

Factors that determine natural regeneration of key forest forming species in West Siberian sub taiga and forest steppe district in the Omskaya region territory

I. G. Trushina, V. M. Sidorenkov – All-Russian Research Institute of Silviculture and Mechanization of Forestry, Pushkino, Moskow region

Key words: *key forest forming species natural regeneration, cutting types, soil hydrological conditions, ground cover, forest ecosystems, soil salination, ground water level rise*

The paper reviews forest regeneration in cut-over areas in sub-taiga-forest steppe conditions. It is known that natural regeneration success depends on a combination of natural-man-made factor impacts: felling, terrain, territory hydrology characteristics, fertility, salinity, soil moisture, climate. Their geographical specifics determine peculiarities of territory natural conditions and native forest formations that is proved by research findings of B.Kolesnikov, R.Zubarev, N.Lugansky, L.Lysov, V.Dalilik, B.Chizhov.

Experiments that enable the Omskaya region territory zoning by forest regeneration condition differentiation were conducted to study natural regeneration specifics of key forest species in common forest types in West Siberia sub-taiga-forest steppe district. Geographical specifics of native forest formation distribution across the region were taken into consideration in studies. Mostly in West Siberia sub-taiga-forest steppe district of the Omskaya region birch and aspen forest ecotypes that prefer black earth and alkali soils. In north forest steppe district coniferous forest ecotypes occur where in rather fertile soils after felling softwood species can replace softwood ones. Pine woods in rather poor sand soils where pine has sufficient advantage in competition with softwoods can be referred to rather resistant formations.

Research findings show that natural regeneration processes closely relate to shaped cut-over typology. For example, typical conditions for birch growth in sub-taiga-forest steppe district are reedgrass and mixed herbs forest types. Further natural regeneration in these conditions depends on a growing condition type (soil and hydrology), forest type, cut-over type. Interaction of these key factors is criteria for evaluation of specific area natural regeneration capacity. Detailed evaluation of natural regeneration areas is possible with regard of indicators that directly characterize forest ecosystem facies. Stand specifics (composition, age, wildfire damage) before felling can be referred to it.

These factor record in further studies will be a background for West Siberia sub-taiga-forest steppe district zoning within the Omskaya region with identification of favourable zones for forest growth by key forest forming tree species.