

## ABSTRACT

### A STUDY ON PRODUCTION OF (*Pancratium maritimum* L.) BY SEED IN-VIVO AND IN-VITRO CONDITIONS

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*Pancratium maritimum* L. is a native bulbous sp. which has a potential for the usage of ornamental plant. It is under the danger of extinction due to human activities and dense housing in coastal regions which are the natural habitat of seadaffodil. This study was carried out to produce *Pancratium maritimum* L. by seed under in vitro and in vivo conditions between the years 2011 and 2013. For this purpose, (1) germination performance of the seeds in different growing media, (2) the effect of different pre-treatments on germination ratio performance, and (3) production possibilities of tissue culture are investigated in three different phases. During the observation of germination performance nine different growing media including sand, chestnut crust+sand (1:1), peanut crust+sand (1:1), perlite+turf (1:1), turf+sand (1:1), sand+coconut crust (1:1), sand+perlite (1:1), soil+sand+manure (1:1:1) and sea sand as a control, were used. Different pre- treatments were used that are GA<sub>3</sub> (250 ppm, 1000 ppm), PEG (6000), KH<sub>2</sub>PO<sub>4</sub>, KNO<sub>3</sub> BAP (100 ppm, 250 ppm), Formic acid and control. In order to test the tissue culture, explants from small plants germinated in agar+water medium included 6.5 g/L agar, 30 g/L saccharose, BAP and NAA and cultured in MS medium. At the end of the observations and analyses, soil+sand+manure (1:1:1) gave the best ratio of seed germination (60.25 %). After the end of the pre-treatments, the best ratio for germination (75.75 %) was obtained with the BAP (100 ppm) pre-treatment. In tissue culture implementation, when three repetitions were evaluated, at the end of the 21st day, the values 58.74 %, 57.75%, 29.58 % (germination ratios) were gathered. But contamination was observed in plantlets which were grown from seeds germinated in water+agar medium. Only the explants, obtained from the seeds which were sown in the second germination test were transferred to MS nutrient

medium. Only callus formation was observed in MS medium containing 1.0 mg/L BAP-0.1 mg/L NAA. But due to contaminations, bulb formation was not observed.

**Key Words:** *Pancreatium maritimum* L., seadaffodil, seed-production, in vitro, pre-treatments, germination medium