

## Oil palm - achievements and potential

### ABSTRACT

Cultivation of the oil palm (*Elaeis guineensis* Jacq.) has expanded tremendously in recent years such that it is now second only to soybean as a major source of the world supply of oils and fats. Presently, Southeast Asia is the dominant region of production with Malaysia being the leading producer and exporter of palm oil. This paper reviews the various factors that have led to oil palm occupying its present position, including biological, technical, managerial, environmental, and socio-political aspects. Biological features recognised as critical to the high productivity of the crop are examined. These include its perennial and evergreen nature (giving a continuous year-round canopy cover intercepting a high proportion of incoming radiation), the year-round production of fruit bunches and the high partition of total assimilates into harvested product. Scientific and managerial aspects contributing to the success of the crop include the significant genetic improvements and production of high quality planting materials, the development and application of finely-tuned agronomic practices, the appropriate scale and efficient organisation of oil palm plantations and the continuous R&D and good infra-structural support provided in the main producing countries. The programmes of crop improvement through the utilisation of traditional breeding and selection methods, the development and benefits of vegetative propagation techniques using tissue culture and ongoing efforts to apply molecular and genetic engineering techniques to improve and modify oil composition, are reviewed. Finally, the nutritional qualities of palm oil as a healthy component of diet are briefly described.

**Keyword:** Breeding and selection; Cloning and genetic engineering; Oil palm; Oil yield; Sustainable production