

ShortCuts

FROM SKOGFORSK. NO 3 | 2015 | RESEARCH FOR TOMORROW'S FORESTRY

TRAINING CAMPAIGN TO
IMPROVE SCARIFICATION

IDA ODERSTÅL, CONTRACTOR:

**"ALWAYS
ON THE LOOK-OUT
FOR HIDDEN GEMS"**

MANAGEMENT THE KEY TO EFFICIENT FLOWS | NEW HANDBOOK FOR FAST GROWERS

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MANAGEMENT THE KEY TO MORE EFFICIENT WOOD FLOWS

Forest company statistics about roadside stock volumes are often of poor quality – yet need not be. “The main problem is that information doesn’t get reported,” says timber expert Maria Nordström at Skogforsk, “but I think clearer leadership would promote greater engagement.”

■ A Skogforsk study shows that total volumes in forest companies’ stock accounting systems are generally quite accurate, but that there are major deviations for individual assortments at landings. The four main causes of deviation are incorrect or no forwarder reporting, no reconciliation with loaded volumes, shortcomings in the driver’s stock inventory, and assortment migration.

“Naturally, if flows are to be steered on the basis of stock figures, then reliable data is needed,” says Maria Nordström. “Of course, there are some technical obstacles – data systems that can’t communicate with one another, and problems with mobile phone coverage, for

example – but mainly it’s about improving engagement about doing things correctly from the start. Ultimately it’s a management issue.

“At the same time, mobile communication, standardisation and system solutions are constantly improving, and this will help to strengthen digital chains in the future. However, many of the current shortcomings are unnecessary, and could be easily rectified with better follow-up and feedback.”

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PHOTO: SVERKER JOHANSSON/BITZER

Management is important. Maria Nordström calls for more engagement.



Available soon at skogforsk.se.

HOT REPORT

The final report of the research carried out in the second programme period (2011-2015) of Efficient Forest Fuel Supply Systems is now available in Swedish, and the English version will soon be available.

New online course

PLANT SCHOOL

■ An online course is now available for anyone wanting to develop their cultivation skills.

Depending on your goals, Plant School can show you, for example, how to grow a robust plant resistant to pine weevils and weeds, a plant that is quickly ready to be planted outdoors, or a plant that is as cheap as possible.

You also learn how to make best use of greenhouse space, nutrients and watering to save money and to reduce the environmental impact of plant cultivation.

READ MORE:
Search in Kunskapsbanken at skogforsk.se

PHOTO: SVERKER JOHANSSON/BITZER



NEW HANDBOOK FOR FAST GROWERS

Interest in growing poplar and hybrid aspen ash is on the increase, and the Swedish Board of Agriculture has now published a practical cultivation handbook. One of the contributors is Skogforsk’s Lars Ryttér. Order it free of charge from sjv.se.



Storms hit the forestry sector.

STORMS BEHIND RISING FORESTRY COSTS

PHOTO: SKOGENBILD

In 2014, forestry costs increased by 10 percent, and the main cause was the cost of processing trees felled by storms. If this expensive cost item is disregarded, forestry costs have only increased marginally.

■ “You could say that storms are so common nowadays that they have a significant effect on forestry costs,” says Rolf Björheden, programme manager at Skogforsk. “Consequently, the

forestry sector is under pressure to try to reduce those costs that can actually be influenced.

“One cost item that we’ve seen increasing for many years now is the cost of building and maintaining roads. We at Skogforsk have recruited new expertise in this field, and have started several new studies.”

In a joint project with SCA Skog, researcher Mikael Bergqvist is examining how to ensure that the surface layers in a road structure are better suited

to the quantity of timber that will be transported on the road, and also the availability of timber trucks with CTI.

“Here, we’ve benefited from extensive experiences in Canada,” says Rolf Björheden. “Hopefully, this will reduce the costs of building new roads and maintaining existing roads.”

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SELF-DISPERSAL OF LODGEPOLE PINE IS BEING MAPPED

What is the scale of Lodgepole pine self-dispersal, and how big is the risk of unwanted spreading to, for example, valuable natural conservation areas? These are two of the questions that a current project is trying to answer.

■ We now know that a forest fire is not needed for a Lodgepole pine cone to open, but we do not know how much or how far the Lodgepole pine seed can disperse. Using a large number of inventories around earlier plantations, the new project will try to visualise the pattern of Lodgepole pine self-dispersal.

Self-dispersal probably depends on a number of factors,

such the various conditions in the stands and habitats and the occurrence of disturbed ground where the soil has been exposed. Examples are roadside ditches, scarification, and ground damage caused by machines.

