

Editor's summary

Below is the editor's concise summary of this issue, featuring contributions from Poland, Japan, Finland, Norway, Sweden and Spain. If you are eager to know more – read the articles.



Photo: Mats Hamnerz

Poland: Spruce differentiation

In Poland, spruces are found in both the north and the south, but the species is rare in the parts in-between. **Andrzej Lewandowski** and **Jaroslav Burczyk** have used molecular markers to investigate how and why the two groups of spruces are separated.

Japan: Nutrient cycling

Nutrient cycling in a Japanese *Cryptomeria* stand is reported by **Li Xue** and **Shan Luo**. They have shown how various nutrient elements varied in leaves and litter over the year, and they have detected important peaks of nutrient transportation from old to new leaves.

Finland: Ozone and P-deficiency

Atmospheric ozone levels are slowly increasing, and in higher concentrations ozone may be harmful for tree growth. Trees will be especially vulnerable to ozone exposure if they are growing in phosphorus-deficient conditions, according to **Jarkko Utriainen** and **Toini Holopainen**. Their study indicates that the photo-synthetic machinery is disturbed by a combination of ozone and lack of phosphorus.

Norway: Germination of seeds

Kjersti Holt Hanssen tested how well Norway spruce seeds germinate in various moss, bilberry, grass and litter substrates. Sphagnum and litter were

the best, but the results were complex, and depended on both weather and site conditions. Scarified plots were the best for seed germination.

Norway: Fungi and tree size

The effect of tree size on resistance to agents of damage is usually difficult to study, since it is confounded with genetic effects. However, **Arne Sandnes** and **Halvor Solheim** overcame this problem by using a monoclonal stand of Norway spruce, in which they found that small, suppressed trees were more susceptible to inoculation of a blue-stain fungus than large trees.

Sweden: Instability affects wood

Stem deformations may have a strong impact on interior wood properties. **Göran Rune** and **Mats Warensjö** found that instability of trees, leading to basal sweep, also results in more compression wood in the lower part of the stem in a study of Scots pine.

Spain: Mixed forest silviculture

Maritime pine and broadleaves can get on very well, at least if they are subjected to adapted selection silviculture. **Sofia Sanchez Orois** and **Roque Rodriguez Soalleiro** found a system that will work in northwestern Spain to create a valuable continuous cover forest and control undesired eucalypts.

Sweden: Harvester-based inventory

Forestry logging machines are often equipped with computers that store the data during harvesting. These data could be used for much more than merely calculating the value of the outhauled logs. **Johan Stendahl** and **Bo Dahlin** connected a GPS receiver to the harvester computer, to investigate if the logging data could be used to create a spatial model of the forest. Using data solely from the strip road they found it was possible to calculate mean figures for some relevant parameters, but the information was too limited to readily produce a true spatial model.

Finland: Remote sensing

Arto Haara and **Mika Haarala** investigated whether it was possible to automatize the classification of tree-species from aerial photographs. They found that a semi-automatic method they evaluated could be used for this purpose to a degree. However, many problems remain to be solved, such as the influence of view angle.

Norway: Efficiency of sawmills

Large sawmills are generally more effective than small ones. However, large capital does not guarantee efficient production. These were some of the findings by **Anders Nyrud** and **Even Bergseng** when they analysed the efficiency of Norwegian sawmills.

Closing volume 17 – and looking ahead

Photo: Areca



This is the last issue of volume 17. The year has not witnessed any major visible changes to the printed version of the journal. However, continuous improvement of the editorial work has allowed the process time to be reduced, and the number of submitted manuscripts has increased. Nevertheless, there may be changes just around the corner. SNS has made an evaluation of the journal which will be discussed by the board in November (before this issue is printed). We will be back with more information on plans for further improvements for readers and authors soon.

88 submitted manuscripts

In the last year, from November 2001 to October 2002, there were 88 submitted manuscripts, compared with 75 the year before. Most of the manuscripts (73%) originated from the Nordic countries, with Sweden being the source of 35 (40%). However, the proportion of manuscripts submitted from outside the Nordic countries has increased from 19 to 27 % since last year.

