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SEMINAR & EXHIBITION

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FUNGICIDE APPLICATION FOR THE CONTROL OF *Ganoderma* UPPER STEM ROT (USR) DISEASE IN OIL PALM

Research Focus Area : Yield Performance
Program : Disease and Pest Management

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Control of *Ganoderma* Disease for Better Yields



Figure 1. Upper stem rot (USR)-infected palms: Formation of fruiting body and stem rotting appearing at 1-meter above ground.

HIGHLIGHTS

- **Upper stem rot (USR) causes significant losses in oil palm productivity (Figure 1).**
- **Hexaconazole, is a well-established systemic fungicide, for controlling wide range of plant diseases, in cluding basal stem rot (BSR) in oil palm.**
- **Due to the increased report of USR-infected palms, curative control using fungicide hexaconazole was explored.**
- **This fungicide was registered with the Pesticides Board, Department of Agriculture (DOA) for controlling of *Ganoderma* disease in oil palm.**
- **No residue was found in the palm oil matrix.**

NOVELTY

Hexaconazole (4.5 g a.i. dissolved in 3 liters of water) for controlling USR-infected palms (DSI 1 and DSI 2) is recommended.
Our study revealed that hexaconazole could significantly reduce the severity of USR-infected palms through the following process flow described in Figure 2.

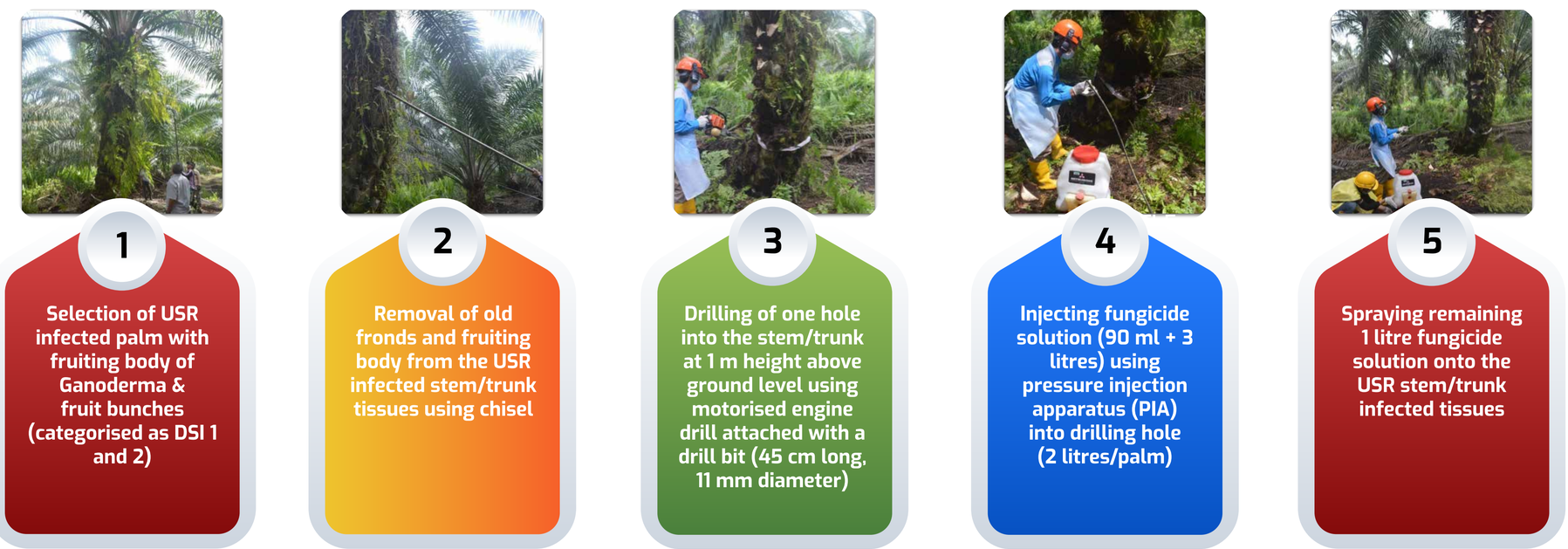


Figure 2. Flow chart of hexaconazole application on upper stem rot (USR)-infected palm.

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IMPACT

- **An efficient curative treatment for USR-infected in productive oil palms.**
- **Limit the spread of *Ganoderma* infection in standing infected palms which results in prolonged life span of USR-infected palms.**
- **Reducing the risk of *Ganoderma* spread in healthy adjacent oil palms.**
- **Reduce the yield losses in oil palm due to *Ganoderma* infection.**

ECONOMIC ANALYSIS & COMMERCIAL BENEFITS

- **The cost of hexaconazole fungicide application vary between RM8.00 to RM10.00 per palm.**
- **The average fresh fruit bunch (FFB) yield treated with fungicide treatment is relatively more compared to untreated infected palms under the assumptions that the expected FFB loss is 30%-40% (Figure 3).**

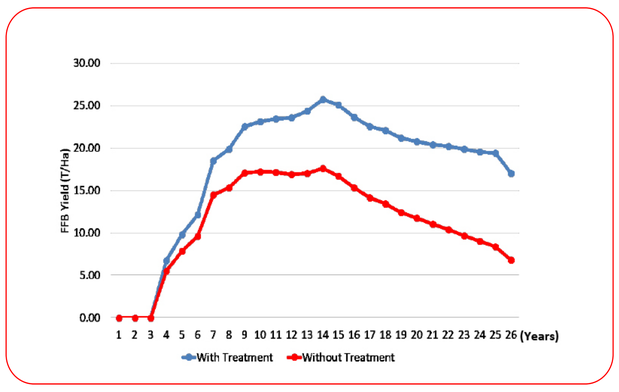


Figure 3. Average yield of fresh fruit bunch (FFB) of upper stem rot (USR)-infected palms with and without hexaconazole (fungicide) treatment.