عنوان مقاله:

Investigating germination parameters of Malva sylvestris after treatment with extract of Eucalyptus camaldolensis

محل انتشار:

هفتمین کنفرانس بین المللی پژوهش های کاربردی در علوم و مهندسی (سال: 1402)

تعداد صفحات اصل مقاله: 14

نویسندگان:

Banafsheh Heidari Koholi - *Master of Science, Payame Noor University, Najafabad, Iran*

Mohammad Hassan Assareh - *Scientific board, Seed and Plant Certification and Registration Institute, Karaj, Iran*

Shoukufeh Enteshari - *Scientific board, Payame Noor University, Najafabad, Iran*

Anahita Shariat - *Scientific board, Research Institute of Forests and Rangelands, Tehran, Iran*

خلاصه مقاله:

The use of allelochemicals as natural herbicides is a new approach to reduce the adverse effects of chemical herbicides on the environment and prevent weed resistance to herbicides. In this study, the allelopathic effect of Eucalyptus camaldolensis leaves and roots on Malva sylvestris species was tested in greenhouse conditions in ۲۰۰۸ at the National Research Institute of Forests and Rangelands of Iran. This study was conducted as a completely random design with three repetitions and comparison of averages with Duncan's test at the level of ۰.۰۵. The treatments used in the greenhouse stage were: control, dried leaf powder (۵, ۱۰, ۱۵ grams), fresh leaf powder (۵, ۱۰, ۲۰ grams), ethanolic extract of leaves (۳, ۶, ۱۲ grams per liter), aqueous extract of dry leaves (۵, ۱۰, ۱۵%), aqueous extract of fresh leaves (۱۰ and ۲۰%) and root secretions. In some of the pots, ethanolic extract of dry leaves (۳, ۶, ۱۲ g/l) was sprayed on the leaves. The parameters measured in this study included plant length, germination percentage, germination speed, germination index, Vigour Index. The results obtained from the greenhouse phase showed that in all the measured traits, the most inhibitory effect was related to the ethanolic extract, fresh leaf and dry leaf aqueous extracts also had an inhibitory effect and the measured parameters also showed a decrease. The fresh and dry leaf powders used acted as a covering layer and prevented humidity from escaping. The effect of root secretions was also investigated in pots containing one-year-old eucalyptus seedlings, which completely prevented the seeds from germinating.

کلمات کلیدی:

allelopathy, Eucalyptus camaldolensis, germination parameters, Malva sylvestris, root secretions