The Ganoderma disease, also known as basal stem rot (BSR) is one of the most important diseases of oil palm in Malaysia (Idris et al., 2011). Fungicide hexaconazole has been introduced as a preventive treatment (Idris et al., 2010) and prolonging the productive life of infected palms (Idris et al., 2004). Fumigant chloropicrin was shown to eliminate the pathogen Armillaria from woody inoculum (Filip and Roth, 1977). Investigation on the use of fumigant methylisothiocyanate (MITC) released by dazomet on contact with water has shown potential in controlling Ganoderma disease in vitro and field studies (Ariffin and Idris, 1991). Ariffin and Idris (1993) revealed that MITC could move into both stem and root tissues of healthy and infected oil palm. Similarly, Thies and Nelson (1996) found that MITC injected into the bases of Phellinus weirii-infected Douglas-fir tree can diffuse in the root systems, and reduce the amount of inoculum remaining on a site after harvest and prolong the life of the tree. It was reported that fumigation with dazomet (basamid®) which release MITC and soil mounding could improve productivity of Ganoderma-infected oil palm (Tuck and Khairuddin, 1997). Field study to evaluate the efficacy of dazomet (MITC) to control Ganoderma-infected palms is described.

FIELD EVALUATION OF DAZOMET FOR PROLONGING THE PRODUCTIVE LIFE OF Ganoderma-INFECTED OIL PALM

The study was conducted on 20-year old palms planted on coastal soil in Sepang, Selangor. One hundred and twenty infected palms were identified for this study. The palms were selected based on the presence of Ganoderma fructification at the base with the palms still producing fruit bunches (Figure 1A). There was no obvious foliar symptoms of BSR disease. The Ganoderma selective medium (GSM) was used to confirm the presence of Ganoderma fungus in oil palm tissues (Ariffin and Idris, 1991). The palms were marked and treated with four treatments: untreated (control), soil mounding and two concentrations of dazomet (Table 1), each treatment repeated on 30 palms at nine months interval. Dazomet (Figure 1B) was introduced into the diseased lesion following the method of Ariffin and Idris (1993) with modification. Soil mounding was done using backhoe where the mounding with soil obtained from the interrow measured 1 m in height and 2 m in diameter as described by Tuck and Khairuddin (1997). The effects of dazomet were assessed at six-month intervals by recording the palm dead/unproductive and the presence or absence of fruit bunches. At three years, only 36.6% and 46.6% of palms treated with dazomet at 500 and 250 g/palm died due to Ganoderma infection compared with soil mounding (76.6%) and untreated (90.0%) (Table 1). The percentage of palms producing fruit bunches with dazomet treatments were significantly higher (36.6%-53.3%) compared with untreated (3.3%) and soil mounding (10.0%).

SERVICE OFFERED

MPOB offers the service in controlling Ganoderma disease in oil palm using dazomet, as curative treatment or prolonging the life of infected palms.
TABLE 1. EFFECTS OF DAZOMET AND SOIL MOUNDING IN CONTROLLING *Ganoderma*-INFECTED OIL PALM AT THREE YEARS AFTER TREATMENT

<table>
<thead>
<tr>
<th>Treatment of <em>Ganoderma</em>-infected palms</th>
<th>Dead or unproductive (%) (n=30)</th>
<th>Productive (still producing fruit bunches (%)) (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Untreated (control)</td>
<td>90.0 a</td>
<td>3.3 b</td>
</tr>
<tr>
<td>Soil mounding</td>
<td>76.6 a</td>
<td>10.0 b</td>
</tr>
<tr>
<td>Dazomet at 250 g/palm or 242.5 g active ingredient</td>
<td>46.6 b</td>
<td>36.6 a</td>
</tr>
<tr>
<td>Dazomet at 500 g/palm or 485.0 g active ingredient</td>
<td>36.6 b</td>
<td>53.3 a</td>
</tr>
</tbody>
</table>

Note: means with different letters within a column are significantly different at p<0.05 according to Least Significant Difference (LSD).

Once the service is completed, a full report will be submitted to the relevant person/company.

**BENEFITS AND COST**

Dazomet has the potential to limit the spread of *Ganoderma* infection within the infected standing palms, therefore prolonging its life. Dazomet applications are also shown to improve oil palm productivity by eradicating the *Ganoderma* inoculum spread within the infected palm. The cost will vary depending on the hectarage and severity of BSR disease in oil palm plantation.

**REFERENCES**


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