The Farm

Timely Articles by the Ontario Department of Agriculture, Toronto

THE CAUSE OF WARBLES

The Gad Fly Annoys Cattle and Injures Hides.

How the Pest Operates—Effects and Losses Described—Prevention and Treatment of Warbles — Weeds Versus Wheat.

(Contributed by Ontario Department of Agriculture, Toronto.)

The name "warbles" is applied to a rather common condition affecting cattle which is characterized by the appearance of small lumps along the back and loins. The lumps gradually develop during the late winter months, and as spring approaches the skin along the back and loins is noticed to be covered with small rounded swellings about the size of a small walnut. The lumps are quite tender at first, and when they become fully developed a round hole, surrounded by a little frothy matter, becomes noticeable in the centre of each little swelling. Through each of these little openings in the skin a grub or warble finally emerges. The explanation of the occurrence and development of warbles in cattle is rather interesting.

The Gad Fly Is Responsible For the Injury.

The primary cause is the "Gad Fly," of which there are two varieties technically termed the Hyderma bovis and the Hyderma lineata. These flies attack cattle while at pasture during the warm summer season, and are seldom troublesome during cold damp weather. They make a buzzing sound when in flight, and cattle when attacked by them become terrified to such an extent as to cause them to stampede, which is commonly known as "gadding." The flies attack the lower parts of the body and the legs. They deposit their eggs in the hairs close to the skin, and in such a manner that the eggs are firmly attached to the hairs. After a time the eggs are hatched, and the larva or young insect passes down the hair follicle, through the skin, into the tissues. Further development of the larva takes place in the tissues, and finally they succeed in making their way to the region of the back, which they appear to select for the last stage of their development, and form little lumps in the skin, in each of which a grub or "warble" is present, which is the mature larva. Finally the grub bores its way out through the skin and falls to the ground, where it passes through the chrysalis or caterpillar stage encased in a cocoon or shell-like covering, and is transformed into a pupa which in about a month becomes fully developed and emerges as the mature adult gad fly.

Effects and Loss Sustained.

The effects produced by gad flies and warbles are chiefly economic losses, which the flies cause by worrying cattle while at pasture during the summer time and lessening milk production, and the damage which the warbles inflict to the skin, thus lessening the value of hides for tanning purposes. The extent of the injury done to hides through warbles is considerable, and it is conservatively estimated that twenty-five per cent. of cattle hides are thus damaged each year. Tanners and hide dealers do not want warbled hides, as the uses a grubby hide can be put to are limited, and as a result they are graded low and reduced in price.

Prevention and Treatment.

Various preparations have been recommended and used as repellants to ward off the attacks of gad flies and prevent them laying eggs on cattle during the summer season. Local treatment of the backs of cattle with a mixture of sulphur, oil of tar and train oil is popular, but it would appear to be of little real service. It is now generally considered that in districts where warbles are troublesome that the best course to be adopted is to keep the cattle under shelter or the shade of trees during the heat of the day in summer to prevent them being attacked by the flies as far as possible. During the winter months the cattle should be examined every week, and if any of them are noticed to be affected with warbles the grubs should be squeezed out of their backs every few weeks or at least once a month. To facilitate the removal and destruction of the grubs the little openings in the skin over each lump may be enlarged a little with the point of a sharp knife and a little iodoform-vaseline ointment applied. This ointment is composed of one part of iodoform and five parts of vaseline, and is very effective in killing the grubs. The grubs can be readily squeezed out of the lumps at the proper time and should be destroyed to prevent their further development and thus lessen the number of flies for the coming summer. If these precautions and simple measures were carried out by cattle owners each winter the occurrence of warbles would be largely overcome, and a needless loss avoided which in the aggregate is very considerable as it involves loss of condition, lessened milk production and damage to the hides.—C. D. McGilvray, Principal Ontario Veterinary College, Toronto.

Generous Cows Need Good Grain Ration.

With the pasturing season at an end, every owner of dairy cows should begin to plan his winter feeding. Cows often suffer more for lack of feed between the time when the pasture is good and the time when winter feeding in earnest begins than they do after winter is really at hand. Every experienced feeder has learned that it is easy to let cows decline in milk as a result of poor feed, but very hard to bring them back. A good production for the year is possible only when the cow is kept at a high level of milk production all the time.

The foundation of all good dairy rations is a succulent feed, either silage or roots, and a legume hay, which means clover or alfalfa. Just as soon as the grass begins to get short, therefore, the feeding of silage and hay should begin. It never pays to scrimp on roughage. Let the cows have as much as they will eat up clean all the time. That is what a cow is for—to convert roughage into milk.

A good grain mixture should contain at least three different feeds, one of which is rather high in protein. A good grain mixture for cows of medium production is ground corn or barley four parts, oats or bran two parts, linseed meal one part.

The grain feed should vary with the milk produced. The cow that is milking heavily is the one to receive the liberal grain allowance. A good rule to follow with reference to amount of feed, is to give one pound of grain to each three pounds of milk produced by a Guernsey or Jersey, and one pound of grain to each three and one-half pounds of milk by a Holstein.

Cultivate the soil at the earliest possible date at which the land is in proper condition.

A sow with a litter of 13, purchased by Marchmont & Sons, Andover, England on October 8, 1919, has since had litters of 14, 18, 13 and 19, making a total of 77 in 22 months.

