AGEPI AGENȚIA DE STAT PENTRU PROPRIETATEA INTELECTUALĂ

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INFOINVENT

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Application of biopesticides of microbial origin against phytopathogens

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Aim:

It consist in use of *Bacillus velezensis* CNMN BB-12 and *Trichoderma atrobruneum* CNMN FD 25 strains as sources of bioactive substances with antimicrobial effect against phytopathogens.

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Solution:

Using of exometabolites of *Bacillus velezensis* CNMN BB-12 and *Trichoderma atrobruneum* CNMN FD 25 strains against phytopathogens of fungal and bacterial origin.

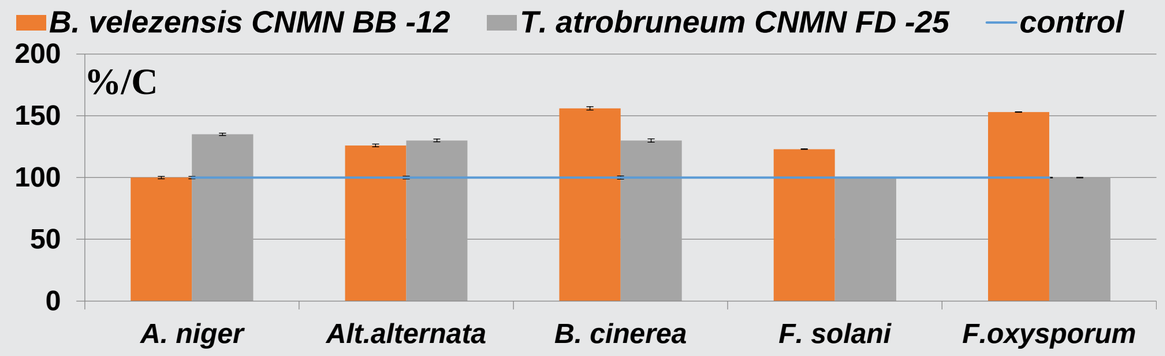
Advantages:

- The use of exometabolites of *Bacillus velezensis* CNMN BB-12 and *Trichoderma atrobruneum* CNMN FD 25 strains **contributes** to the fight against phytopathogens of fungal and bacterial origin, exceeding the control by 25-50%.

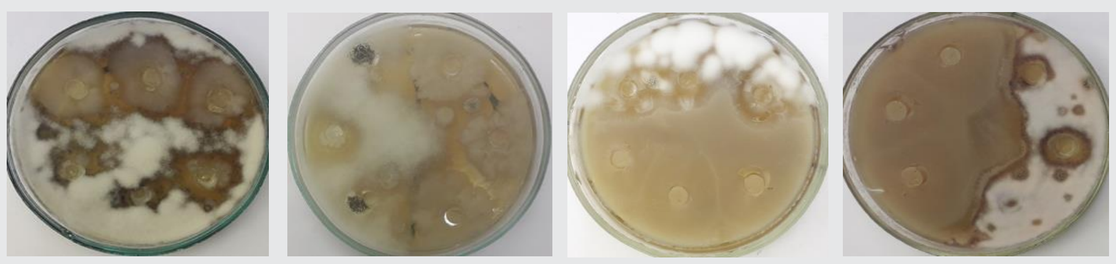
Stage of implementation:

Laboratory prototype.

Essence:

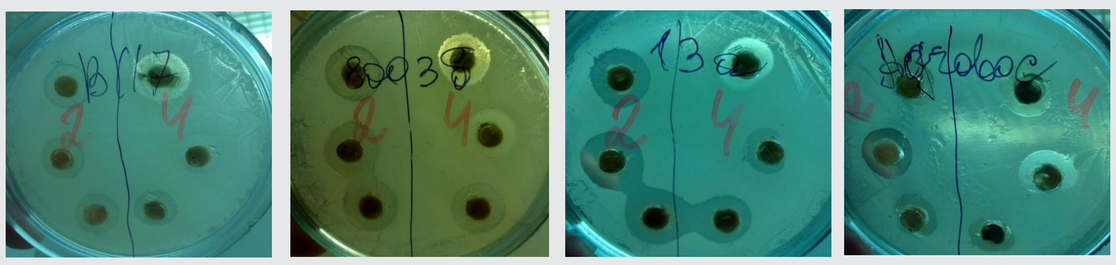


Antifungal activity of *B. velezensis* and *T. atrobruneum* in comparison with control.



a) b) c) d)

Antagonistic activity of the strain *Bacillus velezensis* CNMN BB-12 against:
a) *Alternaria alternata*; b) *Botrytis cinerea*; c) *Fusarium solani*; d) *Fusarium oxysporum.*



a) b) c) d)

Antagonistic activity of the strain *Trichoderma atrobruneum* CNMN FD 25 against:
a) *Erwinia caratovora* ; b) *Xanthomonas campestris;* c) *Corynebacterium michiganense*; d) *Agrobacterium tumefaciens.*

The inventions relates to agriculture - the use of *Bacillus velezensis* CNMN-BB-12 and *Trichoderma atrobruneum* CNMN-FD-25 strains as a source of bioactive substances for combat phytopathogens: *B. cinerea*, *Alt. alternata*, *A. niger*, *F. solani*, *F. oxysporum*, *C. michiganensis*, *E. carotovora*, *X. campestris*, *A. tumefaciens*.

For combating phytopathogens, exometabolite solutions of the mentioned strains can be used for seeds treating before sowing and during the vegetative period of crop plants. The use of exometabolites of *B. velezensis* CNMN-BB-12 and *T. atrobruneum* CNMN-FD-25 contributes to the fight against phytopathogens of fungal and bacterial origin, exceeding the control by 25-50%.

The inventions were developed based on the results obtained within the project 20.80009.7007.09 „Conservation and exploitation of microbial biodiversity as a support for the development of sustainable technologies and agriculture, integration of science and education”, funded by NARD, Republic of Moldova.

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