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(PhD Student)

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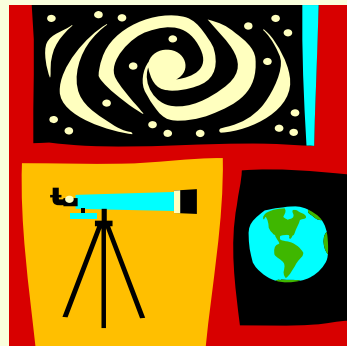
- PhD thesis (titled: Paticipation of phenylpropanoid pathway in cross tolerance of cucumber (*Cucumis sativus* L.) in response to stress factors) and researches are carried out under the supervision of Professor Monika Kozłowska at Department of Plant Physiology

- MSc degree - Environmental Protection Faculty with specialization Environmental Monitoring

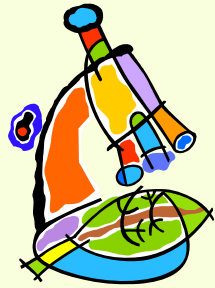


My researches...

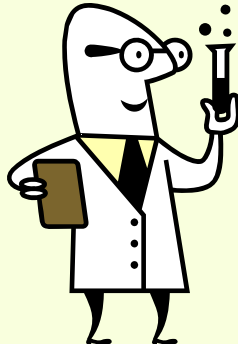
- Include studies on the influence of UV-B radiation (and other stress factors) on crop plants organisms' metabolism, especially on different varieties of cucumber (*Cucumis sativus* L.)

My researches...

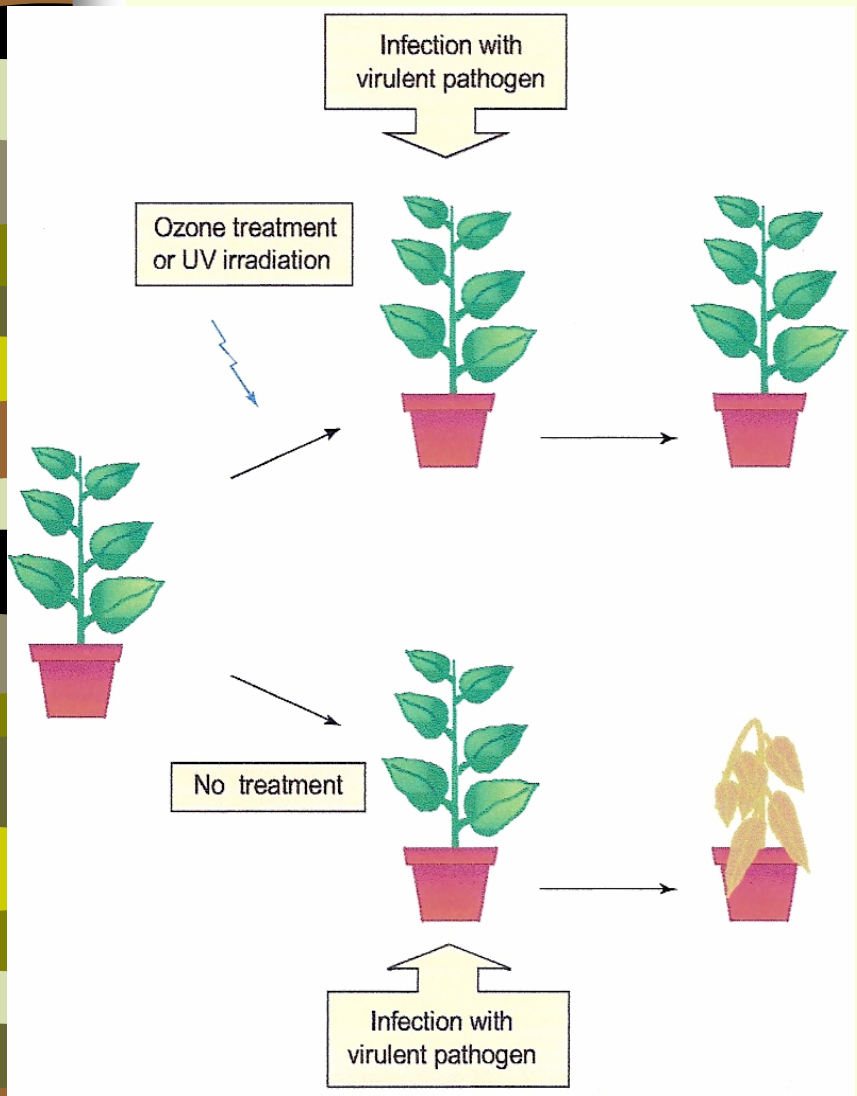
- Include determining changes in the secondary metabolism (phenylpropanoid pathway) of plants



