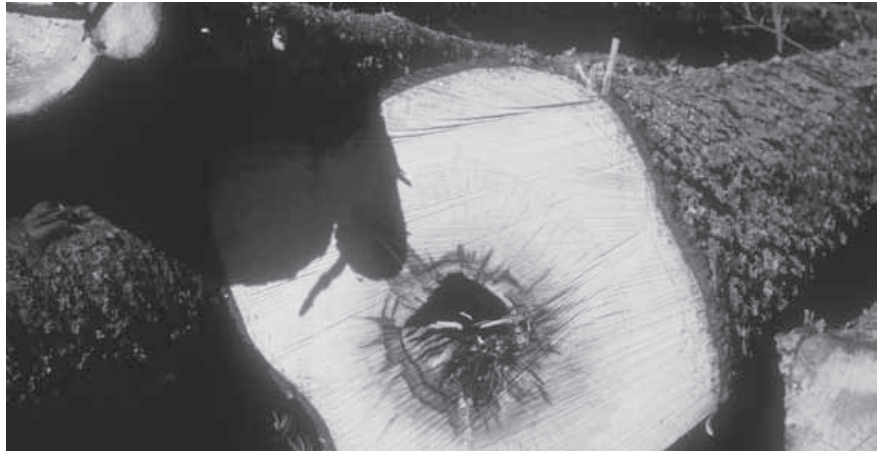


## Editor's summary

The following is the editor's condensed summary of the articles in the current issue.



*The incidence of root rot in a stand can be predicted with a new model presented in this issue. Photo: Areca*

- Seedlings should be well watered before planting, especially if they are planted while they are in their growth phase. **Pekka Helenius** and his colleagues showed that if the water content of the root plug falls below 20%, the growth and survival of the seedlings is severely affected.
- Conifer plantations in eastern Canada are often hampered by competing shrub species, such as *Kalmia angustifolia*. In order to improve seedling establishment, and reduce competition, **Nelson Thiffault** and colleagues studied the effects of various combinations of scarification and fertilization. The best seedling growth was obtained with scarification followed by spot fertilization.
- The pine weevil is the most serious pest in Scandinavian conifer plantations. In a Danish field survey, **Lars Wichmann Hansen** and colleagues found that the damage caused by the weevils was not dependent on the planting positions of seedlings (i.e. the distance to breeding material in the form of stumps) within clearcuts they examined. In addition, they showed that attacks were not heavier in sites in areas with many clearcuts.
- Pine weevil attacks tend to be heavier on sites which have been burnt. The weevils are attracted by the smoke, and there is not much

alternative food besides the newly planted seedlings. **Henrik von Hofsten** and **Jan Weslien** found that seedlings should not be planted less than two years after burning if attacks are to be avoided. Their data were obtained from 10 burnt sites in northern Sweden.

- In an experiment in which topped and traditionally thinned birches were monitored for three years, **Daniel Ligné** and colleagues showed that the thinned birches are most likely to die if they are cut at the base, or during their growing phase. Topping resulted in more damage to the secondary stems than conventional thinning, and mortality of the topped stems is likely to increase in subsequent years.
- Heavy metals dissolve very slowly from wood ash, especially if it is granulated. Potassium, sodium, boron and sulphur, on the other hand, are easily released. These were some of the results of a Finnish study on ash fertilisers by **Mika Nieminen** and colleagues.
- Treating stumps with antagonistic fungi, or chemicals, can effectively prevent colonization by the root rot fungus *Heterobasidion annosum* in thinnings. **Magnus Thor** and **Jan Stenlid** showed that treating fresh

stumps after summer cutting can reduce colonization as much as thinning in the winter (when there are very few fungal spores).

