

Abstract:

Lipid peroxides and their conversion products are active in various physiological processes in growth and development. Physiological role of lipid metabolism in dormancy and dormancy release in tulip bulbs is unknown. We found in tulip leaves high level of free and bound C18:3 and C18:2 acids and small amounts of C18:1, C18:0, C16:1, C16:0, C14:0, C12:0 acids. In our studies the level of lipid peroxides was determined in leaves, anthers and basal plate of uncooled and cooled tulip bulbs 'Apeldoorn' as a concentration of MDA, using a modified thiobarbituric acid–malondialdehyde (TBA–MDA) assay. The MDA level was lower in anthers than in leaves and basal plate. During 8 weeks of bulbs storage no changes in lipid peroxidation levels were found, with the exception of 3rd leaf at which a decrease was noted. After 8 weeks of bulbs storage, lipid peroxidation increased in all samples. However, there were no differences in MDA levels between samples from uncooled and cooled bulbs. It seems that in tulip bulbs lipid peroxidation was independent to temperature of bulbs storage. These results indicated that lipid peroxidation is probable not involved in dormancy and dormancy release in tulip bulbs.