

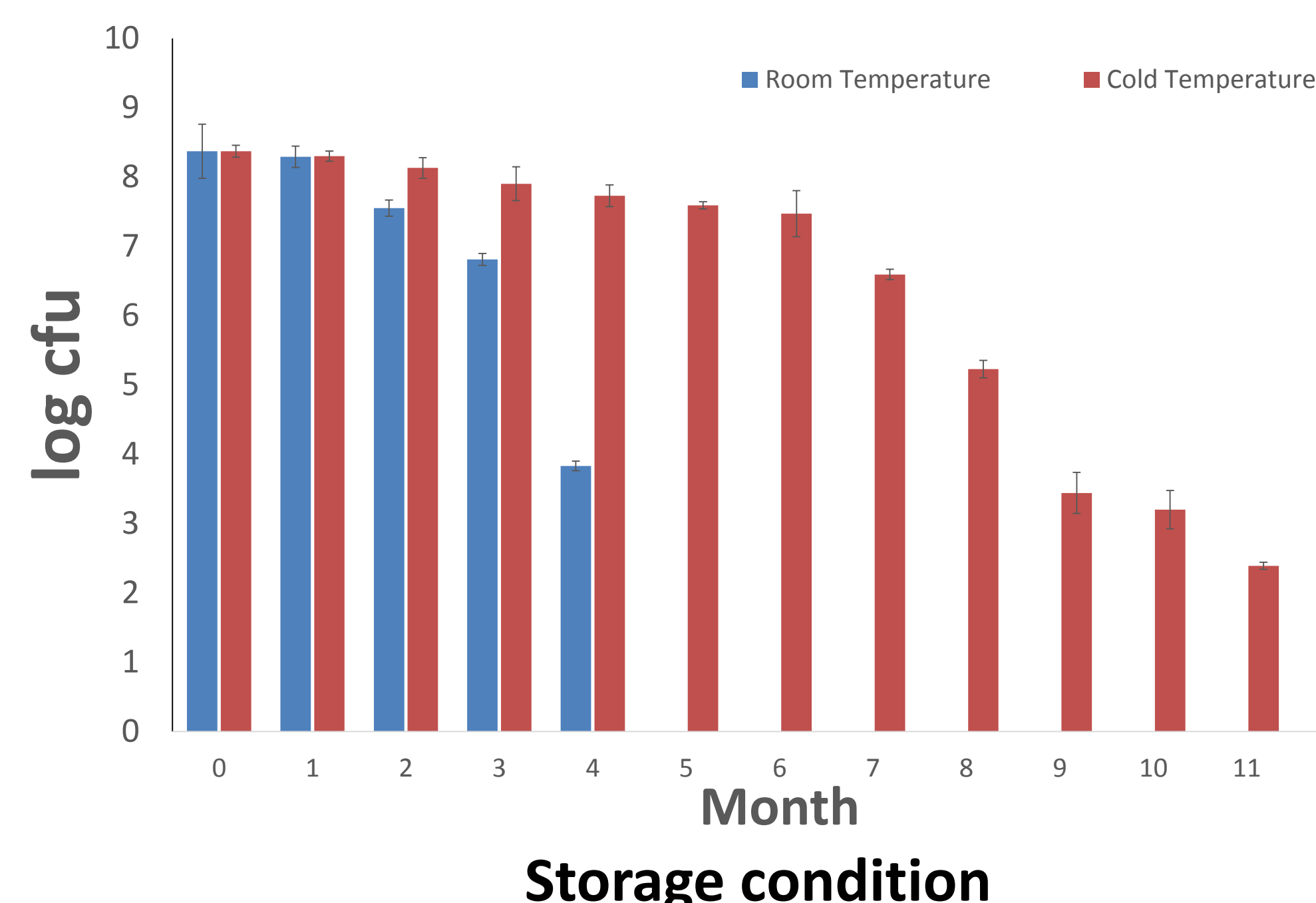


# TrichoMax: Encapsulation of Biological Agents (*Trichoderma harzianum*)

PATENT NO: PI 2013700219



Properties	
Weight (mg)	4.47
Diameter (mm)	1.74
Shape factor	0.41
Swelling (%)	62.11



