

**SEASONAL AND INTERANNUAL VARIABILITY IN THE CONTENT OF BIOLOGICALLY ACTIVE SUBSTANCES  
IN THE BARK OF *SALIX VIMINALIS* (SALICACEAE) IN BELARUS**

© *O. V. Sozinov*,<sup>\*,1,2</sup> *N. A. Kuzmicheva*<sup>3</sup>

<sup>1</sup> V. L. Komarov Botanical Institute of the RAS, St. Petersburg, Russia

<sup>2</sup> Yanka Kupala Grodno State University, Grodno, Republic of Belarus

<sup>3</sup> Vitebsk State Medical University, Vitebsk, Republic of Belarus

\*E-mail: ledum@list.ru

SUMMARY

Interannual and seasonal variability in the total content of flavonoids, proanthocyanidins and phenolic glycosides in the bark of *Salix viminalis* L. model trees (suburbs of Vitebsk, Belarus) were studied. The total flavonoids content varies depending on the year of the study from 0.1 to 0.6%, proanthocyanidins – from 9 to 20% and phenolic glycosides from 2 to 9%. Bimodal stable multi-year trend of accumulation of biologically active substances is established. The maximum accumulation is observed in two phenophase groups: «defoliation–winter rest–sap flow» and «flowering–ripening–fruiting». The climate patterns of separate years affect the content of biologically active substances in terms of the amplitude and period of oscillation, keeping the bimodal variability trend. The optimal harvesting season for the bark of *S. viminalis* annual shoots is the «ripening and fruiting» phenological stage.

**Key words:** *Salix viminalis*, bark, phenological stage, flavonoids, proanthocyanidins, phenolic glycosides, seasonal variation, bimodal trend, Belarus.