Bio-technical Process for Increasing Oil Palm Productivity

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There are approximately 352.94 million km2 of oil palm plantations around the world,16 million km2 of which is in Thailand. Most of the plantation is located in the Southern part of the country. The gardeners still encounter low product yield although they have taken good care of the plants. Our project aimed to increase oil palm productivity. We observed the pollination of the palm trees and found a few problems affecting fertilization. Imperfect flowers and its bract prevent spreading of pollen grain and the male and female inflorescence bloom at different times .A dominant insect population in the palm plantation were the weevils, Elaeidoibius kamerunicus : they ate pollen grain, live and spawn in male inflorescence's only. We found that the male inflorescence's had special smell that attracted the weevils and this smell also occurred in the blooming female inflorescence's at which we found weevils. So we tested many steam extracts from the nature floral extracts for their ability to attract the weevils and found that the extract from palm’s male inflorescence's was the most effective followed by thyme leaves, ocimum leaves and lamiaceae leaves respectively. We then invented a device employing heat to spread the natural essence extracted from male inflorescence's of the oil palm. We hung the device on female inflorescence's for one hour from 9.00 to10.00 a.m. The device attracted weevils to female inflorescence's 389.71% more than the natural way and fertilization rate was increased up to 23.88%.This method was easier, faster and safer than the conventional manual mating used by Suratthani Oil palm Research Center but their efficiency was the same. Thus, this bio-technical process is a better method of increasing oil palm productivity.

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