TURFGRASS PESTS

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GREENKEEPERS in the UK are quite fortunate in that the number of pests that cause significant problems in turf is quite limited. Our counterparts in the USA, for example, have to deal with a wide range of insect pests - chinch bugs, sod webworms and bill bugs to name three examples. We do, however, have several pest problems, notably earthworms and also a few insect species who, if not discouraged by good turf maintenance or controlled with pesticides, can effect markedly both visual and playing qualities of greens and fairways. This article describes the main pest problems and gives advice on control.

EARTHWORMS

IT is a belief of many that earthworms, due to their ability to aerate the turf, relieve compaction and aid fibre breakdown, are a desirable, even essential, inhabitant of turf. However, casts produced by earthworms are unsightly and also may be smeared on the turf surface by golfers and greenkeeping equipment to create muddy conditions which may impede surface drainage. Additional problems are that casts can create an uneven turf surface which may interfere with play and also provide a seed bed for weeds.

Consequently, earthworm control measures are often necessary, particularly as the advantages conferred naturally by earthworms can be gained with mechanical aeration and scarification equipment.

Earthworms can be discouraged by management techniques such as boxing off clippings, avoiding excessive use of organic fertilizers or top dressing (to limit the earthworm's food supply). These operations will keep earthworm invasion to a minimum and consequently limit the need for chemicals.

Chemical control is, however, usually necessary if earthworms are to be maintained at an acceptably low level. At present chlordane is the most reliable chemical; it persists in the soil and remains effective for several years. As an alternative carbaryl may be used, but in most situations control will only last for one season. A third chemical, thiophanate-methyl, also has a deleterious effect on worms but to achieve satisfactory control application may have to be made fairly frequently.

INSECT PESTS

BY far the most important insect pest of turf is the leatherjacket, but other insects such as the fever fly (see Peel, 1988) and chafers may also cause problems. All these insects damage the turf in a similar way; their grubs feed on grass roots resulting in patches of severely browned or bleached turf. Attacks of leatherjackets are particularly likely in spring or autumn after hot summers or mild winters. Fever fly and chafer damage is usually noticed in late spring. In severe attacks, large tufts of damaged turf may be easily pulled out by hand, revealing the feeding grubs (up to 1000 per m2) underneath. Bird activity (mainly rooks and starlings) feeding on the grubs is often the first sign of attack.

Carbaryl, chlorpyrifos and gamma-HCH may be used against leatherjackets and should be applied in late autumn or early winter whilst the grubs are still relatively small and before they cause appreciable damage.

Chlorpyrifas is effective against fever fly and gamma-HCH against chafers respectively. These chemicals should be applied as soon as the feeding grubs are noticed.

REFERENCE

Peel, C.H. (1988). Observational note. A severe attack by fever fly *(Bibio spp.)* on a trial area of red fescues at Bingley in late summer 1987. *Journal of the Sports Turf Research Institute, 64.*

Below: Extensive damage by fescue plots caused by the fever fly.