

## GERMINATION SPECIALITIES OF SOME SALINE PLANT SPECIES

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More than 12000 km<sup>2</sup> different type of sodic-salinic soil surfaces are present in Hungary Their flora is excessively rich in perennial species that even have ornamental value. The sodic perennial species tolerate well but not demand obligatory the high salinity concentration and bad structure of the soil, intensive insolation and dryness. During our experiment, we examined the germination ability of some saline perennial species derived from different habitat. Furthermore, we determined the effect of sowing depth and sowing substrate on germination.

We collected seeds of *Achillea asplenifolia*, *Artemisia santonicum*, *Aster tripolium* ssp. *pannonicum*, *Inula britannica*, *Limonium gmelinii* ssp. *hungaricum* and *Podospermum canum* species from five different salty-sodic habitat in Hungary in October-November 2017: Apajpuszta, Cegléd, Dinnyés, Farnos and Fülöpszállás. In the first step, seeds of different habitat were sown separately in plastic boxes in Klassmann peat. To determine the optimal sowing depth seed mixtures of the species were sown in Klassmann peat, on the surface of the substrate, or covered with 1 or 5 mm peat. In order to determine the best sowing mixture, seeds were sown in peat, peat + perlite or Oasis seedling substrate. The following parameters were determined during the evaluation: PI (promptness index):  $PI = nd_2 \times (1,00) + nd_4 \times (0,75) + nd_6 \times (0,50) + nd_8 \times (0,25)$ , where nd means the number of germinated seedlings on the 2., 4., 6., and 8. day after sowing (Hartmann et al. 1997). MGT (mean germination time):  $MGT = (\sum ni \times ti) / \sum n$ , means the sum of multiplication of the given day (ti) and germinated seed (ni) / number of germinated seeds in the end of the experiment (n).

Germination rate, germination percentage at the end of the experiment. G start: number of days from sowing till the appearance of the first seedlings. G power: number of seedlings from the sowing till the 7. day (Pekarskas and Sinkevičienė 2011).

Big differences were observed among the species and the habitats either, except of *Aster tripolium* subsp. *pannonicum*. Best germination rate was measured by *Podospermum canum* from most habitats and *Inula britannica* from Cegléd. The

germination of *Aster tripolium* ssp. *pannonicum* was independent from the originating habitat.

The seeds of different species germinated better if they were uncovered or got 1 mm cover. *Aster tripolium* ssp. *pannonicum* and *Podospermum canum* seeds were not sensitive to this condition. *Artemisia santonicum* and *Inula britannica* were sensitive to cover.

We found differences in germinating substrate preference among the species but, generally all of them germinated well in Oasis germinating substrate except *Limonium gmelinii* ssp. *hungaricum* that preferred peat substrate.

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