

 Forestry and Wood Update

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# Research Programme

# Project update

*Each issue of the newsletter carries a short article on new and ongoing COFORD-funded projects. Feedback on the articles is welcome and should be addressed to the project leaders (contact details at the end of the article).*

## ASHGEN –

 Identifying the scale of suspected hybrid ash in Ireland and its potential for genetic pollution of indigenous ash germplasm

Some ash plantations which were established in the period 1990-2000 have shown very poor stem form and brown winter buds which are not typical of common ash(*Fraxinus* *excelsior*), the species native to Ireland. These so-called ‘brown bud’ ash stands are unlikely to form commercially viable plantations.

We have investigated the problem and have determined that most of the problem plantations consisted of imported trees. In Europe common ash shares its distribution with a related species called narrow leaved-ash (*F.angustifolia*). Crossing of the two species occurs naturally, and results in plants which are similar in appearance to common ash.

We examined the morphological and molecular features of trees in problem plantations and compared them to native common ash. Brown buds are certainly associated with hybrid trees but black buds are also found. The hybrid trees tend to have narrow leaflets of about 2 cm wide with a spear-tip shape, usually bearing between 7 to 15 conspicuous teeth on the margins of the leaflets, whereas common ash bears at least 20 very small teeth and frequently up to 30. In addition, common ash generally has 9 to 13 leaflets on sun-exposed branches whereas hybrid ash leaflet numbers can be as low as 5, but more typically 7, although some branches can exhibit more leaflets.

Many trees in problem plantations have now reached the flowering stage and the possibility exists that they will cross with native trees. Repeated backcrossing and seed distribution in nature might lead to genetic contamination of future ash populations. We have studied the flowering periods of native trees and the trees in ‘brown bud’ plantations and found that there is an overlap in the flowering periods; there is seed production in these plantations and the seeds are viable. We have also found evidence that the ‘brown bud’ plantation trees can interbreed with native trees. It is desirable to establish secure supplies of Irish ash seeds. This can be best achieved by planting Irish mother trees which have been selected for their good stem form and growth characteristics into areas dedicated to seed production. The genetic makeup of particular ash stands can be now be ascertained to an acceptable level of accuracy using a combination of morphological characteristics and DNA profiles.

*For more information contact Dr Gerry Douglas, email: gerry.douglas@teagasc.ie*

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## NATFOREX –

Establishing a national resource of field trials and a database for forest research and demonstration

This large project, funded by COFORD under the PLANSFM programme, has set out to establish a national resource of field trials and a database for forest research and demonstration. Many years of national forest research activity have resulted in an extensive network of experimental trials on many aspects of silviculture and forest management. The trials have provided high quality scientific data to assist in developing best forest practice and have also acted as demonstration areas for communicating research results.

The six-year project is co-ordinated by Prof. Maarten Nieuwenhuis of UCD. Ted Lynch manages the overall project, while the Field and Data managers are Donal O’Hare and Jacques Hamel. The main collaboration is between UCD and Coillte, but will include other organisations that are responsible for existing forestry-related field experiments or have data from past experiments. To date, more than 300 field trials and experiments have been visited all over Ireland. For each site visited, a field report has been written, reviewed and entered into in a database. At the same time, a summary of the existing data related to the specific experiment is drawn up. Ultimately, the database will be available online with experimental details of existing and past trials, and with data available on request for inspection and use.

A significant effort is underway to inspect field sites, report on the site condition, and carry out remedial work where required. Sites across the country have been visited. A common factor has been poor quality maintenance of many of the experiments. This has had an impact on the ability of the trials to deliver long-term trends and results. Many experiments in the southern region, however, are in good condition and will prove a valuable resource into the future. In the past year more than 60 trials have been measured or thinned or pruned, or have had final crop trees selected. Data from some of the trials have been analysed to get a clearer view on their current status.