What to Plant in Late Garden.

Carrots, beets and celery for winter use may be planted in the latter part of June.

Golden bantam corn to keep up the supply for late summer.

Early string beans and peas to provide substitutes for meat.

Fresh and crisp vegetables as the means of saving canned products for winter use.

Seed sown in mid summer should be planted in freshly stirred soil and somewhat deeper than in spring, and the soil over the seed should be "firmed" more carefully than usual.

The Home Vegetable Garden.

The home vegetable garden should be a family interest and all members of the family who are able to do so should take part in its cultivation. There is no better form of outdoor exercise than moderate working in the home garden, and few lines of recreational work will give greater returns for the time employed.

When potatoes are about six inches tall start spraying with Bordeaux mixture.

A Convincing Argument.

"What's this?" said John Smith, as he came upon his wife's new sewing machine knee deep in a snow drift.

"Oh, I just put it out there to keep your mower company," replied his wife.

Cut the first crop of alfalfa when starting to bloom.

The value of the motor truck as an aid in marketing farm products is now well established. In bringing this about improved roads have been an essential factor.

Weeds Versus Wheat.

Ragweed removes from the soil 14.6 pounds of nitrogen and three pounds of phosphoric acid for each ton of weeds, while the same weight of wheat in grain and straw removes only 12.2 pounds of nitrogen and 2.8 pounds of phosphoric acid. One ton of such wheat is equivalent to a 13-bushel crop.

Warm water, green feed and hot mashes boost the egg production.

DRAIN THE HILLSIDES

Erosions Mean Considerable Loss to Many Farms.

Tiling, Open Ditching and Terracing Recommended—How to Plan and Do the Work—Why an Orchard Will Pay.

(Contributed by Ontario Department of Agriculture, Toronto.)

The erosion of hillsides and the flooding of the land below by the eroded material has long been a worry and an economical loss to many farmers in hilly and mountainous sections. This can frequently be prevented, and the method employed depends on the conditions existing, such as the nature of the soil; light or heavy, the steepness of the slope, and the type of agriculture practiced; pasture or tilled crops.

The Value of "Sheep-Drains."

Wet hillsides used as sheep pastures may be much improved by what are sometimes called "sheep-drains." These are merely shallow open ditches about 30 inches wide on top, 9 inches wide on the bottom, and 15 inches deep for removing the surface water. They are dug slantingly around the slope to intercept the flowing water and carry it in a definite channel to a suitable outlet at the base of the hill. The removed earth should be thrown out on the lower side to form a sort of embankment to the drain. The grade of the ditch should not be so steep as to give the water sufficient force to destroy the drain by either washing away the banks or digging the drain itself deeper, and thus making it dangerous for the sheep and lambs. Sub-drains are sometimes necessary.

Terracing and Draining.

A system of terracing is quite universally used to prevent destructive washouts on hillsides. The terraces are made perfectly level, and of any width, and then carefully seeded to grass. At the time of rain the water spreads out evenly over the surface of these and then flows gently over the slope below without sufficient force to wash away any portion of the hill and thus prevents "gullying."

For the drainage of tilled hillsides a system of under-drainage is sometimes used successfully. The amount of erosion of the land largely depends on its condition. If the surface soil can be kept firm the erosion will be lessened. Soft spots on the hillside, though, frequently occur as a result of seepage water from above which has penetrated the surface soil and reached an impervious layer and thus deflected to the surface on the side of the hill. Water flowing over this with considerable force will naturally wash it away more easily than the firmer soil free from this seepage water.

Advantage of Tile Draining.

If tile drains are so laid to intercept this seepage water, considerable erosion can be prevented. If the hillside is comparatively steep, drains laid at an angle to the incline will be more satisfactory. They will naturally intercept all of the water flowing through the soil above them. Also the grade will be less and the drains are not so liable to be affected by the water moving slowly through them. If the slope is not very steep the drains may be laid down the incline with satisfactory results. Here the tile drains the land on both sides and no double draining results.

In this underdrainage the general benefits are again obtained. The water level is lowered, thus giving more root capacity to plants and the prevention of surface washing by allowing the water to penetrate through the soil to the drains, thus carrying much plant food to the roots of the plants.—R. C. Moffatt. O. A. College, Guelph.

Home-made Spray Keeps Flies Away.

By preventing flies from tormenting the cows a much greater flow of milk is obtained during the summer months and the remainder of the lactation period. The following home-made mixture has given good results. It is better than several other mixtures tried and quite as efficient as the prepared sprays costing a dollar per gallon. It is made as follows:

1½ quarts of any standard coal tar dip,
1½ quarts fish oil,
1 pint oil of tar,
1 quart coal oil,
½ pint oil of eucalyptus.

Mix in ten gallons of lukewarm soft water in which a bar of laundry soap has been dissolved.

Spray twice a day, in the morning after milking and in the afternoon when cows are brought in for silage or green feed. When a half-barrel cart with spray nozzle attachment is used, two men can spray a herd of forty cows in ten minutes. This mixture is not perfect and does not keep all the flies away and, furthermore, it leaves the coat rather harsh and causes dust to adhere; however, it is very beneficial and practical.

Shelter from the hot sun of summer must be provided if efficient and economical production is to be expected.