

عنوان مقاله:

Evaluation of water relations in acclimatization of transformed rose (*Rosa hybrida* L.) to the ex-vitro with promising antifungal activity of thyme oil

محل انتشار:

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خلاصه مقاله:

Tissue culture is currently expanding in horticulture, agriculture and forestry in a global. This technique involves establishment and maintenance of explants, then the in-vitro initial growth is followed by transplanting into the glasshouse or field. Regarding to the optimum in-vitro growth condition, a period of acclimation is necessary to prevent consequent environmental changing due to shootlet transplanting to the ex-vitro condition. The present work was aimed to investigate the media acclimatization of in-vitro transformed roses to the ex-vitro condition. For this purpose, based on a hydroponic system, an experiment was carried out to evaluate the suitable combination of different media (perlite, peat and vermicompost). Otherwise, to promote media efficiency; antifungal activities of different concentrations of thyme oils (0, 50 and 100 $\mu\text{l l}^{-1}$) were assessed. This project was performed in factorial experiment in completely randomized design with five replications. Results showed that combination of different media and thyme during 21 days had significant effect on certain parameters of water relations ($P < 0.05$). Results indicated that, relative water content, excised leaf water retention, relative water protective were highest and excised leaf water loss, leaf water loss and water loss were lowest in mixture of medium with peat, perlite and vermicompost (1: 1: 1; v/v/v) with 100 $\mu\text{l l}^{-1}$ thyme oils. On the whole, scale water relations data indicated that peat, perlite and vermicompost as standard medium with 100 $\mu\text{l l}^{-1}$ thyme during three weeks can represent a useful media of the state of water balance for transformed rose.

کلمات کلیدی:

Acclimatization, Hydroponic media, Thyme oil, Transformed *Rosa hybrida*

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