



Livestock Notifiable Disease Factsheets Warble Fly

If you suspect signs of any notifiable disease, you must immediately notify a Defra Divisional Veterinary Manager.

Introduction

The warble fly is an insect, which parasitically infects cattle. Animals usually affected are Cattle although horses and deer can be affected.

History and spread of the disease

Around thirty years ago the industry was concerned that warble fly infestation was not only causing distress to cattle and financial losses to farmers, but was also ruining hides that would otherwise be used to make items such as coats, bags, and shoes. There were believed to be around 4 million cases of warble fly every year at that time. On 7 February 1978 the MAFF Parliamentary Secretary announced a five-year campaign to eradicate the warble fly. This included an extensive publicity campaign in summer and autumn each year to encourage all farmers with cattle at risk from the fly to treat them as a precaution in the autumn and also to treat any cattle showing visible signs of infestation.

Legislation made under the Diseases of Animals Act 1950 required owners of warbled cattle to treat them with a systemic dressing: affected animals could not be moved, even to a slaughterhouse, without first being treated. Veterinary inspectors could compel owners to treat affected cattle.

The farming community responded splendidly to this campaign involving both voluntary and compulsory treatment, with the help of market surveys by the State Veterinary Service, the Meat & Livestock Commission and the Hide & Allied Trade Improvement Society. At the end of the five year period the number of outbreaks was down to around 500 a year. Surveys showed that the numbers of warbled cattle were around 20 per cent of the national herd in 1978, reducing to 2.7 per cent in 1980, to 0.45 per cent in 1981 and 0.08 per cent in the peak months of 1982. With the number of outbreaks down to manageable proportions, warble fly was made compulsorily notifiable in 1982 and was finally eradicated in 1990.

Infected Areas

Although the warble fly eradication resulted in a rapid decrease in the number of cases, in some instances early in the campaign it was necessary to use the powers to declare infected areas where there were large pockets of localised infestation. An infected area was declared in Anglesey in 1983, where 226 cases were found. A further six infected areas were declared in 1984 at Anglesey; the Lleyn peninsula in Gwynedd; east Cornwall, parts of Dorset and Wiltshire, parts of north Somerset and south Avon; and parts of the Dumfries and Galloway region. In each of the infected areas all cattle aged 12 weeks and over had to be treated with an approved product. Outside the infected areas autumn treatment was also required on farms which were infected during the spring. Contiguous herds also had to be treated.

Life cycle of the warble fly

Adult warble flies are hairy and about the size of small bees with yellow-orange abdomens. The fly lays eggs on the hair of cattle during summer. After about 4 days larvae hatch and migrate into the skin. The larvae move between muscle layers to either the oesophagus or the spinal canal where the larvae stay dormant during winter. In late winter or early spring the larvae migrate to the tissue under the skin on the back where they mature for about 30 days. The larvae then drop off the host animal and pupate in soil. The fly emerges after about 36 days. There are two species of Warble Fly: *Hypoderma bovis* and *Hypoderma lineatum*.

Clinical signs

Attacks by warble flies laying eggs can cause irritation to cattle. Cattle may injure themselves as a result.

The larval migration is not usually noticed clinically, but heavy infestations may reduce growth and milk production. Occasionally the pressure of larvae on the spinal cord can cause paralysis.

When the larvae reach the skin on the animal's back, large, soft, painful swellings of up to 3mm diameter develop. The larvae can be removed from lesions if punctured. They can grow up to 28mm long and range in colour from white to light brown as they mature.

Damage to the hide is usually permanent and carcasses may be downgraded due to discoloration of meat along larval tracks. Accidental or deliberate puncture of warbles may lead to allergic reaction.

Compulsory treatment

Where warble infestation is found or suspected, either the individual animal or the affected herd, and in some cases all animals in a 3 km area of the affected herd, are required to be treated. As an alternative to compulsory blanket treatment, blood testing of herds is offered where practicable. This enables treatment to be restricted to infested animals only.

