



JAGIELLONIAN UNIVERSITY  
IN KRAKOW



CITRUM



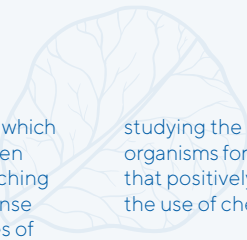
# The use of microorganisms in the plant's production



Republic  
of Poland

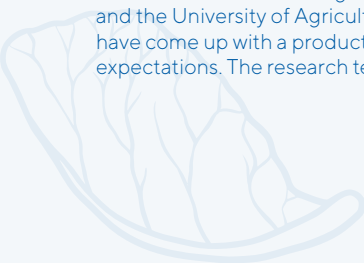


European Union  
European Regional  
Development Fund



**The European Green Deal** is a strategy which aims to set Europe on the path to a green transition, with the ultimate goal of reaching climate neutrality by 2050. It is a response to climate change and strong processes of environmental degradation. The Strategy assumes a reduction by 50% of the use of chemical pesticides and reaching 25% of agricultural land for organic farming. Therefore, one of the most important directions of agricultural production development has been biopreparations containing live microorganisms (e.g. bacteria or fungi). Such solutions are used in the processes of plant biotization. This involves applying microorganisms that support crop growth and strengthen their tolerance to environmental constraints and pathogenic organisms. In addition to affecting the plant, properly developed biopreparations fertilize the soil and neutralize soil pollutants.

As a result of intensive agricultural activity and traditional agricultural practices, the biological balance of the environment is disturbed. The use of biopreparations using beneficial microorganisms restores this balance. Moreover, the probability of pathogenic organisms becoming resistant to biopreparation is very low, in contrast to the currently used chemical preparations.



The scientists from the Jagiellonian University and the University of Agriculture in Krakow have come up with a product that meets these expectations. The research team, that has been

studying the interaction of plants with microorganisms for years, developed biopreparations that positively affect individual crops and limit the use of chemical products.

### **Biotization of Brassicaceae**

The subject of the offer is biopreparation accelerating growth of plants from the Brassicaceae family. The developed inoculum consists of microorganisms precisely selected during multi-stage research. It increases plant biomass and positively affects the development of the root system. The inoculum can completely substitute the application of fertilizers in the production of Brassicaceae seedlings. It can be successfully used in the industrial production of cruciferous vegetable seedlings to limit or support additional plant fertilisation. Therefore, the use of the developed biopreparation is essential not only because of environmental protection but also because of economic benefits.

### **The effects of using technology:**

- improving the rooting,
- higher biomass of plants,
- reducing the use of fertilisers and chemical plant protection products.

**The technology is the subject of the patent application.** Technology Transfer Center CITTRU UJ is looking for entities interested in cooperation in further developing and commercializing the invention.



For detailed information,  
please contact:

**Renata Bartoszewicz, Ph.D.**

phone: +48 12 664 42 08, 515 493 518

e-mail: [renata.bartoszewicz@uj.edu.pl](mailto:renata.bartoszewicz@uj.edu.pl)

[www.sciencemarket.pl](http://www.sciencemarket.pl)

Centre for Technology Transfer CITTRU

Jagiellonian University

