

This insect has great powers of increase. It appears early in the spring from the pupa cases, having passed the winter under ground, and also probably some specimens pass the winter in the perfect state. It breeds rapidly, only about two weeks being required in summer for each brood to mature, and there are probably six or eight broods in a season. Mr. L. O. Howard found that, at Washington, the time required from the laying of the egg to the appearance of the fly was from 10 to 17 days, and that the fly breeds from the middle of May till the middle of September.

Although only brought under my notice in July last, from enquiries made I have no doubt that this pest has been present on our Canadian stock farms throughout the summer. It was introduced into the United States only six years ago and has spread in all directions over many States of the Union and has now invaded Canada also. It has reached the most southern States and lately as far west as Texas. Curiously, however, long before it had ever reached Texas it was spoken of by farmers as "the Texas fly," and to-day in Canada more enquiries are made concerning it by this name than any other.

REMEDIES.

Notwithstanding the great loss which will undoubtedly result to stock-owners if they neglect to attend to this new enemy, there is no reason why it should not be kept within control by simple, cheap and well tested remedies. It is a most important matter and one that should be taken up by all Farmers' Institutes and Dairymen's Associations, so that if possible some united effort might be made to control it while the numbers are small in spring, and eventually to stamp it out. All that is necessary is for everyone to try first of all to learn what the true life history is, and in accordance with this to apply the best remedy and try to induce his neighbors to do the same.

The remedies are cheap and easily applied; but will require constant attention to make them effective. They are of two kinds, (1) *preventive*, or such as keep the flies from biting the animals; (2) *active*, or such as aim at the destruction of the insects either as maggots or flies.

1. *Preventive*. Almost any greasy substance will keep the flies away for several days. Lard, train oil, tanner's oil, fish oils, with a little sulphur, carbolic acid or oil of tar added, will keep the flies off for from five to six days. The two latter will have a healing effect on any sores which may have formed. Carbolic acid and oil of tar will mix sufficiently well with fish oils if the two substances be placed together in a bottle and well shaken. One ounce of either may be added in two quarts of oil. Axle grease and tallow have been also used to advantage. It may not be amiss to point out that no injury whatever results from the flies settling on the horns, as they only go there to rest, and cannot possibly do the horn any injury. Tar has been largely used to put on the horns of cattle, but it answers no better than the greasy substances mentioned above, and makes the animals in a horrible mess; moreover, if the flies are driven from the horns they merely fly to the animal's body, where they can do much more harm.

The remedy of this class which will eventually be found to be the best, is the mixture known as the Kerosene Emulsion, which consists simply of a mixture of soap-suds with twice the quantity of ordinary coal oil, made as follows: Boil two ounces of common soap in one quart of rain water until the soap is dissolved, then turn it into two quarts of coal oil and churn it violently with a syringe or force pump for five minutes, when it will be of a smooth, creamy nature. This gives the stock emulsion, which must be diluted before using with nine times its measure (that is 27 quarts) of water. It will mix much more easily with the water if done at once, before the stock emulsion cools. This mixture may be applied to the animals either by means of a sponge, or, what will certainly be found most convenient where there are many animals to treat, by means of a force pump and spraying nozzle. This can be done in a few minutes after milking, and one or two pints will suffice for each animal.

2. *Active*.

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