200 MJ to produce 1 cubic meter

To produce 1 cubic metre (solid in bark) the Swedish forestry uses almost 200 MJ of energy in the form of diesel, petrol, electricity etc. This figure includes the requirements for all silvicultural work, logging and secondary haulage to the mill. 200 MJ corresponds to six litres of diesel oil.

This is one of the findings of a comprehensive study of three Swedish forest-management areas conducted by SkogForsk, The Forestry Research Institute of Sweden. The aim was to produce input data for life-cycle assessments of products from wood-consuming industries.

Secondary haulage account for the biggest part of the energy-use in the forestry, and better transport planning can reduce the energy-use substantially.

As a comparison, it could be mentioned that 1 cubic metre of dry wood contains approx. 7,000 MJ inherent energy.

Source: Results No. 1 2001, Skog-Forsk

The Vikings are coming

In a joint campaign, the Nordic sawmill industry (represented by the Nordic Timber Council), and a number of British organisations are promoting the use of wood in the UK. The marketing campaign, dubbed "wood.for good", is divided into two main themes:

- "Build with wood" – directed at professional constructors and building firms
- "Live with wood" – targeted at the British consumers.

The campaign includes ads in both specialist and the popular press–and TV commercials.

Nordic first

The wood.for good-campaign is promoting wood in general. A supplementary campaign, "Nordic first", is focusing on Nordic timber in particular. This campaign is focused on the British wood retailers and DIY consumers, and financed solely by the Nordic Timber Council. The Nordic sawmill industry is collectively investing some Skr60 million this year in the two campaigns.

In addition to the British campaigns, promotional efforts will also be focused on Germany, France, the Netherlands, Japan and China.

Source: www.nordictimber.org

An ad in the Nordic first campaign

Contents

Results from a SNS project

Lack of stability in Norway spruce

Norway spruce seedlings with the same genetic origin perform differently under different climatic conditions. This lack of stability is primarily caused by frost events at the beginning and end of the growing season. This is one of the findings in a SNS-funded research project named: **The importance of genetic diversity for the adaptability, stability and growth of Norway spruce plantations growing under varying climatic conditions.**

In the project, two experimental studies planted in 27 field trials in Denmark, Sweden, Norway and Finland were evaluated. In the experiments, a number of provenances, families and clones were planted. Measurements were made of early and late heights, annual growth rhythm, damage and quality-reducing defects. Some conclusions are given in the final report:

- Clones with early bud flush in the spring are most severly affected by frost-events
- Clone- or family-mixtures can be made more stable by deleting clones or families with an early bud flush
- Seedlings and cuttings of the same provenances of families have similar stability—except that the early height growth of cuttings may be influenced by effects from the clonal propagation
- Phenotypic variation in cutting-propagated clone mixtures was not lower than in seedlings, despite a 90% reduction in genotypes!
- Genotype x environment interactions can be reduced by sorting sites into breeding and plantation zones with similar environmental conditions.

Source: Final report SNS-project-60

A Norway spruce damaged by frost in the spring. The annual shots have died, which will cause future quality defects. Provenances with early bud flush are more likely to be struck by frost.

New brochure presents the Swedish Model

A newly published booklet called *The Swedish Forestry Model* provides an overview of the values and goals embodied in Swedish forestry policy and practice today. It also describes the nature and scope of the involvement of parliament, government authorities, trade and industry, research institutes, voluntary organisations and other bodies in the forest sector. The overview is divided into four main sections:

- Natural conditions and constraints
- The role of government
- The role of forest owners
- Shared responsibilities

In the booklet, which has been produced by the Royal Swedish Academy of Agriculture and Forestry (KSLA), it is stressed that the way forest resources are used today has evolved over hundreds of years. There is also a strong tradition in Sweden of co-operation and of finding solutions by consensus. This shared responsibility is a cornerstone of the country's forestry policies and legislation.

Source: www.ksla.se

CO_2FIX - a model for assessing how much carbon forests sequester

Forests play an important role in the global carbon cycle and in mitigating the increase of CO_2 in the atmosphere. Monitoring and reporting carbon levels are important aspects of agreements such as the Kyoto Protocol.

The CO_2FIX model is a user-friendly tool for assessing the carbon sequestration of the complete forest ecosystem, including soil and wood products. It can be used in afforestation projects, agroforestry systems and selective logging systems.

The model quantifies the C reserves and fluxes in the forest, soil organic matter and wood products. The basic inputs for the model are the growth rates of stem volumes, from which growth rates for foliage, branches and roots are calculated. With these figures, the carbon accumulation in the living biomass is simulated.

The model is freely downloadable from the Internet:

http://www.efi.fi/projects/casfor

It was originally developed for evenly-aged single species forest stands, but is currently being further developed to cover other types of wooded areas, e.g. cropland, pasture and agroforestry systems.

