

What Is the Progress of the Birch Programme?

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Five years have passed since Latvijas Finieris Inc. became involved in the Birch Programme. On December 3, 1996, a statement of intentions was signed between Latvijas Finieris Inc., State Forest Service, Latvian State Forest Research Institute (LSFRI) "Silava", and Forest Research Station (FRS) "Kalsnava" about cooperation within the long-term programme "Development of Model for Growing Short Felling Cycle Birch Veneer Log Plantations on Non-agricultural Land". In fact, this might be considered as the kick-off of the Birch Programme even though the programme as such has never been written. So, what has been done over these five years? What has changed regarding the birch resources in the forests of Latvia? What do we anticipate in the years to come?

The attitude towards the birch has changed

From a species, which was once considered a "weed" in the Latvian forests, the birch has become an avowed and marketable wood species in the national economy. The price levels for birch wood currently vary between LVL 10 (pulpwood) and up to LVL 100 (veneer logs for slicing). There are reasons to believe that it has been this change of the attitude that has facilitated the further development of the birch, as a wood species, in the forest management sector.

The overall increase in the logging volumes has brought along significant increases in the birch felling volumes and the demand for birch wood in the market. The total amount of timber harvested during the year 1991 was 4.5 million m³ (of which ~ ¼ was birch), whereas in the year 2000 this volume has already reached 11.0 million m³, of which birch made up 3.2 million m³. Most experts believe that the logging volumes will remain at a similar level for the next few years, and the levels of the birch pro-

duction will even increase slightly due to the birch age structure in Latvian forests and re-orientation of the harvesters to deciduous felling sites.

The increase in the supply will most probably cause an increase in the demand for birch wood and the competition for it will become keener and keener. The value added volume will also increase for the birch wood products. The wood processing companies will process the wood "deeper" than before.

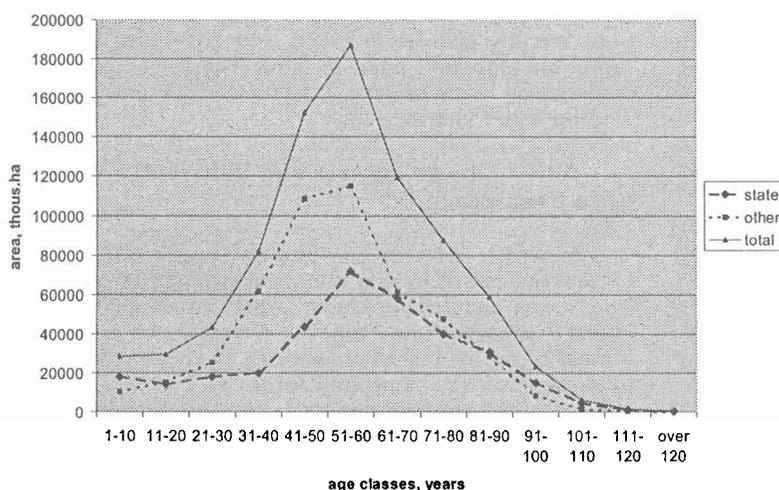
The production of container birch seedlings has been commenced in 6 Latvian nurseries

Small amounts of birch seedlings were grown in the "Soviet" times, but they were bare-root seedlings and this "production" was of an exceptional nature – it was more experimental or based on the personal initiative of the nursery managers. The bare-root seedlings were not able to ensure a sufficient quality of the seedlings and did not allow for mechanisation. Furthermore, the growing of the seedlings largely depended on the climatic conditions in the particular season. There was practically no demand for birch seedlings since, as previously mentioned, the attitude towards the birch was negative.

However, things change and in 1997 the Forest Research Station (FRS) "Kalsnava", in its nursery, with the support of the State Forest Service, LSRI "Silava", and Latvijas Finieris Inc., started growing container birch seedlings. In 1999, the first container seedlings were grown also in Strenči nursery (state), Latvijas Finieris Inc.'s nursery "Zābaki" and the Andrupene Nursery established by Latvijas Finieris Inc. and Andrupenes Parish.

