

The 25th International Conference of Young Scientists

ANALYZING SENESCENCE WITH WHITE MUSTARD GERMINATION



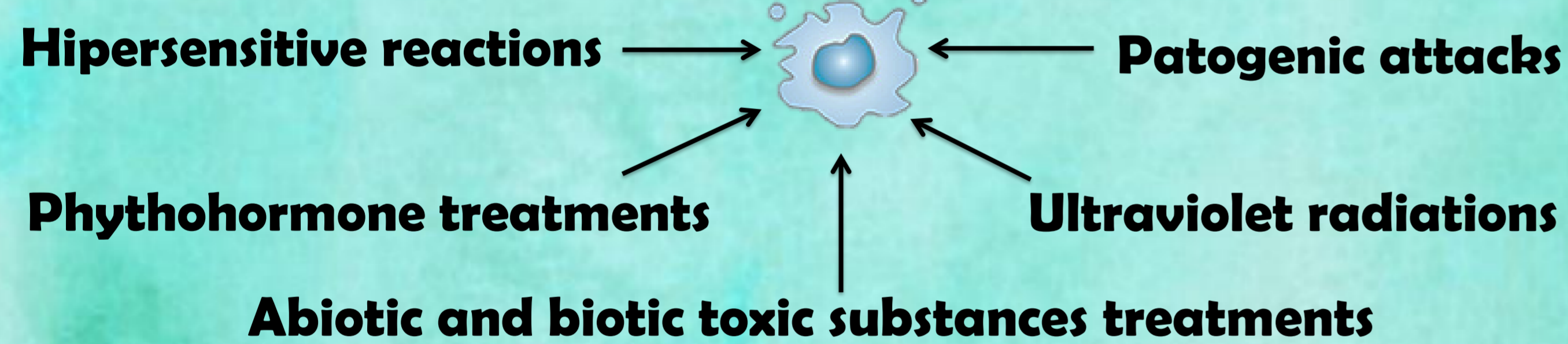
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1. Introduction

Senescence is a type of programmed cell death (PCD) and it is a natural death process in life of plants. Our knowledge about senescence of plant is limited. Senescence is indispensable for plant survival and development. During this process nutrients of died organs can be reused in other organs of plants. It accompanies various processes starting as early as embryogenesis.



The process of senescence can be influenced by natural stressors as well.



Analyzation of this processes could be important in the pharmaceutical industry, biotechnology and in plant production including plant protection, too.

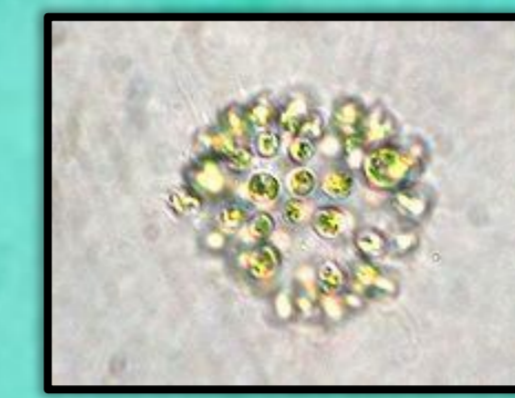


2. Research Methods

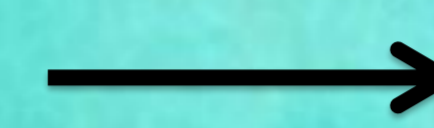
Process of senescence was examined on white mustard (*Sinapis alba*) germination.



I used a microcystin toxin (MCY) to examine the effects of natural stressors on the plant senescence (treated plants).

