Some Features of Using Photomorphogenesis for Soybeans (Glycine max [L.] Merr.) in Accelerated Vegetation Conditions (Speedbreeding)

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Objective: To identify lines that maximally realize their biological potential under different lighting conditions, thereby selecting the optimal material for selection.





Materials and methods: Using the "Speedbreeding" technology, two variants of daylight duration were studied – 8 hours and 22 hours, which made it possible to track the degree of sensitivity of each group of varieties to the length of daylight and its influence on the development of the studied plants.

Phenotyping: outline of the full projection of the plant onto the plane of the table (Convex hull)

Vegetation period of photoperiodsensitive lines. Very early ripening lines are highlighted in green, early ripening lines in blue, and mid-early ripening lines in orange.





Results of PCR with KASP marker for the E4 gene (e4-kes allele); designations: HEX – blue square, alternative alleles; FAM – orange circle, e4-kes allele; black diamonds – negative control Varieties with varying degrees of sensitivity to photoperiod were identified. The results of the study show that long days not only contribute to an increase in plant height, but also affect the duration of their vegetation.

Thank you for your attention

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