- The incidence of root rot increases with stand age, tree diameter and the proportion of spruce in the stands. In addition, soil type, moisture, altitude and temperature sum also affect the risk of root rot. These factors were combined by **Magnus Thor** and his colleagues in a model of root rot incidence for the whole of Sweden based on a long-term dataset from the National Forest Inventory.
- Collaboration between enterprises can make timber transport more efficient, allowing transport costs to be greatly diminished by reducing transport distances and the number of empty transport units. These were some of the results from a Finnish study by **Teijo Palander** and **Janne Väättäinen**.
- Timber transport was also studied from an environmental and energy use perspective, by **Eva-Lotta Lindholm** and **Staffan Berg**. They showed that transport systems including railway components require less energy than other alternatives. However, if biofuels are used in lorry transport, it is possible to greatly reduce the transport's contribution to global warming.

# Closer cooperation between Nordic forest research institutes

**A staff exchange programme and a common website. These were two important outcomes when representatives from a number of forest research institutes met in February.**

The ties between the forestry research institutes in Scandinavia have historically always been close. Now they are growing even closer, and more formalised. The establishment of four virtual centres of advanced research – CARs – was an important step in this direction (see News and Views 20.1).

Further steps were discussed at a meeting in Uppsala in February 2005, when representatives of forestry institutes in the Nordic countries, the Baltic States and Poland participated.

## Website

“In order to improve cooperation, information about each other’s activities and resources is essential”, says Jan Fryk, managing director of Skogforsk in Sweden. “We decided to set up a common website, where the various institutes can post information on their research plans, staff

resources, meetings etc., in order to share it with the other institutes”.

## Staff exchange

The forest research institutes in the Nordic countries, Baltic States and Poland have agreed on a common framework for staff exchanges. The aim is to increase inter-institutional exchange as a means to enhance interaction and cooperation.

The agreement states that “an actual exchange should be of mutual interest for the institutes involved, benefiting the individual as well as the home and host institutes.”

In addition, it states that the exchange shall be “based upon true and relevant needs, where work tasks should fit well into the R&D programs of the institutes concerned.”

Staff exchanges cover engagements lasting from a few weeks to several months, or even years occasionally, depending on the needs and circumstances.

In normal cases, the exchange staff are still employed and paid by their home institutes during the exchange

period. The home institute meets the costs of travel to and from the host institute, while the host institute covers costs related to the work itself. The host institute also generally assists in finding (or providing) appropriate accommodation.

The staff exchanges may be funded directly by the institutes concerned or, alternatively, they may be linked to joint, externally funded projects, in which case the work-related costs should be primarily covered by the external funds.

## The participating institutes

- Forest & Landscape, Denmark
- The Forest Research Institute in Warsaw, Poland
- Metla – The Finnish Forest Research Institute
- Estonian Forest Research Institute
- Silava – The Latvian State Forestry Research Institute
- The Lithuanian Forest Research Institute
- Skogforsk, the Forest Research Institute of Sweden
- Skogforsk, Norwegian Forest Research Institute

*Representatives of the forest research institutes in the Nordic and Baltic countries, and Poland, met in Uppsala to discuss closer relationships. Photo: Nils Jerling*





Photo: Areca

## Forests in southern Sweden struck by “storm of the century”

**The night of January 8 2005 will long be remembered with awe in southern Sweden. A hurricane toppled 75 million cubic metres of wood in a few short hours.**

The storm-damaged volume corresponds to nearly an entire year's harvest in the whole of Sweden.

Many forest owners saw their life-time's investment blown to pieces, with drastic consequences.

The immediate concerns have been deciding how to deal with all the storm-felled timber (much of which is extremely dangerous to process), how to arrange transport logistics and long-term storage, and how to avoid feared outbreaks of insects.

### Impact on research strategy

Many research organisations have responded quickly to the storm, and new research projects are being established. Formas (the main governmental research council that funds forest-related projects) and Vinnova (the Swedish Agency for Innovative Systems) aim to allocate research resources to the whole forestry production chain, from silviculture to industrial processing and marketing.

