
Allelopathic potential of cumin on seed germination and early growth of chick pea

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Abstract

Allelopathic potential of cumin on seed germination and early growth of chick pea (*Cicer arietinum* L) was investigated in agronomy laboratory of Sabzevar branch, Islamic Azad university on 2014. An experiments was conducted as the factorial experiments based on completely randomized design with 4 replications including two cumin organ extracts (seed and aerial extract) at five concentrations (0, 25 50 75 and 100 %). The result showed that type of organ had not significant effect on the root length, shoot length. The mean germination time reached to 5, 10, 50 and 90% germination, Maximum germination and germination rate was affected by type of organ extract. Seed extract had more inhibitory effect on germination parameters. Increasing of concentration significantly reduced the Maximum germination, germination rate and root length (99.17, 94.54 and 99.84%, respectively) and increased the mean germination time reached to 5, 10, 50 and 90% germination (55.15, 57.71, 60.48 and 64.70%, respectively). Inhibitory effects of seed extract were higher than aerial extract with increasing of concentrations. 50% seed extract and 100% aerial extract had the most inhibitoriest effect. Overall, The results showed that allelopathic effects in seed extract was higher than cumin aerial part.

Keywords: allelopathy, cumin, chick pea, germination

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