



## NANOEZINN: A Potent Antifungal Nanodelivery System for Ganoderma Disease Treatment of Oil Palm

Nanoezinn is a nanofungicide delivery formulation, formulated based on nanotechnology using biopolymer as the carrier and fungicide and/or fumigant as the active ingredients. Due to its nano-sized and controlled-release properties, it enjoyed superior properties with 9 folds efficacy compared to its counterparts, the conventional fungicides

### PROBLEM/CURRENT ISSUES & SOLUTION

- Oil palm is one of the largest crops of economical trees in Malaysia, unfortunately, it is susceptible to the basal stem rot (BSR) disease caused by *Ganoderma boninense*.
- The disease is easily spread on the soil or nearby trees and can only be detected when the oil palm is internally infected by about 50%, thus making it impossible for early control and treatment.
- BSR resulted in a huge loss in oil palm upstream activity, with an estimated up to RM 1.5 billion (MPOB).

### MARKET POTENTIAL

Oil palm estates/small holder/farmers, agricultural industry, and agrochemical industry.

### INVENTIVENESS & NOVELTY

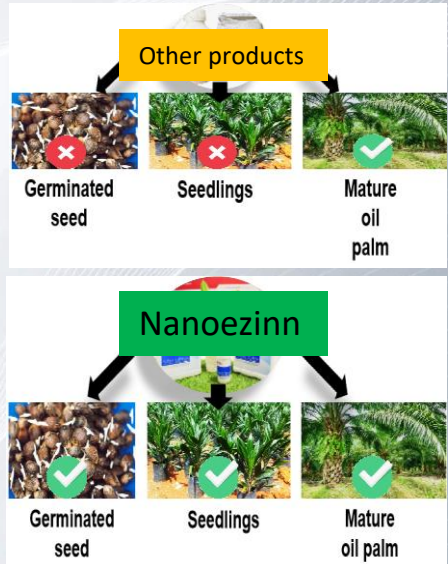
Nanoezinn is a green novel fungicide nanodelivery formulation with controlled release capability, low toxicity and high antifungal activity, developed using the nanotechnology platform. This enabled the fungicide active ingredients to be encapsulated into the biopolymer, which allows them to be delivered and released more effectively to the target fungicide, *G. boninense*.

### BENEFITS OF THE TECHNOLOGY

- Higher efficacy (9 times higher antifungal activity).
- Slow release formulation and long circulation time (30 times increase).
- No phytotoxicity, no cytotoxicity and no genotoxicity.
- Green innovation.
- Reduced runoff, leaching and volatilization.
- Reduced labor cost.

### CONTACT INFO

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### NEXT MILESTONE

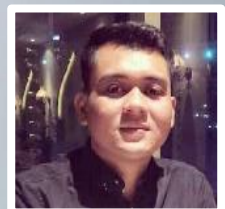
To obtain research grant for the MAFI/LRMP certification

### ASK FUND/PARTNERSHIP

Looking for fund and partnership



Prof. Dr. Mohd Zobir Hussein  
Director/Founder



Mr Muhamad Raznaufal Mohd Radzi  
Chief Executive Officer