

## **Abstract**

Anther dehiscence is an important process taking place at the end of the plant life cycle. This process consists of various follow-up steps which result in anther opening and pollen grains exposure. Good timing of the anther dehiscence must be synchronized with pollen grains maturation and flower opening. Atmospheric precipitation is a high-risk factor for the anther dehiscence. Male fitness of plants can be reduced when anthers open during poor weather conditions. The aim of this study was to investigate the effect of atmospheric precipitation, rain and dew, on *Arabidopsis arenosa* anther dehiscence. We observed that rain and dew led to a postponed final stage of the anther dehiscence. This caused delayed pollen release. The effect of aqueous and nonaqueous environment on the anther dehiscence was also tested. Experiments with transformation of *A. arenosa* using *Agrobacterium tumefaciens* were performed.

**Key words:** anther dehiscence, flower opening, rain, dew, *Arabidopsis arenosa*, *Agrobacterium tumefaciens*, transformation