

INITIAL ECOGENETIC STUDIES OF THE LITHUANIAN BLACK ALDER (*ALNUS GLUTINOSA* L.) POPULATIONS

VALMANTAS KUNDROTAS

Lithuanian Forest Tree Breeding Centre

Liepu 2, LT-4312 Girionys, Kaunas reg., Lithuania

A total of 133 experimental plots of 28 micropopulations, 4 different progeny trials of *Alnus glutinosa* L. established in Lithuania. Design of three step factorial experiment containing fixed and random selection have been used for representing totality of Lithuanian black alder stands.

Trait of productivity – diameter was mostly influenced by soil fertility. Means of phytosanitary breeding traits depended on the level of underground water, seasonal changes in surface water and drainage system as well.

Mostly valuable, considering structure and means of breeding traits, *Alnus glutinosa* L. micropopulations

are concentrated in South, Middle and North Lithuania. The value of micropopulations decreases in the North East and North West directions.

The *Alnus glutinosa* L. micropopulations were grouped by multivariate analysis method in similar macrogroups. Transforming those macrogroups to areas of Lithuanian different climatic regions explains existing of separate *Alnus glutinosa* macropopulations.

Resistance to spring frosts, drought and fungus disease are the main factors, causing survival of *Alnus glutinosa* L. plantations and further breeding should be based on these traits.