

Leatherjackets

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Leatherjackets (*Tipula spp.*) are larva of large flies known as Crane Flies and Daddy Long Legs, they are a common pest occurring on turf grass and occasionally small plants and vegetables, often neighbouring affected lawns. Leatherjackets feed on roots and stem bases which can cause affected plants to die. However, often more problematic is damage caused by birds feeding on Leatherjackets (and sometimes also chafer grubs) within the soil.

Symptoms

Symptoms of leatherjackets often begin with damage caused by bird feeding (fig 1). Bare areas in lawns and generally poor growth from grass and small plants with insufficient root systems is another tell-tale sign. Larva can be dug from the soil in spring and early-summer, or the soil can be moistened and black plastic laid over the grass overnight; Leatherjackets will be found congregating on the plastic the next morning.

Figure 1. Leatherjacket and bird feeding damage on turf



Adults emerge from the soil and lay eggs in turf from August to October. Eggs hatch quickly (two to three weeks) and young

leatherjackets begin feeding. During winter they move deeper into the soil, before raising again in spring when temperatures are more hospitable. Root feeding continues until July/August when they pupate in the soil then emerge as adults.

Treatments

There are no synthetic plant protection products licenced for leatherjacket control.

Biological controls for leatherjackets such as the entomopathogenic nematode (EPN) *Steinernema feltiae* are the most effective treatment available. They are currently the only product available for use on infestations in turf. The best time to apply EPNs is after leatherjacket egg hatch in September to October. This application should reduce numbers overwintering in the soil and reduce damage in subsequent seasons. Repeat applications are necessary to manage infestations. Once infestations are under control preventative applications are highly recommended. Control cannot be guaranteed when using biological controls.

Supplementary EPN applications in April-May once temperatures exceed 10 degrees will also likely reduce adult populations but

may have a limited effect as damage to plants is likely to have already occurred.

If damage is present in shrubs the granular bioinsecticide Met52 (*Metarhizium anisopliae* var *anisopliae* strain F52) can be used, incorporated into the soil surface. Some evidence suggests Met52 can act synergistically with nematodes, so application of both may be beneficial when populations are very high. Timing of Met52 is the same as EPN outlined previously.

Scarification (raking) in August is often advised to disrupt eggs in grass. If damage is suspected in shrubs, air spading may prove beneficial.

Figure 2. Leatherjacket larva



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