Thanks to the government subsidies (the unused subsidies that were initially allocated for afforestation) two more nurseries, which grow container birch seedlings,

Age structure of birch



joined in the year 2000, i.e. the Nursery of Stende (state company) and the private nursery "Aptiekas" in Zaļenieki Parish, Jelgava district. Currently, the birch is being grown mainly as container seedlings.

Birch seedlings in nurseries in Latvia, 2001

Nursery	Total, thousands
z.s. "Aptiekas"	120
Andrupene	350
MPS "Kalsnava"	225
LF "Zābaki"	350
VAS Stendes	159
VAS Strenču	380
Containerseedlings total	1585
Bare-root seedlings*	1111
Total	2696

* a much smaller number of seedlings are likely to reach selling

The annual amount of seedlings grown by the six aforementioned nurseries is ~ 1.5 million. Adding the bare-root seedlings, more than 2.0 million birch seedlings are grown in Latvia every year. The demand for birch seedlings is currently slightly higher than the supply and is likely to increase further thanks to SAPARD subsidies.

Experimental birch plantations and growth research sample sites have been established

As mentioned above, the birch was treated as a "weed" in the Latvian forests some 10 - 15 years ago and the spruce was planted instead of regenerating the cutting sites. For this reason, there are practically no high-quality regenerated and maintained birch growths that could be used for scientific research and to educate forest owners. In fact, the only artificially regenerated birch stands and afforested agricultural land we can observe and use for our forecasts are those of the Scandinavian countries where planting of birch was commenced already in late 70s.

For this reason, 13 sample sites on private land were established in 1997 within the framework of ES Support Project PHARE where agricultural land was used for planting birch and other species. By the end of the year 2000, three experimental birch plantations (much larger than the existing ones) were established within various projects. One of the three experimental plantations, located in Ukri Parish, Dobele district, is owned by Latvijas Finieris Inc. In conjunction with Latvian State Forest Science Institute (LSFRI) "Silava" various experimental plantations have been established within the property of the joint-stock company since the year 2000. These plantations will be used for scientific research aimed at improving the technologies for afforestation of non-agricultural land by selecting: proper site preparation techniques; the time for establishing plantations; care and protection measures. All aforesaid plantations are open to the interested parties, to learn more about the growing of the birch on former agricultural land.

Under the guidance of LSFRI "Silava" professor P.Zālītis, several sample sites have been established in naturally regenerating birch growths, in order to demonstrate the necessity to care for birch growths. Birch growth

care sample sites have also been established for the Faculty of Forestry, University of Agriculture of Latvia. These sites are "managed" by professor A.Dreimanis. No need to mention that all these sample sites require a special attitude in maintenance in order to obtain essential information for further research and forecasting. Regular surveying of the sample sites should be done.

A plastic film covered birch seed plantation has been established

Continuing the work commenced by LSFRI "Silava" and FRS "Kalsnava", a new plastic film greenhouse for production of birch seeds was opened at Jaunkalsnava, in the ligneous plant regeneration facility "Sēklas un stādi" of the state joint-stock company "Latvijas Valsts Meži", on November 6, 2001. This technology has been acquired in the Scandinavian countries (Finland) and ensures regular, high-quality seed yields. The birch seeds grown in the plantation are larger than those grown in the open air and have better germinating power and germination characteristics. Furthermore, because of their size, the seeds are easier to pellet and much more suitable for the precise sowing, which is not always the case with the traditional seeds.

This is the first seed plantation of this type in the Baltic States. Largely interested in the newly opened greenhouse were both Estonian and Lithuanian colleagues, who provide reasons to believe that similar plantations will soon appear in our neighbouring countries, as well. The plantation currently contains proveniences from two birch growth areas in Latvia: the Northern Area (Liepna, Mālupe) and the Western Area (Andumi, Kaive). The issue about the production of seeds from the third (Southern) growth area is not yet defined.

