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研究报告

腐植酸钾对生姜根系生长发育及活性氧代谢的影响

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摘要 采用池栽试验方法研究了腐植酸钾对生姜根系生长发育及活性氧代谢的影响. 结果表明：施用腐植酸钾显著地提高了生姜根系鲜质量和根系活力，促进了根系的生长发育，尤其在生育后期表现明显. 施用腐植酸钾明显地提高了生育后期根系的超氧化物歧化酶、过氧化物酶和过氧化氢酶活性，降低了膜脂过氧化产物丙二醛含量，延缓了根系衰老. 根系的可溶性蛋白质含量分别比空白对照、等量腐植酸和等量氧化钾对照增加49. 18%、25. 89%和13. 26%，生姜产量分别增加61. 29%、48. 13%和9. 92%.

关键词 腐植酸钾 生姜 根系 衰老

分类号

Effects of potassium humate on ginger root growth and its active oxygen metabolism

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Abstract

A pool-culture experiment was conducted to study the effects of potassium humate on the growth and active oxygen metabolism of ginger root. The results showed that applying potassium humate increased the root fresh mass and root vigor significantly, and promoted the root growth especially in later period. Potassium humate application obviously increased the activities of superoxide dismutase (SOD), peroxidase (POD) and catalase (CAT), decreased the content of MDA,and delayed the senescence of ginger root. After applying potassium humate, the soluble protein content in root was increased by 49.18%, 25.89% and 13.26%, and the yield was increased by 61.29%, 48.13% and 9.92%, respectively, compared with the treatments CK, same application rate of humic acid, and same application rate of potassium monoxide.

Key words potassium humate ginger root system senescence

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