

Superoxide dismutase and catalase of the bird cherry-oat aphid

Bogumił Leszczyński, Iwona Łukasik, Joanna Żyłka, Anna Urbańska, Anthony F.G.Dixon

Changes in the activities of superoxide dismutase (SOD) and catalase (CAT) in tissues of the bird cherry-oat aphid during its spring host-plants alternation have been studied. The highest activities of the enzymes was found within winged migrants that flew from the primary host (bird cherry) onto the secondary hosts (cereals). Before the spring migration, an about 2-fold increase in SOD activity and an about 2.5-fold increase in activity of CAT was observed. Immediately after colonisation of the secondary host, further induction of the superoxide dismutase activity in winged migrants occurred. Opposite tendency was observed for the aphid catalase, after colonisation of the secondary host. Changes in activity of SOD and CAT within the migrant tissues, as an important biochemical adaptation to the plant prooxidants and free oxygen radicals are discussed.