

plied remedies which were unsuitable or unnecessarily expensive. One was smearing the animals with tar, which got them into a horrible mess and did not do much good.

A WARNING TO FARMERS.

I fear that the pest is going to be troublesome all through Canada next year. It has already spread from Sarnia to Boucheville in Quebec, and it would be well for our farmers to know how to treat it. I worked out its history in Virginia with the Assistant U. S. Entomologist four or five years ago; but it was only at the end of July, last, that I got from an Oshawa farmer specimens of this fly. As a remedy it may be remembered that any greasy substance whatever put on the animals will prevent the flies from biting them; but it is not a very easy or cheap thing to get a greasy substance put on a large herd of cattle. It means considerable expense to everybody who has to use it. Of course it is necessary to go to some expense sometimes to meet unexpected injuries.

MOST ECONOMICAL AND BEST REMEDY FOR HORN-FLY—HOW TO MAKE AND APPLY IT.

The great question, however, is, what is the cheapest remedy to give the best results. The cheapest that we can get in this case, in the shape of a greasy substance obnoxious to the fly and not obnoxious to the animals, is a mixture of coal oil and soap suds, which we call the kerosene emulsion. It is made by taking half a pound of soap and boiling it up in one gallon of soft water. If ordinary soap is not used, one quart of home-made soft soap will be the equivalent. The whole should boil until the soap is thoroughly dissolved, and then it should be turned into twice its quantity of coal oil. This should be done by putting it into a washing tub or some other receptacle away from the fire. When the boiling soap suds have been added to the coal oil, the whole should be beaten together with a whisk, or what is better still, churned with a syringe until the whole takes the consistency of a thick cream. While it is still hot, you should dilute it with nine times its volume of soft water, which will give you thirty gallons in all. I mentioned this preparation to the committee last year. When the emulsion is warm, it mixes very easily with water. If not wanted for immediate use, it can be put on one side and the water added when it is required for use. When the emulsion has been diluted, it can be applied directly upon both animals and plants without injury: this is best done with a spray pump. It will also answer just as well as McDougall's and other dips for lice on cattle, and is cheaper. With a spray pump or syringe, one can cover an animal all over with a dew-like deposit which requires very little of the wash, but is sufficient. Then by turning up your sleeves and rubbing it into the hair with your fingers, all lice will be reached. The effects of the first application when used for the horn-fly will last four or five days, when it must be renewed at intervals of four or five days. After three or four applications the deterrent effects will last for a long time.

Q. It will not injure the animals?—A. Not at all.

By Senator Read:

Q. We do not find the fly interfering with our animals, only near the horns?—A. When they settle on the horns they are not doing any harm at all. They only gather on the horns between the shoulders and above the tail in those places where the animals cannot dislodge them. (Fig. 10.) Serious injury is sometimes done by the animals licking themselves on the sides of the udder and inside the legs until large sores are made. The fly worries incessantly and causes, as stated, great loss both in milk and in flesh. A convenient time to spray is after milking. One man with a pump can spray the animals. Prof. Atwood, of Virginia, has devised an ingenious method. He makes the application with a knapsack pump, fitted with a cyclone nozzle, and the work is done just after milking time. His method is as follows:—The animals are driven into an inclosure, through a gate which will only admit one