the greater portion of its length. The head is armed. The eggs are oval in outline and very small.

The Life History of the Nodular Worm.— The Nodular Worm is principally found in its adult state in the large intestine, while cysts or nodules may be found spotted all over the intestinal tract and stomach. The life of this worm is best considered in three stages, the egg to larval, infective larval and sexually mature. The first stage begins in the uterus of the female worm while it is a resident in the large intestine of a sheep. The fertilized eggs are released from the uterus of the worm and pass along with the food residues reaching the soil incorporated in the dung pellets. If weather conditions are favorable to incubation the little eggs hatch in twenty four hours.

The newly hatched larvae feed on the fecal matter which surrounds them in the dung ball. They moult twice during the four or five day period while progressing to the infective stage. The young larvae are sensitive to unfavorable weather and many perish at the end of the grazing season, they are not winter hardy. Lambs and sheep pick up the young worms when feeding over land that has been occupied by "wormy" sheep. The young worms may be on the grass or in the water pools from which the sheep drink. Ewes that are nursing lambs may get their teats soiled with fecal matter containing the young worms. This fecal matter on being transferred to the mouth of the nursing lamb may cause infection. The larva on gaining entrance to the stomach and intestines of the sheep or lamb awakens to activity and at once burrows through the mucous membrane and invades the connective tissue lying between it and the muscle layer. The larva migrates aimlessly in the sub-mucosa and comes to rest at a time and in a location suited to its further development.

At the point where the larva finally stops a cyst forms that is at first watery, then a creamy yellow and eventually a hard yellowish-green-cheese like mass. These cysts become nodules due to the pus forming organisms that enter them from the intestine. Such nodules may become as large as hazelnuts. They give the intestine a nodular or knotted appearance. The young worm lives in a cyst for a period varying from a week to several months. It then re-enters the lumen of the intestine to complete its development. When the little worm leaves the cyst that it helped create in the intestinal wall it may be one-eighth of an inch long, it is very active and ready for a period of quick growth to sexual maturity.

Distribution.— That the Nodular Worm is very widely distributed in Eastern Canada, is indicated by the fact that but few sheep and lambs slaughtered in the abattoirs are found to be entirely free from it. The importations into Canada of sheep gut for sausage casing (to take the place of what we permit the Nodular Worm to destroy for us) has exceeded a million dollars in a single year. The author has examined over 2,000 sheep