The CO_2FIX model has been developed by the CASFOR project, which is financed by the EU's INCO DC Programme. Its participants are Alterra in the Netherlands, the Instituto de Ecologia in Mexico, Centro Agronomico Tropical de Investigacion y Ensenanza (CATIE) in Costa Rica and the European Forest Institute in Finland.

Source: www.efi.fi

A growing forest. The carbon fluxes in the forest, soil and wood products are easily calculated with the new "tool".

We can't afford not to test harwarder technology

Harwarders—single machines integrating harvester and forwarder functions —can reduce costs of final felling compared to current systems that use both single-grip harvesters and forwarders. The greatest savings come from not having to pick the timber up from the ground, as currently done.

SkogForsk, The Forestry Research Centre of Sweden, has made a time-study on a harwarder prototype. The results give reason to believe that the machine is as efficient as a harvester at felling and processing; and as effective as a forwarder in extracting loads.

The analyses indicate that the harwarder may be the next big technical development in Nordic forestry—as long as these machines do not cost significantly more than current single-grip harvesters.

Source: Results No. 4 2000 , SkogForsk

News from SNS

The Nordic Forest Research Co-operation Committee (" SNS") is financed by the Nordic Council of Ministers. SNS promotes research into the diverse functions of the forests in a sustainable forestry, through research co-operation, communication of knowledge etc. This spread presents some current activities, contributing to the overall goals for SNS: a socially economically and ecologically responsible management and utilisation of forest and timber resources in the Nordic region.

Board

Members of the Executive Committee 2000 – 31 December 2002

Chairman:
Lisa Sennerby-Forsse (until 31 December 2001)

Denmark:
Claus Jespersen and Niels Elers Koch*

Finland:
Kari Mielikäinen and Liisa Saarenmaa*

Iceland:
Jon Loftsson and Adalsteinn Sigurgeirsson*

Norway:
Olav Hepsö* and Marit Strupstad

Sweden:
Lisa Sennerby-Forsse* and Håkan Wirtén

**National contacts*

Current SNS projects

At present, 9 SNS-funded projects, listed below, are under-way. They will all run for three years. Two of them are new.

Projects started in 1999 and 2000

- Forest management for environmental services. Skr440,000
- Climatic effects on concentrations and fluxes of organic C and N. Skr340,000.
- Importance of life history traits for gene conservation. Skr450,000
- Effects of increased nitrogen deposition in nitrogen-limited forest. Skr 370,000
- *Abies lasiocarpa* for Christmas tree production in the Nordic countries. Skr360,000.
- Urban Forestry in the Nordic Countries. Skr450,000.
- Genetic variation and mechanisms of root-rot resistance in Norway spruce. Skr500,000

New projects

- New and efficient pre-commercial thinning – integrating biology, technology and economy. Skr440,000.
- Removal of nutrients with biomass in Norway spruce stands. Skr345,000 (see presentation below).

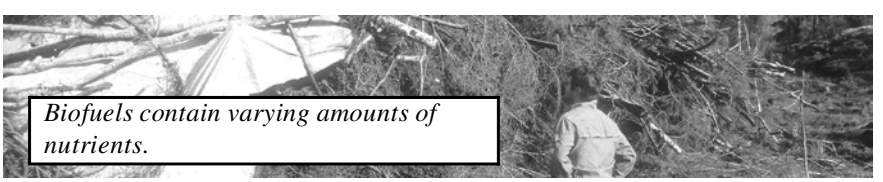
Project description:

Nutrient removal with biomass in Norway spruce stands

In the Nordic countries, increasing components of the forest biomass - branches, needles and tops–are being utilised for wood chip production. As nutrient concentrations are high in these parts, it has been questioned if this practice is sustainable in the long term. To predict if whole-tree harvesting is likely to be sustainable at a specific site, it is necessary to draw up nutrient budgets and, therefore, to model the nutrient content of the trees.

This SNS-funded project will make use of existing biomass and nutrient concentration data concerning Norway spruce in the Nordic countries. On the basis of these data, a Nordic biomass database will be compiled. This database will make it possible to analyse and explain differences in nutrient concentrations and nutrient amounts in different compartments of Norway spruce trees (e.g. needles, branches, stem wood, stem bark). The question is: which variables are most important when predicting the nutrient concentrations in the biomass? The project aims to develop models that will require differing levels of input according to available data or required precision. Analyses will be performed for single tree and stand levels, and focus primarily on macronutrients (N, P, K, Ca and Mg).

Contact: Karsten Raulund Rasmussen, The Danish Forest and Landscape Research Institute. KRR@FSL.DK



Biofuels contain varying amounts of nutrients.

