

Oxygen consumption in relation to ultraweak luminescence of *characeae* cells induced by ascorbic acid

Andrzej Dudziak, Anna Jaśkowska, Robert Borec, Edward Śpiewła

In the spectral distribution of ultraweak emission of dark-adapted *Nitellopsis obtusa* cells one observes an increase in the intensity within 450-610 nm induced by 1mmol/L AsA. In this region there are fluorescence bands for NADH, FMN, Q₁₀ as well as absorption bands for cytochrome c, b, and a₃+a. This can be an evidence that there is an association between the emission and the electron carriers of the respiration chain. This is the reason why oxygen consumption by cells exposed to AsA action was tested. T_{1/2} equals 50 min. for oxygen consumption in the case of cells in the dark exposed to 1 mmol/L AsA in APW solution, while in the case of a solution without cells after the addition of AsA T_{1/2} equals 5.5h. Three processes can be accounted for that respiration of cells, penetration of AsA into the cells and decomposition of AsA in outer solution. Thus obtained decay of oxygen saturation is not a mere sum of these processes.