In recent decades, the fast-growing North American Lodgepole pine has been planted on a large scale in northern Sweden, and today covers approximately 600,000 hectares north of the 60-degree line of latitude. Most of the stands in Sweden are younger than 30 years but, as they grow older, these stands will gradually increase their seed production.

Participating in the project are Bergvik Skog, Holmen Skog,



Self-generated Lodgepole pine along a power line.

SCA Skog and Sveaskog, and Skogforsk is coordinator. The inventories, randomly chosen from Norrbotten in the north to Dalarna in central Sweden, are based on a model the partners have developed jointly, and are carried out by the forestry companies’ own personnel.

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*Gave
spinoff
effects*

ETTdemo

In the period 2011 to 2013, the ETTdemo project put eleven long and heavy vehicles on the roads. The project is still in progress, but has already generated a number of valuable spinoff effects:

■ Volvo and Scania hold strong positions on several markets that are considering introducing heavier and longer vehicles.

■ SSAB has built up a strong bank of experience of various types of very strong steel. This enables lighter vehicles with larger payloads, and thereby more energy-efficient transports.

■ The brake manufacturer WABCO has developed a unique control system for brakes.

■ The trailer manufacturer Parator has built up experience that has made it a market leader in longer and heavier vehicles. One of the consequences is that, together with Scania, Parator has won a contract to supply eighty 90-tonne vehicles to Clifton.

■ The tow bar manufacturer VBG has used its experiences from the project to establish a world standard for tow bar dimensions.

■ One of Scania’s vehicles has been equipped with an RME engine, which is unique in such a heavy vehicle.

■ ExTe has delivered its COM 90 load-securing system to the new ETT vehicle in Överkalix. The trailer stakes are lowered when the vehicle is empty, which reduces air resistance and fuel consumption.

■ CTI (central tyre inflation) has been installed on several of the project vehicles. Apart from increasing load-bearing capacity on forest roads, it reduces friction on asphalt roads as the tyres always have the correct pressure. This also reduces fuel consumption. CTI on nine axles has not previously been tested in Sweden.

PSG

NEW REMOTE SENSING GROUP AT SKOGFORSK

Remote sensing is developing rapidly, and offers great potential for improving efficiency and planning. In order to share experiences and facilitate collaboration within the forestry sector, a new collaboration group has been started, PSG, which will focus on remote sensing and data collection.

The PSG group comprises 15 members from forestry companies, forest owner associations, SLU, and the Swedish Forest Agency, and is led by Skogforsk. Johan Sonesson is chairman and Erik Willén is secretary.

LARGER VEHICLES CAN IMPROVE EFFICIENCY IN FUEL CHAINS

A large truck-mounted chipper working with 74-tonne chip trucks can reduce the costs of chipping and transports – but only if the chipper is easily relocated.

Increasing the load capacity of trucks brings major advantages. A greater payload is possible on each journey, and the transport is more fuel efficient compared with conventional trucks.

Skogforsk has been studying a large truck-mounted chipper working in combination with a 74-tonne chip truck. The study shows that the large chipper performs well, but that the logistics must be made more efficient.

“The chipper was only operating for less than half the



PHOTO: HENRIK VON HOFSTEN, SKOGFORSK

working time,” says Henrik von Hofsten at Skogforsk. “The rest of the time, the operator was waiting for empty chip-trucks or moving the chipper around to let the trucks pass.”

According to Henrik von Hofsten, waiting time can be reduced by ensuring there are more chip-trucks in the system.

“However, the roads are so

narrow that it is difficult for a truck and trailer to get past the chipper. Some sort of technological development is needed so that the chipper can be easily moved to one side and placing it, for example, across the roadside ditch.”

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Strong relationships and close collaboration are the key to success.

Parties involved in a logging project are dependent on one another for success. If the customers – forest owners – are to be satisfied with the outcome, the parties should work as a team in everything from planning of log-

ging to negotiations and the agreement process.

These are the conclusions of a degree project at SLU School for Forest Management carried out within the SESAM – Svenskt Entreprenadskogsbruk i Samverkan (Swedish Contractor Forestry in Collaboration)-programme.

“Working the other way round, applying a sort of ‘we-and-them model’, would

perhaps work to begin with, but the study shows that, in the long run, the parties would find it hard to manage,” says Bodel Norrby, who works with contractor issues at Skogforsk.

