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不同灌水下限对温室茼蒿生长和产量的影响

Effect of different irrigation thresholds on growth and yield of garland chrysanthemum (*Chrysanthemum coronarium* L.) in greenhouse

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英文关键词: [greenhouses](#) [irrigation](#) [experiments](#) [garland chrysanthemum](#) [yield](#) [irrigation amount](#) [irrigation threshold](#)

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中文摘要:

该文采用15 cm深处土水势为茼蒿的控制灌水下限, 研究在模拟微喷条件下控制灌水下限对温室茼蒿生长和产量的影响。共设6个处理, 灌水下限分别是-10 kPa (T1), -15 kPa (T2), -20 kPa (T3), -25 kPa (T4), -30 kPa (T5) 和-40 kPa (T6)。结果表明, 不同的灌水下限对茼蒿产量的影响显著, 灌水下限为控制在-15 kPa是产量最高, 分别比其他处理增加了0.5%, 18.7%, 62.6%, 73.4%, 71.7%, 在整个生育期灌水量为195 mm, 比与其产量相近的T1处理节水56.4%。T2处理的株高和生长速率在生长后期与T1无差异。灌水下限低于-25 kPa, 水分亏缺严重, 影响出苗, 不利于茼蒿生长。以-15 kPa土水势作为控制灌水下限, 有利于茼蒿生长, 可以达到高产、节水的目的。

英文摘要:

An experiment was conducted to study the effect of different irrigation thresholds on yield and growth of garland chrysanthemum under simulated micro-spray irrigation in greenhouse. The experiment included six treatments, which controlled soil water potential (SWP) at 15cm depth with -10 kPa (T1), -15 kPa (T2), -20 kPa (T3), -25 kPa (T4), -30 kPa (T5) and -40 kPa (T6), respectively. The results showed that effect of different irrigation threshold on the crop yield was significant. Treatment T2 had the highest yield and compared with T1, T3, T4, T5 and T6, its yield increased by 0.5%, 18.7%, 62.6%, 73.4%, 71.7%, respectively. Irrigation amount of T2 was 195 mm throughout the growth period, saving 56.4% than that of T1. The plant height and growth rate of T2 had no difference from T1. When the irrigation threshold was lower than -25 kPa in SWP, garland chrysanthemum would be under severe water stress, negatively affecting seedling emergence and restraining its growth. The SWP of -15 kPa was recommended as the best irrigation threshold for garland chrysanthemum, because of both high-yield and water-saving.

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