Fungicide treatment for controlling of upper stem rot (USR) disease in oil palm

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Fungicide control of USR disease in oil palm

Research approach:

1. **Study site:** Miri, Sarawak; peat soil

2. USR census was conducted:
   - 20/6/2016 - 24/6/2016
   - 28/11/2016 – 3/12/2016

2. Application of fungicides
   (2 times/year) – 6th months interval

3. First fungicide application:
   30/11 – 3/12/2016

4. Data collection at 3-months interval:
   - Survival palms (dead/standing);
   - Foliar symptoms (%SFS);
   - Fruitification (fruiting body);
   - Yield census (flower; fruit bunches)

Material & Methods

1. Treatments:
   T1: USR palms treated with hexaconazole (Anvil®) - 90 ml + 3 L (4.5 g a.i)
   T2: USR palms treated with tetraconazole (Galilio®) - 60 ml + 3 L (7.5 g a.i)
   T3: Control – Untreated USR diseased palms
   T4: Control – Untreated healthy palms

2. Application : Trunk Injection (2 L) and spraying (1 L) – 3 L/palm

3. Experimental Design:
   No. of treatments   : 4
   No. of USR palms   : 12
   Total of USR palms   : 48

Selection of USR infected palm (confirm with fruiting body of *Ganoderma)* with disease severity index **(DSI) 1 and 2** and with fruit bunches

Removal of old frond and fruiting body at the USR infected stem/trunk tissues using chisel

Drilling of two holes into the stem/trunk at 1 M height from soil level using motorised engine drill attached with a drill bit (45 cm long, 11 mm diameter)

| Injecting fungicide solution using injector into drilling hole with a total of 2 litres/palm (1 L/hole) | Spraying 1 litre fungicide solution onto the USR stem/trunk infected tissues | Treatment code |