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研究论文

GA3和kinetin在低温下对玉米和大豆种子萌发及幼苗发育影响的研究

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摘要 本文在控制温度条件下，研究了GA3和kinetin在低温条件下对玉米和大豆种子萌发及幼苗发育的影响。结果表明，在萌发适宜温度25℃条件下两种药剂处理的效果均不显著，但在15℃和10℃较低温度条件下两种药剂对玉米和大豆种子萌发有明显促进作用，而且在l0℃温度下药剂处理的效果好于在15℃温度下。在10℃低温条件下，对玉米和大豆种子萌发及幼苗发育最有效的处理是0.01mM GA3和0.005 mM kinetin.

关键词 萌发 大豆(Glycine max) 低温 植物生长调节剂 玉米(Zea mays)

分类号

GA3 and Kinetin Stimulate the Germination of Corn and Soybean Seeds at Low Temperatures

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Abstract There have been few studies regarding how GA and kinetin affect germination by seeds of corn and soybean under low temperature conditions. Two controlled environment experiments were conducted to examine the effect of GA3 and kinetin on the germination rate, percent germination, and early seedling development of corn and soybean at 10, 15 and 25℃. The germination rate, percent germination and early seedling development were examined for all the treatments. The results indicated that(1) at 25℃ neither GA3 nor kinetin affected the germination of corn and soybean seeds, (2) both GA3 and kinetin can increase the germination rate and the percent germination of corn and soybean seeds at 10 and 15℃, (3) GA3 and kinetin have more effect on the germination of corn and soybean seeds at 10℃ than at 15℃, (4) 0.0l mM GA3 and 0.005 mM kinetin were the most effective concentrations for increasing germination rate, percent germination, and early seedling development of corn and soybean under low temperature conditions.

Key words Germination Glycine max Low temperature PGRs Zea mays

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