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## The Optimal Yields for Food, Fibre and Fuel (3Fs) Production for the Palm Oil Industry<sup>1</sup>

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*For the Malaysian palm oil industry, 2005 had been a successful year with a production of 15 million tonnes of palm oil from 4.0 million ha with 90 per cent of this production being exported to supply close to 60 per cent of the 30 per cent of palm oil in the world oils and fats production at 135 million tonnes. The Malaysian Government had in August of the same year announced the National Biofuel Policy. Following this move to non-food use, the challenge for the industry is to produce optimally not just oil but also cellulose and biomass for food, fibre and fuel (3Fs) simultaneously so as to improve its competitiveness. It requires the best management practices (BMPs) to be optimal for production. To succeed in the globalised trade and technology in the short-term of three to five years, it is not so much research into new methods but the increase in application of techniques and practices that are available and proven feasible. In the medium- and long-terms, the production of 3Fs has to be increasingly consumer-driven, quality-oriented, worldwide-marketed, globally-secured and environmentally-healthy. To be economically viable, companies best prepared to compete in the future, are those helping now to define the optimal production to meet the challenge of 3Fs simultaneously and sustainably. A roadmap to the future is needed.*

*The road map, after a consultative approach, outlines a proactive strategy that will deal with globalisation of trade, markets and production of the 3Fs. Some measures include: defining a vision covering best practices of: i) Balanced nutrient supply, ii) Crop variety improvement mainly to exploit heterosis, iii) Protection and conservation of soil physical conditions, iv) Palm canopy architecture and optimal density planting, v) Water saving agriculture, vi) Weeds, pest and diseases and vii) Sustainable production. In capturing the value of creativity in these measures, the key principles and practices needed for driving innovation across the respective supply chains for each of the 3Fs and across the entire industry are proposed. The success lies in building a unique combination of factors to identify new areas for R&D and with prioritisation of R&D to overcome three key barriers of firstly, in overriding the increasing global competition in the oils and fat markets; secondly, in having access to science and technologies to defuse the onslaught brought on by the escalating production costs; and thirdly, in meeting the rising demand for quality for the 3Fs. Successful companies are those that align and fine-tune five key areas of strategy, process, resources, organisation and learning when producing optimally the 3Fs in agriculture, processing and manufacturing. Companies should engage all stakeholders from suppliers to stockholders and entrepreneurs to end-users to participate in the companies' programme of introducing innovations. These include cutting their GHG emissions to take advantage of the new global markets for low carbon products and services. The early adopters of the strategy are forerunners in optimal production of the 3Fs and also renewable and clean bioenergy by the palm oil industry.*

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