A Way with Warbles

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Colour
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<**Opening credits**>

<**Unspecified narrator over shots of countryside and cows**>

Every year, 70 out of 100 cattle in Britain are infested with the grubs of the warble fly. The financial losses caused are heavy. Infested animals lose condition and their food intake is lowered. This situation should not be allowed to continue; there are methods of control and experience has proved them to be efficient, but it requires a combined effort on the part of all concerned with stock rearing for these treatments to be entirely successful.

The obvious signs of warble infestation are the appearance of lumps on the backs of cattle in the spring. These lumps show that warble grubs are present under the skin, and this is the only stage in the twelve-month lifecycle when this pest can be readily located by the farmer. Damage to the back is considerable – less than one hide in ten is suitable for the production of high quality leather. When the grubs emerge the skin may be left in this condition <*close shot of cow's damaged back*>. This hide

<*shot of damaged cow hide*> has been put through the slow, elaborate process of tanning but is of no practical use because of warble damage.

<**Narrator over shots of warble flies**>

Warble flies are about half an inch in length and resemble the wild bee. Their mouth parts never form properly and they are unable to bite, sting or feed. Wing development is poor and long sustained flights are unusual. Their spread is encouraged by the movements of infested cattle from place to place.

During their short life of about seven days, warble flies have one main biological function to perpetuate their kind. From early June to September, successive waves of female flies are engaged in finding grazing cattle on which to lay their eggs; these are laid mainly on the lower parts of the legs, and perhaps on the under surface of the body, but no area of the animal is completely free from risk of attack.

<**Narrator over shots of warble fly eggs, then animated diagram of cow showing how the flies invade the body**>

These are eggs laid by one of the two species of warble fly found in Great Britain. The eggs are glued to the hair and remain in position for about one week when the minute larvae hatch and penetrate into the body. The precise movements of the larvae are not known but from February to mid-March they begin to arrive under the skin of the back.

<**Narrator over close shots of infested cow's back**>

On reaching this point, they cut breathing holes through the skin. Beneath these holes they lie for about ten weeks, steadily growing in size. The irritation caused during this period is responsible for loss of condition in badly infested cattle. While from five to thirty holes are common in a warbled animal, in severe cases, more than a hundred have been found.

<**Narrator over shots of cows in a field, and close shots of infested cows**>

It is reasonable to suppose that stock breeders are concerned with making the best possible living for themselves. If animals are neglected and not given the attention they should have, the owner must be prepared for the eventual loss to be his.

Although not usual, some animals may reach this distressing condition <*close shot of infested cows' backs*>. On reaching maturity, the larva or grub forces itself out through the hole in the skin <*shot of larva on grass*> and falls to the ground. During the latter half of March, throughout April, May and early June, there is a steady succession of these grubs leaving the hosts they have thrived on for so long. The lifecycle is now nearly complete. The earthbound grub instinctively seeks the protective cover of any loose material. Gradually it shrivels, hardens, and sinks into the coma of pupation. The pupal stage <*close shot of hand digging pupa out from the grass*> of the lifecycle is relatively short.

<**Narrator over close shot of warble fly pupa hatching**>

In a matter of about six weeks, the fly emerges and becomes potentially dangerous to cattle a very short time afterwards. In about an hour or so after the fly leaves its pupal case, mating takes place. One mating is sufficient to fertilise three to four hundred eggs carried by each female.

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The lifecycle is now complete <*shot of warble fly in grass*> and we are back to the earlier situation of fertilised warble flies about to seek out <*shot of cattle*> grazing cattle. During the warm summer months, the unseen and unsuspected damage begins. It is not until the following spring that the physical evidence of the flies' activity is brought so forcibly to the farmer's notice.

<**Narrator over various shots of farmers treating cattle using a range of methods**>

Until recent times only one method of control was available – scrubbing the back of each infested animal with a derris wash. This had to be done in the spring when the lumps indicated the presence of grubs lying beneath the breathing holes. Unfortunately there was no alternative to this treatment which was laborious and could involve scrubbing animals several times at a very busy period of the year. At this stage also, the hide may be so full of holes as to make it useless to the leather trade. Destruction of the almost mature grub by squeezing it out is dangerous and may be the cause of unnecessary suffering.

Because of the inconvenience of derris dressing, many other methods of getting rid of the warble fly have been tried. Attempts have been made to prevent the eggs hatching while on the hair, or to kill young grubs before they penetrate the skin. Mainly because of the labour involved, these methods of control were found impracticable.

Logically, the most satisfactory method of control is to kill the migrating larvae while they are still within the body of the host, preferably at an early stage in their development before they damage the animal. As a result of research which has been carried out over a number of years, there are now available highly efficient chemical compounds which do this. These materials are known as systemic insecticides and are so named because when they are brought into contact with the animal, they are rapidly absorbed through the skin into the bloodstream and then circulate to every part of the animal's system. The liquid is simply poured along the animal's back.

With this once-yearly treatment, the beef farmer is relieved of the trouble of repeated handling of out-grazing cattle. When used purely to attack the migrating larvae within the animal, systemic treatment should be carried out during October and November. It is also possible to apply the systemic between March and June – the time of year when derris was normally used. And again, one treatment is all that is necessary. Of course, skin damage will have occurred by then, but the sooner this dressing is carried out, the less this damage will be.

When used in the spring, the liquid acts both as a systemic and as a contact dressing. It has also been found that systemics provide a limited measure of louse control.

Dairy cows do not present the same labour problems as they are in and out of the buildings every day. Cows in milk can be dressed with systemics, provided the longest possible time is allowed between treatment and the next milking. Systemic treatment of cattle has been proved effective and it is the policy of the Ministry of Agriculture to encourage farmers to treat their cattle the modern way.

This simple method means that a big step has been taken towards eradication of the warble fly – the hard work of scrubbing has been eliminated, the job can be done at a quieter time of the year […]

<**Narrator over various shots of cows in fields**>

[…] handling of cattle has been much reduced. Cattle without warbles do better and give more milk than infested animals. It is now up to the farmer to improve his stock by cooperating with the Ministry by putting an end to the warble fly.

<**End credits**>