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## Weed and Cover Crop Management in Oil Palm\*

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Weeds are important in the cultivation of perennial plantation crops, especially oil palm. The tropical climate zone which receives high rainfall and good sunlight is conducive for oil palm cultivation. At the same time these natural factors are also highly conducive for weed growth.

Weeds can affect crop in many ways such as nutrient and water competition, yield reduction and retarding palm growth. Several species of weeds have been reported to cause adverse effect on oil palm yields. *Mikania micrantha* growing in the interrow areas reduced FFB yield by almost 20 per cent (representing 23.8 tonnes FFB/ha) over 4.75 years of recording. When *Asystasia intrusa* (now *A. gangetica*) occurred in 'sheet' form, a yield loss of 1.86 tonnes per hectare per year over 25 months of yield recording was recorded. *Ischaemum muticum* is a noxious weed and as predominant interrow vegetation caused 22 per cent reduction of FFB yield.

Weed management in oil palm involves both cover crop management and weed control. The planting of legume cover crops and establishment / conservation of natural ground covers are two categories of cover management.

Planting of *Mucuna bracteata* can reduce runoff losses and erosion compared to bare ground. Bare ground also increases risks of silting up of the waterways. Immediate action to address the bare ground conditions is by carrying out empty fruit bunches (EFB) mulching in the interrow areas and by spreading the fronds cut during the harvesting, in an orderly manner.

One or more methods of weed control are used alone or in combination at the various stages of oil palm cultivation to achieve efficient and cost-effective weed management in line with the integrated weed management (IWM) approach. These methods are manual weeding, mechanical control, cultural control (mulching, intercropping), legal control, animal grazing, biological control and chemical control. These practices of weed control are discussed separately under replanting fields, nurseries, legume cover crops, immature plantings, mature plantings and control of noxious weeds. Issues and challenges in weed and cover crop management in oil palm are also included, namely labour issues (shortage, high turn over, low productivity), bioefficacy and choice of herbicides, spray equipment and calibration, herbicide phytotoxicity, weed resistance to herbicides, unpredictable wet weather, occupational safety and health (OSH) and Round Table on Sustainable Palm Oil (RSPO) requirements, and lack of user friendly technology.

**Keywords:** Oil palm, weeds, crop loss, cover crops, weed control.

