

عنوان مقاله:

Efficacy of Priming Technique to Enhance Germination of Cumin (*Cuminum cyminum*) Seeds of Different Lifespans

محل انتشار:

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خلاصه مقاله:

Optimum germination and seedling establishment are important stages in the life cycle of plants with dormant seeds. This research was conducted to evaluate the impact of seed priming on the germination indices and seedling growth of cumin seeds with different lifetimes. Cumin seeds of different lifetimes (freshly harvested seeds, ۱۲ and ۲۴ months old) were soaked in distilled water (hydropriming), KH_2PO_4 (۱ and ۲%), NaH_2PO_4 (۱ and ۲%), ascorbic acid (AA; ۱۰۰ and ۲۰۰ mg L⁻¹) and Gibberellic acid (GA; ۱۰۰ and ۲۰۰ mg.L⁻¹) at ۴ °C and ۲۰ °C for ۱۲ or ۲۴ h. Seed priming treatments caused significant improvement in the germination of seeds with all three lifetimes. In ۱۲ and ۲۴ months old seeds, seed priming with NaH_2PO_4 and AA were more effective in improving the germination indices compared to other priming composition. However, in freshly harvested seeds, due to relative dormancy, treatment with GA was more effective compared to the other priming treatments. In the most of germination indices, seed priming at ۲۰ °C along with ۲۴ h showed higher effectiveness compared to other priming temperature and duration combinations. The overall results showed that the response of cumin seeds to different priming treatments depends on seed age.

کلمات کلیدی:

Cumin, Germination, Halopriming, Plant Growth Regulator, Seed storage

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