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EXTRACTS FROM THE SOVIET PRESS ON USSR FORESTRY AND FOREST-BASED INDUSTRIES

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Any enquiries or comments on this publication should be directed to:

The Department of External Affairs, (INI) A-2 Lester B. Pearson Building, 125 Sussex Drive, Ottawa, Ontario KIA OG2

#### TABLE OF CONTENTS

Page No.

### TIMBER AND WOODWORKING

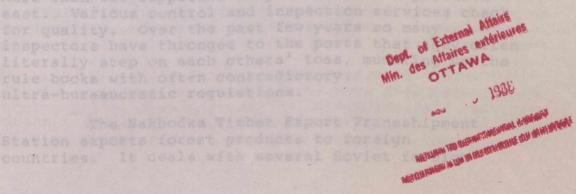
Nakhodka, Primorskiy Kray: Problems in	
Timber Exporting	T
New Financial Arrangements in the Log Drive	6
PAPER	

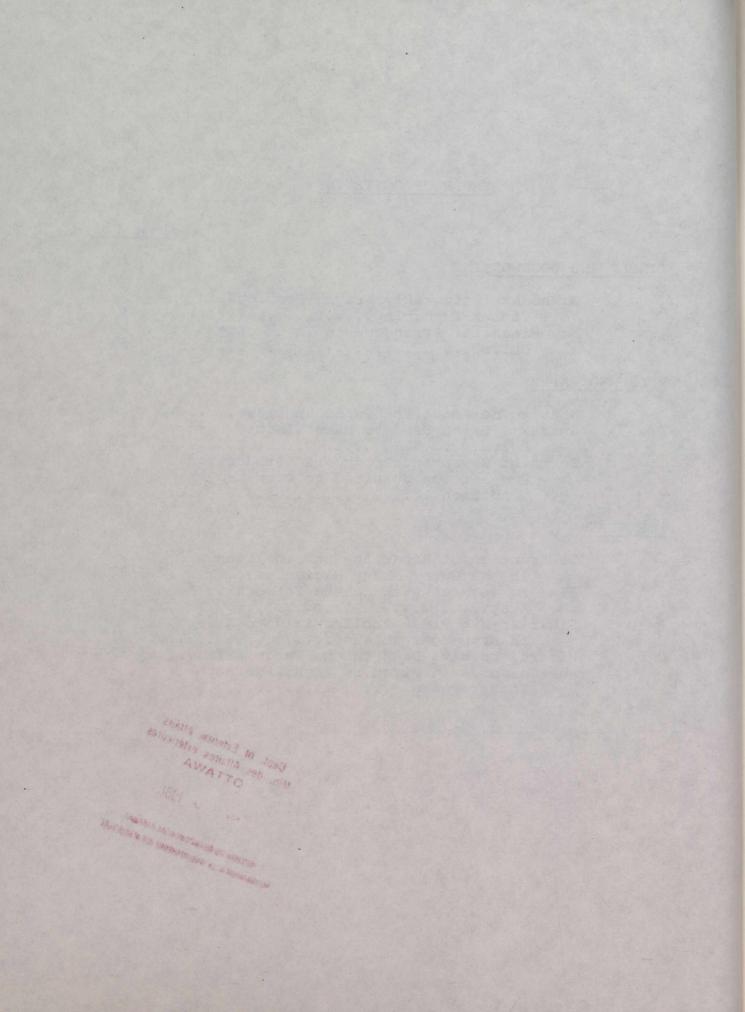
What to do About the Paper Shortage Amursk: Larch Used to Make Viscose	12
	15
Pulp Terms of Newsprint Producers' Production Competition Unsuited to Perestroyka	12
Conditions	16

#### FORESTRY

PULP AND

Destruction of Siberian Nut Pine Stands in the Gorno-Altay Region Pine Forests at Risk in the Primorskiy	
Krav.	27
Siberian Nut Pines Acclimatized to Life	
in Archangel Oblast	31
Efforts to Save Oaks in the Tatar ASSR	32
Ant Colonies Involved in Fight Against	
Forest Pests	33





#### TIMBER AND WOODWORKING

#### Nakhodka, Primorskiy Kray: Problems in Timber Exporting

Shipping timber abroad has long been Considered one of the country's main sources of foreign currency. Unfortunately, timber exporting arrangements have become rather muddled as of late. The volume of shipments of unsorted lumber, that is products of the highest quality, has decreased and we have had to pay millions of hard-currency roubles to our foreign buyers in fines for breaking our contracts. We get many complaints because of poor quality, incomplete shipments, etc.

Our lumber is sold on a highly competitive foreign market. In order to maintain our share of the market we must be able to compete in terms of list of products, packaging, stability of shipping arrangements, and, most importantly, we have to be able to supply a high-quality product. There are many problems to be solved, as can be seen. Among them are the transshipment of the lumber and the boat loading operations. The following article deals with the difficulties faced by workers in the lumber exporting organizations and with the changes that have to be made in this important sector.

Floods of timber pour into the Pacific Ocean routes through the ports of Nakhodka and Vostochnyy. More than 300 suppliers ship their timber products east. Various control and inspection services check for quality. Over the past few years so many inspectors have thronged to the ports that they often literally step on each others' toes, muddling up the rule books with often contradictory, ultra-bureaucratic regulations.

