

# Factsheet



## Leatherjacket Control

**BRIEF DESCRIPTION:** Leatherjackets are the larvae of crane flies or daddy long legs (*Tipula* spp). They have a thick grey-brown skin, and can grow up to 5 cm in length.

**BACKGROUND** – They can cause considerable damage to roots and stems of many arable and some horticultural crops, particularly young plants. Problems are generally worse on land that has just come out of a ley. Damage is worst in spring, but larvae can feed right through from autumn and often occur in patches coinciding with wet areas of fields.

**SYMPTOMS OR DAMAGE** - As well as damage to the stems and roots of growing crops potential problems can be predicted if you see the following in the preceding ley;

- Large numbers of adult crane flies in July and August
- Feeding by rooks, crows and starlings
- Bare patches appearing in the grass

**LIFE CYCLE** – Adult crane-flies emerge from pupae in August and September. Females then lay eggs in the soil near plants. These hatch 10 - 14 days later and the larvae feed during the autumn and through the following spring (but are less active in winter), they are legless, grey-brown, fleshy grubs up to 50mm long, with tough wrinkled skins and a number of small, pointed protuberances at the tail end.

**CONDITIONS THAT FAVOUR THE PEST OR DISEASE** – High populations can develop after a prolonged warm and wet spell of weather in the autumn allowing a good survival rate of eggs and young larvae, so consider this for the following spring when the larvae are active and are a potential threat to the crop. Crane-flies prefer to lay eggs in tussocky grass, so a less well grazed sward poses a higher risk.

**MONITORING** – A DIY method can be employed which is best done in grassland between November and March when leatherjackets are large enough to be seen. Hammer 30 cm lengths of 100mm or 110mm plastic pipe into the soil and fill to the brim with a saturated brine solution. Examine after 15 minutes - any leatherjackets will be floating on the surface of the brine. Finding 5 leatherjackets in total from 10 pipes in the same field indicates the potential for crop damage.

## KEY PREVENTATIVE MEASURES TO CONTROL LEATHERJACKETS

- Healthy and fertile soil for healthy plant growth to maximise the crop's tolerance and recovery from pest attack
- Use good, sturdy transplants with good root systems
- Encourage biodiversity, particularly birds. Rooks and starlings are known to have a liking for leatherjackets! Chickens will also eat leatherjackets
- Don't grow susceptible crops on land that has been down to grass for over 2 years– cereal crops are more tolerant than vegetables.
- Cultivate regularly before planting to expose pests to predators
- Increase the seed rate for spring sown cereal crops. Grow a thick green manure that doesn't contain any grass or cereal species over the summer and turn it in before egg laying occurs in late July (mustard is reported to be good – but needs careful positioning in the rotation as it is a brassica)
- Larvae are very susceptible to drought in late summer
- Monitor levels of leatherjackets in the soil before planting
- Keep pasture tightly grazed or cut from July to September before ploughing to reduce the amount of places where adults can lay eggs
- A biologically active soil will help with recycling material, particularly under a ley where thatch can build up, which gives ideal breeding conditions for crane flies.
- Predatory soil insects such as ground beetles will eat eggs and young larvae of the crane fly.

## CONTROL

- If planting winter cereals plough grassland before September
- Timing of cultivation and drilling is critical – monitor to see when highest levels occur
- Prepare the seed bed early when possible (up to 2 months before planting) and work the soil again before sowing or planting.
- Seed-bed cultivations will increase leatherjacket mortality (including inter-row hoeing during crop growth)
- For small-scale use on grassed areas, you can use sacking, tarpaulins or cardboard laid on the ground overnight, then collect up and dispose of leatherjackets in the morning. On cultivated land, grass clippings may have the same effect.
- Nemasys Leatherjacket Killer is a biological control (making use of parasitic nematodes) effective against leatherjackets but is only suitable for small scale applications.
- Rolling the seedbed with a heavy roller at a low speed after sowing a cereal helps limit the movement of the leatherjackets in the soil reducing plant damage, and also physically crushes the leatherjackets.