

EFFECT OF POTASSIUM FERTILIZER TREATMENT ON GROWTH PARAMETERS OF SOME ARCHAEOPHYTE TAXA

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Potassium plays a significant role in protein and carbohydrate synthesis and osmoregulation. It is involved in almost forty enzyme reactions. Optimum amount of potassium increases the size of the foliage, helps with faster water uptake and transport, causes more favourable water utilization and increases the drought tolerance.

The aim of our study was to evaluate the effect of fertilization on segetal vegetation, and determine the level of potassium sensitivity in case of three wildflower species.

The experiment was carried out in 2016-17 at the Presentation Garden of the Faculty of Horticulture and Rural Development of John von Neumann University. The investigated model species were: *Cyanus segetum* Hill. (cornflower), *Consolida orientalis* GRAY. (larkspur) and *Papaver rhoeas* L. (poppy). The fertilizer (potassium chloride 60 %) was applied on the 14th of October 2016 (at the same time with sowing). Each plot received 9.375 g, 18.75 g, 37.5 g and 75 g, which is equivalent of 25, 50, 100, 200 kg/ha potassium active ingredient. One plot was 1.5 × 1.5 m. During the trial we did not applied any form of agro- or phytotechnical method, the plants were extensively maintained. The examination method based on horizontal and vertical plant parameters, on phenological stages comparison.

The spring development (growth of rosette) began at 800°C in the case of *Cyanus segetum* and *Papaver rhoeas*, while the overwintered seedlings of *Consolida orientalis* developed after a heat sum of 900-1100°C. Due to autumn sowing, the vegetation period started in 2017 10-14 days earlier than in the 2016 experiment, when the sowing date was in February.

Nutrient application increased the height of plant, but did not affect the width and length of the plants. The positive effects were detectable in all treatments (*Papaver rhoeas*); or just 100 kg / ha treatment (*Cyanus segetum* and *Consolida orientalis*). Treatment accelerated the growth of *Consolida orientalis* plants. Positive effect of treatment was observed in terms of germination percentages and overwintering of poppy plants.