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The Nakhodka Timber Export Transshipment Station exports forest products to foreign countries. It deals with several Soviet foreign

trade organizations and has established ties with some foreign companies. Up to 200 of the station's employees are involved with goods inspection procedures. Furthermore, there is a Technical Inspection Department headed by the Deputy Director for Quality. Inspection is carried out around-the-clock: the station must answer both to Soviet foreign trade organizations and the foreign companies. It exports various timber products worth some 200 million roubles annually. The quality of these goods, however, does not always meet the required standard. In cases like this, the products are held back. Often, the irregularities are eliminated during the unloading process. The lower-grade goods are sorted out or a new assortment agreement is drawn up with the company. This would all appear to be as it should.

Often the services of the Primorskiy division of the State Inspection Committee of the old USSR Ministry for Foreign Trade, become involved. The Nakhodka section has eight inspectors who are specially assigned to wood products. When you are dealing with such an important thing as exports it would appear to be a good idea to have these "extra eyes". According to the instructions now in effect, the inspectors require that all the products ready for shipping are detained, laid out in the storage areas, sorted and accounted for. These requirements do not take the production capacities and available storage facilities into account. What does all this result in?

The "P. Rybin" motor ship, for example, was being loaded with wood chip. There was a good steady supply at the storage facilities, the quality had been carefully checked, and everything looked as if the ship would be able to depart without any

- 2 -

hold-ups. However, Inspector L. Kanashkin, acting on instructions from the Primorskiy Division, refused permission to load. The ship waited eight days until E. Burnusuzov, Deputy Chief of the State Inspection Committee, arrived. The ship was finally loaded after his arrival over the course of 24 hours. All the chip was accepted by the Japanese without the slightest allusion to poor quality. The State Inspection Committee's self-importance cost the state 47,000 roubles, not including the cost of Deputy Chief Burnusuzov's trip. Over the past year the State Inspection committee has held up wood chip loading operations four times. The fines for detaining the ships in harbour amount to hundreds of thousands of roubles.

The State Inspection Committee once refused to allow the export of sawlogs of hard-wooded broadleaved species - goods which are in great demand on the foreign market. The directors of the timber export station were taking a financial risk. Well-aware as they were of the market competition, and having come to an agreement with the company involved, they shipped more than 20,000 cubic metres of the sawlogs in spite of the ban. They obtained an additional profit from this transaction of several hundred thousand dollars. The company, in turn, was extremely grateful for the shipment. The local directors from the State Inspection Committee, however, considered the entire operation to be a slap in the face. The "guilty parties" had to explain themselves at the Nakhodka procurator's office.

The State Inspection Committee, armed with its instructions, takes action without evaluating the actual state of affairs on the foreign market. It doesn't care that much more foreign currency could be made at less expense. It cares more about the formalities of paper-pushing than it does about commercial success. Isn't it time to take a closer look at these instructions which have been in effect for donkey's years?

If we examine timber exporting operations from the point of view of existing regulations and instructions, we can uncover an entire set of incongruities in the contract conditions for the delivery and acceptance of timber products.

The inspectors, acting in accordance with instructions, check only 30% of all the loaded railcars. In this way the Nakhodka timber exporting station finds itself in an extremely complicated position: it finds it difficult to keep reliable accounts and to keep track of the claims between the export organizations and the suppliers.

When ruling on these claims the arbitrators are governed by the instructions entitled: "On accepting industrial-technical products" and "Special conditions for exporting timber products". The timber exporting station cannot possibly meet the demands set out in these documents, even if it would dearly like to. As a result, it incurs considerable losses. The station's suits for compensation for losses incurred because of shortages and defects, which come to light during the inspections, are usually waved aside. The station workers are forced to buy a pig in a poke and are then blamed for other people's sloppy work. It would make much better sense to carry out quality controls in the places where the products are produced.

The export cargo processing situation at the ports has become intolerable. Given the new conditions of self-financing and full profit-and-loss

accounting (khozraschet), it will be necessary to regulate the specific conditions for accepting and delivering timber products for export and to co-ordinate them with existing contracts and the capacities of the maritime fleet. Up to 300 railcars are accepted every day. This means that no less than 200 inspectors are required. A quality and quantity inspection note has to be drawn up for each car so that no claims are made against the documents. The so-called "log-by-log" accounting system essentially eliminates the most profitable variation of operations which involves moving the timber directly from the railcar onto the ships. It also reduces stevedore labour productivity by a minimum of 50%, worsens their working and safety conditions, and lengthens the time it takes for the boats and railcars to be turned around. This is why N. Pozdnyakov, the Director of the Nakhodka Timber Exporting and Transshipment Station, has been camping out for months on end in the offices of the "Primorsklesprom" Association, the Ministry and other organizations. He proposes that the instructions be re-examined in the light of the new management conditions and the changes in foreign trade. He also suggests that, with due consideration to the demands set in the All-Union State Standards and the contracts, interdepartmental agreements governing timber acceptance and delivery, compensation for losses incurred through claims, and procedures for readjusting terms with our suppliers, be drawn up. It is also necessary to come to some agreement concerning the examination of claims in the buyers' ports.

One more thing. In response to the switch to new wage rates at the station, it will be necessary to reduce the number of inspectors and sorters by a quarter at the very least. Carrying

this out too hastily might have an adverse effect on the quality of timber product acceptance operations. This would hardly be beneficial. But there is one way out. The timber shipped by rail ends up in two ports, but the timber loading berths in each of these ports are under-utilized. Why don't we change the transport plan, concentrating roundwood processing in Nakhodka alone? This port is large enough to handle it. Concentrating roundwood operations in Nakhodka would make it possible to transfer the majority of inspectors and sorters from Vostochnyy and to improve export operations significantly. This arrangement is all the more attractive since the port authorities have no objections. The Far-Eastern Shipping Line, however, has a different view on the matter and a self-serving one at that.

