

**BIC** SPECIAL SUBSCRIBER EDITION

October 2018

THE UK'S NO.1 GARDENING MAGAZINE

# Gardeners' World

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**DE**

**TY** on preparing your garden for extreme weather

reveals why hedges are good for our health

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**L** shares her Top 5 garden ideas that'll never fail you!

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## PETS SPECIAL

How to make your garden a fun and safe place

# GARDEN DOCTOR

## Windy gardens

**Mark Lane** explains how to prevent wind damage in autumn



**When a large tree** is torn down by the full force of a gale, it seems to do so in slow motion. At least, that's how I remember it one night during the stormy winter of 2013-14 when, after the initial cracking noise of the tearing rootball, our 20m tall eucalyptus was ripped from the ground by one of that year's many gales and dumped onto our herbaceous border – 17 years of growth gone in minutes. For its energy and speed, it showed how wind is one of the gardener's worst enemies.

Strong winds cause plants to sway excessively, pulling and tugging on their roots, the continual movement interfering with the roots' ability to remain grounded so the plant is partly lifted out of the ground. This is called 'root rock' and it stops the plant absorbing water, leading to severe water stress and even death. Strong winds also distort growth and lower the air temperature around plants, reducing their growth rate.

Wind-blown rain spreads fungal spores from infected plants to healthy ones, quickly inhibiting their ability to sustain healthy growth. Pollinators can be deterred from visiting a windy spot, too, finding it hard to get a purchase on flowers that are moving.

Transpiration is the process by which moisture is carried through plants from the roots to small pores on the leaves, where liquid water changes to vapour and is released in to the atmosphere. It is essentially the evaporation of water from foliage, and wind is a great contributor to transpiration, speeding it up and drying plants out. During autumn and winter, evergreen plants that have retained their leaves are prone to wind scorch damage (when leaves

become desiccated), caused by cold winds. These also dry out the soil, compounding the problem.

### Minimise the effects

Gardeners are not helpless in the face of autumn gales. Cut back plants that are prone to wind rock, such as shrub roses, lavatera and buddleia, by a third to one-half of their height this month and bring vulnerable ones like olive trees indoors if you can. Pick fruit before it's blown down and put mulch on the ground to stop water loss from the roots and soil.

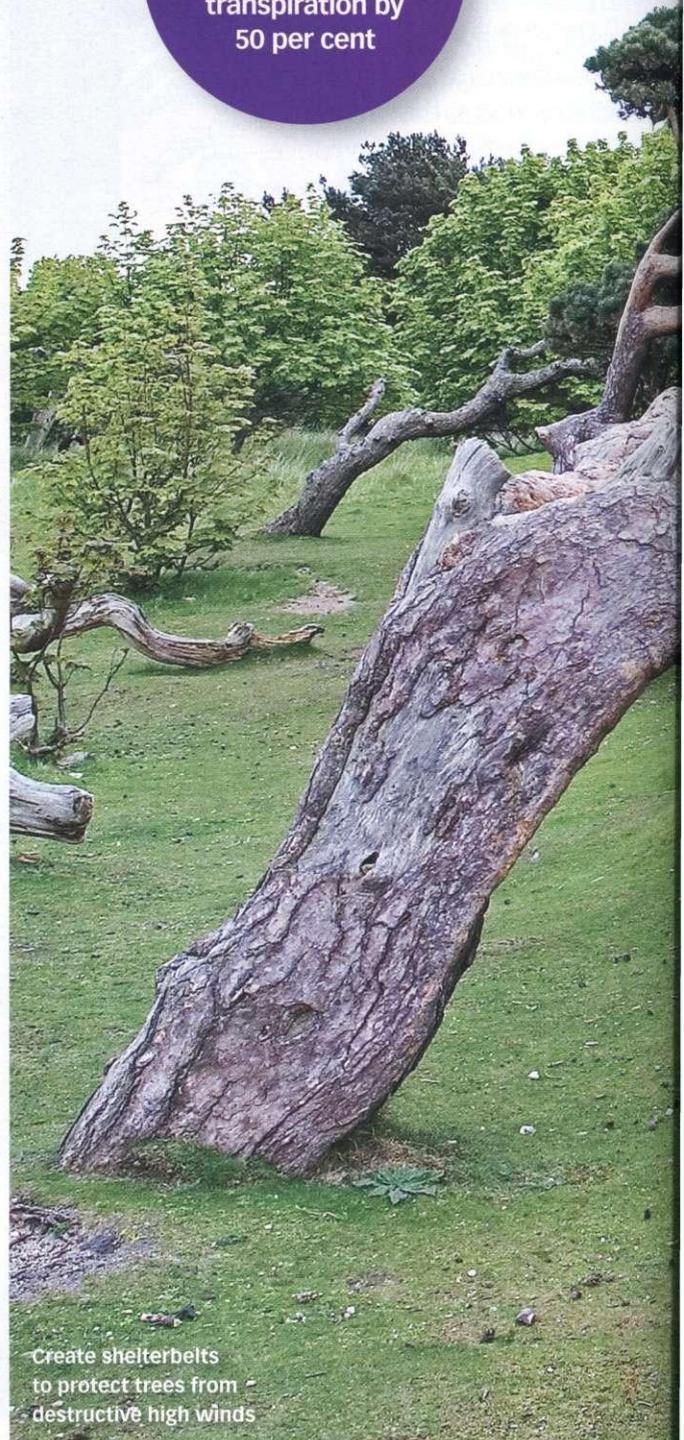
In the long term, wind can be redirected or slowed down by a windbreak or shelterbelt. A hedge, tall trees, a woven-willow hurdle or a semi-permeable barrier erected across the direction of the prevailing wind will reduce damage. Windbreaks minimise the velocity of the wind and create a favourable micro-climate and shelter for pollinators. Shelterbelts, where tall trees are planted in three or four staggered rows, are suitable for larger gardens. Choose robust trees and shrubs such as field maple, hornbeam, Japanese roses, Austrian pine or bamboo.

Most plants need exposure to some wind to function well, and the key is to shelter them from excessive amounts. Those that rely on wind for seed dispersal and pollination have adaptations such as small, light pollen grains and feathery stigmas to catch them. Air circulation is also essential for preventing a build-up of the damp conditions that lead to the fungal diseases that many plants are prone to, while most plants are strengthened by some exposure to moderate air movement around them.

**NEXT MONTH:** Tom Brown, head gardener at Parham House, explores whether you should bin diseased plants or, with bonfire night looming, burn them.



**Did you know?**  
a 15mph wind will increase transpiration by 50 per cent



Create shelterbelts to protect trees from destructive high winds



Now here's  
the science

- **A plant** subjected to continuous mechanical stress (ie wind) undergoes a slow change in its shape. When trees bend in the wind their trunks thicken.
- **Transpiration** is the process by which water, taken in by roots, is released from leaves, thus producing a flow of water through the plant. A large oak tree can transpire 151,000 litres of water per year. Transpiration is increased in windy conditions.
- **In 1881**, Charles Darwin detailed the effects of mechanical stimulation in plants. In his book *The Power of Movement in Plants*, he described how roots can change their growth direction away from sources of mechanical stimulation.
- **Nodes** (the areas on a stem where leaves grow from) are a feature in many hollow stems, particularly grasses, which prevent them from buckling. Nodes can also act as spring-like joints to store and release energy when subjected to wind.
- **The more branches** there are on a tree, the better it diffuses the wind to remain upright.



**See Mark Lane**  
**On TV** Join Mark and the rest of the *Gardeners' World* team as they round off the present series. Fridays at 8pm on 5 October, and 9pm on 12 and 19 October.

