# GENETIC DIVERSITY OF SOYBEAN VARIETIES AND THEIR BIOLOGICAL POTENTIAL AS AFFECTED BY AGRONOMICAL PRACTICES

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The genotype affects significantly high productivity and raw material quality of soybean. The realization of biological potential of soybean varieties is closely associated with growing factors such as growing season, soil fertility, soil moisture and photosynthetic activity radiation. So, for high yield of soybean the complex of additional agronomical practices is needed to be used which influences on nutrition optimization and grow and development process optimization.

Twenty-three soybean varieties were investigated by 4 SSR markers (Satt726, Satt063, Satt114 and Satt228) for genetic diversity assessment. Three of them (Kano, Hieba and Ustia) were studied as affected by moisture retainer "Aquasorb", organic fertilizer "Parostok", growth regulators "Vermystym D" and "Ahrostymulin". The effects of agronomical practices were assessed based on yield, protein and oil content. The study was carried out during 2016-2018.

As result it was found that the most similar varieties based on 4 SSR markers were varieties with genetic distances 1.73. The most different was Aliaska variety with genetic distances 3.16-3.87. Hieba, Kano and Ustia varieties, which are early-season varieties, were distributed in different clusters. It was determined that maximum of yield was obtained for Kano variety with combining moisture retainer, organic fertilizer and growth regulator "Vermystym D". The highest protein content in studied varieties was determined in case of combining organic fertilizer and growth regulators. The maximum of oil content was noted in Ustia nad Kano varieties with application moisture retainer, organic fertilizer, growth regulators "Vermystym D". Thus, the biological features and applied nutrition affected studied indicators.