

Germination of Scarified Seeds of Mediterranean Star of Bethlehem (*Ornithogalum ulophyllum* L.) Under *In vitro* Conditions

Mortaza HAJYZADEH¹, Mehmet Ugur YILDIRIM¹, Khalid Mahmood Khawar², Ercument Osman SARIHAN¹, Fethi Ahmet OZDEMIR³

¹Department of field crop, Faculty of Agriculture and Natural Sciences, Usak University, 1 Eylul Campus, 64200 Usak, Turkey

²Department of Field Crops, Faculty of Agriculture, Ankara University 06110 Diskapi, Ankara, Turkey

³Department of Molecular Biology and Genetics, Faculty of Science and Arts, Bingol University, 12100, Bingol, Turkey
m.hajyzadeh@gmail.com

Aim of the study: Conservation of plant diversity is an important issue world over. The genus *Ornithogalum* L. is widely distributed in Europe and the Middle East with 32 species found in Turkish Flora under natural conditions their seeds have poor germination due to seed coat dormancy. Since they bear beautiful white colored flowers with potential in xeriscaping, they form an important part of natural biodiversity that has to be conserved. Mechanism of prolonged dormancy among immature seeds of *O. ulophyllum* has to be studied yet. This study aimed to promote germination on physiologically mature and immature seeds containing more than 50% moisture level

Material and Methods: Three seed germination experiments were conducted. First experiment contained the non scarified seeds stratified on agar solidified MS (Murashige and Skoog 1962) and cultures were maintained at +4°C under dark condition. The 2nd experiment contained the seeds chemically scarified with 98% sulphuric acid and stratified on agar solidified MS medium and cultures were maintained at +25°C, under 16 hours light photoperiod in growth cabinet. The third experiment contained the seeds mechanically scarified with sharp knife and stratified on agar solidified MS medium and cultures were maintained at +25°C, under 16 hours light photoperiod in growth cabinet .

Results: The results showed failure of effectiveness of protocol first and second to germinate the seeds. Whereas, the third technique of mechanical scarification was the most effective to germinate the seeds with >40% germination. The results of the study are very encouraging showing strong seed coat dormancy. The behaviour of the seeds is indicative that a concerted future programme of research may enable longterm conservation of this important plant species.

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Key Words: *Ornithogalum ulophyllum*, developed germination, *In vitro*, dormancy.