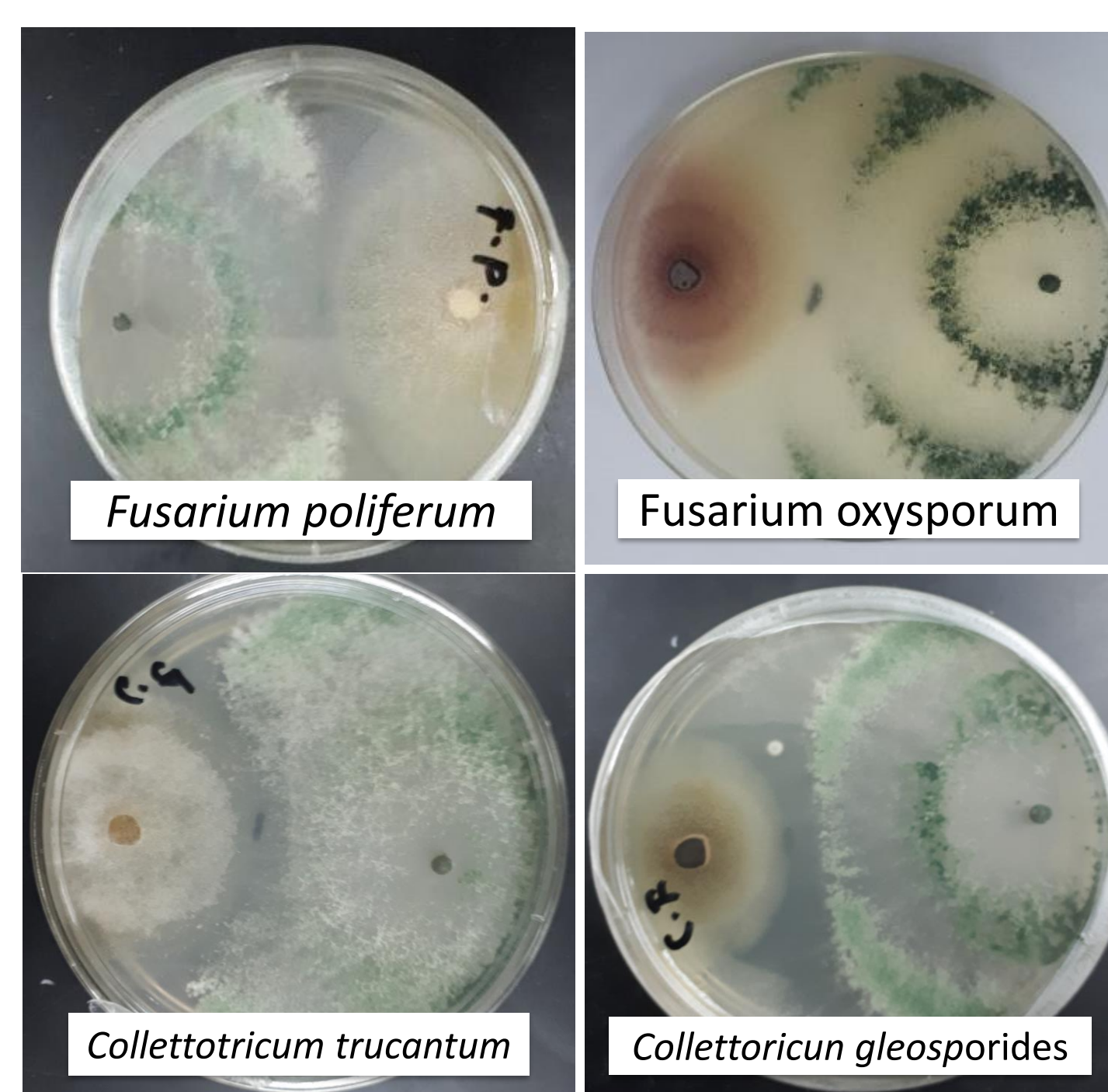
## CURRENT ISSUES

- The wide use of pesticide in agriculture practise can damage agriculture land by harming beneficial soil microorganism.
- The use biological control agents (BCA) to control plant pathogen is more practical and environmental friendly. The length of shelf life and effectiveness are major problems that BCA to compete with pesticide.
- Most of BCA are in the liquid form and easy to contaminated and difficult to handling.