It is in the State's interest to do away with any obstacles standing in the way of timber exports. We need to act decisively, to coordinate the activities of our various organizations and, more importantly, to acquire more freedom to solve the problems connected to the situation on the foreign market. In other words, we need complete independence of action, based on good commercial sense.

> Lesnaya promyshlennost' 5 April 1988 Page 2 (Abridged)

## New Financial Arrangements in the Log Drive

Over the past few years the volume of log drive operations has decreased for no justifiable reasons. This has occurred even though the railways are overloaded. As a result, supplying the economy with timber has become a complicated matter.

- 6 -

Drive capacities along the river routes are not exploited to the full even though raft-towing is much cheaper than shipping the timber by road or rail. This shortcoming is all the more worrying given the current industry-wide shift to the profit-and-loss accounting system (khozraschet). The time has come to re-evaluate the role and place of the timber drive in the logging industry.

The current log drive has its own particular features. According to the USSR Law of State Enterprises (Associations) the float workers themselves must plan the releasing and arrival of the timber in addition to simply shipping it by raft or boat. When this change actually occurs the numerous complaints against the planning and economic department of the USSR Ministry of the Timber Industry, will no longer be important. This Department used to knowingly set unattainable, inflated plan targets which were completely out of sync with the available resource and which failed to take the specific characteristics of each of the separate regions into consideration.

High-quality preparations must be done if the goals are to be reached. In the next few days river improvement work has to be completed on more than 3,000 kilometres of the float routes. Other work has to be completed in this time: more than 3,000 kilometres of booms have to be built or repaired and the industry's fleet, bundling machines, sunken log removal units and floating cranes have to be put in working order. The cables and rigging also have to be delivered to the river stations.

While determining the tactics of the current drive, however, we shouldn't let ourselves forget about the work that still has to be done. The timber float should be directly linked with the amount of funds set aside for salary and economic incentives. The right to determine independently the income targeted for salaries or net profit should be given to the enterprises themselves in the future. In order for this to be accomplished, it is particularly important for the enterprises to have a system of scientifically-based norms at hand for regulating economic activity and relations among the various enterprises involved.

Taking the first steps in this direction, the Central Scientific Research Institute of the Timber Float has issued a "Standard Statute on Profit and Loss Accounting for Ships in the USSR Ministry of the Timber Industry's Fleet" which reflects the specific nature of this industry. The statute outlines the procedures for transferring the ships' crews onto a contract system, calculating operational costs, the scale of material remuneration for combining professions, and many other points.

Intensifying and raising production efficiency cannot be accomplished without a clear knowledge and calculation of all of its economic indicators, primarily output-capital ratio (capital requirement per rouble of output) and capital-output ratio (yield on investment). Hundreds of millions of roubles have been invested in the river float but there is no exact calculation of the return. This can be explained by the absence of a precise classification of the equipment and the other fixed capital. We have to fill in this blank and do this as quickly as possible.

The new management conditions will necessitate the formation of modern approaches to the organization of joint activities on the part of the loggers, float workers, river fleet workers and consumer organizations. Loading and unloading work when the logs are shipped by boat should, in particular, be organized in such a way that the river boats are not left around waiting for something to do.

Yu. Borisovets, Chief of the Timber Float Administration in the USSR Ministry of the Timber Industry, noted that "last year the "Dvinosplav" Association applied an advanced method for loading pulpwood on-board in bundles (with preliminary sorting of the logs by length). In this way the logs could be packed more densely in the barges, working conditions improved, and barge turnover time was reduced."

New demands are now being made on the Scientific Research Institutes. Together with the enterprises, they are becoming producers and are financing their scientific-technical and social development by means of the funds obtained by selling their work. What work is this? First of all, the industry needs sorting and bundling modules, mobile sunken-timber removers with manipulators, multi-operation units based on the T-150 tractor for putting together rafts bundled on shore and for collecting stranded logs and rigging. We have to make the route from prototype to mass production as short as possible.

There is yet another problem that has to be solved: organizing operations on a two- or three-shift system. The equipment we use is extremely expensive. A bundling machine or a unit for raising sunken logs costs 120,000 roubles and a Soviet-made raising crane costs about half a million roubles. How can one be reconciled to the fact that these machines sit around idle or are used at only a fraction of their capacity? We have to pay urgent attention to environmental problems. Each year, for example, huge masses of wood wastes build up in the Kama reservoir and in local river mouths. These wastes impede local shipping operations and pollute the water. Where do these mounds of rubbish come from?

V. Turitsyn, the Regional Inspector from the "Kamuralrybovod" (Kama and Ural Water and Fisheries) Association describes the "Kungurskaya Kur'ya" raft construction point at the Pyatigorsk logging enterprise: "there is a rampart five to six metres high made out of wastes tossed out from the cross-cutting bridge onto the ice. At the end of the bridge is a burial mound of log trimmings, chip and saw dust. A bulldozer, groaning under the load, arranges this rubbish into piles and pushes them out on the ice as far away from shore as it can. This is the depressing scene you can find along the Verkhnyaya Staritsa river."

How are the rafts put together at the Seyvinskiy logging enterprise, run by the "Permlesprom" Association? Just look at what is sticking out from the bundles and sections! The float workers won't accept them like this so the hammers and saws have to be put to work. The branches are cut off and the ends are evened. The cuttings and bits of logs are left right there near the raft or even on top of it. The time comes when the raft is towed out onto the Volga. Then a large wave comes along and pushes the short logs, bolts and branches into the water.