The greenhouse establishment costs are approx. 30,000 LVL. However, the previous years' investments in determining the highest quality and most productive birch growths, selection and evaluation of the potential plus-trees in them, collection of grafts from these plus-trees, and growing of the grafts should also be included in the total costs. The further investments in the establishment and maintenance of the experimental clone progeny plantations and the evaluation required to support the genetic value of the seeds produced in such plantations, which, in its turn, is the basis for fixing the market price of the seeds, should also be included. The results of the research conducted in the Scandinavian countries shows that the use of genetically untested clones in such seed plantations is economically disadvantageous and inefficient from the forest management point of view. The future plantation management costs of approx. 1,500 LVL per annum should also be taken into account.

A new Law on Forests and Cabinet Regulations have been prepared

In March, 2000, a new Law on Forests that provides for propagation of forests and establishment of plantation woods was enacted. In March, 2001, the Regulations on Forest Propagation and Plantation Woods, which establishes a legal basis for the establishment of short felling cycle birch plantations, came into force. The new legislation enables forest and land owners to establish plantation-type birch woods and independently decide about the number of the planted saplings and the time of cutting, which was not possible before. The new Forest Regeneration Regu-

lations came into force in October 2000, with addenda in September 2001. These Regulations offer much wider opportunities for regeneration of the cut forests with the birch, which was not possible before. Pursuant to the legislation of the Republic of Latvia, landowners may be granted real estate tax allowances for the regenerated and afforested areas in the young-growth age.

Private forest and land owners plant the birch more often

As the Land Reform continues and the land market develops, many landowners are starting to more seriously think about more effective ways of using their land and more often choose afforestation as one of the ways of using their land in the future. More and more often forest land is regenerated with birch. However, still it is mostly natural regeneration, but there are reasons to believe that after the quality (genetic properties) of reproductive material is improved the owners will use birch to ensure artificial regeneration.

According to the official statistics for the year 1996, 6.3 ha were artificially regenerated using birch, whereas the official statistics for the year 2000 show already 207.3 ha. Yet, the actual numbers are much higher. Since 1999, 1.5 – 2.5 million birch seedlings are grown in Latvia every year. These can be used to afforest an area of approx. 750 – 1000 ha. These seedlings are mostly used to afforest agricultural land and not to regenerate cutting sites. It should also be noted that a certain amount of seedlings come from "the outside" (the so-called wildings dug on forest edges and in other locations). It can be said that birches are planted in an area of approximately 1000 ha every year. It is expected that this volume will increase in the future.

Subsidies and other types of support will be available for afforestation of the abandoned agricultural land

Unfortunately, a wide-scale afforestation of non-agricultural land cannot be accomplished without subsidies. This is also proved by the experience of other West European countries (e.g., Sweden and Finland, or Ireland). Currently, afforestation is very expensive for most of the landowners. During the first three years, afforestation and maintenance of 1 ha (~ 3 years) costs 150 – 250 LVL/ha. However, there are certain perspectives in this area: already in 1998 and 1999, the so-called national subsidies for afforestation were granted by the Ministry of Agriculture. The amounts of the subsidies were 105 and 100 thousand LVL accordingly. Part of the subsidies (62,685 LVL), which was not used in 1998, was spent on modernisation of the nurseries (the aforementioned nurseries of Strenči, Stende and Zālenieki).

Starting with this year, the SAPARD subsidies will be available. It is expected that these subsidies will be used to afforest ~ 10,000 ha within the next 6 years. It is planned to spend LVL 504 thousand on afforestation every year. The amount for afforestation of one ha will be ~ 200 LVL. There are reasons to believe that the birch will be planted most often because it is the most biologically suitable species for afforestation of agricultural land. Some hope is also given by the CO₂ sequestration projects. An issue currently becoming topical in Europe is the one of fixation of the CO₂ emitted by the industrial enterprises. One of the solutions to this issue might be planting of new

forests, which would perform the above function. In this context, several European governments require that their large enterprises, which emit high levels of CO₂, should plant new forests. Large enterprises are forced to seek for new ways of handling this issue, and one of the solutions is "buying" a ready-made afforestation project. This is an opportunity for the Latvian "afforesters" to sell their "CO₂ credit". However, this market is still developing and participation therein requires higher volumes and an adequately designed project, which involves certain costs.

