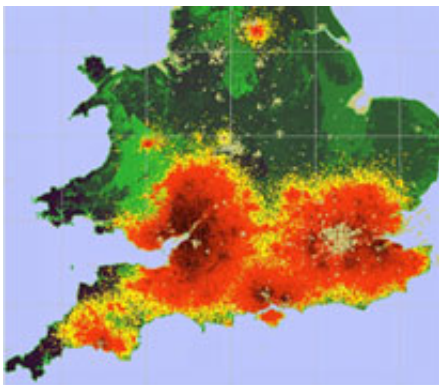


Risk to trees from 'sudden oak death' disease tackled by researchers

April 29 2008



A map showing outbreaks of Dutch elm disease in the UK in the 1970s.

A deadly disease that kills trees by creating cankers which girdle the trunk and clog up their water-carrying 'veins', is being targeted by a major research project underway at Imperial College London.

The research team, based in Imperial's Centre for Environmental Policy (CEP), is working on predicting and preventing future outbreaks of so-called 'sudden oak death' disease, which despite its name primarily affects beech trees.

The disease, caused by a pathogen called *Phytophthora ramorum*, has already had a devastating effect on large forests in California, and now scientists are concerned at the impact it could have on the British landscape if it were to spread rapidly here. Isolated cases of the disease

have already been found in a small number of host species right across the UK, concentrated particularly in Cornwall.

In order to assess the risk of a future epidemic of sudden oak death, the Imperial team are looking to the past to analyse experiences in the 1970s when an epidemic of Dutch elm disease claimed an estimated 30 million trees, changing the face of the British countryside forever.

Using archives, maps and personal testimony from forestry experts involved at the time and from members of the public, the researchers hope to unravel exactly how Dutch elm disease took hold. Their aim is to learn lessons from the 1970s to ensure that if other tree diseases began to spread aggressively, they can be contained and controlled swiftly and effectively.

Dr Clive Potter, one of the researchers leading the study, explains why learning lessons from the past is important. "We are looking back over archives, maps and reports from the 70s which haven't been studied before. We're finding a number of reasons why Dutch elm disease had such a dramatic impact on our countryside, from the sudden emergence of a new, highly virulent pathogen that the authorities weren't prepared for, to complications in deciding who was responsibility for containing it, and low public awareness of the disease in its early stages," he said.

"Unfortunately, by the time the public became interested in saving the elms, it was too late for most of them," he added.

One of the key elements of the study is to produce models and predictive maps to assess how rapidly highly virulent sudden oak death disease could spread across the country.

Archives from the 1970s show how Dutch elm disease arrived in ports like Southampton and Bristol on timber imported from Canada and the

United States, and rapidly moved up the country, the fungus spreading from tree to tree by carrier beetles. In contrast, sudden oak death is not carried by flying insects, but is instead hosted in plants such as the rhododendron, making transmission much less easy.

However researchers caution that this is no reason to be complacent. "At the moment sudden oak death is not a major problem in this country because of the way it spreads. However, for any invasive organism, a new environment is a world of opportunity and we cannot guarantee this will always be the case," said Dr Potter. "For example, if the pathogen were to infect heathland, it could spread rapidly with dire consequences for our landscape and its ecology."

Dr Potter and his colleagues would like to hear about people's memories of the 1970s Dutch elm disease epidemic. They particularly keen to know how people experienced the outbreak, whether they were involved in efforts to save elms and what they can remember feeling about the impact of the disease on the landscape.

Source: Imperial College London

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