The above examples are not exceptional cases, unfortunately. We've often heard the cries urging us to put an end to wastefulness and poor management but time has passed and nothing has changed. I believe that the profit and loss accounting system will force us to look at the sunken bits of logs as if they were coins fallen on the ground which have to be picked up. The hole in the pocket will have to be sewn up so they don't fall out again.

Economy plus a skillfully organized competition among the enterprises involved - this is the route to success in the river float for 1988. Managers and trade union workers should take a good look at the situation in the teams, sections, water-transport depots and float offices at the very beginning of the river drive. They should take some vigorous measures to eliminate bottlenecks, to give incentives to the best organizations and to encourage the ones which are lagging behind. Only then will the workers apply themselves with all their heart and the river drive, which is the most important link in the transport chain, will begin to forge ahead.

Lesnaya promyshlennost' 12 April 1988 Page 1 (Slightly abridged)

#### PULP AND PAPER

# What To Do About The Paper Shortage

We have long become accustomed to the fact that there is a chronic shortage of paper in the USSR. Books, promotional materials and booklets, napkins... are all in short supply. It is worth consulting the table published by the "US News of the World" illustrating paper consumption per capita in various countries, in this regard. It turns out that the Soviet Union is almost nine times behind the USA, the world leader. We are even behind sparsely forested Japan.

Even though the newspaper mentions that the USSR figures are estimates only, the data from the Central Statistical Administration confirm our poor position. The "USSR National Economy" handbook has no information on paper demand but gives an indication of the scale of production. In 1986, for example, paper production amounted to 21.9 kilogrammes per person, or 48.3 pounds, which is close enough to the consumption figure quoted in the American article.

The Soviet Union produces just 4.7% of the world's paper. In 1986 we produced 6.2 million tonnes, while the USA, Japan and West Germany produced 31, 12 and 7.6 million tonnes, respectively.

What is the problem? Perhaps we need to log more timber? According to the Central Statistical Administration's data, however, we are just slightly behind the USA in the volume of timber extracted per capita, and we are several times ahead of West Germany and, of course, Japan. Perhaps our foreign trade policy is to blame. After all, timber, sawlogs and pulp and paper products figure high on the list of Soviet exports. Exports of roundwood in 1986, however, amounted to just 6.2% of the total volume of production, with 9% and 11.7% of sawlog and pulp and paper production exported, respectively. Furthermore, although 717,500 tonnes of paper were sold abroad, we did import 511,700 tonnes of paper ourselves.

Obviously, we can't put the blame on the world market. The main cause for our poor showing over many years, is in our wasteful approach to our forest riches. How much wood is lost during logging operations, primitive transport arrangements and in further processing! The timber consumption structure is not effective. How can it be considered normal when wood is used to manufacture items that all over the world have long been made out of other materials? Wooden crates and other packaging materials, window transoms, office furniture and equipment, even fences, all these and many other products made from wood could easily be replaced by synthetic materials. This is just one side of the issue.

The other, no less important question, is the utilization of secondary raw materials. One would think that it would no longer have to be necessary to point out the importance of collecting and reprocessing waste paper to anyone. In practice however, the interesting experiment of exchanging new books for a set amount of returned waste paper, is fading out before our very eyes. It is quite obvious that given current conditions, the cooperatives must take a more active role in collecting and reprocessing this material. They could also easily arrange for the production of many products out of waste materials, products which up to now have senselessly been made out of wood.

One also can't help but be dismayed at the state of the equipment used in the pulp and paper industry. The outmoded papermachines constitute the Achilles' heel of many of these plants, even those which are comparatively new. What is needed is a radical technical restructuring of the industry in which the various interested joint enterprises, set up in Soviet territory, as well as the scientific and technical cooperatives, could take part.

One final question - are we making good use of the paper that we do manufacture? Goods purchased in the majority of supermarkets abroad are sold in beautiful plastic packages while Soviet goods are wrapped up in not so pretty, but very valuable and non-reusable paper. Or take another example. Foreign countries have long been using all sorts of mechanical means for storing information instead of paper documentation. This has made hundreds of thousands of tonnes of paper available for more effective uses.

In other words, without a radical change in the structure of utilization of forest resources and without the introduction of advanced wood-processing and pulp and paper technology, our country, which reads the most in the world, will continue as before to be faced with a chronic shortage of paper.

Ekonomicheskaya gazeta No. 17, April 1988 Page 21 (Slightly abridged)

### Amursk: Larch Used to Make Viscose Pulp

Far Eastern larch has for the first time become the raw material used to obtain high-quality viscose pulp. The Amursk Pulp and Paperboard Combine has shipped a large supply of this product to the "Khimvolokno" (Chemical Fibre) Association in Krasnoyarsk.

"The transition to self-sufficiency and self-financing roused us to look seriously for areas where we could increase our return," V. Tregubov, the Combine's Chief Engineer, explained. "Why did we focus our attention on our inexpensive and accessible larch timber? Because it used to be considered to be almost in the same category as scrap wood. The frequent disruptions in supplies of the other coniferous species and the high costs of this raw material, forced us to look for a better solution. Now there are no disruptions in the production process."

The innovative technique introduced by the Far Eastern papermakers will have a significant effect on the economy. Utilizing larch timber will make it possible for the Amursk Combine to save more than 1.5 million roubles this year.

