

A study of the seasonal growth of grey alder (*Alnus incana* (L.) Moench) in the Arkhangelsk Region

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*In the Arkhangelsk region *Alnus incana* (L.) Moench is forest forming species, and therefore the purpose of this article is to identify the particular of growth alder influenced by temperature. The results of studies of seasonal growth needed for rational seed harvesting, sowing and planting of woody plants, fertilization, thinning and other forestry measures. The studies were conducted in the dendrological garden of Northern Research Institute of Forestry from May to August 2015. This study has taken a technique A. Molchanov and V. Smirnov (1967).*

To monitor the growth dynamics were selected on 10 trees from 0,5 m to 1,5 m; from 1,51 to 3,0 m, and from 3,01 to 5,0 m. The study was performed on three plots. On each tree were measured three shoots – from the upper, middle and lower parts of the crown. To identify each tree was marked with metal medallions with corresponding numbers and measured shoots marked with colored thread. The height of the trees was measured with a tape, because the trees are low.

In the first week, the length of the shoots was measured every day to monitor the beginning of the growth processes, then a time interval of seven days. Measurements were carried out normal line of up to one mm. Simultaneously with the measurement increments were noted and phenological stages of wood (marked with the symbol on the scale of V. Alekhin, 1925).

*A study of the seasonal growth *Alnus incana* showed that the growth of shoots started with an average daily air temperature of 14,4 °C. Between the growth of shoots on the seven-day period, and the dynamics of daily air temperatures during the vegetation period revealed a positive correlation. Periods of intensive shoot growth coincide with the increase in air temperature. In all three groups studied trees stands out period of active growth, when growth was more than 5 % of the total increase for the entire period of observation. The trees from 0,5 to 1,50 m is observed three periods of active growth and amounted to 21 days. Trees from 1,51 to 3,0 m intensive growth was also 21 days, and for trees in height from 3,01 to 5,0 m, the figure was 14 days. According to our data the average daily growth rate of 0,54 mm / day. The total duration of the growth processes shoots in gray alder was 91 days.*

Key words: alder, growth rate, the temperature, increment of shoots.