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## Description:

Barley (*Hordeum vulgare* L.) is an important crop widely cultivated worldwide. Barley productivity primarily depends on the prevalence of fungal diseases globally and in Kazakhstan. Stem rust and other fungal diseases can substantially affect the crop yield and quality. Primary fungal pathogens with prevalence and severity were identified using route-based phytosanitary monitoring. The heading stage was characterized by the development of sustained and multi-pathogen epiphytotic scenarios in 2025. The prevalence and disease severity of *B. sorokiniana* were substantially enhanced, followed by *P. teres* and *D. graminea*. Concurrently, pathogens belonging to genera *Puccinia graminis*, *Puccinia striiformis*, and *Blumeria graminis* were observed with a marked cumulative phytopathological effect. The comparative analysis of 2024–2025 confirmed that development of epiphytotic processes in spring barley agroecosystems was governed by interaction effects of the climatic factors, crop phenology, varietal susceptibility, and the biological characteristics of the pathogens, and the same was reported in the research manuscript of the Tileubayeva *et al.* (2026): Tileubayeva ZH, Galymbek K, Seilkhan A, Bakirov S, Sardar A (2026). Phytosanitary monitoring of stem rust (*Puccinia graminis* Pers.) and other fungal diseases of spring barley in south-eastern Kazakhstan. SABRAO J. Breed. Genet. 58 (5) 2010-2021. <http://doi.org/10.54910/sabrao2026.58.5.1>.

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## CONTENTS

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