Lesnaya promyshlennost' 30 April 1988 Page 2 (Full text)

### Terms of Newsprint Producers' Production Competition Unsuited to Perestroyka Conditions

Every six months we publish the results of the on-going competition among the major newsprint producers, the Balakhna, Solikamsk and Kondopoga Pulp and Paper Combines. Representatives from the three combines met recently in Pravdinsk, Gor'kiy Oblast.

Several high-ranking representatives privately expressed concern that the competition was out-of-date and ought to be restructured along more contemporary lines. These thoughts, however, were expressed behind the scenes while the official functions were on a less critical note. Anyone sitting in the hall listening to the speeches would have been convinced that the existing system suited all concerned. The participants met, exchanged compliments and then parted until the next meeting.

According to Yu. Kachalov, the chief of the Kondopoga delegation, the competition has less importance also because the conditions in the various mills are not the same. Some mills work from ready-made chemical pulp while others process the wood. There are differing production technologies. Each mill has its own problems with raw materials and its own relationship with the suppliers.

V. Baranov, the Chief Mechanic from Solikamsk, noted also that the capacities of the papermachines all differ. "We have similar capacities to those in Balakhna but the Kondopoga workers have higher capacity machines which means they get better results and have more to work with..."

All this means that the percentages of plan over-fulfilment cannot be the sole, indisputable criterion for evaluating the enterprises' results.

Let's look at the following example. The Balakhna workers have the best indicator for economy of fibre materials at 2.9%. This means that they also have the best coefficient when drawing up the results. But then I.A. Fesenko, Chief of the "Soyuzbumaga" All-Union Production Association, provides us with the following paradoxical information. During a check of the purification facilities at the enterprise it turned out that the suspended particle content in the water was three times and sometimes ten times the norm. The results of test measurements, indicating that a significant part of these fibrous materials were "getting away", that they were not being utilized economically and that the Volga was becoming polluted with the effluent, did not correspond to the cited glowing achievements of the mill.

I asked E. Zyuzin, Chief of the State Inspection Committee of the Balakhna Combine whether or not the quality of the paper could serve as a real indicator of achievement. This is the answer I received:

"On the one hand, this could be possible, if there were only one arbiter of quality for the three mills. But there is no such office. Each combine has its own Technical Inspection Department and its own State Inspection Committee workers. They all, of course, have developed their own relations with the administration which has an effect on the fulfilling of the quality plan. Each mill has its own demands of the paper produced and we have discovered this on various occasions when our workers have met with the quality controllers in the other enterprises. One of the major problems in this area is the undemanding nature of the All-Union State Standards set for these products." We have to remember that the winner of the competition is awarded the Red Challenge Banner from the editorial board of <u>Pravda</u>, a newspaper which is printed on paper supplied by all three combines. This newspaper, which is an end-user of the product, could easily serve as an objective quality arbiter for the combines' paper.

A. Stepanov, the Deputy Director for Economics of the Balakhna Combine, told me that this system has been in place previously: "Representatives from <u>Pravda</u> used to come to work in the commission that drew up the results of the competition."

"Do you mean the representatives from the editorial board or workers from the publishers and type-setting shops, ie. the actual end-users?" I asked in clarification.

"Do you think that the printers would be interested in our inflating the quality results? You know the better the paper the higher its price and they are more interested in price than quality.... This is why you can't expect the printers to give an objective evaluation and, furthermore, their presses are still far from perfect."

This is an unexpected twist, don't you think? If the actual consumers aren't interested in the quality of the paper then what can you expect of the papermakers themselves?

But let's return to the actual competition. The Kondopoga Pulp and Paper Combine was finally awarded the Red Banner at the final meeting. The award was not presented by a representative from Pravda, as one would have expected, but by someone from the Ministry. In fact, not a single representative from the issuing agency, the newspaper, was there at all. The organizers of the meeting explained that they had simply forgotten to invite them but another version ran that they had simply not been able to come. At this point we should mention the important role morale plays in the socialist competition.

The situation with material incentives is not that much better. The first prize is a comparatively small sum - just 15,000 roubles. If you consider that each of the enterprises employs about 2,000 people and if you compare this sum with the millions of roubles of profits the combines bring in, it becomes quite obvious: there won't really be much of a battle for the prize. But everyone is still expected to make a big fuss over it.

"Perhaps then it might be a good idea to do away with the competition altogether," I suggested.

"No," Stepanov replied. "The competition opens up a number of possibilities which we don't dare do without. The existing form of sharing and meeting with cur competitors helps maintain solid, mutually beneficial contacts among the enterprises. If the competition were to end we would be more cut off from each other. The atmosphere of mutual assistance and support, which currently helps all three combines in their operations, would gradually disappear..."

The Deputy Director illustrated his point with the following example. At the end of 1987 the Balakhna Combine was severely let down by its suppliers. There was no wood raw material. All the plan targets were endangered. The consumer enterprises were waiting for products that the Combine could not supply. The breakdown meant that the Combine might have to pay many thousands of roubles in fines. But the Kondopoga and Solikamsk combines came to their assistance. They supplied the Balakhna Combine's consumers with their own products. This is not the only example of this kind of help.

According to V. Grushin, the Deputy Chief of the Balakhna Pulp and Paper Combine's State Inspection Committee, the exchange of experience and advice that takes place at these meetings is their most important feature. The only problem is that the delegates do not have much time. Several days are required to get acquainted with a production facility, not just two or three hours. "I believe that we should encourage more business trips of this nature."