Clear communication seems to be central in business relationships. Meetings at which the parties discuss things openly and take responsibility for solving problems together and improving efficiency are impor-

tant. Confidence, a long-term approach, common goals, and understanding for each other’s business situations have been identified as success factors.

Another important factor is the outcome of contract negotiations, where the survey shows the importance of creating a win-win situation.

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LED REVOLUTIONISES WORK LIGHTS

PHOTO: MARTIN ENGLUND, SKOGFORSK

Skogforsk has been testing ways to improve work lights in the forest, and researchers have found that LED lamps have great potential.

■ The most promising results were found for illuminating the loading bunk of the forwarder. The conventional rear-facing light fittings on the cab roof were replaced with much smaller and dimmer LED lights, and the bunk was illuminated more by lights placed on the crane. Reflections from

the gate were reduced, and the operator's vision over the bunk was improved.

On the forwarder, the tests showed better illumination of the area around the grapple and, on the harvester, the researchers were able to improve illumination of the trees being felled and the stan-

ding forest behind the head.

The researchers also found that shiny, light colours on machines, cranes and heads can disturb the work environment through reflection.

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SWEDISH-FRENCH INSECT PROJECT

Skogforsk is collaborating with the French National Institute for Agricultural Research, INRA, in a study examining how different insect species affect production and quality in seed orchards.

■ Only one insecticide is currently registered for use in seed orchards... but this only prevents damage caused by two of the four major insect pests.

Do the insects resistant to the insecticide inflict more damage because of reduced competition? If so, the insecticide is an unnecessary cost, and is being used unnecessarily.

In the study, the effect of various combinations of insect species composition will be examined on cones that are naturally attacked, and on cones where the species composition has been manipulated.

PHOTO: OLLE ROSENBERG, SKOGFORSK



Spruce flowering is irregular, so it is an advantage to conduct experiments in two countries relatively far apart geographically. This increases the chance of fin-

ding flowering spruce trees during the project period.

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"EVERYONE MUST HELP"

"Everyone must help with the development issues – forestry companies, central government, manufacturers, and even the contractors. OK, I don't invest in unproven technology, but I am prepared to invest time in testing ideas and technology... if it gives me a head start, of course. At the end of the day, there must be a possible deal in the offing."

Text: SVERKER JOHANSSON | sverker@bitzer.se | Photo ANDERS RÖNNFJORD

■ Together with her husband Mattias, Ida Oderstål started the forest contractor company, M.I.O. They are currently focusing on continuous cover forestry in order to broaden their range of services.

"Well, I know it's heresy of course. Interest is increasing, but this is no thanks to

industry, which is more interested in cheap wood than what the landowner wants. We have a broad contact network, and we're hearing that more and more landowners want to manage forests in this way. And if someone's willing to pay, we'll be there!"

It is not just by chance that M.I.O. has a

niche product. Their business strategy is to spread the risks by offering a broad range of services. Apart from final felling, thinning and pre-commercial thinning, the company provides services such as roadbuilding, mounding, ditch clearance, snow clearance, planning and machine transports. And selling wood products in the future?

"Well, we did a continuity forestry job for the Swedish Forest Agency that included buying the timber. We're seriously considering offering sawn high-quality tongue-and-grooved timber from organically managed forest – there's sure to be a new market segment there. It's about finding new applications and niches for wood.

"In the sectors I've worked in before, you



Ida Oderstål is one of five Golden Logger* finalists interviewed in VISION (the Swedish version of ShortCuts) during the autumn.

had to find customers and respond to tenders to win contracts. The supplier sets the price and the customer says yes or no. In forestry, it's the other way round," says Ida Oderstål. "I think this will change, but today many contractors only know how to do business with a single customer. It's very rare to offer a broader range of services, such as snow clearance or road building. Maybe because contractors are small-scale businesses, maybe because they don't dare to think big.

"We have many customers, and that's also a way to spread risks. Some don't pay so well,

“The incentive is to develop good business. We're always on the lookout for hidden gems, ways to do things better.

but are better at supplying a good product instead, so in reality it evens out.

"We are getting better at charging the right price, because we're starting to find our way through the costs jungle. Right now we're measuring stones and slopes, really it's ridiculous; I don't want to get into conflict with the customer over individual stands, but at the same time things must be fair. And I wish the business situation for forest contractors was less rigid – I'd prefer to see shorter agreements than the current ones, which run for several years."

About investments

"We had some capital after selling a hotel, which was really important. If you have to borrow the full amount, setting up a business would be difficult. There also seems to be a culture in the sector to hanker after new machines; customers, too, exert pressure because they want everything to be new and shiny.

