from technical language. Such works are, of course, all right for the uses of the profession, but they do not so well meet the wants of the every-day farmer. "The Animal Parasites of Sheep," published by the U. S. Department of Agriculture in 1890, is a work of great value; but it also would have conveyed more knowledge to the people had the language been simpler. The book of the people treating of the diseases of sheep has yet to be written.

The lung-worms which produce disease in this country belong to two species. These are designated *Strongylus ovis-pulmonalis*, the hair lung-worm, and *Strongylus filaria*, the thread lung-worm. A third species has been found to infest sheep in Europe, but it has not hitherto been known to trouble them in this country. It is the same species which infests the lungs of hogs with us.

The symptoms of lung-worm in either of the forms first mentioned are not easily detected until the disease has become so far advanced that serious injury has been effected. They include a bloodless appearance of the skin, a dry, harsh condition of the wool, more or less trouble in breathing, a deep, bass cough, a dejected look, and more or less of emaciation and ill-doing generally. But as several of these symptoms accompany other diseases, there is danger that incorrect conclusions will be reached as to the real source of the trouble. When, however, the difficulty in respiration is pronounced, we may generally fear the presence of lung-worm. With pneumonia there is also a difficulty in breathing, but this form of inflammation is rapid and soon runs its course, whereas the indications of lung-worm increase very gradually, and, moreover, they linger.

But when the sheep are slaughtered and the lungs are examined, detection is pronounced and easy. If found in one animal, the presence of the trouble in others of the flock which have shown like symptoms may be pretty certainly suspected. When the thread lung-worm has been present, some section or portion of the lung appears as a solid mass, and is usually red in color. When a piece is removed from the mass and put into water, it will usually sink, whereas if a portion of lung affected by the presence of the hair lung-worm were similarly treated it would float. The parasites of the thread lung-worm entrench themselves in the extremities of the branches of the trachea, where they gather in thread-like bunches, whereas those of the hair lung-worm, being smaller, penetrate the air passages to their endings. The parasites, in case of the latter trouble, are so small as to be difficult of detection with the naked eye.

The life history of either species is not we understood as yet; that is to say, the whole of the life history has not yet been traced. There are one or more missing links, and, until these are discovered, we shall not be able to combat the insidious intruder with much success.

We do know that some of the young of the hair lung-worms escape from the lungs, and are strewn over the pastures and other places frequented by sheep. But how the time is spent apart from the sheep is not known. Nor is it known how long it takes to complete the cycle of its life, but it is thought that it grows very slowly. Neither has it been determined positively that the worm is unable to complete its development before it escapes from the sheep. It is thought that the parasites are taken into the stomach with the food or drink, and that they pass into the lungs by the trachea, either when the sheep are feeding or while they are chewing the cud. The most serious injury is effected in mature animals, but frequently lambs suffer materially from their presence.

Preventive measures cannot be laid down with much definiteness until the missing links in the life history of the intruder have been discovered. But since the parasites are apparently at all seasons passing from one animal to another, it would seem that the trouble is easily communicated. Its presence in lambs would seem to sustain the above theory. When several instances of lung-worm affection have been detected in a flock by the increasing evidence of post-mortems, and when the appearance of other animals in the same has been such as to point to its presence, it would seem to be a good plan to send the entire flock to the shambles, and to allow one season to pass without having sheep upon the premises. —*Professor Thomas Shaw, in North-Western Agriculturist.*

Dipping Sheep in Winter.

H. B. M., Antigonish, writes:

"What would you advise me to use to kill the ticks on sheep? Is it too late to dip them now?"

Our correspondent will have little satisfaction in trying to kill ticks on sheep without dipping them. I have no hesitation in telling him that the sheep may be dipped in winter without any more danger than in summer. We have dipped sheep on our farm when the temperature dropped from zero to 14° Fahr. below just after the sheep had been dipped. We put them in an ordinary shed in which the temperature ranges only ten degrees higher than outside. The sheep