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Methods of Land Preparation to Delay *Ganoderma* or Basal Stem Rot (BSR) Disease in Oil Palm Replanting in Inland Mineral Soils – Experiences and Observations

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*Three methods of land preparation in oil palm replanting are described, attempted and observations recorded for a period of 11 to 14 years. In method A carried out in 2006 replanting, the land was prepared by excavating only the stumps of *Ganoderma* infected fallen and vacant palms through the construction of pits. Here, after 11 and 12 years of replanting resulted in 18 and 21 per cent of BSR infections respectively, while, after 14 years the infection increased to 28.5 per cent in the same replants. In method B, comprising of two fields replanted in 2009 and 2008 after clean clearing or 100 per cent removal of boles of living, dead and vacant palm points followed by two rounds of thorough disc ploughing and single rotovating of the soil, showed 5.8 and 8.5 per cent of *Ganoderma* infections after 11 and 12 years, respectively. Although method C was a slow and expensive operation, 100 per cent excavation of living, dead and vacant palm boles followed by deep ploughing or tilting of the soil with the excavator bucket showed 2 per cent *Ganoderma* disease after 11 years of replanting. Among the three modes of land preparation, methods B and C showed a delay in infection of *Ganoderma* in replants compared to method A. The excavator bucket used in method C for deep tilting prompted the search for other tools like Howard ripper and fabricated steel ripper mounted on a bulldozer, of which the latter was found suitable and has been implemented commercially. However, the cost of such operation was 2.6 times (i.e. RM2 030 against RM769 per hectare) higher than the preparation of land by method A in replanting. Another study was conducted to understand the relationship between the visually observed *Ganoderma* palms and normal appearing palms with *Ganoderma* infection at the sub-clinical level. This may be helpful for planters to predict the total *Ganoderma* infected palms present in the field prior to replanting. The relationship appeared to be a cubical expression between the visual and total *Ganoderma* population in a field prior to replanting.*

Keywords: *Ganoderma disease, basal stem rot, clean clearing, land preparation, replanting, deep ploughing.*