

Baltic forestry for IUFRO review: back to history

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The Baltic countries: Lithuania, Latvia, Estonia have old traditions in forestry. Forest and nature in these countries are of great importance for the economy, landscape and environment. In long history of agricultural development and land reclamation forest cover in the Baltic region reached its minima at the middle of this century (1). For example in Lithuania at that time forest cover was only about 20% of the land area while in the 16-17 centuries there was still 43-45% of wooded land (2). Measures of restoration of forest resources have been adopted after the World War II. In the last nearly 50 years the forest cover in the three Baltic countries was permanently increasing. In Estonia the area of forest stands enlarged more than twice and the growing stock has increased 2.4 times (3). Latvia and Lithuania also expanded their forest areas approximately 50-60%. Therefore the forest area in the Baltic countries in late 1980's, when these countries regained their independence, was about 6.8 mil.ha with total volume of growing stock nearly 900 mil. m³.

Due to the influence of West and East culture as well as colonization from both sides the Baltic forestry has drawn from both the German and Russian traditions but was developing in its own way: connecting precise detailed silviculture that is characteristic of West European forestry with broad scale soil-ecological and geographical approach in understanding forest coenoses and its successions which is characteristic of Russian large space in eastern plane forestry.

The first book concerning the forest and wildlife management, for example, in Lithuania was written by G. Valovičius 1559 (4). The forest-geobotany investigations are carried out in the early XIX th by J. Juadzila and A. Pabrėža in the frame work of research conducted by Vilnius university which was founded in 1569. The foundations of science-based approach to forestry issues in the Baltic region appear in the early 19 th century when the handbooks of forestry in Livonia (Latvia, Estonia) by A. Löwis (1814) and in Vilnius (Lithuania) by L. Plateris (1807) were published (5).

In the second half of the 19th century some positive input to forestry research was made by the Baltic Foresters Society,

founded in 1867 and headed by M.Sivers (6). At that time a great deal of dendrological parks in estates of the region and larger one in Skriveri (Latvia) have been created. Also more very productive foreign species has been introduced in forests. For example, the stand established from *Larix europea* in Degsnė (Lithuania) still remains as most productive in the region: the average H-40.0m (max 45.0), D-52.2cm (max 77.0cm) and volume 1252ha⁻¹ and the average increment in the stand aged 112 years is 11.2. m³ ha⁻¹ (7).

For the historical truth it should be mentioned that the whole territory of the Baltic region including Lithuania from 1795 was occupied by Russian empire and after the second revolt (1863) for Lithuanians with university education the special law was issued which did not allow them to work in their own country and even to use Lithuanian writing. It had very negative consequences to any kind of progress including forestry.

At the beginning of the 20th century the valuable research in forest typology, mensuration, tending and use of forest resources was conducted by some prominent scientists. P.Matulionis (1860-1932) in Lithuania K.Melderis (1889-1942) in Latvia, A.Mathiesen and others in Estonia were the most distinguished foresters. But forest science in the Baltic countries started developing normally only after WW I when the three Baltic states became independent and took tremendous strides in the second half of this century (6,8,9).

Nevertheless the most significant achievement made in forestry of the Baltic countries for a long time remained insufficiently known or even unknown for IUFRO and world forestry science. Before WW II only in the 7th Congress (Stockholm, 1929) there were 6 representatives, in the 8th (Nancy, 1932) only two and in the 9th (Budapest, 1936) already representatives from the three Baltic countries.

Incorporation of the Baltic countries in the former Soviet Union (1940) for a long time excluded them from direct communication with west forestry community and IUFRO. According to the existed laws the whole Baltic territory, particularly forest was declared as secret terrain's and

foreigners were not allowed to visit. Only the capital of Latvia Riga could be visited by foreigners from the west. All relations and communication with west countries and international organizations were strongly centralized and subordinated to Moscow.

Nevertheless the forestry science in the Baltic countries after the establishment of the largest Forest research institutes in Latvia (Riga, 1946), in Lithuania (Kaunas, 1950) and in Estonia (Tartu, 1969) has been progressing rapidly. The investigation covered the main branches of the forest science: dendrology, ecology, dendrochronology, genetics and species selection, inventory, mensuration, management, economics, operational science and mechanization, forest protection, forest products and game management.