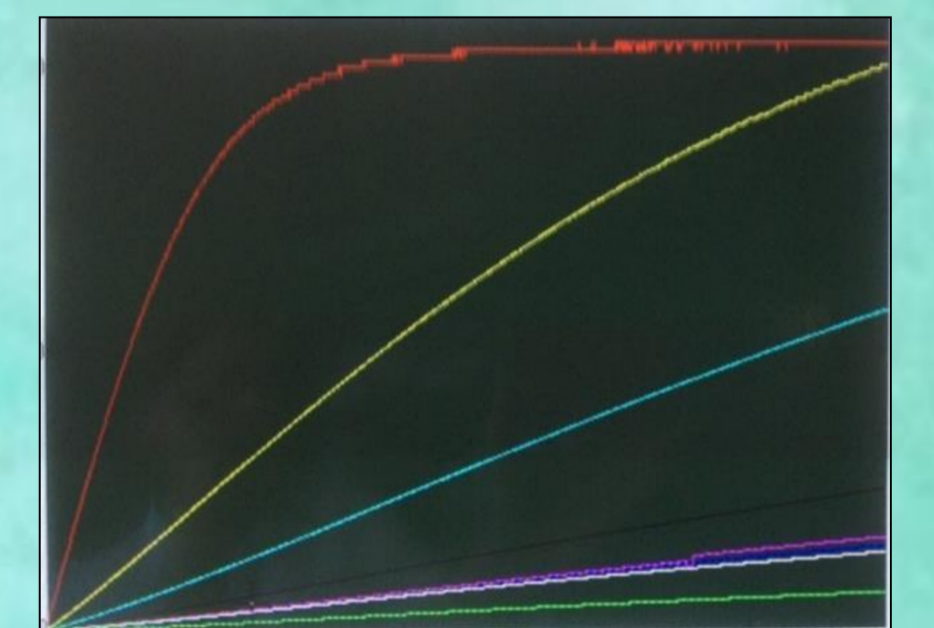
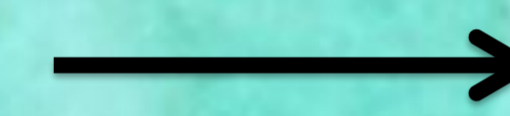


