

Study of Reproduction Features of Silver Birch Forms by Bark Type in the Conditions of the Northern Taiga Subzone

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The article compares the isolated forms of birch by the type of crust cracking according to the generative sphere and the quality of seed material for three years of observations in the conditions of the northern taiga sub-zone (Arkhangelsk). The essence of the problem is that at the moment, in the conditions of the northern subzone of the taiga, no research was carried out to study the form diversity of birch cough. At the same time, birch is becoming a breed increasingly of interest to foresters in terms of rapid production of quality wood [1, 2]. Knowledge of growth characteristics and generative indicators of breed morphotypes is necessary for the development of strategies to increase the productivity of plantations [3]. The main part describes the importance of birch and the necessity of its selection study, justifies the purpose of this work. The article provides statistical evidence of comparison of the size of earrings and seeds, differences in the quality of seed material and an analysis of the characteristics of the reproductive sphere of the different birch morph by the type of crust fracturing. The authors conclude that there are differences between the isolated forms of birch cough not only in the external data of the bark, but also in the indicators of the generative sphere (the size of earrings, seeds). The evidence between pairs of reproductive signs is 61.7% according to data for certain years of reproduction, 66.7% - according to average values for three years, which is higher than for vegetative signs (53%). The largest differences (40–44% of paired differences) in the size of earrings and seeds exist between the

smoothcore and rough forms of birch. The rhomboid-fractured shape occupies an intermediate position, but is closer to the rough shape of the birch. Generally, the size advantage of earrings and seeds has a smooth-edged birch shape. In the conditions of the sub-season of the northern taiga birch gives a crop of seeds with high germination (up to 70 %). Quality indices of seeds are not genetically related to forms of birch according to the type of crust cracking, and are determined by weather conditions during aging.

References

1. Popov, V.K. *Study of Interfamily Variability of Hemispheric Birch Progeny* / V.K. Popov, E.V. Filonenko // *Increase of Productivity of Stability and Protective Role of Forest Ecosystems: sat. sci. tr. – Voronezh, 1990. – P. 31–35.*
2. Pentelkina, N.V. *Growth of birch seedlings with a growth regulator* / N.V. Pentelkina, G.I. Ivanjusheva // *Actual problems of the forestry complex. – Brjansk: BGITA, 2012. – № 31. – P. 193–197.*
3. Kleshcheva, E.V. *Genetic variability of birch by forms of crust fracturing based on qualitative characteristics of proteins* / E.V. Kleshcheva // *Bulletin VGU, series: Chemistry. Biology. Pharmacy. – 2006. – № 2. – P. 136–140.*