After the first prize in the competition was awarded to the Kondopoga Combine, the three enterprises considered their future targets. undertock to manufacture 91 million square metres of newsprint, covering a two-day print of "Pravda", "Trud" and "Izvestiya", with the raw material saved through efficiency by the first day of the XIX Party Conference. The papermakers had to obtain some major concessions from M.I. Busygin, Minister of the Timber Industry. The combines have some serious problems to resolve. The most important of these, as they noted in a letter to Busygin, is the wood deliveries problem. "At present there is a discrepancy between the timber supply plan and the State Order (Goszakaz) amounting to more than 400,000 cubic metres. We may have trouble reaching our basic plan targets to say nothing of our above-plan obligations."

It is evident that the Ministry of the Timber Industry is not paying enough attention to the competition among the three giant producers. For some reason, however, this doesn't appear to worry B.S. Zhuravlev, chief of the Production Administration of the Pulp and Paper Industry. Only one of the high-ranking executives, I.A. Fesenko, Chief of the "Soyuzbumaga" All-Union Production Association, mentioned in his speech that the competition had become lacklustre. He then quickly went on to discuss specific production problems.

The time has come to seek out new forms of competitiveness and to determine exactly which indicator is the most significant. We should pay more attention to morale and material incentives.

> Lesnaya promyshlennost' 2 April 1988 Page 2 (Abridged)

#### FORESTRY

# Destruction of Siberian Nut Pine Stands in the Gorno-Altay Region

Decades ago Siberians cared for their nut pine stands and made good use of them, producing pine oil and oil cake from them. One can only be ashamed that this is no longer the case and that the pine groves are being felled. The Siberian nut pine matures at close to 200 years of age and it will take several generations before the Siberian pine taiga with its riches of nuts, game, resin, edible or medicinal plants and other plants that can serve as industrial raw materials, will grow up again on the empty patches of land.... All this, unfortunately, is being sacrificed to one cause - logging interests.

The Soviet Union has a well-developed logging industry in Siberia now as well as in the European part of the country. Despite the fact that the Siberian nut pine stands make up approximately only 6% of the country's total forested area and that the vast majority (almost 90%) of the log assortments made from this type of timber could be replaced by timber from other coniferous species, the Siberian nut pine stands continue to be felled.

The forestry ministries, departments and enterprises for many years did not carry out and, by the way, still are not carrying out the important resolutions taken at various levels to improve forestry management in the nut pine forests. Extremely valuable nut pine groves continue to be logged using methods that do not facilitate regeneration. These practices are the most blatant contraventions of the USSR Principles of Forest Legislation. Up to now no-one has really been held responsible for these flagrant violations.

Clear-cut felling operations predominate in the Siberian nut pine stands; selective felling is very slow to catch on. I am very familiar with the Gorno-Altay region, which is the genetic centre of the species. Here the highly-productive Siberian nut pine stands in the black belt have been destroyed almost everywhere because of these felling practices. The mid-sections of the mountains are now being logged intensively and this is the main area for nut harvesting. Over the last twenty years, the Gorno-Altay region as a whole has lost more than 50,000 hectares of Siberian nut pine forests which used to yield an average harvest of 1,000 to 2,000 tonnes of nuts annually. From 40,000 to 50,000 hectares of Siberian nut pine forests are felled annually in the USSR as a whole.

It would be impossible not to mention the poor state of plantation tending as well. As a rule, the cutover areas are overgrown with hardwood species of little commercial value. This means that even the relatively small area covered by Siberian nut pines originally, is getting smaller. As a result, their water-protective, soil-protective and climate-regulating role is lessened as well. This role has always been important since the great rivers of Siberia and the Far East are born in these forests.

The Siberian nut pine is primarily a fruit tree. It was only after the Tomsk Scientific-Practical conference in 1981 that its status as a nut-bearing species was reinstated after a long period of oblivion. This conference drew up recommendations designed to enable operations in the pine groves to be run with this biological feature of the trees in view. The forestry departments, however, are in no hurry to carry out these recommendations.

The fate of the pine groves remains, as before, in the loggers' hands. Again, as before, the timber is logged and utilized in an excessively wasteful manner. Almost 50% of the wood is lost during the logging and float operations, and no more than 2% of the entire volume of the take is used to make the main specialized assortment - pencil slats. Only one fifth of this "golden" 2% is actually used in production. The rest ends up as firewood. This is how our unique national treasure is being wasted. The worst thing of all is that this type of timber utilization has become an accepted practice.

The Siberian nut pine take could be reduced to one half or one third if the structure of the forest utilization policy were to be changed, and if the processing technology were to be improved. The harvest should be just large enough to meet the demands of the economy for types of products that cannot be made out of any other kind of wood. This would be good management.

The reference to structural changes is not just empty words. After all, we don't use valuable parcuet and finishing wood from oak and other hard-wooded broadleaved species to make ties and telegraph poles.

How should the pine forests be logged? There is only one solution: by applying selective and intermediate felling methods. This is the only way to facilitate the fruiting of the trees, and to be able to get rid of the over-mature trees and those which do not produce a good harvest. We cannot fail to mention yet another important point. The main value of the Siberian pine taiga lies in the pine nut - a calorie-packed, biologically-active food product endowed with medicinal properties. The Siberian pine forests are the main producers of nuts in the country. They produce up to 80% of the biological harvest gleaned from all nut-producing trees. This natural potential, however, is being poorly exploited. Over the past two decades nut-harvesting operations have been reduced to a half or a third and account for an annual take of just 2,000 to 4,000 tonnes. This is only 1.5% of the possible industrial take.