Movement controls

Until satisfactory treatment has been carried out the affected animals or herds are subject to movement restrictions. Because of the life-cycle of the warble fly and because of the limitations on the use of the treatments available it is not always possible to treat cattle satisfactorily at the time the infestation is discovered or suspected and in some cases movement restrictions have to be retained for several months.

Serological survey

A serological survey, using blood samples collected for the brucellosis testing programme, has been carried out since 1988. Since 1991 no herds have been confirmed as warble fly positive.

Import Controls

To protect GB from reinfestation from imports, the Animals (Post-Import Control) Order 1995 requires that all imported bovine animals (other than those from NI or those for

immediate slaughter) are treated with an approved warble fly treatment within 24 hrs of arrival at the premises of destination. Any imported animals (from any source) showing physical evidence of infestation are returned to the country of origin. Because of the limitations on the use of the treatments available many imported cattle are also blood tested and positive animals are subject to further controls.

Legislation

Warble Fly is a notifiable disease whereby it is a statutory requirement that the owner or person in charge of cattle known or suspected of being infected by warble fly is required to notify the Divisional Veterinary Manager at their local Animal Health Divisional Office, with all practicable speed. Veterinary surgeons and meat inspectors are also required to notify cases of infection. Treatment for warbles is not required unless a veterinary inspector requires it in writing. There is no compulsory slaughter and compensation policy for the control of Warble Fly.

The Warble Fly Orders of 1982 made this disease compulsorily notifiable, empowered veterinary inspectors to serve notices requiring treatment, and restriction on movement of animals. The Warble Fly (England & Wales) (Infected Areas) Order 1985 regulates the movement of cattle in and out of an infected area and prohibits the holding of markets in such an area except under licence. Similar legislation applies to Scotland. See also Appendix (below).

EU Legislation

None

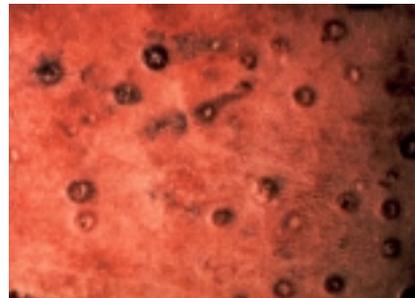
Pictures of the disease



Adult Warble Fly



Warble Fly tracks left by larvae across ribcage



Warble Fly damage

Information current of June 16, 2005

APPENDIX

Current Warble Fly legislation

- The Warble Fly (England and Wales) Order 1982 (SI 1982 No.234)
- The Warble Fly (Ascertainment of Infestation) (England and Wales) Order 1985 (SI 1985 No.1766)
- The Warble Fly (England and Wales) Amendment Order 1985 (SI 1985 No. 328)
- The Warble Fly (England and Wales) Amendment Order 1987 (SI 1987 No.1601)
- The Warble Fly (England and Wales) Amendment Order 1989 (SI 1989 No.244)
- The Warble Fly (England and Wales) (Infected Areas) Order 1985 (SI 1985 No. 1542)
- The Warble Fly (Scotland) Order 1982 (SI 1982 No.207 (S.32)
- The Warble Fly (Scotland) Amendment Order 1995 (SI 1995 No. 2042 (S. 147)
- The Animals (Post Import Control) Order 1995 (SI 1995 No. 2439)

SI = Statutory Instrument

Copies of Statutory Instruments, which are Crown copyright and are priced publications, can be obtained from The Stationery Office Limited.

Warble Fly outbreaks:-

	Number of clinical cases		Number of clinical cases
1978	c. 4 million	1993	-
1982	713	1994	-
1983	518	1995	-
1984	500	1996	-
1985	419	1997	-
1986	34	1998	-
1987	8	1999	-
1988	4	2000	-
1989	2	2001	-
1990	*	2002	-
1991	-	2003	-
1992	-		

*One dead warble found at a slaughterhouse in 1990.