



Photo: Mats Hannerz

New SNS project on ash decline

The current spread of ash (*Fraxinus excelsior* L.) dieback is an alarming forest health problem, threatening the existence of the tree species in large parts of Europe. A new Nordic-Baltic project, supported by SNS, will increase our understanding of the disease and develop strategies for reducing its impact.

The first symptoms of ash decline were observed in the southern Baltic States in the mid-1990s. In 2002, the disease had been observed only locally in southern Sweden. However, in the summer of 2004 it spread throughout the south, towards western and central parts of the country. In 2003–2004, dieback was first noticed in Denmark, where it spread rapidly in 2005–2008. In 2007–2008, the disease had also emerged in Norway and Finland. Consequently, the epidemic is now in differing stages in

different areas of northern Europe: an initial phase in Finland and Norway, peaking in Sweden and Denmark, and a post-decline (or chronic) phase in Latvia and Lithuania.

Well-known fungi in new dress

The fungus *Chalara fraxinea* has been demonstrated to be the causal agent of the dieback. It has recently been identified as a form of a common, decomposing fungus (*Hymenoschyphus albidus*), which is native and widespread in Europe, and known to decompose ash in the forest litter. It is not known why it has emerged, or become so aggressive. However, the pathogen could be an invasive hybrid, or an indigenous species that has become more virulent recently, possibly because the trees have been weakened by stresses, such as those associated with drought, changes in temperature or frost.

In a new project, a team of researchers from Sweden, Denmark,

Finland, Norway, Lithuania and Latvia will:

- Check the identity of the dieback-causing fungus *Chalara fraxinea*, and assess its potential invasiveness
- Investigate if climatic factors affect the development of the disease
- Study the genetic structure, biology and epidemiology of the fungus
- Suggest silvicultural management regimes for declining ash stands
- Evaluate long-term phytosanitary consequences in regions devastated by the disease
- Assess the degree of genetic variation in susceptibility of the Nordic ash population, in order to guide breeding programmes to counter *C. fraxinea*.

*SNS-project 109. Budget: 150 000 Euro
Time: 2010–2012*

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Networking supported by SNS

One main aim of SNS is to create Nordic synergy within forestry research by granting support to networks. In 2010, SNS will be financially supporting 11 networks.

1 Sustainable forest management in northern Fennoscandia – platform for borderless northern research.

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2 Scandinavian Society of Forest Economics.

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3 Nordic cooperation group of dendrochronology.

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4 Development and maintenance of NOLTFOX, the Northern European Database of Long-term Forest Experiments.

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5 PRIFOR – Nordic working group on the history of primeval boreal forests.

*Coordinator: Bengt Gunnar Jonsson.
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6 Seminar on ditch network maintenance in peatland forests – updating our knowledge on timber production, environmental effects and newest adaptive practices.

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7 Network for communicators at Nordic and Baltic Forest Research Institutes.

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8 Natural disturbance dynamics analysis for forest ecosystem management.

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9 Workshop: Long-term effects of intensified harvesting for bioenergy – what can we learn from established experiments?

*Coordinator: Karsten Raulund-Rasmussen.
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10 Nordic Forest Water Mercury Network – NorForM – Managing

Forestry's Impact on mercury contamination in fish: Does the varying sensitivity of different catchments to harvest impacts hold the key to more effective mitigation?

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11 WSE - Nordic-Baltic network of wood science and engineering.

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SNS secretariat moves to Denmark



Photo: Mats Hanerz

After four years based in Finland, the SNS office was moved in January 2010 to Copenhagen in Denmark. The secretariat will be hosted in the premises of Forest & Landscape at Copenhagen University. The new secretary is Dr. Katrine Hahn Kristensen.

The office rotates in four-year cycles between Sweden, Norway, Finland and Denmark. The only office holder is a

part-time secretary, who coordinates the work on projects, networks and conferences financed by SNS.

Katrine Hahn Kristensen replaces Sune Haga, who has been the secretary for the last two years. Dr Hahn Kristensen was awarded her PhD for a thesis on nature-based forest management by the University of Copenhagen, and she currently has a position as a scientific secretary at the university.

The new chairman, succeeding Professor Kari Mielikäinen, is Pernille Karlog from the Ministry of the Environment, the Danish Forest and Nature Agency. An interview with the chairman will be presented in a coming issue of News and Views.

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EFINORD head of office appointed

Mr. Mika Mustonen has been appointed as the first head of the new EFINORD office, which will be located in Copenhagen adjacent to the secretariat of SNS.

Mika Mustonen has worked as a senior researcher at the Finnish Forest Research Institute (Metla) for the past six years, and has been the project manager of the 'Metinfo' statistical database. He was previously working at EUROSTAT, where he participated in the development of the community forestry statistics.

EFINORD is the fourth regional office of the European Forest Institute. The others are established in Spain, Germany and France.

Read more at EFIs webpage: www.efi.int and in News & Views No. 5, 2009.

FIRST strengthens Nordic forest technology research

A joint Swedish-Finnish research school will strengthen forest technology.

