

MORPHINE CONTENT VARIATION IN *PAPAVER SOMNIFERUM* L. DURING PHENOLOGICAL DEVELOPMENT

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Abstract In this study we analyzed dynamic of morphine content in different organs of five selected lines of *Papaver somniferum* L. during ontogenetic cycle. Five selected by self pollination lines (with pink, white, mauve, dark mauve and red petals) were used in our experiment. The collection of sample material and the analysis of the morphine content were conducted along five stages of vegetation corresponding to the most important moments in the ontogenetic development of plants: rosette stage at 25 day after germination, bud initiation stage at 43 day after germination, bud dropping stage at 61 day after germination, flowering stage at 75 day after germination and lancing stage at 85 day after germination. The earlier stage of morphine detection was in rosette study only in the roots in the 0.001% d.w. The level of morphine in the leaves of all genotypes increased starting at the 43th day after germination and ending at the green capsule stage. During bud dropping stage (pendulous bud) the roots were recorded a higher morphine amount, which decreases to extinction in the lancing stage. The comparative analysis of morphine content of five different genotypes using in our experiment shows that no many difference between morphine accumulation profiles during the life cycle.

Key words: *Papaver somniferum*, morphine, phenological stage