

Name and surname:	Józef Sowiński
Academic Degree:	prof. dr hab. inż. (Prof.)
Institute/Department:	Institute of Agroecology and Plant Production
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UPWr Base of Knowledge - link:	https://bazawiedzy.upwr.edu.pl/info/author/UPWr3a4e49175cd64de38e081b73d10ae283/Profil%2Bosoby%2B%25E2%2580%2593%2BJ%25C3%25B3zef%2BSowi%25C5%2584ski%2B%25E2%2580%2593%2BUniwersytet%2BPrzyrodniczy%2Bwe%2BWroc%25C5%2582awiu?r=author&tab=&lang=pl&qp=
Researchgate:	https://www.researchgate.net/profile/Jozef-Sowinski ://www.researchgate.net/profile/Jozef-Sowinski
Personal website / Working group website:	
Participation in projects in last 5 years (chronological; with distinction into PI (kierownik) and RF (wykonawca)):	RF The reaction of selected plant species to stress conditions subsequent from climate change for improving horticultural plants
PhD topic:	Response of selected crop species to stress conditions resulting from climate change
Research discipline in Doctoral School:	Agriculture and Horticulture
Short description of the research problem to be solved in the PhD (minimum 1000 characters):	Agriculture, and in particular plant cultivation, is to the greatest extent dependent on environmental conditions including weather patterns. The selection of crop species and the possibilities of their cultivation largely depend on the amount and distribution of precipitation, air temperature during the growing season and winter periods when vegetation is inhibited. Climate changes resulting from increased greenhouse gas emissions have the greatest impact on plant production. The increase in temperature has an ambiguous effect on the vegetation, limiting the cultivation of certain crops while enabling the cultivation of other - alternative - crop species. One of the adverse effects of the increased concentration of greenhouse gases in the atmosphere is the occurrence of extreme conditions. There is an increase in the occurrence of long periods without rain or periods with heavy rainfall, with destructive effects on plants and soil. Plant production in Poland is strongly dependent on stresses related to excess or shortage of water. Cultivation of plants more and more often has to be carried out during periods of drought or semi-drought. The selection of species and varieties as well as their response to periods of drought and the possibility of mitigating the negative impact on the development, growth and yield of plants is a very important research issue in the discipline of agriculture and horticulture. The planned doctoral thesis will evaluate plant response to stresses and the possibilities of mitigating the adverse effects of climate change on crop plants.
Professional skills for PhD candidate (e.g. master program, specializations, softwares, language, analytical techniques, minimum 500 characters):	In order to implement the planned topic of the doctoral thesis, the candidate must have a higher university education in the field of agriculture in the discipline of agriculture and horticulture or a related discipline. Creativity, inquisitiveness, willingness to take on new challenges and perseverance in the implementation of undertaken tasks are important. For the implementation of the experimental part, the Candidate is required to be familiar with the specifics of field experimentation as well as research carried out in controlled conditions or to provide evidence of experience in this field. Readiness to work in various weather conditions is required to carry out experiments in field conditions. Experience in laboratory work is essential. Readiness to learn new analytical methods and work with a variety of laboratory equipment. In order to implement the topic of the doctoral thesis, knowledge of English at a level that allows for scientific communication is essential. The Candidate is required to be competent in the use of statistical software.
a) Project title:	none
b) Agreement number:	none
c) Number of months in the project to support PhD (in months; starting from 1st of October 2022):	0
Project website:	