

E305The Effect on the Galactolipid Metabolism of *Chlorella ellipsoidea* Plasma Membrane as Environmental Change

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The biosynthesis of galactolipid and the composition of fatty acid were analyzed in plasma membrane isolated from *C. ellipsoidea* treated with antiseptics and surfactants during the cultivation. The major fatty acid utilized for biosynthesis of MGDG in *C. ellipsoidea* plasma membrane treated with various antiseptics were linolenic acid(ave. 14.40%), palmitoleic acid(ave. 12.97%) in control, oleic acid(ave. 15.69%), linolenic acid(ave. 11.16%) in potassium sorbate (P.S 0.3mM) treatment, palmitoleic acid(ave. 12.01%), oleic acid(ave. 11.42%) in sodium benzoate (S.B 0.4mM) treatment, oleic acid(ave. 10.22%), linoleic acid(ave. 16.71%) in calcium propionate (C.P 2mM) treatment. The major fatty acids in plasma membrane DGDG were oleic acid(ave. 16.38%), linoleic acid(ave. 11.66%) in control, oleic acid(ave. 15.69%), linolenic acid(ave. 11.16%) in P.S treatment, palmitoleic acid(ave. 11.16%), oleic acid(ave. 11.42%) in S.B treatment, oleic acid(ave. 10.22%), linoleic acid(ave. 16.71%) in C.P treatment. The major fatty acid utilized for biosynthesis of MGDG in plasma membrane of *C. ellipsoidea* treated with various surfactants were oleic acid(ave. 11.11%), linolenic acid(ave. 9.21%) in linear alkylbenzene sulfonate(LAS, 0.01%) treatment, linolenic acid(ave. 16.22%), oleic acid(ave. 14.71%) in α - olefin sulfonate(AOS, 0.01%) treatment, linoleic acid(ave. 13.01%), linolenic acid(ave. 11.63%) in sodium lauryl ether sulfate(SLES, 0.08%) treatment. Otherwise, heptanoic acid(ave. 14.50%), stearic acid(11.84%) in LAS treatment, palmitoleic acid(ave. 16.90%), oleic acid(ave. 11.10%) in AOS treatment, linoleic acid(ave. 14.78%), arachidic acid(ave.8.01%) in SLES treatment were utilized for DGDG biosynthesis.

E306The Effect of Antiseptics on the Galactolipid Metabolism of *Chlorella ellipsoidea* Chloroplast and Thylakoid Envelope

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The biosynthesis of galactolipid and the composition of fatty acid were analyzed in chloroplast and thylakoid envelope isolated from *C. ellipsoidea* treated with antiseptics (potassium sorbate (P.S 0.3mM), sodium benzoate (S.B 0.4mM), calcium propionate (C.P 2mM)). The major fatty acid utilized for biosynthesis of MGDG in chloroplast envelope were palmitoleic acid(ave. 15.55%), oleic acid(ave. 15.09%) in control, oleic acid(ave. 13.71%), linolenic acid(ave. 14.36%) in P.S treatment, palmitoleic acid(ave. 18.26%), oleic acid(ave. 17.26%) in S.B treatment, oleic acid(ave. 16.88%), palmitoleic acid(ave. 16.31%) in C.P treatment. The major fatty acids in chloroplast envelope DGDG were oleic acid(ave. 15.75%), linoleic acid(ave. 17.74%) in control, oleic acid(ave. 14.90%), palmitoleic acid(ave. 15.97%) in P.S treatment, palmitoleic acid(ave. 13.29%), oleic acid(ave. 15.74%) in S.B treatment, oleic acid(ave. 14.52%), palmitoleic acid(14.03%) in C.P treatment. The major fatty acid utilized for biosynthesis of MGDG in thylakoid envelope were linolenic acid(ave. 14.78%), oleic acid(ave. 12.90%) in control, palmitoleic acid(ave. 13.00%) in P.S treatment, palmitoleic acid(ave. 12.94%), oleic acid(ave. 12.43%) in S.B treatment, oleic acid(ave. 12.43%), palmitoleic acid(ave. 12.43%) on C.P treatment. The major fatty acids in thylakoid envelope DGDG were linolenic acid(ave. 18.01%), oleic acid(ave. 15.53%) in control, linolenic acid(ave. 19.20%), linoleic acid(ave. 14.14%) in P.S treatment, palmitoleic acid(ave. 9.03%), oleic acid(ave. 14.85%) in S.B treatment, oleic acid(ave. 13.90%), linolenic acid(ave. 12.66%) in C.P treatment