

December

## Wild Bitter Gourd, *Momordica charantia* L. (Cucurbitaceae): A Creeping Weed of Oil Palm and Its Management

CHUNG GAIT FEE

*Subang Jaya, Selangor Darul Ehsan, Malaysia*

*This paper reviews information on the biological aspects and discusses briefly the weediness of wild bitter gourd (WBG) including its management, in oil palm plantations. WBG is considered a serious weed in oil palm plantations because: i) it can grow into blanket sheet in the inter-row areas in immature and mature plantings, ii) it can encroach onto immature palms which is difficult to control and increase risks of herbicide phytotoxicity during routine circle spraying, and iii) it can grow as epiphytes on palm trunks requiring control (both as a weed and also sources of seeds for further infestation). The control of WBG in oil palm plantations involves various measures which include preventive measures (planting legume covers, maintenance of natural covers, mulching) and applied measures (manual and mechanised weeding, chemical control). The planting of legume covers and the maintenance of a less competitive natural cover of selected indigenous species in oil palm plantations are sound methods of weed management including the exclusion of noxious weeds (like WBG). When WBG encroaches onto immature palms, manual weeding or decreeping is the only safe method of weed control. Post-emergent chemical control of *M. charantia* has been reported by many researchers and they make no recommendations for the efficacy or suitability of these herbicides against *M. charantia* in named crops. A WBG herbicide evaluation with six herbicide treatments gave effective control after three rounds of spraying. These are: (i) paraquat + metsulfuron-methyl at 2.8 L + 75 g per hectare, (ii) glyphosate + metsulfuron-methyl at 1.5 L + 75 g per hectare, (iii) glufosinate-ammonium at 3 L per hectare, (iv) fluroxypyr at 2 L per hectare, (v) dicamba at 1.5 L per hectare and (vi) triclopyr at 1.5 L per hectare. In any spraying programme to eradicate thick sheet growth of WBG in inter-row areas, three rounds of spraying were required to achieve complete eradication by killing off the original weed stand and killing off any regeneration/new seedlings from germination of seeds. However, the risks of crop phytotoxicity limits the choice of herbicide to only spraying of paraquat + metsulfuron-methyl at 2.8 L + 75 g per hectare and glufosinate-ammonium 3 L per hectare for the control of WBG and other weeds around the periphery of the immature palm during circle spraying. More important, careful spraying by trained operators to minimise lower frond contact is required. Paraquat is not available now and may be replaced with sodium chlorate (sodium chlorate + metsulfuron-methyl at 5.5 kg + 75 g per ha). Another approach can be the sequential spraying of the herbicide mixtures: two rounds of spraying glyphosate + metsulfuron-methyl and the third spraying with only a single selective broadleaf herbicide (fluroxypyr, or dicamba, or triclopyr) to kill any WBG regeneration in order to allow the growing of soft grasses as natural covers.*

**Keywords:** *Momordica charantia*, wild bitter gourd, weed, oil palm plantations, management.