Deciduous tree selection programme has been launched

In order to provide Latvian nurseries with the high quality birch seed material, an inventory of the highest quality and most productive birch growths was made for selection purposes in 1994. Throughout the state, the first sample sites were established in order to assess the morphological properties of birch growths. In order to evaluate the genetic properties and the influences of seed transfer, seeds from more than 1,000 families were gathered between 1995 and 1998. Progeny test plantations were established for 640 birch families in 1999 and for 700 families in the year 2000.

In 2001, the aforementioned plastic film covered seed plantation was established. Unfortunately, intensive birch selection work lasted only until the year 1999 because, after the forestry sector reforms in Latvia such research is no longer financed.

Role of Latvijas Finieris Inc. in the birch programme

The Company has participated and was actively involved in almost all the aforementioned activities and has thereby strived to achieve one of its priorities in the Latvian forest sector – caring for maintenance of high quality birch growth areas and expansion of such growths in Latvian forests. However, in addition to the listed measures, below we will mention some other activities in which Latvijas Finieris Inc. has participated.

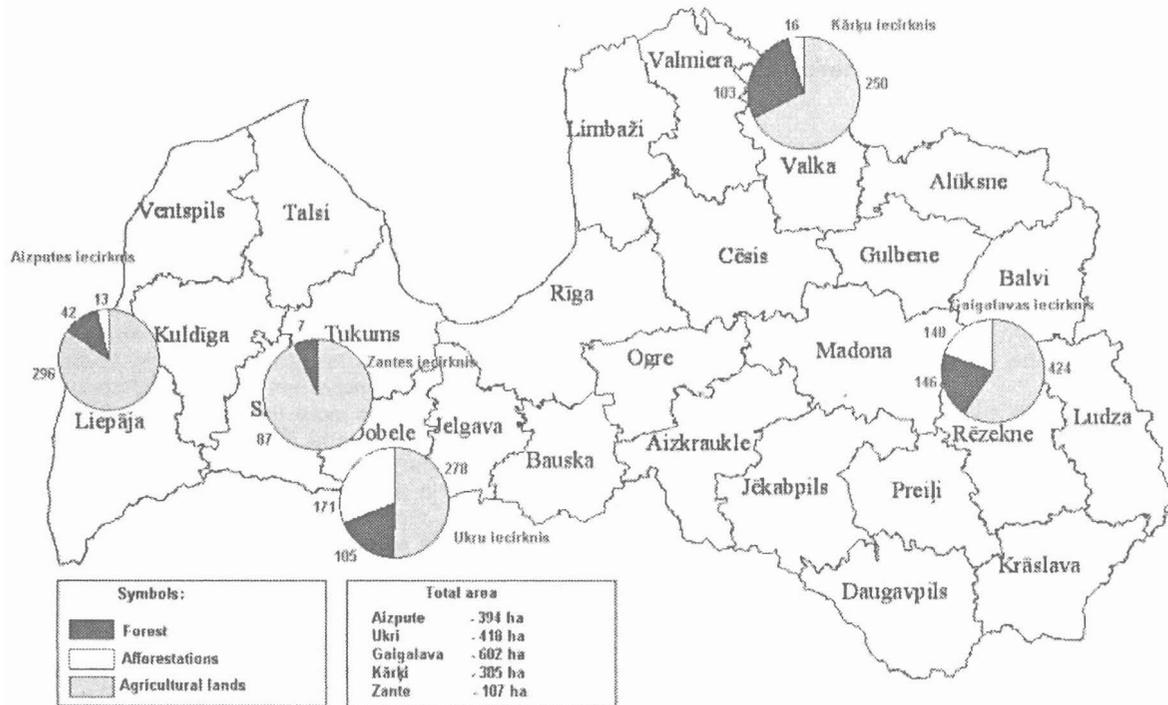
Establishment of a nursery

In order to attain its aforementioned goals, the Company, in conjunction with Andrupene Parish, Krāslava district, established the company Andrupenes Kokaudzētava Ltd. in 1997, which started to grow birch container seedlings in 1999. The nursery supplies birch seedlings to Latgale region and, at the same time, helps Andrupene Parish to cope with the unemployment issues. After successful initial business activities, in 1999 Latvijas Finieris Inc. gave its shares in Andrupenes Kokaudzētava Ltd. away to Andrupene Parish, thereby putting the nursery management tasks in one hands. Currently, Andrupene Nursery is conducting its business very successfully and continues to develop. Approximately 350 thousand birch container seedlings are grown every year. The total investment of the Company in Andrupene Nursery is LVL 46,100.

Along with Andrupene Nursery, another nursery, called "Zābaki" was established in Krimulda Parish, Rīga district, in 1998, and the first 500 thousand birch container seedlings were grown already in 1999. Regardless of the fact that already at the planning stage the nursery was expected to be non-profitable and currently actually depends on investments, it is a proof of Latvijas Finieris Inc.'s long-term

Afforestation programme of a/s "Latvijas Finieris"

situation by 6.09.2001. (area, ha)



