

3RD WORLD PLANT GENOMICS AND PLANT SCIENCE CONGRESS & 4TH WORLD MYCOLOGY AND MUSHROOM CONGRESS

July 15-16, 2019
Osaka, Japan



Vasileios Fotopoulos

Cyprus University of Technology, Cyprus

Plant priming for improved growth and stress protection under climate change conditions

Increased frequency of extreme environmental events resulting from global climate change greatly influences plant growth and development. Close examination of plant-to-plant communication in nature has revealed the development of unique strategies from plants for responding to abiotic stress, with one of the most interesting being through priming for improved defense responses. The process of priming involves prior exposure to a biotic or abiotic stress factor making a plant more resistant to future exposure. Priming can also be achieved by applying natural or synthetic compounds which act as signal transducers, 'activating' the plant's defense system.

An up-to-date overview will be presented describing the research carried out at the Cyprus University of Technology using priming agents towards induced acclimation of plants to environmental challenges. Focus will be given to NOSH-aspirin (NBS-1120), a patented nitric oxide- and hydrogen sulfide-releasing hybrid that additionally provides the pharmaceutical molecule acetylsalicylic acid. In addition, recent findings will be presented on the evaluation of chemical compounds that potentially display growth promoting properties in plants, closely related to our existing expertise and previous observations in priming against stress.

Biography

Vasileios Fotopoulos is associate professor in structural and functional plant biology at the Cyprus University of Technology. His main scientific research focuses on the study of nitro-oxidative signaling cascades involved in plant responses to stress factors, while emphasis is being given in the development of chemical treatment technologies towards the amelioration of abiotic stress factors and promotion of plant growth. He is the author of 62 scientific articles published in peer-reviewed journals (h-index=25), while he serves as associate editor in BMC Plant Biology, Gene and five other journals.

vassilis.fotopoulos@cut.ac.cy