Lisa Sennerby-Forsse, chief secretary of Formas, says that there is a great need to coordinate the research. Examples of topics that need to be covered include various issues

related to timber storage, e.g. how to avoid insect outbreaks, the effects of insecticides, and the hydrological impact of storage. Further issues are the effects of the storm on wood properties.

An immediate need is to undertake inventories of the storm-felled areas, establishing which trees were felled and why they were felled but not others. The impact of the storm on water quality and biodiversity also need to be studied.

“The storm-related issues will definitely have an impact on the national research strategy that Formas is asked to establish”, says Lisa Sennerby-Forsse.

## Military radar technology creates high-resolution maps of storm-felled forest

Soon after the storm, a military aircraft was surveilling and mapping a 600 km<sup>2</sup> area with the Carabas long-wavelength radar system. The images show the areal extent of storm-felled timber, as well as the standing volume, at high resolution.

“This system enables us to obtain an overview and detailed information which neither aerial photography nor satellite images can provide,” says Lars Ulander at the Swedish Defence Research Agency (FOI).

“This is needed in order to locate small, dispersed wind-felled areas.”

Johan Fransson at the Swedish University of Agricultural Sciences (SLU) believes that “future research will tell if it is possible to also estimate the volume of storm-felled timber.”

Carabas has been developed by FOI and Ericsson Microwave Systems. SLU, Chalmers University of Technology, and the IT-company Dianthus have participated in the production and interpretation of the maps.

Contact at Swedish University of Agricultural Sciences, SLU:  
johan.fransson@resgeom.slu.se

*The FOI-developed CARABAS-II VHF SAR system in operation, with the antennas deployed at the front of a Sabreliner aircraft © Photo: Pia Ericson, FMV.*



## A model for predicting storm damage

WINDA is a computer model that estimates the probability of wind damage in a stand, based on a number of factors, such as wind regime, topography, shelter, stand density, tree height, tree species and soil conditions.

WINDA is a complex model, but the researchers have also developed a simplified decision tree, applicable for operational purposes. The decision tree is accurate enough for such uses, but is only valid for the region in which it was developed. The model was developed within the programme SUsustainable FORestry in southern Sweden.

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## Invisible damage in the storm-felled timber

Professor Thomas Törnqvist at the school of technology and design at Växjö University, describes how internal tensions and cracks are created in the storm-felled timber. The cracks may be invisible to timber-measuring instruments, but they may nevertheless reduce the strength of sawn goods and increase the risk of twist.

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## FlowOpt optimizes timber transport after the storm

The harvesting and transport logistics of the storm-felled timber constitute a huge challenge for forestry. Issues that need to be resolved include deciding which stands should be given first priority, what harvesting machines are needed, transport and storage needs and the industrial facilities that timber should be taken to.

The programme Flowopt, developed at Skogforsk, can help to solve problems like these. In order to use the programme, information is needed on the quantity and location of the storm-felled timber, the industrial sites that the timber could be sent to, and any restrictions that may affect harvesting and transport capacity.

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## Shortcuts

### UMB – Norway's sixth university

On January 1 2005, the Agricultural University of Norway (Norsk lantbruks-høgskole) was awarded full university status, becoming the sixth university in Norway. To mark this event its name was changed to the Norwegian University of Life Sciences (UMB, Universitetet for miljø og biovitenskap).

The university is one of the two major actors in forest research in Norway (the other being Skogforsk). Its forest research is mainly conducted in the Department of Ecology and Natural Resource Management (INA), a large department that was formed in 2003.

UMB employs about 850 people, examines 30–60 PhDs per year, and has 3,000 students in the Ås area, outside Oslo.

Info: [www.umb.no](http://www.umb.no)



The main building of the new University. Photo: UMB

### Norwegian teaching project awarded the EU Wood & Paper label

The *Learning with the forest* organization has been awarded the right to use the "Wood & Paper, opportunities for generations" label, which is granted by the EU to appropriate youth-related projects. The purpose is to promote projects that inform young people and teachers alike of the possibilities that forest-based industries have to offer.