microcystin

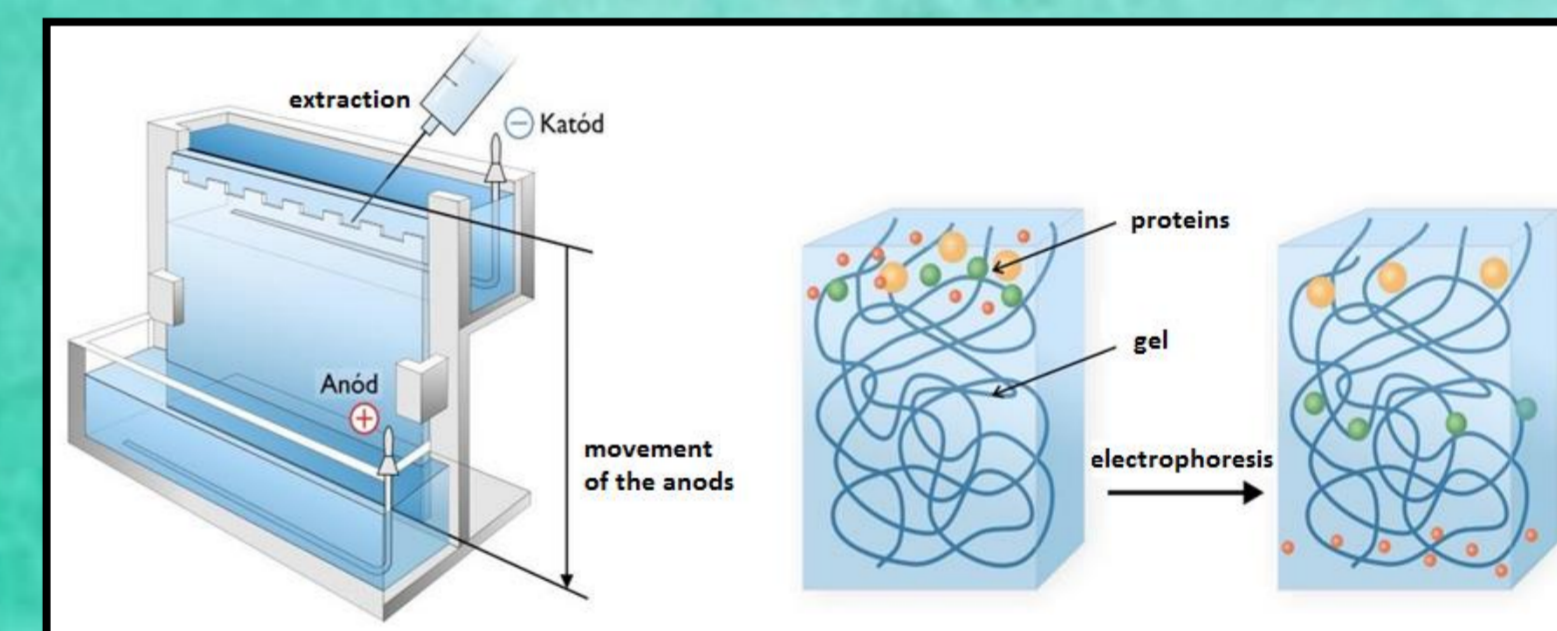


water bloom
(massive production of MCY)

Peroxidase enzyme activity, chlorophyll and carotenoids contents were measured by spectrophotometry.