strategy in the forest sector. Currently, the nursery also serves as a base for scientific research on improving the container seedling growing technology and the research results are published to make them available to all the interested parties.

In total, more than 100 thousand LVL was invested in the establishment of the nursery and its annual maintenance costs are LVL 30,000. Most of the birch seedlings grown in the nursery are used to afforest the agricultural land acquired by the Company and for various tenders and campaigns involving support to private landowners in afforesting their land. Part of the seedlings is sold.

Support to the science

In February 2000, Latvijas Finieris Inc. concluded two long-term financing agreements with LSFRI "Silava" and the Faculty of Forestry, University of Agriculture of Latvia. The agreements concern conducting the research about establishment and maintenance of birch plantations, the physical and mechanical properties of birch-wood, and the influences on the woodworking production processes. Already now, the research conducted about the establishment of birch plantations and improvement of the nursery technologies facilitates not only the work of the company, but also that of other birch-growers. As mentioned before, the company's nursery "Zābaki" has been conducting research about optimising the birch container seedling growing technologies for two years now and this research has resulted in several essential recommendations about the selection of the substrate, type of container, and the growing conditions. Total investment of Latvijas Finieris Inc. in this programme is LVL 66.798,20. The signed agreements

envisage further research and financing of these projects to the end of the year 2009.

Establishment of plantations

In 1998, the Company started to acquire abandoned agricultural land in several districts of Latvia (Dobeļe, Liepāja, Rēzekne, Tukums, Valka) and currently the area of the purchased land is almost 2,000 ha. In the autumn of 1999, afforestation of the purchased land was commenced and 340 ha have been afforested by now (09.2001.) The afforested areas contain sample sites used to familiarise the interested parties with the specifics of afforesting agricultural land and organisation of training sessions. A study and recreation path is being designed in Uki Sector, Dobeļe district, in conjunction with Dobeļe Central State Forestry Division. The average annual cost of afforesting and maintaining one hectare for the period of three years is LVL 250.

Future tasks of Latvijas Finieris Inc.

- Popularisation of birch-growing
- Afforestation and maintenance of the purchased agricultural land;
- Cultivating birch container seedlings at the nursery "Zābaki";
- Financing the research conducted by LSFRI "Silava" and Faculty of Forestry, University of Agriculture of Latvia, under the concluded agreements;
- Familiarisation of the interested parties with the established birch growth sample sites and the nursery "Zābaki".