Pine oil production is also poorly managed. This oil is tastier than many vegetable oils used in the preserved food industry, including clive oil which the state has to purchase abroad every year for hard currency. Our ancestors were much more assiduous. Industrial plants producing oil out of pine nuts were set up in Siberia in the difficult year of 1921. This industry, unfortunately, had to be shut down in 1941 because of the war and was never started up again.

There are many reasons behind the decline in nut harvesting operations. It is mainly the result of a lack of foresight in forest utilization strategy in the pine forests even though it is well known that the value of the product obtained from the pine in its live state is far greater than the value of its wood. Paradoxically, nut-harvesting has been transformed into a kind of by-product operation, and has an unenviable place in planning and management priorities. All the same, this harvest, as distict from logging operations, is profitable even today. This profit, however, could be increased many times over if the harvesting operation were given the status of a main type of exploitation, and thus granted the requisite material and technical supplies and organizational help. It would make a great deal of sense to organize specialized harvesting and processing cooperatives and to lease the pine plantations out to them. I believe that this is one of the most important economic and organizational functions that the agencies of the RSFSR Agroindustrial complex, the USSR State Committee for Forestry and the USSR Ministry of the Timber Industry, should undertake.

I would also like to alert our experts to the question of developing industrial nut-producing plantations and stands applying genetic selection methods. What would this involve?

First of all it would mean stopping the felling of highly-productive Siberian nut pine stands in the logging regions where there is a real danger of the disappearance of this valuable genetic source of the Siberian nut pine and the Korean pine. These regions include the Gorno-Altay region, the Krasnoyarsk, Khabarovsk and Primorskiy Krays, and the Tyumen' and Tomsk Oblasts. This would result in an expansion of the industrial nut-production zones. There is also an urgent need to form genetic reserves.

Genetic selection - this is the only way in which the industry could be set on a new footing with a more sophisticated management structure that would answer to all the needs noted above. It suffices to say that the seed yield of grafted 10-year old Siberian nut pine plantations, developed using selected genetic material, already comes close to matching the average yields of mature taiga pine forests made up of trees aged 160-200 years, and amounts to 120 to 180 kilogrammes per hectare.

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One can only regret that Siberian nut pine selection work is not practiced on a wide scale.

The future establishing of high-yield grafted pine orchards applying selection methods depends to a great deal on the USSR State Committee for Forestry and the USSR Ministry of the Timber Industry. I have no doubt that the attitude towards this problem will have to change. When this is done, I'm sure, rich forests of Siberian nut pines will flourish in Siberia and even in the European part of the country.

Ekonomicheskaya gazeta No. 18 April 1988 Page 18 (Abridged)

### Pine Forests at Risk in the Primorskiy Kray

The richness of the Anuchino taiga has long been a source of pleasure for the local inhabitants. At one time the Siberian nut pine stands came right up to the settlements. During exceptionally good harvests a single tree would yield up to one hundred kilogrammes of select nuts.

The pines began to be felled during the post-war years, with no thought of the future. Over the past twenty to thirty years the area has become unrecognizable. The forests have thinned out, the species have been replaced in many areas, and the wild animals have gone away.

We have tried to heal the wounds inflicted on the taiga by unrestrained logging operations. We have introduced a new "Primorskiy" logging method. The trees are skidded strictly along the skidding trail worked out with the natural slope of the stand in mind. We believe that this is one of the most effective methods encouraging Siberian nut pine stand regeneration.

The new method has yielded good results: over the past ten years the forestry enterprise has preserved the undergrowth and young trees of valuable coniferous species, including the Siberian nut pine, on an area of more than 50,000 hectares.

Of course, the large pine forests would remain in the taiga if the logging enterprises were to utilize the felled timber economically.

A survey of some plots belonging to the Elovka timber camp uncovered a pile of 500 cubic metres of Siberian nut pine timber. The directors of the camp had just been changed and it turned out that neither the new chief nor the works manager knew about this timber. It became clear later on that the logging enterprises had left up to 15,000 cubic metres of undercut behind at the felling sites and more than one thousand cubic metres of construction timber standing. They had also failed to clear up 150,000 hectares of plots.

During just one single review period the reserves of mature and overmature stands in the forestry enterprise dropped by just over 16 million cubic metres, or by more than one half.

A great deal of environmental damage was caused by resinous stumpwood harvesting operations. The stump grubbing method itself presents a distressing picture: the stump-grubber, moving from one stump to another, lifts up the undergrowth in its caterpillar tracks. Four years later, when people return to these areas, the undergrowth has not grown up again.

Resinous stumpwood harvesting operations also had a very detrimental effect on the water regime of the springs and sources of the Arsen'evka river, which is the main spawning river in the area. The repeated clearing of the skidding trails and loading stations at the felling sites caused all sorts of problems: intensive evaporation; landslides; lowering of the water table; and, most importantly, the destruction of the water balance. As a result of this, the flow of water in the Arsen'evka has been unable to provide the normal supply of moisture to the rice fields over a number of years.

Scientists believe that a reduction of the area under forest in the mountains of the Primorskiy Kray to a level below the minimum limit, would be intolerable, since this would bring on violent flooding which would be disastrous for the economy.

The Primorskiy Kray Executive Committee of the CPSU has, on several occasions, called for the rational utilization of the timber limits and allowable cut, and has issued decrees on the necessity of stopping the Anuchino and Sergeevo logging enterprises from overcutting the allowable cuts. The committee also raised the issue of reducing the annual removal of coniferous timber.

