

Species composition and frequency of phytopathogens in winter wheat crops

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Annotation. The purpose of this research work is to study the species composition and frequency of occurrence of phytopathogens on winter wheat crops in the steppe zone of the Kabardino-Balkarian Republic. The studies were carried out on the basis of the plant protection laboratory of the Institute of Agriculture, KBSC RAS. The object of research was the phytopathocomplex in the corn agrocenosis. In the field and laboratory conditions, the identification of affected wheat plants was carried out by microcopying using various methodological aids. Competent diagnostics and knowledge of the causes of the mass spread and harmfulness of progressive diseases are the basis for the successful implementation of preventive and protective measures. In 2018–2021, phytopathological monitoring was carried out to study and clarify the species composition of the entire pathological complex. Due to this, we assessed the resistance of the main zoned varieties of winter wheat in different phenophases of their development. As a result of the accounting, pathogens of winter wheat diseases were identified: pyrenophorosis, septoria, powdery mildew, types of rusts, types of root and root rot. Of the variety of causative agents of diseases of winter wheat, the harmfulness of pyrenophorosis increases from year to year. The scientific novelty lies in the fact that studies have been carried out to identify the types of winter wheat diseases in the conditions of the arid steppe zone of the Kabardino-Balkarian Republic. Weekly monitoring of the phytosanitary state made it possible to identify pathogens that are of economic importance. In the future, the use of effective fungicides in the fight against harmful diseases according to the existing regulations will restrain their spread and development to a minimum, which contributes to the production of full-weight grain with good baking qualities.

Key words: winter wheat, phytopathogen, phytosanitary monitoring, powdery mildew, septoria, pyrenophorosis, hard smut, ear fusarium, black embryo, root and basal rot

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