

Seed germination studies of *Cephalaria gigantea* (Ledeb.) Bobrov with ornamental plant potentials

Burçin Çingay, Aşkın Öykü Çimen, Seçgül Çelik

ANG Foundation, Nezahat Gökyiğit Botanic Garden, İstanbul-Turkey
e-mail: burcincingay@ngbb.org.tr

There are different reasons for inadequate utilization of the natural plants. Possibility of using this plant as an ornamental plant is not studied enough, they are not introduced to masses and the methods of reproduction has not been studied. In recent years, increased interest in native plants have accelerated the studies related to the cultivation of the plants in our flora that has a potential value to become an ornamental plant.

The aim of this study is to determine the practical seed germination methods of *Cephalaria gigantea* (Ledeb.) Bobrov that have ornamental plants value and naturally grows in Turkish flora. This study was carried out in Nezahat Gökyiğit Botanic Garden in İstanbul, Turkey, between 2017 and 2019, under the project of TAGEM/ARGE 17-01.

To determine seed viability, tetrazolium chloride (TTC) test and iodine/potassium iodide (IKI) method were performed. Pre-treatment was applied (45 days) and not applied (control) seeds glass Petri dishes, at 250 ppm, 500 ppm and 1000 ppm, 2000 ppm different concentrations of 10 ml of gibberellic acid (GA3) solution and distilled water (control); at 25 °C 12 hours light (L)/15 °C, 12 hours dark (D) alternate temperature and light-dark conditions, were subjected to germination tests. As a result of testing of seeds viability, 86,90% viability in seeds was determined. In this study, *C. gigantea*, for ornamental plant value of the highest germination percentage, stratification (45 days 5°C) applied and 25/15°C alternate temperature, continuous dark conditions can be achieved with 250 ppm GA3 treated seeds, respectively.

Keywords: Ornamental Plant, *Cephalaria gigantea*, Seed Germination.