The discovery of patterns and specific volatile organic compounds (VOC) associated with *Ganoderma* infection could be the key for early detection of this disease. This could facilitate the detection of *Ganoderma* in the plantation environment or host. Three VOC produced by pathogenic *Ganoderma* were identified [2-Furan-carboxaldehyde, 5-(hydroxymethyl)-, Thiophene, 2-propyl- and 4H-Pyran-4-one] and selected as potential biomarkers.

**OBJECTIVE**

To detect *Ganoderma* disease through *Ganoderma* biochemical markers.

**METHODOLOGY**

A summary of the methodology for the determination of *Ganoderma* biomarkers in oil palm tissues are presented in Figures 1, 2 and 3.

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Determination of VOC of *Ganoderma* disease (Figure 4) present in oil palm tissues.

![2-Furancarboxaldehyde](image1)

2-Furancarboxaldehyde, 5-(hydroxymethyl)-

![Thiophene](image2)

Thiophene, 2-propyl-

![4H-Pyran-4-one](image3)

4H-Pyran-4-one

*Figure 4. Three volatile organic compounds (VOC) identified as biomarkers of *Ganoderma* disease in oil palm.*

A method to detect VOC in oil palm due to *Ganoderma* infection was developed. Three VOC were identified as biomarkers for *Ganoderma* disease, namely 2-Furancarboxaldehyde, 5-(hydroxymethyl)-, Thiophene, 2-propyl- and 4H-Pyran-4-one.

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