

The Effect of Biotic Factors on the Phytopathogenic Agents of Wheat Seeds

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Abstract: The phyto-examination of seeds of winter and spring wheat varieties to develop and optimize protective measures was carried out. The experiments to determine the seed infection were carried out under laboratory conditions. Seeds of zoned varieties of winter and spring wheat of the 2016–2017 crop were used as a research material. When studying soft winter wheat, it was found that all varieties were highly affected by alternaria (the pathogen was *Alternaria alternata* (Fr.) Keissler; *Ellis fungus*), with the incidence rate varied from 30 to 70 %. The frequency of occurrence of septoriosiis ranged from 0 to 26 % (the causative agent was *Stagonospora nodorum* (Berk) Castellani & EG Germano) The incidence of fusarium infection (*Fusarium* spp.) fluctuated from 0 to 10 %. After the phyto-examination of seeds of soft spring wheat varieties, the frequency of occurrence of the causative agent of alternaria (*Alternaria alternata* (Fr.) Keissler; *Ellis*) was from 36 % (Voronezhskaya 12) to 64 % (Daria). The frequency of occurrence of Septoria (*Stagonospora nodorum* (Berk) Castellani & EG Germano) on crops of all varieties did not exceed 8 %. In addition, the crop was virtually unaffected by Fusarium (*Fusarium* spp.). In the study of hard spring wheat a significant effect of the variety on the contamination of crops by pathogens was observed. The plant life has an effect on the frequency of occurrence of septoriosiis. The crops of winter varieties are more often affected by septoria than spring crops. The study confirms the necessity of pre-planting treatment with fungicides of all crop varieties in order to reduce the harmful effects of disease.