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Cytology of the germinating process of Trifolium montanum l. and Trifolium pannonicum jacq. Pollen

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The paper presents the characteristics of the germination process in Trifolium montanum L. and T. pannonicum Jacq. pollen. We made estimates on the length of pollinic tubes in the dynamics of germination (after 3, 24, 48 and 72 hours since the inoculation on medium), according to the glucidic concentration of the nutritive mediums used in this experiment. We pointed out the maximum lengths of the pollinic tubes, correlated to the lengths of flower stiles from the two taxons. Achieving a certain length of the pollinic tubes is very important, because the fertilization of ovules is thus ensured and, implicitly, the fructification of the respective taxons. We also referred to the way of the emergence of pollinic tubes from the two taxons. The bicellular pollen-type of the two fabaceae is shown by pointing out the generative cell in the pollinic cell, which, after the mitotic division, produces two spermatic cells having the value of immobile male gametes. We have also shown the type of anomalies of the pollinic tubes and the frequency of these anomalies during the process of pollen germination at the two taxons from the Fabaceae family. The obtained results were correlated to the different polyploidity degree of the two taxons, to pollen germinating potential, to geographic spreading area, and to native resistance of the two taxons to various abiotic factors. Although the phylogenetic connection between the two investigated taxons is very tight, there are distinctive traits of the germinating process, which have a diagnosis value and may represent valuable genetic and physiological indicators.