"Replacing a machine requires forward planning over a couple of years, so the contractor isn't suddenly forced to buy something in a hurry; instead, they can wait until the right machine comes along. We look for machines that have a few hours under their belt but that are in good condition. The last machine we bought, for example, was a good-quality forwarder that had been used for 20,000 hours, but only in forests close to built-up areas.

"We're also investing in efficiency improvements. Owning our own trailer gives us flexibility and reduces downtime. Our own planner helps us to think ahead and improves quality. Good planning is the be-all and end-all, both for cost-efficiency and for the environment. If landings and base roads are placed correctly, this reduces ground damage and reduces felling costs.

"The incentive is to develop good business. We're always on the lookout for hidden gems, ways to do things better. For

example, we've developed a grapple saw for the excavator in collaboration with Cranab and Stigs Maskin; we used this to clear trees in stands damaged by storms."

About development

"We keep abreast of developments by going to trade fairs and reading information on the web and in journals. If we believe in something, we are prepared to offer working time to test ideas and technology. For example, we tested the P.11 planting machine for Bracke one summer.

"If the price I gave them had been based on the normal rate for an operator, they would never have taken us on, but we took that cost. Well, the trial showed that that plants had to be extremely high quality for it to work, but the plant chain was not suitable. I do still believe in the concept however. Perhaps it would work with seed pellets, then you could include a whole day's operation for the excavator.

"Contractors have no money to drive development, because their contracts just don't have sufficient margins. I don't invest in unproven technology, but I am prepared to invest time in testing ideas and technology. Everyone has to pitch in if anything is going to come of it: forestry companies, central government, the manufacturers and us."

*) an forest entrepreneur competition at ELMIA



MOTIVATION Golden Logger:

A forest contractor company with a female executive, with innovative ideas and one that is always prepared to develop their activities. It will benefit all forest owners if there are companies in the forestry sector that are prepared to change and that want to develop.

	INCOME STATEMENT	12-2014	12-2013	12-2012
M.I.O Entreprenad AB Vilhelmina 9 employees	Net sales (SEK thousand)	10 585	6 070	5 749
	Profit/loss after net interest (SEK thousand)	942	462	2 029
	Profit for the year (SEK thousand)	314	366	1 364
	Profit margin, %	9.85	9.26	37.48
	Equity/assets ratio, %	35.97	33.13	34.59
	Cash ratio, %	97.57	102.10	122.92

IMPROVING SCARIFICATION

– CONTRACTORS AND CUSTOMERS IN TRAINING

The forestry sector has initiated a broad training campaign to improve quality and profitability in scarification. Around 70 operators have already completed the training. "But even those who order the scarification can improve," says project manager Tomas Johannesson at Skogforsk.

Text & photo: PÄR FORNLING

■ During the year, Skogforsk has arranged regional collaboration meetings where clients and contractors have met to identify what could be improved in terms of scarification. The outcome was a training package for both clients and operators.

For clients...

The aim is to improve everything from project specifications to choosing the right method for scarification (trenching, mounding or excavator).

"Far too often, project specifications are drawn up on the basis of poor map information; there may be cultural and conservation features that are not shown, and inadequate information about roads, turning places and installation site for the scarification machine," says Tomas Johannesson.

"It's also clear that the scarification method is sometimes chosen on the basis of what

resources are available, rather on what is most suitable for replanting. Large areas that are harrowed are, for example, more suitable for mounding. The financial aspects of this can be calculated, and one of the aims of the courses is to increase client awareness of this aspect."

Forest professionals are already showing great interest, even though the courses will not be advertised until the autumn, ahead of the next financial year.

"SCA will be the first client, with 250 course days," says a satisfied Tomas Johannesson.

... And operators

Skogforsk has commissioned nine instructors who themselves work with scarification. The instructors will train the operators in two stages. First, a theoretical presentation will be held in a small group, then each operator will have a half-day in the field with one of the instructors.



PHOTO: SVERKER JOHANSSON/BITZER

"I assume that this third stage will also become a sector requirement."

Tomas Johannesson leads RECO Scarification.

"One of many important things to remember is to adjust the machine according to the terrain. There are several different operational programmes to choose from, and sticking to a single programme all the time without thinking doesn't bring good results," explains Tomas Johannesson.

Today's sector requirement is that operators must have a

Green Card, and must have completed the Silvicultural School's online scarification module.

"Now that the RECO training programme is available. I assume that this third stage will also become a sector requirement," says Tomas Johannesson.

READ MORE:
www.skogforsk.se/reco-markberedning



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