In Lithuania particular achievement has been made in research of ecosystems formation, utilization of the solar energy by trees and storeys, tending fellings, dendrochronology and soil science. The optimal parameters of special tree distribution have been assessed, the models of maximally productive stands have been constructed and the programmes of formation of such stands in forest by tending fellings implemented. On the basis of investigations and mapping of all forest soils a new method of forest management planning has been developed and practiced. In accordance with that method the permanent plots have been set in forests and the perspective purposeful species composition capable of creating the maximum wood production for each plot has been foreseen and necessary measures implemented.

In Latvia along with silviculture, forest genetics and tree-breeding, predominant positions have gained the research in wood chemistry, forest operations and technique. After the creation of the Institute of Wood Chemistry and a Complex of Research and Production Association "Silava" these two institutions were turned into a centre for coordinating the research activities not only in the Baltic region but all over the former Soviet Union in the fields of wood chemistry, operational science and mechanization. A great deal of machinery for silviculture and timber harvesting has been constructed and modified for use not only in the Baltic countries but for All-union forestry.

In Estonia remarkable achievements have been attained in silviculture involving the recultivation of ground spoiled by open-cast oil-shale mining as well as in reforestation of drained swamps. Also for Estonian forest research the problems of nature conservation and its protection were and remain traditional.

The brain power within the forestry of the Baltic countries in late 1970's and 1980's amounts to 250 doctors of science and about 40 persons conferred the title Dr. Habilitus. That was really a great achievement gained owing to fruitful cooperation of all Baltic research institutions and forestry faculties with scientific centres of the Academy of Sciences of

the former USSR as well as owing to cooperation with other institutions in forestry of the former Soviet Union. It should be mentioned that the most prominent Russian research foresters such as V.N.Sukachev, V.P.Timofeev, A.B.Zukov, A.A. Molchanov, N.I. Piavchenko, S.V.Son, N.P. Anuchin and others significantly contributed to the scientific potential of the Baltic republics.

In order to avoid paralelism and unuseful duplication in research the Council of coordination of forest science for the Baltic countries and Byelorussia (chairman L.Kairiūkštis 1971-1984, M.Vaičys 1985-1990) was set up. Every year the main results of forest research in the region are discussed and published by the council in the form of recommendations edited in special issue "Science for practice" (10). Therefore, the forest science in the Baltic countries was successful enough to win legal recognition not only in its own countries – in the Baltic region, but all over the former Soviet Union and abroad.

At the same time the forest management practice of the Baltic region became more attractive. The special systems of unclear cuttings including "Vorratspflege" - to cut bad trees and to tend better ones, become wide known in Lithuania. Mechanized operations of tending felling as well as a completely mechanized process of the growing of seedlings in containers (bricets) was very popular in Latvia. In Estonia classical experience has been gained in recultivation of drained swamps and the oil-shale quarries. Several largest scientific conferences and Workshops for Allunion foresters and even for foresters of East Block European countries took place in Riga, Vilnius, Kaunas and Tartu. Starting from 1980 when Latvian Forestry Research Institute "Silava" became a full member of IUFRO and later when Lithuanian and Estonian Institutes joined a membership of IUFRO more frequently various international conferences and workshops of IUFRO have been organized in the Baltic region. To melt the "iron curtain" and to help the Baltic forestry merge into IUFRO activities two former presidents of IUFRO prof. W.Liese and dr. R.Buckman did their best. In their presidency a great deal of IUFRO activities took place in the Baltic region and a number of articles from these countries appeared in IUFRO publications, even one representative from the Baltic countries (prof. I.Ievins, Latvia) was elected in IUFRO staff.

The above statements allowed us to conclude that forest science and forestry practice in the three Baltic Republics during the second half of this century took tremendous strides and became successful enough to win legal recognition not only in the Baltic region but all over the former Soviet Union and abroad. The corroboration of this conclusion was the fact that the IUFRO XX World Congress organizers devoted one Post-Congress excursion (Coordinator Tuomo Kotimäki), to "Forestry in the changing socio-economic conditions of the Baltic countries", which is described below.

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