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光强对药用白菊花营养期生理生化特性的影响

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中文摘要:目的: 探讨光强对药用白菊花营养期生理生化特性的影响。 方法 :测定药用白菊花营养期在不同光强处理(透光率分别为自然光的100%, 80%, 60%, 40%, 20%)下生理生化指标的动态响应值。 结果 :药用白菊花各生理生化指标随生长发育进程和处理时间的延长呈一定的动态变化,且随相对光强的减弱,可溶性糖含量逐渐降低,与光强呈显著正相关;可溶性蛋白含量先升后降;丙二醛(MDA)含量增加;超氧化物歧化酶(SOD)活性、过氧化氢酶(CAT)活性先降后升。 结论 :适当遮阴有利于药用白菊花营养期氮素的积累,且使植物处于较低的胁迫环境;营养期药用白菊花生长的适宜光照环境为自然光的80%~60%,处理时间以20~40 d为宜。

中文关键词:药用白菊花 光强 生理生化特性 动态变化

Effects of light intensity on physiological and biochemical characteristics of *Chrysanthemum morifolium* at vegetative stage

Abstract: Objective: To study the effect of light intensity on physiological and biochemical characteristics of *Chrysanthemum morifolium* at the vegetative stage. Method : The dynamic response of physiological and biochemical indexes of *Ch. morifolium* were measured under different treatments (100%, 80%, 60%, 40% and 20% of the full sunlight) at the vegetative stage. Result : The physiological and biochemical indexes of *Ch. morifolium* showed dynamic changes with the progress of growth and the increase of the treatment time. The soluble sugar content decreased when the light intensity reduced, and had a significant positive correlation with the light intensity. Soluble protein content rose firstly and fell later, malondialdehyde content increased, superoxide dismutase and catalase activity decreased initially and increased afterwards. Conclusion : Proper shading benefits the nitrogen accumulation of *Ch. morifolium* at the vegetative stage, and reduces the strength of stress condition. The suitable light environment for growth of *Ch. morifolium* at the vegetative stage is about 80%-60% of full sunlight and the optimum treatment time is 20-40 days.

keywords:*Chrysanthemum morifolium* for medicine light intensity physiological and biochemical characteristics dynamic change

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