*For more information go to www.natforex.com.*

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# Information and support services

# Survey - COFORD newsletter

## Have your say about the content, layout and frequency of the COFORD email newsletter

The monthly COFORD e-newsletter was launched in April 2001. Over the years the number of subscribers has steadily increased, and currently stands at 2,200. In order to ensure that we are providing the right information in the best way, you are invited to participate in an online survey about the newsletter. Your comments will be used to steer the newsletter into the future. [Click HERE to provide your input](http://www.coford.ie/iopen24/forms.php?fID=25). The survey ends on 31 July 2010.

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# Bioenergy 2010 – Warming to wood energy

## 17 June 2010, Carlton Hotel Tralee

This conference, exhibition and field excursion was co-hosted by COFORD, Sustainable Energy Authority of Ireland (SEAI) and Teagasc. A record crowd of over 200 delegates attended the Bioenergy 2010 event at Tralee, Co Kerry on 17 June. Presentations made at the conference are available at www.seai.ie/News\_Events/Previous\_SEAI\_events/bioenergy\_2010/.

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# Woodenergy poetry competition

## Prizewinning poem from www.woodenergy.ie

Woodenergy.ie recently held a competition to find the best poem on the use of wood for energy. The winning entry was from Samuel Olajuyigbe, UCD, who submitted the following poem:

*Wood so precious, wood so strong
Wood so warm, wood so firm
But yet we take for granted still
But yet we burn at will at most

Wood so fiery, when so dry
Wood so dangerous, when so hot
But yet we care less for its health
But yet we chop down when we like

Wood so mighty, wood so great
Wood so absorbing, wood so consuming
But yet we may not fully reap its strengths
But yet we may not use its gifts

If only we could be more wise
If only we could be more prudent
If only we could let more grow

Maybe we can save our planet still
Maybe we can reduce the warmth up there
Maybe we can transform the gas to food

Wood has its energy; wood has its source
Wood keeps us warm, for long for sure
Wood can fill our purse and hearts with gold
Wood can save us from getting so so hot.*

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# National and international news

# The use of Irish ash for hurley production

## 5 July, Hayes Hotel, Thurles, Co Tipperary

Teagasc, in co-operation with the Forest Service and the Irish Guild of Ash Hurley Makers, will host a workshop on the use of Irish ash for hurley production on Monday 5 July starting at 9.30 am at Hayes Hotel, Thurles, Co Tipperary. Mr Christy Cooney, An Uachtarán Chumann Lúthcleas Gael, will be present. This event will give a fuller insight into the hurley ash production cycle in Ireland and will cover all the many aspects of hurley ash production and management. The presentations will include:

* Breeding quality, an investment in the future - Dr Gerry Douglas, Teagasc, Kinsealy
* Ash supplies in Ireland and the role of the Forest Service - TBC, Forest Service
* Thinning Protocol - Dr Ian Short, Teagasc
* The role of forest certification for hurley production - William Merivale, PEFC Ireland
* Marketing and bringing ash to the point of sale - Michael Power, Coillte
* Questions and Answer Session
* Visit to Mullinahone, Co Tipperary. Initial thinning trials on ash. With kind permission from William and Margaret O’Brien
* Visit to Dunne Sawmill, Drangan, Co Tipperary. Led by Michael Somers, Teagasc and Jim Dunne

For further information email michael.somers@teagasc.ie or go to [www.teagasc.ie/forestry/events\_diary/events/
hurley\_production\_workshop\_thurles.asp](http://www.teagasc.ie/forestry/events_diary/events/hurley_production_workshop_thurles.asp).

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# New funding for UK timber research

## New funding to examine ways of using more of the native wood resource in construction

Researchers working with home-grown UK timber at Napier University’s Centre for Timber Engineering have recently been awarded new funding to examine ways of helping the UK construction industry to use more of the native wood resource in construction. The Forest Commission, together with Scottish Enterprise and a number of UK forestry and forest products companies have combined to support this new endeavour by providing funding to the project.

Whilst the UK is a major importer of timber, the UK’s own forests remain relatively under-utilised as a potential source of renewable building material, even though they produce wood which is eminently suited for this type of usage. The new funding will be used to support a wide range of timber research projects which includes work on the properties of Sitka spruce and other species. The overall aim of this project is to create a more competitive and profitable UK forest products sector.