A little progress has already been made in this direction. Logging Siberian nut pines is categorically forbidden in sixteen of the Primorskiy Kray's logging enterprises. "Clear" felling, leaving small and inferior trees standing, is forbidden in all Primorskiy Kray forests, in an attempt to improve forest utilization. Only 45% of the allowable cut is taken throughout the Primorskiy Kray forests as a whole, whereas 65% of the allowable cut is harvested in the pine forests. Looking at these figures it would appear that there is nothing to worry about: there are no overcuts in the Siberian nut pine forests.

PALAWERS BEEF BREEFT But this is the problem. The forests in the timber limits of the logging enterprises in the south and central regions of the Kray have been logged several times. The stands have not managed to become reforested in valuable species since they are always being subjected to the screech of the gas-powered saws and the roar of the tractors. Each young generation of trees suffers through this incredible stress and does not survive. The majority of the timber reserves in these regions cannot be exploited since their density index is no higher than 0.3-0.4. Forest exploitation is carried out on the verge of depletion. To add insult to injury, the allowable cut is not utilized rationally: undercuts remain on the felling sites; the undergrowth and young trees are destroyed; the felling sites are not cleaned up properly afterwards, etc. The loggers continue, as before, to try to "cream" the forests, taking only the large assortments of primarily coniferous species. Hardwoods, despite the long years of endless discussions, are still only very slowly being introduced into production. The allowable cut in the hardwood forests has been exploited at only 20% over the past number of years.

The logging enterprises have developed the bad habit of having several enterprises log in the same timber limits. This practice leads to a premature depletion of the reserves. The time has finally come to forbid any logging of Siberian nut pine whatsoever in the south of the Primorskiy Kray for at least twenty years. The sooner we do this the faster the taiga will be able to recuperate after many years of depletionary exploitation.

Lesnaya promyshlennost' 16 April 1988 Page 2 (Slightly abridged)

### Siberian Nut Pines Acclimatized to Life in Archangel Oblast

Experts from the Archangel Oblast Forestry Administration have completed an inventory of Siberian nut pine plantings in the northern part of the Oblast. The young groves cover 650 hectares. The forestry enterprises are protecting all the groves, plots and individual trees.

These measures were taken because of concern over the fate of these Siberian transplants: the stands had begun to thin. The White Sea taiga is not within the Siberian nut pine distribution zone. Nevertheless, local foresters have long been attempting to grow these strong and beautiful trees here. The oldest groves of the evergreens, which were planted in the grounds of the old Solovkov and Siy monasteries, have produced pine nuts.

O. Kalin, Chief of the Reforestation Section of the Forestry Administration, noted that 15 kilogrammes of seeds were recently harvested there. "These seeds will be used to grow seedlings in our greenhouses. We have devised a full set of measures for protecting these trees." Archangel forestry enterprises are now ready to plant 122,000 saplings along roads and streets.

Lesnaya promyshlennost' 21 April 1988 Page 2 (Slightly abridged)

### Efforts to Save Oaks in the Tatar ASSR

This year foresters in the Tatar ASSR plan to establish 8,500 hectares of stands on cutover sites, to reforest more than 2,000 hectares of gullies, and to set up 200 hectares of shelterbelts. This is a demanding plan but the foresters also have a long-term concern to contend with - to restore the dying oak stands.

E.A. Gus'kov, Deputy Minister of Forestry in the Tatar ASSR, commented as follows: "I believe that we are conducting the planting operations at the most favourable time and are doing a good-quality job. The ground has been prepared, the equipment tested. We have the planting stock and have put together approximately 30 mechanized planting crews and teams. Directly after planting, we will concentrate all our efforts on the oak forests which suffered from the bitter cold at the end of the 'seventies. The oaks are continuing to die on an area of just over 30,000 hectares. We have already logged and processed five million cubic metres of timber from these stands. Many dying trees still remain, however, which will eventually fall and litter the forest floor. Natural regeneration in the oak forests is progressing very slowly indeed and these stands at present are only minimally productive.

"We are working with colleagues from the Tatar Experimental Forestry Station to find a way to reconstruct the damaged stands. A problem-solving team led by A.I. Murzov, Candidate of Agricultural Sciences, is developing an oak restoration system, differentiated according to their present-day state. In some places we will have to carry out clear cutting operations and then plant the oak after, but most often we will fill the stands out with birch, spruce, larch and pine. These are the very species which commonly grow under an oak canopy."

> Lesnaya promyshlennost' 26 April 1988 Page 2 (Slightly abridged)

# Ant Colonies Involved in Fight Against Forest Pests

A unique anthill reserve has been set up in the village of Akst, not far from the university town of Tartu. Some of the hills are one-and-a-half metres high and some are very old - up to 150 years old.

The bright sun has already revived the ants. Tree experts, biologists and zoologists have started to arrive to study them. The careful study of the insects' habits will make it possible to select the most active varieties for reproduction. A methodology for determining the most viable of the ant colonies has been developed. Suitable site preparations for the transplanting operation are being prepared.

A mass resettlement of the ant colonies is planned for the near future. The ants have proven to be energetic fighters against forest pests. At the present time biological measures are used to protect several thousand hectares of the most valuable forest plots. In a word, all the necessary prerequisites are being established so that in the near future it will become possible to do away entirely with using poisonous chemicals in the forests.

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Lesnaya promyshlennost' 28 April 1988 Page 4 (Full text)

- 34 -





