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INHERITANCE OF GRAIN YIELD AND PROTEIN CONTENT IN A 8 x 8 DIALLEL CROSS POPULATION OF BARLEY*

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ABSTRACT

The inheritance of grain yield and protein content was studied by the Jinks-Hayman type diallel analysis in a 8 x 8 barley cross population without reciprocals. The cross populations with low protein content and high grain yield and the gene action such as additive and dominance genetic effects were determined. It was concluded the additive genetic variation could be utilized in selecting suitable progenies in the next generations. Grain yield had positive significant correlations with biomass (r=0.68**), harvest index (r=0.68**), plant height (r=0.25*), thousand kernel weight (r=0.38**) and number of spikes per square meter (r=0.25*). Protein content not having any significant correlation with grain yield had negative significant correlations with plant height (r=-0.30*), thousand kernel weight (r=-0.25*) and number of spikes per square meter (r=-0.30*).