

Influence of Temperature on Phytohormone Interactions with Monolayers Obtained from Phospholipids of Wheat Calli

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The effect of temperatures (15 and 5 °C) on adsorption parameters of phytohormones at monolayers prepared from a mixture of phospholipids extracted from non-embryogenic (NE) and embryogenic (E) winter wheat calli initiated from inflorescences (inf) and embryos (emb) was studied. The surface parameter values, *i.e.* limiting area and collapse pressure, were determined using the Langmuir method. Phytohormones 2,4-dichlorophenoxyacetic acid (2,4-D), indole-3-acetic acid (IAA), kinetin, zeatin and zearalenone were investigated. The phytohormones, at a concentration of 0.2 µg/ml dissolved in water, were injected into the subphase. Phospholipids, at the concentration of 2 mg/ml, were spread at the water surface and the monolayer was compressed. The anomalous temperature effect was observed, especially, in non-embryogenic systems. In monolayers obtained from E phospholipids, the temperature effect was dependent on the kind of tissue from which the callus was initiated. Among all the examined phytohormones, the greatest changes (monolayer expansion) were found for IAA and zearalenone. However, this activity depended strongly on the kind of tissue from which the phospholipid mixture was extracted.

Key words: Phytohormones, Phospholipids, Monolayers