During the same period, the editor took advantage of the time and skills of 168 referees, some of whom reviewed more than one paper. The referees were from 19 countries, and 52% came from outside the Nordic countries, which means that the referees were much more internationally spread than the authors of the manuscripts.

Increased rejection rate

Of the 88 submitted manuscripts, 59 have been processed to a final decision. Thirty four were rejected and 25 were eventually accepted for publication. Another ten passed through the evaluation and are at present under revision. Most of these will finally be accepted, and if this group is included, the rejection rate for this year's papers amounts to 49% so far, which is higher than the previous year (37%). The higher rejection rate is a combined result of slightly tougher criteria and the increase in number of submitted manuscripts.

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Origin of manuscripts

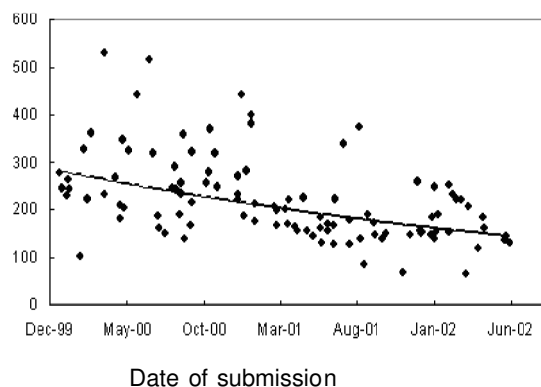
Origin of manuscripts submitted to Scandinavian Journal of Forest Research and referees used from November 2001 to October 2002

Origin ¹⁾	No. submitted manuscripts	No. referees ⁵⁾
Sweden	35	39
Finland	15	20
Norway	7	16
Denmark	7	5
Western Europe ²⁾	5	33
Eastern Europe ³⁾	5	2
Canada	3	25
USA	4	22
Others ⁴⁾	7	6
Total	88	168

- 1) The address of the first author is considered the origin of the article
- 2) Austria, Belgium, France, Germany, Greece, Ireland, Portugal, Spain and Switzerland
- 3) Bulgaria, Czech Republic, Estonia, Lithuania, Slovakia
- 4) Australia, China, Japan, Korea, New Zealand, Tanzania, Turkey
- 5) Some of the referees reviewed more than one paper. The total number of referee commitments during the period was 174.

Process time

Days from submission to acceptance



The editorial process time includes the evaluation by referees, judgement by the editor and the time the authors need to revise the paper before it is finally accepted. The figure shows the process time for all manuscripts submitted since 2000.

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Shorter editorial process

The average time from submission of the manuscripts to acceptance was 5.6 months for the manuscripts submitted since November 2001. This is close to the goal of the journal, to reduce the editorial process to 4–5 months. The figure shows how the process time has been reduced over the last few years.

Printing queue

The six issues of volume 17 contain 54 articles. Fifteen of these had a first author from Sweden, 16 from Finland, 11 from Norway, three each from Canada and Germany, two from Denmark and one each from Lithuania, Poland, New Zealand and Japan. The

time from acceptance to printing of these articles was 7.5 months, which is an increase since the previous volume (six months). However, the length of the printing queue fluctuates and, at present, authors can expect to wait 5–6 months before accepted papers are printed.

Thrilling ride on wooden rails

The famous amusement park Liseberg in Gothenburg, Sweden, will open a new attraction next summer. With a maximum height of 36 metres, it will be the highest wooden roller coaster in Scandinavia. The total length of the rail is 1080 metres, and the passengers will reach a peak speed of 90 km/hr.

“The roller coaster is built of Scots pine from Germany”, says Ralf Andreasson from Liseberg. “We often get asked why we didn't use pine from Scandinavia. The explanation is simple, the roller

coaster is built by a German company”.

There is a strong trend in the world now to return to the early types of roller coasters, which were made of wood. “Wood has a soul”, and the feeling is never the same in a steel construction, he continues.

The structure has been built with 1,700 m³ wood in 60,000 pieces.

Ralf Andreasson promises that the visitor will be thrilled. “The roller coaster is built to give as much ‘air-time’ as possible, he says. “That means, many slopes with negative G”.