- Involve changes of key enzymes activity and creation of final products of this pathway i.e. flavonoids



Cross tolerance (protection)



[Bowler, Fluhr 2000]

- Definition of the tolerance: to minimize the negative effects of the stress (holding vital processes on unchanged levels)
- One stress factor can cause increasing the resistance of the plant organism to the different stress
- **The phenomenon of cross tolerance**

  - Pretreatment of plants with a sub-lethal dose of ozone or ultraviolet irradiation can confer tolerance to virulent pathogen. A plant not given pre-treatment will die

My researches and cross tolerance

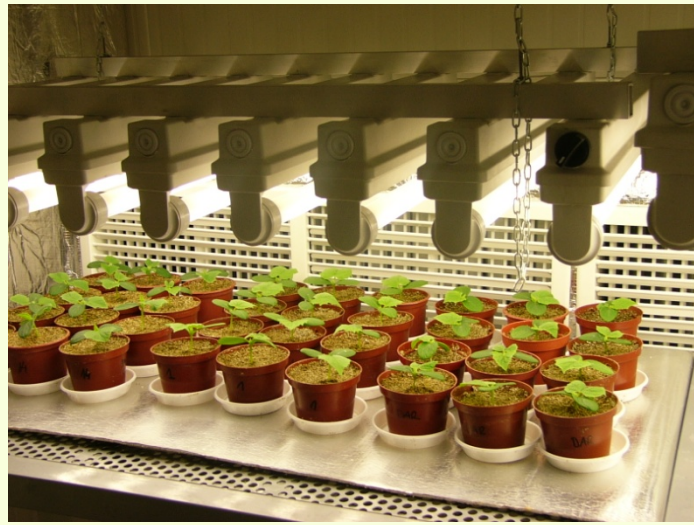
- The essential element of my study is to estimate sensibility or tolerance level of different cucumber's genotypes under enhanced UV-B radiation (and other stress factors i.e. allelochemical substance, pathogen)

- It is very important for temporary agriculture and horticulture, because plants can be selectively bred that are tolerant to more then one stress

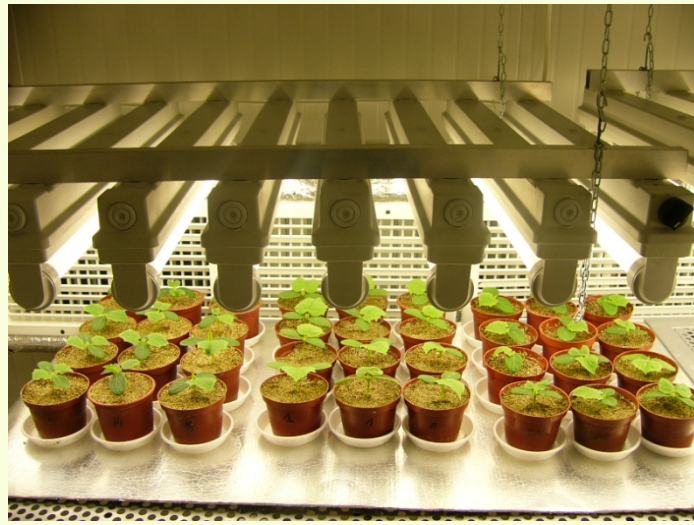
THE END

Cucumber (*Cucumis sativus* L.)

- Widely cultivted plant from Cucurbitaceae family



- Plants grown in controlled conditions, in plastic pots filled with vermiculite



- Examined plants differ in case of tolerance to various stress factors
(i.e. pathogens, cold)

Phenylpropanoid pathway