MANAGEMENT OF GANODERMA DISEASE IN OIL PALM FARM

Objectives

- To avoid infection due to *Ganoderma* by decreasing the source of the disease in the farm.
- Prolong the production period of *Ganoderma* disease infected oil palm trees

1. What is *Ganoderma* Disease?

Fungi causing disease that resulted in the infection and rotting of the stem, roots or trunk base of palm trees. It is often referred to as one of a kind of white root disease, owing to the colour of the fungal hypha.

2. What danger does *Ganoderma* Disease pose?

   a. Loss of oil palm trees
   b. Decrease of the fruit production of oil palm
   c. Risk of palm trees toppling, in particular during high winds and storms

3. What type of fungi causes *Ganoderma*?

There are 3 types or species of fungi that cause *Ganoderma* disease on oil palm trees. The three fungi species are *Ganoderma boninensis*, *Ganoderma zonatum* and *Ganoderma miniaticinctum*.

4. What is the difference between Basal Stem Rot (BSR) and Upper Stem Rot (USR)?

Both infections can be caused by *Ganoderma* fungi. The differences are:

   i) BSR is referred to the infection point at a height level of 1 meter or below from the base of the palm tree;
   ii) USR is referred to the infection point at a height level of more than 1 meter from the base of the palm tree.
5. **How does this disease transmit?**

   i) By direct contact with the infectious tissue.
   
   ii) By the growth of the fungi spore.

6. **Why Ganoderma Disease in Oil Palm Farms becoming more widespread?**

   i) Tissues or remains of *Ganoderma*-infected stems / large roots/ base of stems is not destroyed
   
   ii) New oil palm trees are planted too close to the remains of *Ganoderma*-infected stems / large roots/ tree bases or living infected trees.
   
   iii) In-filling new plants under an oil palm or an aged coconut tree.
   
   iv) Plant or bury the remains of *Ganoderma* infected stems/ roots/ tree bases underground.
   
   v) *Ganoderma* fungus brackets were not collected and destroyed.
   
   vi) During the replanting operation, the stems and trunks of oil palm trees are not shredded and spread on the ground to be exposed to the sun.
   
   vii) Farmers are not aware of the long-term benefits of managing *Ganoderma* disease.

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**Diagram 3.** Infilled young oil palm planted near a *Ganoderma* infected tree

**Diagram 4.** Young oil palm tree is planted near the old planting point of an old dead tree
7. Symptoms that indicate a Palm Tree has been infected by *Ganoderma* Disease

Diagram 5. Symptom: The lower leaves droop like a skirt

Diagram 6. Symptom: Multiple shoots or spears (more than 3 spears) especially during the rainy season

Diagram 7. Symptom: Rot and perforated hole in the stem

Diagram 8. *Ganoderma* fungus brackets can be seen on the stem
Diagram 9. Symptom: Light green coloured/Yellowish leaves; Multiple shoots or spears (more than 3 spears) especially during the rainy season

Diagram 10. The darker brown coloured section is infected by *Ganoderma* and causing the stem tissue to die.