Nitrogen main cause of increased growth in European forests

The height growth of Scots pine and Norway spruce increased by 20% between 1960 and 1990. This increase was especially clear in central Europe, but less so in northern Europe. A joint European project (RECOGNITION) has now investigated the main reasons for this growth increase. Long-term research plots and computer models show that increased nitrogen deposition was the main cause. Changes in climate and increased atmospheric CO₂

concentration seem to be of secondary importance.

Anthropogenic

The nitrogen increase is mainly a result of anthropogenic deposition. However, nitrogen will have a diminishing effect in the future. The models predict that CO₂ and climate change will be the major causes of increased forest growth in coming decades.

Source: www.efi.fi/news

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Photo: Stig Kälverud, Liseberg.



Photo: Mats Hamnerz

Nordic success in EU's research grant race

Inevitably, the largest EU-countries such as France, the UK and Germany receive the most grants from the EU's research budget. But, in relation to the population, Denmark is in the leading position, followed by Finland and Sweden. These conclusions are backed by an analysis of projects

approved in the EU's Fifth Framework programme up to 2001.

The Nordic countries are often partners in large EU projects, which explains why they have a lower share of projects which they coordinate.

While the largest countries coordinate over a third of the projects they

participate in, the corresponding figure for the Nordic countries is a fifth. The research grants, in total and per capita, the number of projects and co-ordination share are shown in the table.

Source: www.eufou.se



Country	Research grants € per capita	Research grants total million €	Number of participated projects	% of such projects co-ordinated by the country
Denmark	34.9	185	855	20,8
Finland	32.7	170	768	21,0
Sweden	31.2	278	1215	19,9
EU-15	16.1	6077		
UK	16.5	983	3612	42,0
France	15.6	923	3233	35,4
Germany	12.3	1015	3509	34,2

Protectors of the taiga celebrate 10th anniversary

The Taiga Rescue Network (TRN) was created at an international conference in September 1992. Since then, it has linked together 200 non-governmental (NGOs) and indigenous peoples organisations (IPOs). The aim of TRN is to protect the worldwide boreal forests, known in Russia as the taiga. One of the most important issues has been to raise awareness about the ecological and cultural values of these forests. The network has also managed to establish new protected areas from the Russian Far East to the Yukon.

One success story told

by *Taiga News* is the agreement to a moratorium on old-growth logging in north-west Russia, which all major Finnish companies have been voluntarily respecting since 1996.

A number of challenges still remain: illegal logging and timber trading, especially in Russia, is a problem. International trade pressures also present obstacles for the establish-

ment of stricter national criteria and safeguards for good forest management, according to the network.

Source: www.taigarescue.org/TaigaNews

Photo: Lena Gustafsson



Clonal forestry – who are you kidding?

“A liar will not be believed, even when he speaks the truth”

*(The fable about the **The boy who cried “Wolf”**)*

For a long time the prospects for developing viable clonal forestry with spruce species have been viewed with great optimism. However, although rooted cuttings of Norway spruce were first used in clonal forestry 30 years ago, the concept has not yet been adopted commercially. According to a survey presented by Steve Lee from Forest Research in Scotland, the reasons for this are:

1. too high costs,
2. environmental concerns and
3. restrictive national legislation.

Too optimistic views

“Have we been kidding the forestry industry, our financial suppliers or ourselves with too optimistic views on clonal forestry?” This was a question asked at an SNS conference in Edinburgh in September this year. The meeting, arranged by the Nordic group for the management of genetic resources of forest trees, attracted 45 participants from the Nordic countries, Baltic states, Ireland and the UK. The original idea of clonal forestry with rooted cuttings, which depended on keeping clonal ramets juvenile while their growth properties were tested in

the field, has been more or less abandoned in northern Europe. Use of juvenile material is essential to ensure sufficient rooting of the cuttings. On the other hand, rooted cuttings are used extensively as a means to bulk up valuable seeds in Ireland, the UK and, to a lesser extent, Sweden.

