III-7

FITONCIDNA SVOJSTVA ZASADA BORA (Pinus sylvestris L) U USMANSKOJ BOROVOJ ŠUMI (RUSKA FEDERACIJA)

Oleg Vladimirovič[1], Nadežda Prohorova[2], Zoran Govedar[3]
[1,2] Voronješki državni tehnički univerzitet za šumarstvo „G.F. Morozov“,
ul.Timiryazeva 8, 394613, Voronješka oblast, Rusija
[3] Akademija nauka i umetnosti Republike Srpske, Bana dr Todora Lazarevića 1,
Banja Luka 78000, Republika Srpska, Bosna i Hercegovina

Sažetak. Degradacija životne sredine povećava rizik od raznih bolesti, što pojedince i društvo u cjelini sve više usmjerava ka korišćenju prirodnih ljekovitih resursa iz šumskih ekosistema. Iz tog razloga se biološki aktivne biljne zajednice uspostavljaju kao šume sa posebnom namjenom, naročito u okviru urbanih aglomeracija. Cilj ovog rada je ispitivanje fitoncidne aktivnosti kultura običnog bora (*Pinus sylvestris L.*) pod različitim uslovima temperature i relativne vlažnosti vazduha. Predmet istraživanja su dječiji zdravstveni kompleksi koji se nalaze na posebno zaštićenim prirodnim područjima Usmanske regije (Ruska Federacija). Metod istraživanja je uključivao analizu uticaja prosječne temperature i vlažnosti vazduha na fitoncidnu aktivnost borovih sastojina, korišćenjem višestruke regresione analize. Rezultati pokazuju da na fitoncidnu aktivnost utiču ne samo temperatura vazduha, već i relativna vlažnost. Konkretno, što je vlažnost manja, a temperatura vazduha viša, to je fitoncidna aktivnost bora izraženija. Fitoncidna aktivnost kultura običnog bora opada na početku vegetacionog perioda (mart 2024), dok se tokom faze cvjetanja (april 2024) bilježi blagi porast aktivnosti. Postepeno povećanje fitoncidne aktivnosti uočava se od početka fenološke faze cvjetanja običnog bora.

Ključne riječi: fitoncidi, bijeli bor, Usmanska regija, šumski zasadi

PHYTONCIDAL PROPERTIES OF PINE (*Pinus sylvestris* L) PLANTATIONS OF USMAN PINE FOREST (RUSSIAN FEDERATION)

Oleg Vladimirović[4], Nadezhda Prohorova[2], Zoran Govedar[3]
[1,2] Voronezh State Forestry Technical University named after G.F. Morozov, Timiryazeva st., 8, 394613, Voronezh region, Russia
[3] Academy of Science and Arts of the Republic of Srpska, Bana dr Todora Lazarevića 1, Banja Luka 78000, Republic of Srpska, Bosnia and Herzegovina

Abstract. Environmental degradation increases the risk of various diseases, which leads individuals and society as a whole to rely on natural medicinal resources from forest ecosystems. For this reason, biologically active plant communities are established as special-purpose forests, particularly within urban agglomerations. The aim of this paper is to investigate the phytoncide activity of Scots pine (Pinus sylvestris L.) forest cultures under different temperature and relative humidity conditions. The subject of the research includes children's health complexes located in specially protected natural areas of the Usman region (Russian Federation). The research method involved analyzing the influence of average temperature and air humidity on the phytoncide activity of pine stands using multiple regression analysis. The results show that phytoncide activity is influenced not only by air temperature but also by relative humidity. Specifically, the lower the humidity and the higher the air temperature, the stronger the phytoncide activity of the pine. The phytoncide activity of Scots pine forest cultures decreases at the beginning of the vegetation period (March, 2024), but later during the flowering period (April, 2024), there is a slight increase in activity. A gradual increase in phytoncide activity is observed from the beginning of the phenological flowering phase of Scots pine.

Key words: Phytoncides, white pine, Usmansky district, forest plantations