

#### Abstract:

Our investigation was based on viewing the problem of inheriting anthocyanin and vitamin C contents in F1 progeny of lettuce. It was presumed that progenies with increased contents of these substances could be obtained. Diallel crossing of eight lettuce genotypes of different anthocyanin and vitamin C contents were performed. Parental and F1 generations were investigated comparatively, and their mode of inheritance was determined. Concerning the inheritance of anthocyanin, dominant genes prevailed and a higher content of this substance was succeeded in F1 generation, whereas concerning the inheritance of vitamin C content, it was recorded dominance mode of inheritance, when compared to the parents with lower vitamin C content. Apart from the dominance mode of inheritance, significant additive gene effects in inheriting vitamin C content were recorded.