



# Living with the enemy

Ed Pettit is Managing Director of the Maintenance Division at Carr Golf, providers of agronomy and course maintenance solutions to 17 golf courses throughout Ireland. Here he discusses a common problem for golf clubs across Ireland – earthworm casting – and how we can best tackle the issue

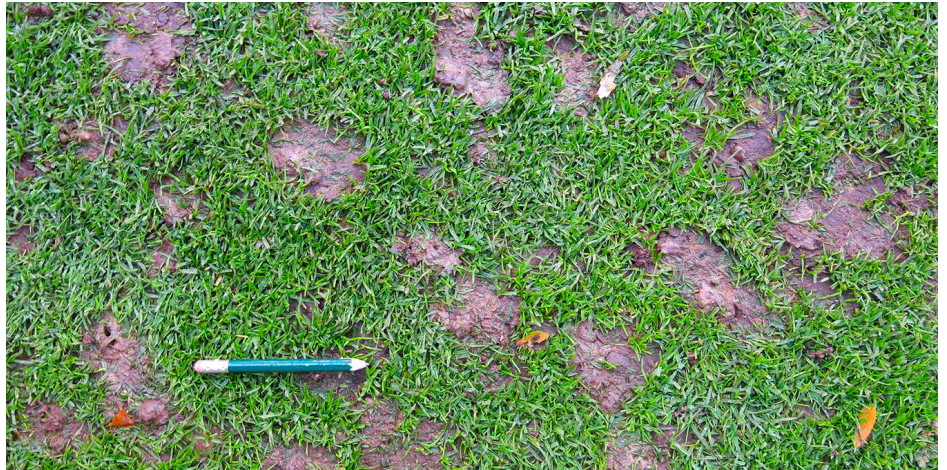
**E**arthworm casting is fast becoming one of the most challenging aspects of golf course maintenance. Greenkeepers throughout the world are trying find a solution amid growing pressure from club golfers and committees.

## Firstly, what is Earthworm Casting?

Earthworms ingest soil and organic matter for nutrients, with the resulting faecal matter deposited as mounds on the soil surface. These mounds or ‘casts’ adversely affect playability and surface firmness. When maintenance equipment rolls over the casts during mowing, the smearing of soil causes a loss of density and thinning of turf in heavily affected areas.

## Why has this problem become more widespread in recent years?

Historically, pesticides would reduce the earthworm population to such an insignificant level, that it would take several years before the problem would reoccur. Residues of these strong chemicals are finally dissipating from soils and the result is a dramatic increase in earthworm population. In recent years the use of



of organic matter for earthworms to feed on. Collecting or boxing off clippings on fine surfaces is one strategy to reduce the problem of casting. This tactic has worked well for us in clubs such as Royal Curragh, Foxrock and Charlesland – it’s simple, but effective.

## 2) Undertake a Fairway Topdressing Programme

Earthworm populations are highest in light and medium textured loam soils, common place throughout Ireland.

## 3) Use ammonium sulphate fertilisers

Research in the US has reported a direct link between the decline in earthworm populations and declining soil pH or increasing acidity. From our experience, this is evident in Ireland where earthworm populations on the acidic, peaty soils found in bogs is typically low. Consequently, using ammonium sulphate fertilisers can be beneficial, increasing acidity at the soil surface.

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Carbendazim, a fungicide, provided relief with an unintended side effect deterring casting earthworms from surface activity. However, Carbendazim was deregistered in Ireland several years ago and the UK recently followed suit.

## Carr Golf’s Top Three Tips to Manage Earthworm Castings:

### 1) Collect your grass clippings

Reducing the availability of food influences the population of earthworms. Returning grass clippings during mowing creates a limitless supply

Smaller populations exist in coarse, abrasive, sandy soils, such as those found on a golf course green. The abrasiveness of sand particles and the susceptibility of such soils to drought can influence the species composition and population. Our fairway topdressing programme at Castleknock Golf Club over recent years has all but eliminated the issue.

## It’s not all bad news though...

There are over 200 earthworm species in the soil, and the vast majority do not create casts. In fact, a healthy earthworm population has benefits to your golf course. Earthworm tunnels relieve soil compaction and create passageways through which air and water can percolate. They help to break down thatch and accelerate nutrient recycling, which improves the surface function and visual quality. Earthworms provide more benefits than harm to our golf courses, so we need to learn to live with our little friends. The more we understand the issues, the better we can manage them. The most effective solutions will involve a combination of approaches, driven by the financial means of a golf club.

**ED PETTIT** is Managing Director of the Maintenance Division at Carr Golf, offering advisory services together with asset management, strategic planning and course maintenance solutions to the golf industry in Ireland and overseas.