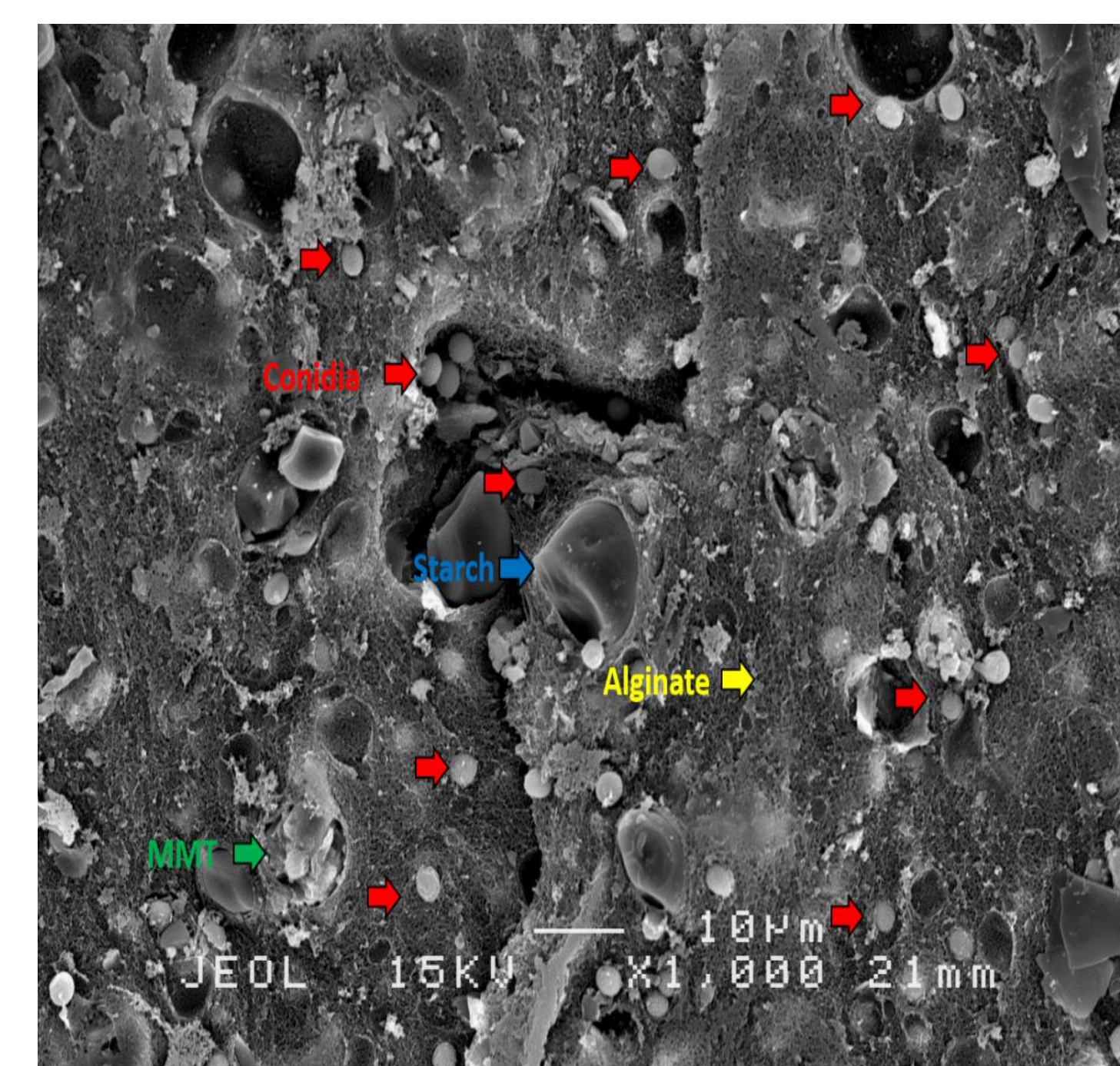
## TECHNOLOGY

- Encapsulation of *Trichoderma harzianum* as biofungicide product to control soil borne pathogen
- **(VP)** Encapsulation method can protects *T. harzianum* from biotic and abiotic stress factors by providing a beneficial microenvironment. This leads to extended shelf-life and maintains the metabolic activity for extended periods of time. *T. harzianum* are slowly release and can survive longer in soil and have extended persistence.

TRL : 5 – Ready to enter technology development



Antagonistic against pathogen



Distribution of *T. harzianum* conidia inside beads matrix

## ADVANTAGES

- Greater efficacy
- Longer shelf life
- Ease of handling
- Increased safety,
- lower production costs
- Compatibility with agricultural practices

## MARKET POTENTIAL

### Famers

Control soil borne disease and early protection of disease

### Composting industry

Enrich the compost with beneficial microbe



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