May 2023 Newsletter

This newsletter deals with two topics, the effect of trees on turf grass and associated root problems, and the need to reduce watering during the wet season.

Trees

Background

Trees and turfgrass compete with one another for their shared needs.

- Water or soil moisture
- Nutrients
- Light

The competition for moisture can cause both trees and turf to become stressed. Stressed plants are predisposed to pest and disease problems. While trees and turf are struggling, weeds with low moisture requirements establish themselves. Generally speaking, both trees and turfgrass require nitrogen to aid growth. Where the two compete with each other the more dominant will absorb more of the nutrients to the detriment of the other. Trees and turf both need light to grow. Shade from tree canopies is a major stress factor for turf. The competition for light leads to increased root competition, reduced turf density, reduced vigour, decreased food reserves, increased invasion by shade-loving weeds, increased susceptibility to pest problems, and reduced tolerance to drought, heat, cold, and wear. Stressed grass also has a reduced capacity to recover from traffic and wear. Shade-tolerant grasses are not the answer, because they tend to be less tolerant of foot traffic and wear.

How far does a tree root system extend

The critical root zone is the soil area around a tree containing the roots, which provides its stability and a significant uptake of moisture. In clay soils most of these roots lie in the top 30 – 40 centimetres of the soil. Damaging roots in this area can cause significant tree dieback or death. The critical root zone can be calculated by measuring the diameter of the tree at a height of 1.37 meters above ground level and working out that for every 2.5 centimetres of diameter, the roots will extend out approximately 30 centimetres from the

centre of the tree. You can calculate the diameter of the tree by dividing the circumference measured at 1.37 metres from ground level by 3.14

Thus, a tree with a diameter of 50 centimetres the root zone radius = 50 / 2.5 X 30 = 600 centimetres (or 6 metres)

Remedies

It is often the case that where more mature trees are situated adjacent to a bowling green, the root system affects the turfgrass growth. In such cases there are effectively only two solutions, namely:

- Removal of the tree in its entirety.
- Removal of the root system directly causing the problem.

It is generally accepted that the removal of no more than 20% of a tree's root system will not harm the tree unduly.

Roots from trees on neighbouring property causing damage to your property can be removed, but it is advisable to ensure that the owner of the tree is fully aware of the damage their tree roots are causing, and your intended course of action. It should however be remembered that some trees have preservation orders placed on them.

Where it is decided to remove only the roots that are causing the most damage, the follow method can be used.

> *Dig a trench adjacent to the tree from where the roots emanate approximately 1 metre deep. Cut away and remove the exposed roots and treat the ends of the roots removed on the tree side of the ditch with some sort of sealing agent such as oil or diesel. Place a plastic barrier (a DPC or equivalent which can be purchased from a builders merchant) between the live roots and the affected green and replace the removed soil.*

Watering in wet conditions

During the wetter months of the year, turfgrass needs less water. Moreover, once the nightly dews start forming on a regular basis the amount of water being deposited onto the greens is considerable. One millimetre of dew deposits approximately 1330 litres of water per night, thus over a week this equates to approximately 10,000 litres.

It is therefore recommended that once regular dews are forming on a daily basis, irrigation is suspended. To ensure that the root zone of the turf grass is suitably moist, use a moisture meter or take a small plug and examine the sample for moisture in the root zone.

It is important to stress that overwatering can damage the turfgrass root system as much as underwatering can.