Dr John Moore, Principle Research Fellow at Edinburgh Napier University Centre for Timber Engineering said on this project: “The forest and timber industry is vital to the economic and environmental sustainability of the UK and has a significant contribution to make towards the drive for low carbon and affordable housing”

For further information visit the Centre for Timber Engineering at [www.cte.napier.ac.uk](http://www.cte.napier.ac.uk)

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# Would you put a tree in your gas tank?

## The world's forests may provide some unexpected answers as to how mankind can create more value with less environmental impact – good news as we move toward a greener future

Putting a tree – figuratively speaking – into your car's gas tank may be the way of the future. Dr In-Gyu Choi, associate professor in the department of forest science at Seoul National University, will coordinate a session at the 2010 IUFRO World Congress that will look at the future of forest biomass as raw materials for the development of green biofuels and chemicals.

Forest biomass is renewable, abundant and carbon-neutral. Its importance as a future source of green energy and green chemicals should not be ignored, he says.

The session will involve itself with "look-ahead" science – things such as innovative technologies to convert forest biomass into bioalcohol, synthetic gasoline and diesel as well as the future market possibilities for forest-based green chemicals to be used as the raw materials for biodegradable bioplastics. (Plastics from biomass are made the same way as petroleum-based plastics, but are actually cheaper to manufacture and meet or exceed most performance standards with the exception of water resistance and longevity.)

Eco-efficiency – and this session falls under that broad category – aims at the delivery of competitively priced goods and services that satisfy human needs and improve quality of life, while progressively reducing ecological impacts and resource use intensity to a level compatible with the earth's estimated carrying capacity.

Original story with links to translations, media contacts and illustrations: http://www.iufro.org/media/iwc2010-news-stories/jun10-forest-biomass/.

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# *Phytophthora ramorum* infection spreads to trees in Wales

## Forestry Commission experts are working to contain the spread of Phytophthora ramorum infection to Japanese larch trees in South Wales

*Phytophthora ramorum* is a fungus-like pathogen that kills many of the trees and plants that it infects. Japanese larch trees infected by *P. ramorum* were first found in South West England last year, the only place in the world where it has attacked large numbers of a commercially grown species of conifer tree.

This development was a step change in the pathogen's behaviour. Since first being identified in Britain in 2002, on a viburnum plant in a garden centre, it had affected mostly shrub and ground-cover plants such as rhododendron, viburnum and bilberry. Fewer than 100 infected trees - mostly beech - had been found, and most of those were standing close to infected rhododendron bushes.

Although it has been confirmed in only one area of larch forest in Wales so far, Forestry Commission Wales expects to find more as ground inspections follow up the aerial surveys that have pinpointed suspect areas of woodland. Scientists at the Commission's Forest Research arm believe it likely that the spores that spread the disease have been spread to the larch forests in rain, mists and air currents carried across the Bristol Channel from the South-west, where it was confirmed in Japanese larch last September.

Roddie Burgess, Head of the Forestry Commission's Plant Health Service, said the Commission and its partners are taking the development very seriously, but hope to be able to contain it. "Given the damage it has caused elsewhere, we were very concerned when *P. ramorum* turned up in Britain in 2002, and we and our partner organisations have moved quickly to deal with it and prevent it from spreading wherever it has appeared. We managed to fell most of the infected trees in the south-west before this year's new needles formed and therefore before new spores could be produced. This appearance and spread into larch trees in Wales adds to our concern. However, based on our scientists' knowledge of local weather patterns and how it spreads, we remain hopeful that by taking quick action now in Wales as well we might still prevent the infection from the larch trees from spreading further north and east outside South Wales and South West England.

"Working with our partners in Forest Research, Defra, Fera and the Welsh Assembly Government, we have set up a programme of action to enhance our survey effort, both in the air and on the ground, and to fell infected trees and destroy other infected plants as fast as we can. We are also appealing for the help and support of forest owners, forestry workers and woodland visitors. Woodland owners and managers should be vigilant for and report signs of the disease to us. Forestry workers and the visiting public are being asked to take some simple biosecurity measures, such as washing their boots, equipment and wheels, to reduce the risk of inadvertently spreading the disease. Signs have been erected at forest entrances advising visitors what to do to."

