

Original article

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Phytoncidal Activity of Woody Plants Used in Landscaping of Territories of Children's and Medical Institutions of Bryansk

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Abstract. The study examined the phytoncide activity of the most common species of woody plants used in the landscaping of children's and medical facilities in Bryansk. *Betula pendula*, *aesculus hippocastanum*, *tilia cordata*, *cotoneaster lucidus*, *physocarpus opulifolius*, *syringa vulgaris* and *picea abies* were assessed for the phytoncidal activity of tissue juice and volatile procytocidal substances secreted by their crushed leaf plates and needles. For the experiment with the simplest microorganisms of the *Euplotescharon* species and tissue sap of plants, leaves and needles of the studied tree species of plants growing on the territories of five survey sites located in all administrative districts of Bryansk were collected.

A significant correlation ($t_{\text{fact.}} > t_{\text{tabl.}}$. At $p < 0.05$) between the indices of nitrogen dioxide and the phytoncidal activity of the tissue sap was found in *Betula pendula*, *aesculus hippocastanum*, *cotoneaster lucidus* and *syringa vulgaris*. The negative tendency of communication ($t_{\text{fact.}} < t_{\text{tabl.}}$) is present in *picea abies*, *tilia cordata* and *physocarpus opulifolius*. The influence of volatile phytoncides of leaves and needles of woody plants on the development of mold *mucor* has also shown a link between indicators of air pollution and the activity of volatile phytoncids of leaves and needles of the studied plants.

Key words: woody plants, phytoncidic activity, volatile phytoncides, air pollution, landscaping.

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