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***Impact of sowing terms on development of diseases and productivity of proso millet cultivars in Ukrainian Polissia***

*Proso millet is the most widely spread culture among cereal crops in the world and in Ukraine, as its grains are noted for high edibility characteristics and feeding qualities. Proso millet is characterized by high potential productivity, but its average productivity on farms of the country has decreased to 1,0 t/ha and it does not meet the demands of the country. The main reasons of low productivity of the culture are non-compliance with the agricultural technology of growing and considerable losses resulting from the most common pathogenic agents affecting the plants.*

*Such factors as the correct choice of sowing terms that predetermines further development of plants and the choice of cultivars that are adapted to particular soil and weather conditions play an important role in the agricultural technology of growing. The appropriate sowing terms ensure the formation of proso millet that is competitive and physiologically resistant to pathogenic organisms.*

*In spite of a large number of studies concerning the optimization of sowing terms, the only viable solution has not been found. The study of their impact on plants' infestation with pathogens and productivity of grains is sufficiently relevant as far as this issue has not been studied with regard to the conditions of Ukrainian Polissia.*

*The research conducted during 2013-2015 was aimed at studying the impact of sowing terms of different proso millet cultivars on the dynamics of development of fungal diseases and formation of future yields in Ukrainian Polissia.*

*It was found that the most common fungus pathogens millet are: Alternaria spp., Fusarium spp., Penicillium spp. Helminthosporium pp., Piricularia grisea, Sclerospora graminicola ((Sacc.) Schr.), Sphacelotheca panici-miliacei Bub), etc.*

*The phytopathological observations give evidence that the development of diseases of proso millet depends on varietal peculiarities and sowing terms of the culture. The findings of the experimental research show that there is a tendency to the decrease in development of the diseases from early to late sowing terms where the level of development of brown leaf (leaf blight of millet) rust decreased from 17,2 % to 1,9 %, piriculariose – from 8,6 % to 0,7 %, and root rot – from 15,3 % to 1,2 % respectively.*

*It was found that the productivity of proso millet as cultivars depends on weather conditions, sowing terms, phytosanitary condition of the crops and complex interaction of these factors. The best sowing term necessary for the formation of highly productive proso millet crops in all studied variants is the 2<sup>nd</sup> decade of May when the productivity was 1,26 t/ha (Myronivske 51 cultivar) and 1,55 t/ha (Kozatske cultivar).*

*Thus, the experimental results show that the cultivation of proso millet in Ukraine Polissya most benefits achieved by sowing this crop in the second week of May. This ensures the formation of high grain yield at 1.26 tonnes / ha and 1.55 t / ha, getting 2018.55 and 2626.59 UAH net profit at the level of profitability of 111 and 126 %, and the cost of 1441.44 and 1348.90 UAH*

**Key words:** *proso millet, cultivars, sowing terms, air temperature, precipitation, plant diseases, crop productivity.*