



Euphresco Success story

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Preparing Europe for invasion by the beetles emerald ash borer and bronze birch borer, two major tree-killing pests

Among the many pests that pose a threat to European forests, the two species of buprestid beetle, *Agilus planipennis* (emerald ash borer - EAB) and *Agilus anxius* (bronze birch borer - BBB) have received particular attention. This is especially the case for EAB, a native of South-East Asia, which has invaded North America and the western part of Russia, with devastating consequences in terms of ash tree mortality.



Although there is increasing information on the two pest species, further work relative to the threat in Europe is required to both anticipate and to react to incursions of the pests.

The Euphresco project ‘Risk-based strategies to prepare for and manage invasive tree borers (PREPSYS)’ has addressed key questions and gaps in our knowledge on the pests’ biology, control (including firewood risks and treatments and biological control agents), dispersal and economic/environmental impacts. The key overall question was: How can we best prepare for and manage the risks and impacts of emerald ash borer and bronze birch borer?

Collaboration with key researchers, woodland managers and municipal authorities during the project culminated in the international conference *Preparing Europe for invasion by the beetles emerald ash borer and bronze birch borer, two major tree-killing pests*, which was partly sponsored by the OECD’s Co-operative Research Programme on Biological Resource Management for Sustainable Agricultural Systems and by Defra, UK. The event was organised by the Austrian Research Centre for Forests (BFW) in Vienna and attended by 83 scientists, policy makers and representatives of regional and national plant protection organisations. Participants came from 27 countries, including those where invasion by emerald ash borer has had major impacts on tree survival. Copies of the speaker presentations are available from the BFW [website](#) and the proceedings will be published in a special issue of *Forestry: An International Journal of Forest Research* in early 2020.





Consolidation of knowledge gathering has led to the concept of a European Toolbox which the PREPSYS consortium recommends to be developed and implemented as a pre-emptive approach to coping with the potential invasion by both beetles. The following key points should be considered for the toolbox:

- The surveillance effort needs to be very high to have any chance of early detection of emerald ash borer or bronze birch borer invasion and establishment. Girdling trees appears to be the best method for detection of low populations of emerald ash borer and bronze birch borer. Traps and host volatile and pheromone lures are also effective. Trained dogs can also be used for pest detection on trees, wood and wood products.
- Increase analysis of types of pathways to develop a risk-based optimal surveillance strategy for Europe. As resources are limited, they should be focussed on the places of highest risk of arrival of emerald ash borer and bronze birch borer.
- Tree mortality can be slowed through use of trunk injection of insecticides. Emamectin benzoate is the most effective active substance. Urgent steps should be taken in the EU to test and register Emamectin benzoate for this purpose.
- Natural enemies are showing considerable promise but have a long development and build-up phase.
- Awareness raising has great value and should commence before the pest(s) arrive(s) in Europe. Information should be compiled and made available for advance and ongoing awareness campaigns.

Research collaboration must continue and increase along with more pre-emptive changes in policy at all levels from regulatory (EU and National legislation), plant protection (EPPO and NPPOs) and local (municipalities) scales. The tools for the toolbox are becoming more effective and sophisticated. However, there needs to be greater coordination of actions and sharing of responsibilities. EU DG Santé and EFSA, along with EPPO, are ideally placed to guide action plans and to provide financial and logistic support. There is little time left to finalise the toolbox in Europe!

Project ID: Risk-based strategies to prepare for and manage invasive tree borers-pest risk evaluation and pest management systems ([PREPSYS](http://www.prepsys.eu)).