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Polysaccharides of cell wall of wheat roots under extreme growth conditions

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Abstract

Incorporation of radioactivity from 14CO 2 into various fractions and polysaccharides of the cell wall of wheat germ roots was analyzed after 40-min photosynthesis and subsequent 24-h growth. Radioactivity of cell wall polysaccharides was decreased by 50-70% during 10-day adaptation of isolated roots under extreme growth conditions. Pectines and alkali-soluble hemicelluloses of the cell wall can be used as reserved sources of endogenous nutrition of root cells during chronic starvation. Insignificant decrease in radioactivity of structural polysaccharides after 14-day incubation of isolated roots can be an indicator of cellular degradation (according to membrane potential).

Keywords

Cell wall, Extreme condition, Isolated root, Polysaccharides, Radioactivity, Triticum vulgare muticum L.