Promising new technology

According to the conference discussions, in the future clonal forestry will rely on new techniques involving somatic embryogenesis. Fiona Harrington from Coillte Teoranta in Ireland presented plans to produce 6 million plants per year based on somatic embryogenesis in 2007. With this technique, it is possible to overcome the problems of maturation, since the clones can be preserved as embryos in liquid nitrogen during field tests. After field testing, embryos of the best clones can be used to produce plants (so-called emblings) directly for forest plantations, or to use as mother plants for cutting propagation. The technique is used extensively in North America but, as pointed out by Fiona Harrington, very little is known about the field results.

Seduced by eucalypt success

“A liar will not be believed, not even when he speaks the truth”. Aesop's fable about the boy who cried, “Wolf!” was quoted by David Thompson from Coillte Teoranta as a metaphor for tree breeders who had promised too much. Now, when the technique and results are ready, there is a credibility problem. “When the first plans for clonal forestry came up, we used the successful model for eucalypts, but it didn't work for northern conifers. We were seduced”, he admitted.

Breeder's view anthropocentric

An interesting perspective on clonal forestry acceptability was given by Rick Worrell, a Scottish forestry consultant. He pointed out that people's perceptions vary and there is no genuinely objective truth. Public viewpoints on forestry are often biocentric, i.e., essentially environmentally centred. The forest industry, on the other hand, has a more anthropocentric view: that human interests must override other concerns. Forest scientists pretend to be value neutral, but are usually cheating themselves. That is, according to Rick Worrell, tree breeders are even more anthropocentric than the average forester.

Contact: For abstracts from the conference, contact Throstur Eysteinnsson (throstur@skogur.is).

Presentations will soon be published on the Internet, contact Allan John (allan.john@forestry.gsi.gov.uk)



Photo: Mats Hannerz

Clonal forestry with conifers will depend on somatic embryogenesis, according to the SNS-conference “Clonal forestry, who are you kidding”?

Nordic plant producers seminar

Don't beat your seedlings!

There are indications that minor freeze damage to roots, weak radioactive treatment, top shoot browsing and ozone treatment can all stimulate growth in some cases instead of reducing it, but don't go home and beat your seedlings, we need a better understanding of these relationships first!

That was the message delivered by Lars-Göran Sundblad from SkogForsk, Sweden, at a joint-Nordic conference in Falkenberg, Sweden, in September this year.

Damage to forest seedlings by insects, weather, roe deer and fungi causes great losses to plant producers and forest owners, but, there is another side to the coin. "Some types of damage to seedlings may instead improve growth and survival", he said.

The conference was arranged by the Nordic council for forest reproductive material and gathered 100 practitioners

from throughout the Nordic countries.

The participants also learned that low nutrient levels during plant cultivation, combined with nutrient loading at the end of the season, could yield healthily functioning seedlings with a minor leakage of nitrogen.

Permethrin ban a challenge

Use of permethrin as an insecticide will be stopped in the EU after 2003. That presents a challenge: to find other methods to combat the pine weevil, which feeds on young seedlings in the field. Göran Örlander from Växjö



The Nordic participants visited the company Odlarna, which produces 25 million seedlings per year. Odlarna has a long tradition of producing cuttings of various species.

Photo: Mats Hannerz

University showed how a combination of silviculture, correct choice of seedling type and protective measures (both physical and chemical) need to be used to reduce the damage. However, no other agent is as effective as permethrin. Sweden has identified no other suitable, permissible pesticide alternative as yet, although the other Nordic countries will probably be able to use substitutes for permethrin. However, these substitutes may prove to be an even more serious threat to the environment than permethrin.

Roe deer damage looks worse than it is

In the field, the group had an opportunity to see for themselves the effects of roe deer browsing. Long term field trials have shown that browsing on young seedlings does not lead to such severe losses as expected. Seedlings with browsed leaders tend to lose 1–1.5 years growth, but the difference between a browsed and a non-browsed seedling is difficult to see after 10–15 years. Furthermore, although roe deer browsing causes spike knots, the reduction in quality is restricted to the lowest part of the stem, so adjustments can be made to counter it in the saw mill. Jonas Bergquist from the Swedish National Board of Forestry, who presented the results, emphasised that damage by larger animals such as moose and red deer (*Cervus elaphus*) are much more detrimental.

More information will be posted at www.nsfj.net

Contact News & Views

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short
relevant to the Journal
interesting for the readers.

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