The *Learning with the forest* programme was cooperatively started in 1983 by public and private forestry organizations and the forest industry. The intention was to establish a

sound basis for dialogue and the understanding that responsible forest management is underpinned by established scientific findings, and that one of its major goals is sustainable development.

In recent years about 150,000–180,000 school-children annually have joined in various practical activities arranged by the organization (about 30% of all Norwegian pupils). All of the educational activities have outdoor components.

Source: [www.skogkurs.no/lms](http://www.skogkurs.no/lms)



### New website for the EFI

The European Forest Institute (EFI) has launched a new website.

"Here you can access EFI's information services and databanks, latest news, and research programmes", says Anu Ruusila at EFI.

"You can also search the EFI project-database, and check the calendar of forest-related events. EFI publications are also available, and papers presented at most of the events organised, or co-organised by the EFI can be downloaded".

Read more: [www.efi.fi](http://www.efi.fi)



## A summer of meetings

Several joint Nordic and other international meetings can be attended this summer

### Risks in forestry

On May 25–26, an international conference is being held to discuss uncertainty and active risk management in agriculture and forestry. The meeting is being held in Alnarp, southern Sweden, and is being arranged by participants in the Sustainable Forestry in Southern Sweden research programme and the Climate Commission of the International Geographical Union.

Info: [www.sufor.nu](http://www.sufor.nu)

### ELMIA Wood

The ELMIA Wood fair will take place as planned in southern Sweden on June 1–4, despite the large volumes of damaged forest in the area following the storm. ELMIA Wood is the world's largest forestry trade fair. At the fair, everything related to forestry is being exhibited and demonstrated from the latest in logging and reforestation equipment to edible forest products.

Info: [www.elmia.se/wood](http://www.elmia.se/wood)

From an earlier ELMIA fair 2003.



### Regeneration meeting in Norway

The Nordic network on forest regeneration is arranging a workshop in Biri, Norway, on June 8–10. The topic of the workshop is natural regeneration and uneven-aged managed stands.

Info: [www.skogkurs.no/sns/index.asp](http://www.skogkurs.no/sns/index.asp)

### Afforestation meeting in Iceland

The scientific committee overseeing the project AFFORNORD invites interested parties to a conference on the effects of afforestation on ecosystems, landscapes and rural development. The conference is being held at Reykholt, Iceland, on June 18–22, 2005.

The meeting is open to anyone interested in the influences of afforestation in a wider context; not only scientists, but also consultants, planners, forest owners and administrators.

AFFORNORD is an Icelandic theme project, sponsored by the Nordic council of ministers.

Info: [www.skogur.is/page/affornord/](http://www.skogur.is/page/affornord/)

### Bioenergy conference in Finland

An international conference, *Bioenergy 2005 in the wood industry*, will be held on Sept 12–15 2005 in Jyväskylä, Finland. The conference is open to a broad spectrum of participants, including scientists, policy makers, business people, entrepreneurs, and industrialists.

info: [www.finbioenergy.fi/bioenergy2005](http://www.finbioenergy.fi/bioenergy2005)

### Nordic breeders meet in the Komi Republic

The theme of a conference taking place in Syktyvkar, the Komi Republic, Russia, on September 13–15, is *Status, monitoring and targets for breeding programs*. One day will be devoted to field excursions. The meeting will be the last to be arranged by the Nordic Group for the Management of Genetic Resources of Trees, which has been replaced by GENECAR (see News and Views 20.1).

Info: [www.genfys.slu.se/staff/dagl/komi/](http://www.genfys.slu.se/staff/dagl/komi/)

### Atlantic oakwoods in Scotland

The Botanical Society of Scotland invites you to an international symposium on the ecology and management of Atlantic oakwoods. The meeting is to be held in Oban, western Scotland, on September 14–16.

Info: [www.geos.ed.ac.uk/abs/bss/](http://www.geos.ed.ac.uk/abs/bss/)

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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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