

The current epidemic of Dutch Elm disease is caused by the fungus *Ophiostoma novo-ulmi*. It is disseminated by various elm bark beetles within the genus *Scolytus*. The fungus blocks the water conduction system of trees resulting in wilting and death of the foliage.

Symptoms of the disease first appear in early summer as clusters of wilting or yellowing leaves which then turn brown and fall (Figures 1 and 2). Affected shoots die back from the tip and the twigs sometimes turn down to form 'shepherd's crooks' (Figure 3). Because the disease is progressive an affected tree may have a mixture of healthy foliage, yellow or brown foliage and defoliated shoots, showing infection in different branch systems.



Figure 1. Yellowing and wilting of leaves.



Figure 2. Wilted and withered leaves.



Figure 3. Shepherd's crooks.

Confirmation of the disease can be obtained by peeling the bark from symptomatic live twigs which show dark brown or purple longitudinal streaks in the outer wood (Figure 4). Although the streaking may not be as pronounced as in the photograph. Cutting across the twig should reveal a ring of dark brown staining in the outer wood (Figure 5). This twig also has a ring of staining in a previous growth ring. Note that the brown streaking may not be present in all affected branches, especially in lower branches of large trees.



Figure 4. Diseased twig with bark removed to show staining in the wood. Healthy twig on the left.

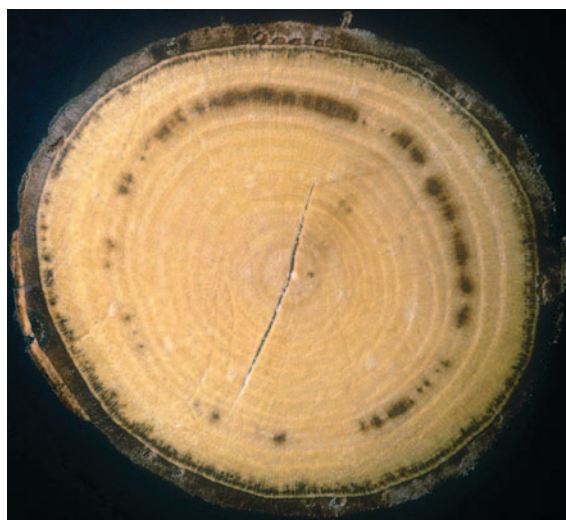


Figure 5. Diseased twig with staining in the wood. This photograph shows evidence of an earlier infection as well as an infection in the outermost wood.

Further information on the disease can be found on the Forest Research website [www.forestresearch.gov.uk](http://www.forestresearch.gov.uk) and in Research Information Note 252 'Dutch Elm Disease in Britain' by John Gibbs, Clive Brasier and Joan Webber.