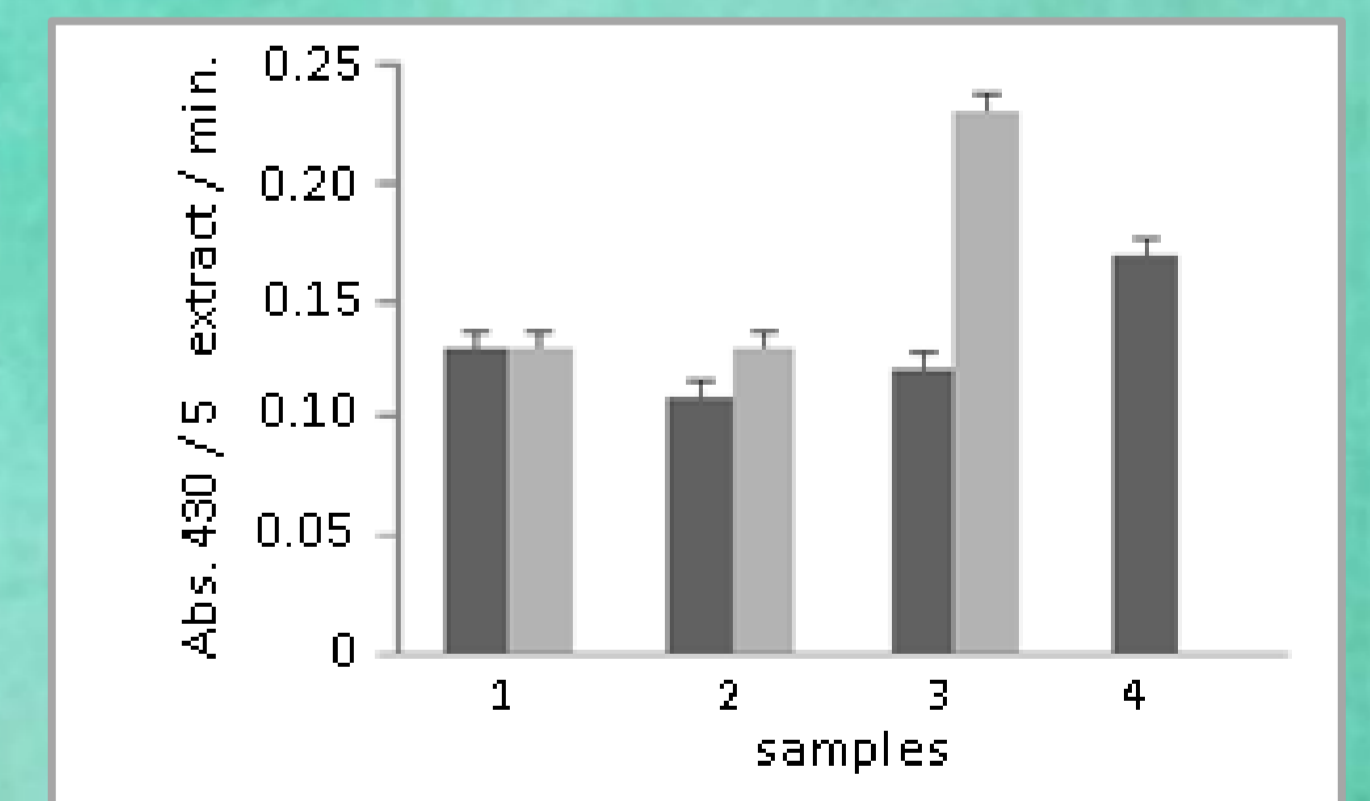
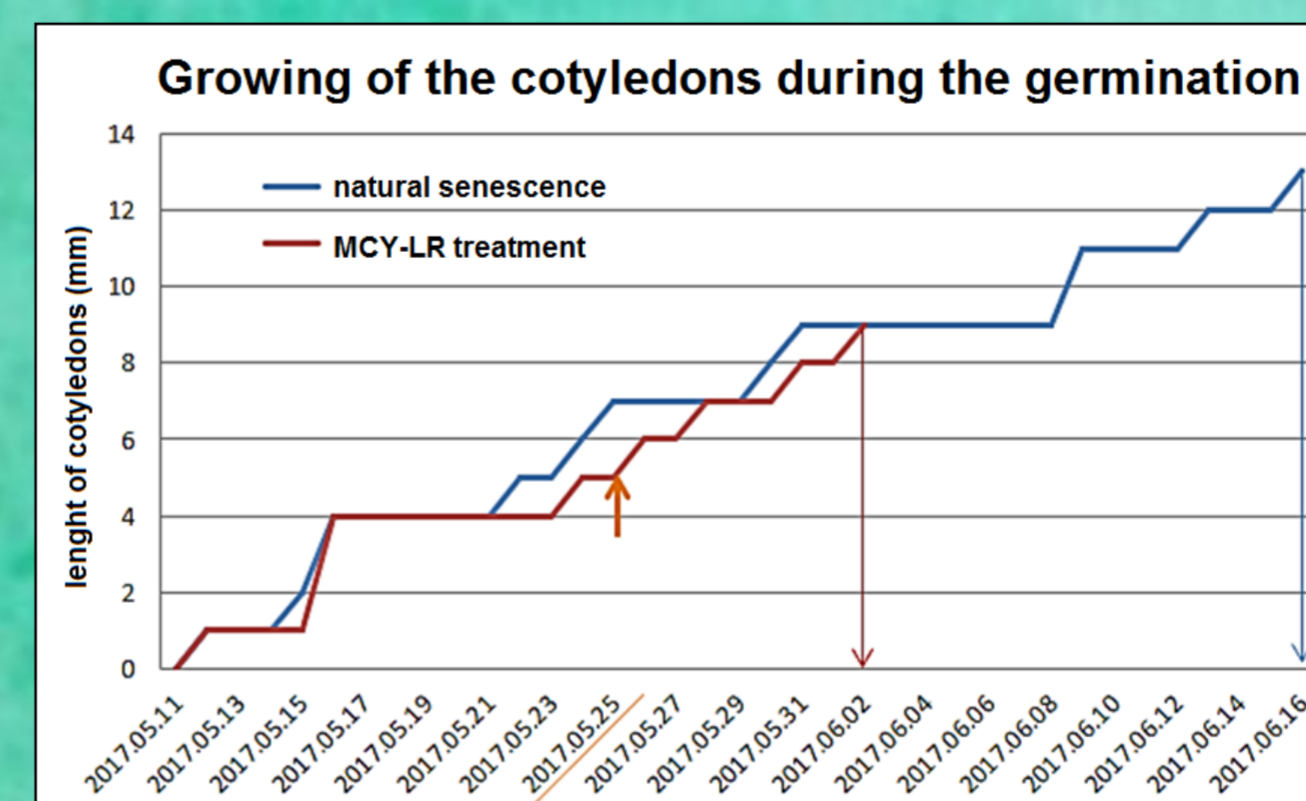


The appearance and disappearance of new enzymes were detected by polyacrylamide gel electrophoresis. I used protease and nuclease gels.



3. Results and Conclusions

Senescence of treated plants (23 days) was faster than senescence of untreated plants (37 days).



The more we know about the functions of the white mustard, the more useful the system is to test or prevent the various environmental problems.