New SNS task-forces

Task force 1: Co-operation with Russia and the Baltic states

In the new strategic plan of the SNS, closer co-operation with the Baltic states and north-western Russia is given high priority. Hence, the SNS board has appointed a working group to study how such co-operation can be implemented, and to recommend appropriate SNS-actions. Three research areas, which have been identified in the Baltic 21 process, are especially emphasised:

- Promotion of sustainable forest management in family-run forestry
- Promotion of the use of wood and wood-based products
- Criteria and indicators for sustainable forest management

Nordic members of the group are:

Denmark:
Anders E Billeschou (FSL) Co-ordinator

Finland:
Taneli Kolström (METLA)

Norway:
Björn Langerud (NISK)

Sweden:
Pelle Gemmel (SLU)

Baltic and Russian delegates will be appointed directly by the Nordic members.

Task force 2: Co-ordination of Nordic forest post-graduate studies

The SNS board has appointed another working group, its task being to study the possibilities of co-ordinating post-graduate studies in the Nordic countries.

The motive for this initiative is that national resources available for forest research are limited. Today, similar courses are given in several seats of learning. But the number of participants is low and the cost of developing and implementing courses is high. Hence, a co-ordinated Nordic approach should give synergetic effects.

The group's main task is to identify fields where co-ordinated Nordic post-graduate studies can give added value.

The members of the group are:

Denmark:
Per Holten Andersson (KVL)

Finland:
Rihko Haarla
Co-ordinator
(Helsinki University)

Iceland:
Adalsteinn Sigurgeirsson

Norway:
Ole Hofstad (NLH)

Sweden:
Marianne Clarholm (SLU)

SNS-supported networking activities in 2001

One important task for SNS is to promote Nordic co-operation by supporting networking-activities. In 2001, the following groups, research activi-ties and joint exercises are planned under this initiative:

- The Nordic database (NOLFOX) for long-term field trials
- A network of Communicators at Nordic Forest Research centres
- A Baltic-Nordic group for forest statistics
- A Nordic Council for forest technology
- A network of people involved in the management and utilisation of broad-leaved tree-species in the Baltic region
- A Nordic *Hylobius* network
- A Nordic-Baltic wood-science meeting
- Post-graduate schooling via "The Nordic Biofiber Products Network"
- A forest-inventory research meeting
- Women as forest owners in the Nordic countries
- Joint research into water uptake and changes in dimension in untreated and heat-treated Norway spruce and larch timber
- Improved links amongst researchers studying ways to improve plant production and establishment with useful soil microbes.

Interested in getting in contact with a group or network? Please contact SNS's secretary, Boel Åström, for further information.

Phone: +46 8 775 40 51
e-mail: boel.astrom@formas.se

Status of certification

PEFC

At the end of the year 2000, over 32 million hectares of forest were certified according to the PEFC-standard, the European Forest Owners Certification System. There are PEFC-forests in five European countries:

Finland:	21,900,000ha
Norway:	5,600,000ha
Germany:	3,020,000ha
Sweden:	1,300,000ha
Austria:	550,000ha

In Finland, 95% of all forests are currently under the PEFC umbrella, and a number of Finnish forest industries are now allowed to use the PEFC-logo in their marketing.

FSC

Certification according to FSC, The Forest Stewardship Council, covers some 20 million hectares of forest around the world. The areas covered in northern Europe are as follows:

Belgium:	4,300 ha
Denmark:	36 ha
France:	1,000 ha
Germany:	222,200 ha
Netherlands:	69,100 ha
Poland:	2,742,800 ha
Russia:	32,700 ha
Sweden:	9,867,100 ha
Switzerland:	48,800 ha
Czech Republic:	10,400 ha
UK:	958,300 ha

There are also FSC-certified forests in a number of countries in the rest of the world, including:

Bolivia:	885,000 ha
Brazil:	666,000 ha
Guatemala:	100,000 ha
Croatia:	167,000 ha
Mexico:	169,000 ha
New Zealand:	363,000 ha
South Africa:	828,000 ha
Ukraine:	203,000 ha
USA:	2,859,000 ha

Sources:
SKOVEN No. 1 2001
www.pefc.org
www.fscoax.org

Public participation via the Net

In Denmark, the government is preparing a new National Forest Programme. The declared intention is to engage organisations and individuals in the process.

On a governmental website, the public is encouraged to speak up: here are some opinions that have been given recently:

- *"It is OK to use herbicides, to give the trees an optimal start"*
- *"The future forests must be less uniform"*
- *"The forests should be divided into two groups: industrial forests and natural reserves"*
- *"Sell some of the State-owned forest"*
- *"More than 25% of the Danish land-area should be forest"*
- *"More forest-land and more tree-species would attract tourists to Denmark"*
- *"I believe that a major part of our forests should be natural forests"*
- *"Roaming should be allowed in all forests, as in State-owned properties".*

Source: www.sns.dk/skov/skovdebat

Contact News & Views

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We strongly encourage our readers to contribute to a lively and interesting journal. Letters to the News & Views section will be published if they are:

- 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, opinion about forestry practice etc.