

Expert system for the management of the pests and diseases of oil palm

ABSTRACT

In Malaysia, the oil palm is a major element in agricultural diversification. Countries in Latin America are establishing oil palm plantations to meet the domestic oil requirements. Thus, it can be seen that oil palm has become a significant sector of the economies of many developing countries. With the rapid expansion of oil palm cultivation, the injurious pests of the oil palm include nematodes, mites, insects, birds and mammals. The Malayan wood rat is a major pest in plantations of oil palm in Malaysia, where it inflicts important economic losses, if population is not controlled. Rodents are also normally found in the plantation and might significantly affect crop production and livelihood of farmers in the plantations. The identification of diseases and application of suitable remedy are essential. For such guidance and advice the plantation owners have either to be expert of it or they will have to consult other experts or the agricultural institutions. However, in the developed world, the modern agriculture have evolved into a complex business. The process of decision making requires accumulation and integration of knowledge and information from many diverse sources. This has originated the concept of computer-based farm management and precision agriculture. The potency, scope and appropriates of expert system technology in the area of horticulture have been well-realized a decade back in the developed countries and several successful systems have been developed specially related with decision making, disease, disorder, pest diagnosis and others. Therefore, through expert system the process of decision making is the interplay of knowledge and information. Introduction In Malaysia, the oil palm is a major element in agricultural diversification. Countries in Latin America are establishing oil palm plantations to meet the domestic oil requirements. Thus, it can be seen that oil palm has become a significant sector of the economies of many developing countries. With the rapid expansion of oil palm cultivation, the injurious pests of the oil palm include nematodes, mites, insects, birds and mammals. The Malayan wood rat is a major pest in plantations of oil palm in Malaysia, where it inflicts important economic losses, if population is not controlled. Rodents are also normally found in the plantation and might significantly affect crop production and livelihood of farmers in the plantations. The identification of diseases and application of suitable remedy are essential. For such guidance and advice the plantation owners have either to be expert of it or they will have to consult other experts or the agricultural institutions. However, in the developed world, the modern agriculture have evolved into a complex business.

Keyword: Expert system; Pests and diseases of oil palm