Dutch Elm Disease

Dutch elm disease, caused by *Ophiostoma novo-ulmi*, was first found in Myers Park, Auckland in December 1989. An eradication programme was immediately started, using a strategy of locating all elms in the known infected area, inspecting those elms at least three times during the flight season of the vector beetle and destroying all infected material immediately after detection. Trapping the vector *Scolytus multistriatus* adults using an aggregating pheromone and testing them for *O. novo-ulmi* also formed a part of the strategy after the first season. Eradication has not been achieved but the disease has been contained within the Auckland area.

A very successful nineteenth programme was completed in May 2009. The programme was managed by Simon Cook from Auckland City with support and advice from an Advisory Committee comprising members from Scion, SPS Biosecurity, Auckland City, North Shore City, and the Auckland Regional Council. Funding was largely provided by Auckland City and North Shore City, with generous support from various Councils from other parts of New Zealand. MAF Biosecurity New Zealand stopped funding national management of the Dutch Elm Disease Programme in 2008 – see [http://www.biosecurity.govt.nz/media/05-06-08/dutch-elm-disease](http://www.biosecurity.govt.nz/media/05-06-08/dutch-elm-disease) for further details.

The 2008-09 programme consisted of one continuous disease detection survey over the summer plus a trapping programme in high risk areas to determine sources of infection or large amounts of breeding material. The disease detection survey started on 24 November 2008 and was completed on 9 March 2009. All elms recorded in areas considered high risk were surveyed and 5,389 locations were inspected. A total of 25 samples were received by Scion and only one diseased elm was identified, on 22 January 2009. It was from Otara Reserve in south-east Auckland. The nearest diseased elm location in the previous season was more than 5 km away. This elm was inspected as part of the High Risk Site Surveillance programme funded by MAF Biosecurity New Zealand. Typical stain was seen in the current and old wood of the diseased elm. The elm was promptly removed once Dutch elm disease had been confirmed.

A total of 56 traps were deployed in the Greater Auckland region for the entire season. An additional trap was placed in Otara near the site of the diseased elm in early February. Traps were inspected weekly from 27 November 2007 to 2 April 2008, and then on 13 and 27 April, and 18 May 2009. A total of 3,013 beetles were trapped, of which two traps (sited at West Auckland and in Pakuranga to the east of Auckland) caught 11% of the total each. No particular trends in distribution of beetle numbers or timing of catches were apparent. The most significant finding was that *O. novo-ulmi* was not obtained from any of the beetles trapped.

This is the first time since 1998/99 that we have trapped through an entire season and not obtained an infective beetle. An interesting feature of the trapping programme was the extension of the range of the beetle (see figure). Pheromone traps were also placed in Rotorua, Whakatane, Gisborne, and Christchurch. Beetles were...
Dutch Elm Disease continued...

trapped at Gisborne, further extending the range that was considerably widened in early 2008 with the discovery of beetles in Taupo and Napier. There were 438 beetles caught in the Gisborne trap but thankfully none were carrying O. novo-ulmi.

A similar programme is planned for 2009-10 and it is hoped that the success of this season with only one diseased elm found, and no infective beetles trapped, is repeated.

Lindsay Bulman

FOREST HEALTH CONDITION MONITORING IN BAVARIA

Lindsay Bulman was awarded one year funding from the International Science and Technology (ISAT) Linkages fund to visit Dr Arthur Bauer of the Bavarian State Institute of Forestry (Bayerische Landesanstalt für Wald und Forstwirtschaft (LWF)) in Germany to develop a collaborative programme on forest condition monitoring.

Discussions focused on forest condition monitoring assessment techniques and analysis of data arising from those surveys. Field visits were made to areas predominantly forested with broad leaf trees, areas with spruce and other conifers including an area with severe bark beetle damage on the Czech border, and the alpine region in the south of Bavaria where trees were showing signs of severe defoliation.

The main benefit of visiting the different forest types was that it offered the best opportunity to identify and discuss all problems and issues that may arise during an operational monitoring programme. One morning was spent inspecting an intensive Level II plot which is part of the Pan-European EU/ICP Forests programme and learning about the methodology and equipment needed to carry out assessments and data capture in those. Lindsay was also interviewed by two journalists from local Bavarian newspapers and articles on the visit were published.

After undertaking independent assessments under operational conditions it was pleasing to find that Lindsay’s crown transparency assessments conformed closely with his expert German counterpart’s assessments. This indicates that the NZ system under development is on track. In addition, an understanding of how the forest condition monitoring system in Europe functions was achieved. Finding out how Level I and Level II plots complement each other was particularly useful, because before the visit the New Zealand system was very much focussed on Level I plot methodology. This may well change as a result of the visit, although Level II plots are extremely expensive to set up and monitor. For more information on these Level I and Level II monitoring programmes see www.icp-forests.org/pdf/folder.pdf

Dr. Bauer will visit Scion in January and February 2010 to see first-hand the New Zealand forest health condition monitoring system and offer advice on the system and its operation. Dr. Bauer is Head of the Crown Condition Survey in Bavaria and is responsible for monitoring the field teams to maintain standardisation and accuracy between teams. He has also produced documentation and field manuals for the surveyors. His knowledge and experience should prove invaluable, particularly so because the New Zealand system is still in its infancy.

As an added bonus, the ISAT funding enabled Lindsay to attend the third meeting of the International Dothistroma Alliance held in East Anglia, UK. Research results were shared, future research was planned and field visits were made. Some of the Pinus nigra var. laricio stands inspected were quite badly infected, and results of repeated defoliation in the past were obvious. The Alliance is preparing a Co-operation in the field of Scientific and Technical Research (COST) action proposal to obtain funding to allow the collaboration to continue. Lindsay also spent two days visiting colleagues at Forest Research in Farnham, notably Clive Brasier, Joan Webber, Kath Tubby, and Anna Brown.

Lindsay Bulman

Below: Mr Hans-Peter Dietrich demonstrating some of the meteorological equipment used in the Level II plots.

NEW RECORDS

We are no longer publishing details of new records. For further information on results of MAFBNZ funded programmes see MAFBNZ’s Biosecurity magazine (http://www.biosecurity.govt.nz/publications/biosecurity-magazine/index.htm) where information on new biosecurity identifications is regularly published.

John Bain