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研究论文

不同龙须菜品系在高温胁迫下的生理响应比较

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摘要：

文章研究了2个龙须菜（*Gracilaria lemaneiformis*）品系981和07-2在3种温度（23℃、27℃和31 ℃）条件下的各个生理指标的变化情况。结果表明，龙须菜07-2品系的相对生长速率在23℃和27 ℃时呈上升趋势，31 ℃时略有下降；981龙须菜品系也呈先上升后下降趋势。07-2品系的叶绿素a（chlorophylls，Chl-a）和类胡萝卜素在23℃和27 ℃时均低于981龙须菜，31 ℃时基本持平；07-2品系的藻蓝蛋白（R-PC）呈上升趋势，但是差异不显著，藻红蛋白（R-PE）含量高于981龙须菜，且呈上升趋势；981龙须菜的各个光合色素在3个温度条件下均没有显著差异。07-2品系的超氧化物歧化酶（SOD）活性呈上升趋势，差异显著；981龙须菜的SOD活性略有上升，但差异不显著。在生长状态、光合色素和抗氧化酶等方面，07-2品系比981龙须菜更能表现出其耐高温的优越性。
关键词： 龙须菜 品系 高温胁迫

Comparing physiological response of different strains of Gracilaria lemaneiformis to high temperature stress

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Abstract:

The changes of physiological indices for 2 Gracilaria lemaneiformis strains (981 and 07-2) were studied at 23℃, 27℃ and 31 ℃, respectively. The results indicate that the relative growth rate of 07-2 increases at 23℃ and 27 ℃ while declines slightly at 31 ℃, and 981 shows a similar trend. The contents of chlorophyll and carotenoids in 07-2 are lower than those in 981 at 23 ℃ and 27 ℃ but become stable at 31℃. The content of phycocyanin in 07-2 is on the rise but without significant difference; the content of phycoerythrin is higher than that in 981, showing an ascendant trend. At 3 different temperatures, the photosynthetic pigments in 981 show no significant difference. The SOD activity in 07-2 shows an ascendant trend with significant difference while that in 981 increases slightly without significant difference. Therefore, 07-2 has better growth performance, photosynthetic pigment and antioxidant enzymes than 981, showing its advantage of high temperature resistance. Key words：Gracilaria lemaneiformis；strains；high temperature stress。
Keywords: *Gracilaria lemaneiformis* strains high temperature stress

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