

The race to save the UK's ash trees; countering ash dieback and ash borer

The ash is the most common hedgerow tree in the UK but the species is facing ever greater threats. According to a tree ecologist at Keele University, Peter Thomas, the UK is in danger of losing its ash trees altogether. Not only is the fatal disease ash dieback well and truly established across the UK, the population of ash is now threatened by the Emerald Ash Borer beetle which has been making its way from Asia to Sweden in recent months.



Emerald Ash Borer—heading our way

The beetle has already killed 38 million ash trees in the United States and time will tell if **the US Department of Agriculture's plan** to stop the beetle by releasing millions of tiny wasps, will work. The wasps lay eggs inside the borer larvae, stopping them from emerging as adults.

Our principal, Mike Ellison, spent time in Ontario last year training Canadian arborists in the Quantified Tree Risk Assessment method so that they could more accurately direct local government resources to dealing with the highest risks from dead and dying ash trees.

Symptoms of ash borer attack can be slow to appear but include yellowing and thinning of foliage, dying branches and crown dieback.

Ash dieback disease, also known as Chalara (*Hymenoscyphus fraxineus*), has already

affected trees across England, Wales and Scotland. Ash dieback spores carry for up to **10 miles on the wind so it's virtually impossible to eradicate**. Symptoms include wilting leaves and bark lesions.

But some trees are resistant to ash dieback and scientists are trying to garner what information they can on resistant trees in the hope of stalling the devastation of the disease.

The DEFRA-funded Living Ash Project aims to find tolerant native ash trees from which to breed the next generation of ash and the public is asked to get involved by logging on to www.livingashproject.com to help by monitoring ash trees in their area.

Defra's Chief Plant Health Officer, Professor Nicola Spence, said "Defra is very pleased to be able to support this important project. Not many people may know that 46 species of plants and animals can only live on ash trees, so it's not only the trees we will be saving."

If you would like to help, please visit www.livingashproject.org.uk



Wilting leaves—a sign of ash dieback

Recent discoveries about trees continue to amaze



Trees rest at night, just like we do

Vienna's University of Technology has made a fascinating discovery — that trees have day and night-time patterns very similar to our own. Carefully monitored at night, branches of birch trees were seen to droop by up to 10 centimetres, something scientists believe is the trees' equivalent of sleep. The drooping is due to a lowering of internal water pressure. When there is no longer any daylight, the tree stops photosynthesising and this may explain the lowering of pressure.

It is believed that the tree is actually resting at night. During the day, branches and leaves are angled upwards in order to access sunlight and there is no need for this activity at night-time.

At last month's Treework Seminar in London's Kew Gardens, another expert continued the theme that there is more to trees than meets the eye. International laboratory of Plant Neurobiology director Professor Stefano Mancuso, said **"They have no discrete organs yet can perform the functions of these, including breathing, digestion, problem-solving, vision and even memory. In fact they can detect 15 different properties, which is more than any animal."**

Manusco explained that trees' root tips have 'a lot of electrical activity, much like a brain' and that many plants

show signs of being able to not only see light but form as well. **It's been shown that plants and trees are able to communicate and show spatial awareness, with even slime moulds able to establish efficient networks, prompting the question, says Manusco, 'Where is this information stored?... We don't even know how we store information'.**

Expert Richard Mabey, writing in the Financial Times, says that because trees are rooted to the spot, they have **developed 'a range of senses and communication channels which far exceeds our own, and which includes sensitivity to magnetism, static electricity, low frequency sound waves and ultraviolet light.'** He explains that we are only now beginning to understand that plants have intelligence, can learn, remember and change behaviour accordingly.



And trees have a powerful ability to regenerate even when nine-tenths of their living tissue is dead. Following the Great Storm of October 1987, many trees had fallen but **Mabey 'found a legion of trees unfazed by horizontality. Oaks and hornbeams were sending up new shoots all along their prostrate "bodies"; black poplars and beeches had aspiring new trunks climbing out of their upturned root-plates'.**

As scientists and researchers uncover more about the hidden life of trees, one thing we know for certain—**there's a lot more to them than meets the eye.**

Tree Care Workshops

- Does your organisation have trees on multiple sites?
- Do you employ grounds maintenance staff?
- Would you like to take better care of your trees and shrubbery to prevent future problems?
- Could your teams benefit from getting together as a group for training on best techniques for managing your trees?



With the aim of developing the skills of your grounds maintenance staff, we run workshops at a venue to suit you and at no cost to you. If you would like us to run an in-house tree care workshop for your grounds-staff, please drop us a line.

UK leads the way in woodland conservation

An estimated 500 million visits are made every year to UK woodlands. It's undeniable that forests are a great benefit to us in so many ways, as well as providing habitat for plants and animals. The conservation of forests, including the sensitive management of biodiversity, and the management of rare species and habitats, is of huge importance.

In 1994 the UK became the first country to produce a national biodiversity action plan, after the United Nations Convention on Biological Diversity was agreed at the Earth Summit in Rio de Janeiro in 1992. The Convention was the first treaty to provide a legal framework for biodiversity conservation. It called for the creation and enforcement of national strategies and action plans to conserve, protect and enhance biological diversity.

Britain's forests are a great habitat for innumerable mammals, insects, birds, reptiles, amphibians and fungi. Biodiversity conservation is an integral part of sustainable forestry, the Government's approach to which is laid out in The UK Forestry Standard and Guidelines. The Forestry Commission contributes to the UK Biodiversity Action Plans (UKBAP) by helping to deliver habitat and species action plans, and notably it has a lead role in taking forward the Native Woodland Habitat Action Plans. The aim is to enhance the nature conservation value of all our forests and safeguard special habitats. A series of Biodiversity Briefing Notes provides background on the process and its relevance to forestry, and describes how the Forestry Commission is contributing.

Recent amendments to UK legislation have emphasised the need to reduce the impact of land management operations on rare and protected species and their habitats. In fact, for certain species, failure to comply may result in prosecution and heavy fines. There is an urgent need for easily accessible information on the management procedures which reduce the risk of damage and disturbance to species and habitats and which promote management to improve key woodland habitats.



Britain's woodland needs to be protected

Habitats and Rare Priority Protected Species (HaRPPS) is a tool for managers to improve rare and threatened species management, to help deliver this important conservation and social benefit. It is a web-based application, accessible for use by forest managers and the general public, through a registration procedure. To find out more, visit www.harpps.org.uk/

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