Why do Plants Suddenly Die?
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One week it was lush, green and healthy (or so it seemed). The next week part of all of it was dead. Sometimes plants die or severely decline, apparently quite rapidly and more often in the summer months. Well, the cause may have been there for months or even years and it is well worth trying to find out the cause as it could well save you money and heartache in the future.

There are a number of reasons why a plant, whether a tree, a shrub, a ground cover or bedding plant may suddenly die. It could be a cultural factor, meaning something applied to the plant that it doesn’t like. Or it could be a physiological cause, meaning something within the plant that causes or triggers decline or death.

The points we will cover here can become a diagnostic ‘check list’ for you to use. We will concentrate on trees and shrubs because these are the most noticeable and valuable.

A. Cultural Causes:

Water Stress. Even the best gardeners loose plants to drought. Couple water repellant soils to irrigation problems and plants can starve of water. Incorrect spacing of drippers or sprinklers may result in a plant being overshadowed by its immediate neighbours.

Gas Leaks. These are not uncommon and cause very rapid death of all plants in that area, so if a tree or shrub dies and so do the bedding plants around it, even lawn, then call the gas company who will come and check for leaks.

Paving. If paving is installed it effectively blocks moisture from penetrating, but also stops the soil from ‘breathing’. Plant roots need oxygen to operate, so if that’s cut off they can die. Normally one side of the tree or shrub declines much more rapidly than the other.

Fertiliser Burn. Spilling or applying too much fertilizer results in a large, rapid build up of soil salts around the roots and this effectively causes moisture to be sucked out of the plant, which can lead to death by dehydration.

Root Damage. If a large proportion of the roots are damaged by pruning to install fences, services and so on, plants can be severely damaged. It can also often lead to infection by root rot diseases.

Malicious Damage is unfortunately not uncommon. Someone for one reason or another doesn’t like a plant or group of plants, so they take it upon themselves to kill them. Chemicals that can kill even huge Eucalyptus are readily available at retail outlets. If you suspect your tree is being poisoned call an aboricultural consultant to get a professional appraisal. The consultant will do a thorough inspection looking for any possible cause. If poisoning is suspected, a laboratory test is usually arranged to prove it one way or the other.

B. Physiological Causes:

If you have been able to discount any of the cultural causes we now come to the more usual reasons for sudden plant death, the physiological causes, but unfortunately they are often misdiagnosed. It is important that these causes are considered, as the diseases in particular will have long term effects in your garden, especially in determining what species you may or may not be able to grow.

Old Age, or in technical terms ‘natural senescence’. All plants have a natural life span and nothing you can do will change that, apart from some species that respond to a heavy pruning that can reinvigorate them. Species of Acacia shrubs and trees are a good example. We may expect that all trees live a long life but many of the wattles only live for seven to fifteen years of age.

Diseases. There are three main diseases that seriously injure or even kill many species of trees and shrubs.

1. Cypress Canker or Conifer Die-back is caused by the fungus Seridium cardinale. This disease is endemic in Perth and has caused the death of literally hundreds of many of the species of Cupressus, and some species of Thuja and Junipers. A great pity, because these evergreens with lovely formal shapes had become an aesthetically important part of Perth’s treescape.
Diseases/Cypress Canker/Cont’d:

The disease is spread by borers, water splash or wind, and causes the relatively sudden browning of branches starting at the tips. Initial infections are more usually on the north and northwestern sides of the canopy, then spreads rapidly to the rest of the tree resulting in death. The disease can be prevented by the application of copper-based fungicides two or three times per year. If less than one third of the canopy has browned off, treatments with phosphoric acid, either by injection or foliar spray, is often successful. However, be prepared to treat the trees every year from now on.

2. Armillaria spp., often called Honey fungus or Oak root fungus, is an insidious root rot disease that is common but little known in WA (Shoestring fungus is our worst strain). The last few years have been particularly bad, with many deaths, sometimes abnormally occurring in winter and spring rather than summer. It affects fewer species than Jarrah die-back, but unfortunately cannot be treated.

It rots the roots, effectively starving the plant of water and nutrients, and often the decline is over many years when you may notice the leaf canopy slowly thinning out. However, equally as often it causes the plant to die in months or even less. White mycelium growth may be seen if you peel the bark off larger roots and sometimes under the bark of the base of the trunk. Occasionally dull, honey coloured mushrooms appear around the base of the trunk.

This mature Silky oak died within months.
The mushrooms are the drying up fruiting bodies that only appear on a minority of dying specimens

3. Jarrah Die-back is caused by the root rot fungus Phytophthora cinnamomi, and is endemic throughout the southwest, including the sandy metropolitan area where it is much more widespread than most people appreciate. It attacks a huge range of plants, with many of our native species being highly susceptible.

It spreads through water and moist soils and infects new plants by attaching itself to the roots or by entering through wounds on the base of the trunks. It then rots the fine roots first before moving on to larger roots and even the trunk, effectively starving the plant of water and nutrients. Plants may struggle for many years before totally succumbing, usually in mid to late summer. Symptoms include leaf loss and die-back of shoots and young growth. Often you may see attempts at reshooting, but these too then shrivel and die. Many affected plants can be successfully treated with some fungicides. If not, there are many replacement species that are resistant or at least tolerant to the disease.

Other diseases.

There are quite a few other diseases, including other species of Phytophthora, that cause root rots, collar rots and cankers. However, these often just stress the plants, so they will continue growing for many years and it is unusual for them to cause sudden death in mature plants.

It is worth mentioning that plants may be carrying a disease but only show slight to moderate symptoms. But add much further stress such as drought or attack by borers or termites and serious decline can set in, even death. It is interesting that borers and termites are much more attracted to stressed plants than they are healthy ones.

So what to look for apart from foliage symptoms? Check the trunks for cracking or peeling bark, or dark and mushy bark. Next, excavate some of the roots and inspect for dark, soft root bark that rubs off easily. You may also see white mycelium growth under the bark. Even if you only suspect disease is involved, quarantine the area and don’t shift soil to other parts of the garden, even on your shoes, to reduce the risk of spreading the disease.

All this may all seem a bit depressing, but what value do you give a mature tree or shrub? Finding the cause will put your mind at rest and help you manage the problem so you won’t loose many more plants.

What next?

Don’t guess on what may be the cause – call in an expert who still may suggest soil or pathology testing.

Reduce plant stress as much as possible. Jarrah die-back, for example, only kills mature specimens if they are under attack from other pests, diseases or maladies.

Check the soil – poor drainage can encourage problems like root-rot. If reticulated, check it’s working evenly and effectively. Always use soil wetting agents on sandy soils.

Many diseases can be effectively managed or controlled, even eradicated. Check the factsheets on treating die-backs on my website.