

## PRELIMINARY ANALYSIS OF *AN1* MYB GENE IN WILD AND CULTIVATED POTATO SPECIES

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In the plant kingdom there are three major compounds that confer colours to the plants: anthocyanins, carotenoids and chlorophylls. Among all, anthocyanins are of outstanding interest for their well-documented beneficial effects on plant physiological processes and human health. Indeed, anthocyanins are generally accepted to be enhancers of plant reproductive success as well as plant defence mechanisms. Studies on the anthocyanin synthesis pathway discovered all the structural enzymes involved and the transcription factors that regulate their activities. Among them, a member of MYB TFs gene family, named *an1* in potato, seems to be the key player in the anthocyanin accumulation. The aim of this study is to characterize the complete gene structure (CDS, exon/intron, promoter) of *an1* in potato and study its expression in resistant wild potato species. We analysed both white and purple-skin genotypes of *Solanum tuberosum* and two wild potato species, *S. commersonii* and *S. bulbocastanum*, carrying noteworthy resistance traits. By using specific primers we were able to amplify fragments from genomic DNA of all genotypes analyzed. Differences in PCR patterns, likely due to different allelic isoforms present in wild potato species, were found. Preliminary results on shared bands confirmed the identity of both *S. tuberosum* and *S. commersonii* amplicons to *an1* gene. Sequence analysis of alternative isoforms is ongoing. Our future work will focus on the analysis of *an1* gene expression in wild potato species challenged with different biotic and abiotic stresses to understand the role of anthocyanin in plant defence mechanisms.