

Promoting radish and carrot seed germination using 5-aminolevulinic acid extract from *Rhodobacter* spp.

P. Tripetch, C. Borompichaichartkul, G. Srzednicki

Acta Horticulturae 989: 339-342. 2013.

Abstract

The effect of 5-aminolevulinic acid (ALA) on germination of Chinese radish and carrot seeds was studied. Variety of seeds were soaked in ALA-hydrochloride (commercial ALA) solution at 0.1-10 ppm and in crude ALA extract from *Rhodobacter* spp. culture (equivalent to ALA concentration of 2.5 ppm) for 12 h and 20 h for Chinese radish and carrot seed, respectively. The percentage of germination of seed for both species was tested at 25 and 35°C. The results show that ALA-hydrochloride solution concentration and crude ALA solution were able to promote Chinese radish seeds germination more than 90% and mean germination time (MGT) was ranging from 2.25-3.35 d at 25°C. In contrast, at 35°C percentage of germination of Chinese radish seed was less than 50% and MGT was ranging from 4.44-4.97 d for all treatments. For carrot seeds, ALA-hydrochloride and crude ALA could stimulate the seeds germination at 25°C more than control (distilled water). However, none of the treatments at 35°C did show carrot seeds germination. The results suggested that the crude ALA solution has the growth stimulating effects comparable to those of pure commercial ALA.