

Knowledge of physiological and morphological mechanisms which are related to drought tolerance is essential in breeding high-yielding and tolerant plants, which would not suffer unfavourable environmental conditions. Drought stress can lead to oxidative damage which causes serious disorders in physiological and biochemical processes in plant cells. Antioxidants can reduce those negative effects. Morphological (dry mass of shoot and roots, height of shoot, number of leaves), physiological (photosynthetic efficiency, pigment content, relative water content-RWC) and antioxidative (catalase-CAT, ascorbate peroxidase-APX, proline) parameters were evaluated in this study using two genotypes of *Vicia faba* L. differing in drought susceptibility. Drought resistant (Merkur) and sensitive (Piešťanský) genotypes were exposed to 10 days of drought. Activity of CAT and APX of stressed plants rather decreased. Proline content oscillated and no evident trend or significant differences were observed in relation to drought stress. Decrease in RWC was expressed more at susceptible plants, electron-transport chain activity and pigment content were not affected much by drought. Drought susceptible genotype expressed more serious negative effects of drought in morphological parameters, however this genotype was a bit bigger than the resistant one. Positive attributes of the resistant genotype were pronounced mainly in CAT activity, RWC, height and weight of plants.