To minimise the economic impact on the forest and timber industries, the Commission is permitting logs from felled infected trees to be moved to specially licensed sawmills, provided certain biosecurity measures are taken. These include stacking the logs on bearers to keep them off the ground while awaiting removal from the forest, and pressure washing timber trucks before they return to the road. Sawmill residues are also being destroyed or used as woodfuel.

Further information about *P. ramorum* is available in a question and answer factsheet available from a link on the Forestry Commission's website at www.forestry.gov.uk/pramorum.

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# FOREST EUROPE: Working for Healthy Forests in Europe

## FOREST EUROPE –Ministerial Conference on the Protection of Forests in Europe – 14-16 June 2011

Ministers and high level representatives responsible for the forests of all 46 European countries and the EU are invited to Oslo for the 6th FOREST EUROPE Ministerial Conference to take decisions that affect the well-being of people and the environment both within and beyond their borders. The conference is being held in the Norwegian capital from 14-16 June 2011. The health and sustainability of Europe’s forests play an important role in solving challenges like climate change, biodiversity protection and fresh water. Their vitality is also crucial to foster a green economy both in Europe and globally. It will be the task of the ministers attending the conference to take the robust political decisions necessary to promote the sustainable development of the continent’s forests and safeguard their important environmental and societal benefits.

The conference will be hosted by the Norwegian Minister of Agriculture and Food, Mr Lars Peder Brekk. “Safeguarding sustainable forest management of Europe’s forests is not only about economic, environmental and other social benefits for Europe - it can also help to protect these functions in other parts of the world.  Therefore, I am looking forward to welcome my colleagues in Oslo for this important event for forests in Europe”, Mr Brekk says.

High on the agenda will be the elaboration of a strengthened policy framework for sustainable forest management throughout Europe.  To this end, it is expected that the ministers will decide whether to enter into negotiations on a legally binding agreement on forests in the pan-European region. It is also anticipated that ministers will adopt vision, goals and targets for forests in Europe as part of the future FOREST EUROPE strategy.

The last ministerial conference was hosted by Poland and took place in Warsaw in 2007. On that occasion Europe’s forest ministers made a firm commitment to ensure that forests and sustainable forest management play an active role in the sustainable development and wellbeing of the European society. The ministers also highlighted the role of forests and sustainable forest management in combating negative effects of climate change, for energy supply and in water protection. Following Poland, Norway took over the chairmanship of FOREST EUROPE and in the intervening period has taken appropriate action to follow up on these commitments.

The FOREST EUROPE Ministerial Conference will be a major contribution to the International Year of Forests in 2011.  This year-long celebration of forests across the globe will be used to raise awareness and to engage the world in taking action to secure sustainable forests for present and future generations. Follow the road to the Ministerial Conference Oslo 2011 via [www.foresteurope.org](http://www.foresteurope.org)

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# EPSO conference “Plants for Life”

## Olos (Lapland), Finland, 29 August – 1 September 2010

EPSO, the European Plant Science Organisation, hosts the The Plant Science Conference in Europe in Olos (Lapland), Finland, from 29 August to 1 September 2010. For more information see http://www.epsoweb.org/event/conference/finland-2010.

Session topics include:

* Plant defence mechanisms
* Crop genomes for sustainable agriculture
* Breeding tools and strategies
* Plant Science in Europe and beyond
* Improvements in plant health
* Climate change impact on plant production
* Climate, ecosystems and genomics
* Biodiversity
* From plant architecture to traits
* From photosynthesis to solar fuels
* Tree biology for multiple uses
* From metabolites and recombinant proteins to plant-made-pharmaceuticals
* Plants with improved nutritional quality and value
* RNA silencing signals

 Workshop topics are:

* Outreach and education
* Research Action Plan of the European Technology Platform “Plants for the Future”

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