Effect of Seed Priming and Temperature on Germination of Lettuce Seed. (C04-phillips144039-Poster)

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Abstract:

Seeds of 'Tiber' head lettuce (Lactuca sativa L.) were germinated at temperatures of 20, 25, 30, and 35 C in order to study the effects of seed osmoconditioning (or seed priming). An alternating temperature regime of 20 C (for 12 hours in light) and 35 C (for 12 hours in darkness) was also included. Seed priming consists of soaking seeds to permit them to imbibe water and initiate the germination process, then halting the process before the radicle has emerged. Two seed priming protocols (one published by Bradford and Valdes and another used by Seed Dynamics Seed Company of Salinas, California) were studied along with unprimed seed. At 20 C, 25 C, and alternating 20 and 35 C, there were no significant differences in seed germination percentage among the primed and unprimed seed treatments. At 30 C and 35 C, both of the seed priming protocols resulted in a significantly greater seed germination percentage than that of unprimed seed, providing evidence that seed priming of lettuce may overcome high temperature dormancy.

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Presentation Information:

Presentation Date: Tuesday, November 12, 2002
Presentation Time: 4:00-6:00 pm
Poster Board Number: 1119

Keywords:

seed priming, high temperature dormancy, lettuce