Nordic forest technology today is highly advanced and efficient, but to stay competitive in the global market productivity must be raised continuously. The development of the forest sector must rely on an advanced platform of research and education in forest technology. However, 10–15 years ago investment in forest technology research and education was significantly downsized, both in the Nordic countries and globally. The shortage in research and development capacity is now a serious threat to the long-term progress of Nordic forestry.

The new research school FIRST (Forest-Industry-Research-School in Technology) will address some of the investment deficit within the field. The initiative is a joint Swedish-Finnish collaboration that will build new capacity for R&D and innovations.

In the industrial PhD-program researchers will be educated to take key future positions in the forest research community and operational

business sector.

FIRST was originally an initiative of the Swedish forest sector. The program started in May 2009, and will continue until 2013.

At present, eight Swedish and three Finnish PhD students have enrolled. Each student is linked to an industrial host, thereby enhancing the relevance and applicability of the effort. In addition to a four-year PhD education, the students will each have a year of advanced training at their host company.

Three universities (SLU in Sweden, Joensuu and Helsinki in Finland) and three institutes (Skogforsk in Sweden, Metla and Metsäteho in Finland) are collaboratively involved in the school, and its operational management is being overseen by a program manager, Magnus Thor of Skogforsk (the Forestry Research Institute of Sweden), and a scientific coordinator, Professor Thomas Nordfjell of the Dept. of Forest Resource Management, SLU.

Read more: www.first.slu.se

Today's students will be key leaders of tomorrow's technological developments. Here are some of those future leaders, assembled at a Nova course in Forest Technology in Uppsala, January 2010. The course was initiated by FIRST.

Photo: Mats Hannerz.



Finnvid Prescher gets international award for his thesis "Seed orchards – Genetic considerations on function, management and seed procurement".

The "Outstanding Doctoral Research Awards" are given for the best theses globally by the International Union of Forest Research (IUFRO) at its world conferences every five years.

Finnvid Prescher's award was for the best thesis within the field Physiology and Genetics, following corresponding awards to Kyu-Suk Kang in 2005 and Run-Peng Wei in 2000. All three were supervised by prof. Dag Lindgren, Sweden.

Finnvid Prescher is now principle seed manager at Svenska Skogsplantor.

Read more: www.upsc.se

The third "Outstanding Doctoral Research Award" in a row to SLU department



Photo: Jan-Erik Lindgren

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Three winners and their supervisor: Run-Peng Wei (1) Finnvid Prescher (2) and Kyu-Suk Kang (4). All three were students at the Department of Forest

Genetics and Plant Physiology at SLU in Umeå, Sweden, and supervised by Professor Dag Lindgren (3).



First genetic mapping of a conifer tree starts

The spruce has seven times more genetic material (DNA) than a human! It is not known why, but now Swedish scientists will explore the genetic secrets of Norway spruce.

Umeå Plant Science Centre (UPSC), jointly run by Umeå University and the Swedish University of Agricultural Sciences (SLU) has accepted the challenge to map the DNA of the most important tree in Sweden. The task will be tackled together with researchers at the Royal Institute of Technology (KTH) and Karolinska Institutet (KI) in Stockholm. A grant of 75 million SEK will pay for the giant task.

12 chromosomes

Long ago (300 million years before the present day) conifers had already evolved a “perfect genetic mixture” which allowed them to dominate on earth and survive numerous geological catastrophes, even the meteor impact that is thought to have ended the dinosaur era. However, much remains unknown about their genomes.

All conifers have 12, extremely

large chromosomes, which contain huge amounts of DNA, but do they have more genes than a human? This is not known, partly because researchers have avoided sequencing their genomes due to their sheer scale.

– Norway spruce will be the first conifer to have its genome mapped, says Professor Ove Nilsson at UPSC. The complete inventory of the spruce genes will revolutionize forest research and enable us to use forest feedstock more efficiently.

Thanks to the extremely fast development of new DNA sequencing technologies this huge project is now feasible.

– To start this project just a year ago would not have been possible, says Professor Joakim Lundeberg at KTH. The new governmental funding of the “Science for Life Laboratory”, which is intended to be northern Europe’s largest genome research centre, will give us access to the latest gene technology.

The project is expected to last five years, and apart from eight Swedish researchers, Canadian, Italian and Belgian scientists will also contribute.

Source: www.upsc.se



Old "number 1" from 1986

A quarter of a century in the service of forest research

Scandinavian Journal of Forest Research is supported by SNS. The journal’s first article “Field Performance of a Protective Collar against Damage by *Hylobius abietis*” was produced by a group of Swedish researchers with Anders Lindström as first author.

Since then, almost 1 500 peer-reviewed research articles have been disseminated to the scientific community through the journal.

The journal’s 25 year’s birthday in 2010 will be celebrated at a side event during the IUFRO World Congress in Seoul, Korea, in August 2010. A special issue later in 2010 will be allocated as a jubilee issue with review articles describing the scientific advances in various fields in the last 25 years.

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More info about SNS:

www.nordicforestresearch.org

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- short
- relevant to the Journal
- interesting for the readers.

Examples: comments on papers published in the Journal, views on ongoing research, trends in research policy, opinions about forestry practice etc.

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