Original article

DOI 10.24419/LHI.2304-3083.2023.1.10

Change of Breeds in the Field-Protective Forest Belts of the Republic of Bashkortostan

Zagir Z. Rakhmatullin¹ Candidate of Agricultural Sciences

Azat Sh. Timeryanov² Candidate of Agricultural Sciences

Irina R. Rakhmatullina³ Candidate of Biological Sciences

Georgy E. Odinzov⁴

Aidar K. Gabdelkhakov⁵ Candidate of Agricultural Sciences

> **Abstract.** The dynamics of the change of rocks in the poplar protective forest belt growing next to the forest crops of the Scotch pine is analyzed. A forest belt 450 m long and 10 m wide grows near the village of Shigaikulbash in the Buzdyaksky district of the Republic of Bashkortostan. Accounting sites are laid every 50 m. Reliable pine undergrowth grows in the forest belt, poplar undergrowth was not found on any of the accounting areas. Characteristics of pine undergrowth (density, average age, height, diameter) and the condition of poplar trees were compared for 2008 and 2020. It was revealed that there was a change in the design of the forest belt from openwork to dense, there is a partial shrinkage of poplar, in some areas there is an exit of pine undergrowth to the first tier. For both periods, the highest density of pine (over 1.5 thousand units/ha) was detected at a distance of up to 200 meters from pine forest crops, the lowest density (no more than o.4 thousand units/ha) – in the center of the forest belt. In 2020, the category of small undergrowth was not found, most of it is large undergrowth, some of which have entered the reproductive phase. A similar pattern is observed in neighboring forest belts, which allows us to draw conclusions about the possibility of changing the species of protective forest strips, which should be accompanied by logging.

> *Key words:* protective forest plantations, renewal, undergrowth, density, balsam poplar, *Scotch pine, change of species.*

For citation: Rakhmatullin Z., Timeryanov A., Rakhmatullina I., Odinzov G., Gabdelkhakov A. Change of Breeds in the Field-Protective Forest Belts of the Republic of Bashkortostan. – Text : electronic // Forestry information. 2023. № 1. P. 121–128. DOI 10.24419/LHI.2304-3083.2023.1.10.

¹ Bashkir State Agrarian University, Associate Professor (Ufa, Republic of Bashkortostan, Russian Federation), zagir1983@mail.ru

² Bashkir State Agrarian University, Associate Professor (Ufa, Republic of Bashkortostan, Russian Federation), HAF628@yandex.ru

³ Bashkir State Pedagogical University named after M. Akmulla, Associate Professor (Ufa, Republic of Bashkortostan, Russian Federation), zagir1983@mail.ru

⁴ ANO «Institute of Rational Nature Management», Leading Design Engineer (Ufa, Republic of Bashkortostan, Russian Federation), odintsov94@inbox.ru

⁵ Bashkir State Agrarian University, Associate Professor (Ufa, Republic of Bashkortostan, Russian Federation), aliya201199@mail.

ru