

<b>SUPERVISOR'S OPINION OF DIPLOMA THESIS</b>	
<input checked="" type="checkbox"/> <b>Supervisor's opinion</b>	<b>Supervisor of the thesis:</b> Matyáš Fendrych <hr/> <b>Date: 21 January 2022</b>
<b>Author of the thesis: Michal Bogdan</b>	
<b>Name of the thesis:</b> Tissue-specific knockout of starch synthesis in columella cells of <i>Arabidopsis thaliana</i> and gravitropic response	
<b>Inclusion of the submitted work in the context of current work of the team</b>  The aim of Michal's thesis was to advance the understanding of how the starch-filled statolith sedimentation in the columella cells triggers the early gravitropic responses. He planned to switch off starch synthesis specifically in the columella cells and compare the impact on gravitropic responses to the responses of starch-less mutants. To achieve this goal, Michal had to tame the method of tissue-specific CRISPR/Cas9 mutagenesis. As Michal was the first one in our team to use the CRISPR/Cas9 method, he in fact paved the way to CRISPR/Cas9 mutagenesis for the entire team. Michal mastered the complicated technology very quickly and explained it and provided it to the other members of the lab. Apart from the starch-related mutants, he also produced two CRISPR/Cas9 mutants that are beneficial for our research. Due to the lack of time, Michal was not able to fully answer the main research questions of his thesis, however, he helped significantly in advancing the team methodologically, and the tools he generated can be used to address the details of the early gravitropic responses in columella cells.	
<b>Student's approach to the given topic</b> Michal, with the help of the consultant, had to plan the tissue-specific knockout cloning, the most advanced cloning project I have encountered so far. Michal managed this complicated task very quickly and then also cloned the constructs without major problems and rather independently. The following work with the starchless mutants and his newly-generated lines that aimed at studying the impact of the mutations on gravitropic phenotypes was more of a challenge for Michal, also because his work was interrupted many times by the annoying pandemics. Michal wrote his thesis independently, and I have to stress that Michal learned to write a scientific text in a very comprehensible and concise language; I think he should make sure to use this skill in his future career. Michal could have invested more work into reading of scientific literature. Also, Michal worked on the thesis on the very last moment, I recommend him to focus on not doing tasks last moment in his professional future.	
<b>Work progress</b>  The work on Michal's thesis was severely disrupted by the Covid19 pandemics, during the time when Michal was supposed to generate most of his results, it was either impossible to enter the laboratories, or at least part of the members of the team were not present. This negatively impacted the progression of the thesis. I am therefore very happy that Michal didn't give up and successfully finished the experiments and the writing of the thesis.	
<b>Additional remarks on the course of work</b>	
<b>Final classification proposal:</b> I gladly recommend the thesis for defence with the classification <i>very good</i> .	
<b>Signature of supervisor</b>	