



Ref: AF CON 21/2

Clearing Mikania

1. Purpose

1.1 The purpose of this practice note is to provide technical guidance to relevant government departments, landscape contractors and interested parties on the clearance of Mikania.

2. Background

2.1 The scientific name of Mikania is *Mikania micrantha*, H.B.& K. It is an exotic perennial herbaceous vine belonging to the family Compositae. It is native to tropical South and Central America but is now widely distributed in India, Southeast Asia and South China including Guangdong and Hong Kong.

2.2 Similar to the habit of other climbers, Mikania climbs up other plants to reach the canopy for better sunlight. At the same time, its leaves cover up the host plants and reduce the sunlight reaching the host plant for photosynthesis. The growth of the host plant may be affected eventually. Mikania sprawls out rapidly in spring and summer which is the reason for its name “mile-a-minute weed”. Moreover, it reproduces vigorously by both vegetative and sexual reproduction.

2.3 Mikania is considered as a noxious weed affecting plantation crops and afforestation programme in Southeast Asia and India. In Hong Kong, it is usually found in low-lying, moist and disturbed areas with full sunlight such as wasteland, abandoned agricultural land, fishpond bund, roadside and woodland edge around village environs. Mikania has not caused significant adverse impact on established woodland areas.

3. The Characteristics of Mikania

3.1 Mikania is a perennial herbaceous vine. It has characteristic opposite, heart-shaped leaves, margins irregularly coarsely dentate, 4 - 13cm long. Mikania has much branched and hairless stems, and numerous small heads of densely clustered

white flowers with fragrant. Mikania produces small seeds, black in colour, with a terminal tuft of white bristles for wind dispersal. A few photographs of Mikania are attached at the end of the Note for reference.

3.2 In South China region, Mikania starts flowering in September and sets fruits from November to February the next year. It produces numerous flowers and a huge amount of seeds which can germinate rapidly with a very high germination rate. These properties are attributable to the high spreading rate of Mikania. However, low temperature and inadequate sunlight will suppress its fruiting, seed germination and growth of seedlings. As such, Mikania seldom grows in the shade, being restricted to sunny locations.

4. Methods of Clearing Mikania

4.1 The creeping and climbing habits of Mikania enable it to intermingle with the host plants and it is difficult to treat it with chemical means without affecting the latter. The use of biological control agents, such as the use of arthropod which naturally feed on Mikania specifically or the rust pathogen that is damaging to Mikania, is still at experimental stage in other countries. Not until an environmentally safe and reliable biological or chemical control agent has been developed, clearing Mikania with physical means is currently the usual practice.

4.2 Like all other climbers, Mikania can either be cleared manually by slashing it with hand tools or mechanically by using a brushcutter. The stem should be cut off as close to the ground as possible and the aerial part should be removed and disposed of properly. For those which hang on trees, the aerial part could be cleared up to about 3 metres from the ground while the rest will wither and die off naturally. Various departments or concerned parties may appoint landscape contractors, skilled landscape workers or gardeners to clear Mikania in areas under their jurisdictions.

5. Important Precautions

- **To clear Mikania from a safe and firm position.** Mikania often grows vigorously and may cover up the entire area including the ground and the canopy. The workers should pay extra care not to fall into caves, cliffs or crevices that have been covered up by Mikania.
- **To properly dispose of Mikania that has been cut off.** The aerial parts that have

been cut off should not be left on the ground but should be packed in bags for proper disposal. Roots of Mikania can readily germinate from nodes of stems that have been cut off and regenerate readily.

- **To clear Mikania before it sets fruits.** The fruiting period of Mikania is from November to February the next year, but may vary across different years. The seed of Mikania is light weighted and is dispersed by wind. Clearing Mikania during its fruiting period would facilitate the seed dispersal. Therefore, it would be advisable to clear Mikania before it sets fruits.

6. Additional Remarks

6.1 This Practice Note aims at providing general guidance on the clearing of Mikania for reference. Concerned parties using this Practice Note should consider other site specific requirements of clearing Mikania. Advice should be sought from relevant authorities or landowners regarding the necessary arrangement prior to conducting any Mikania clearance work.

6.2 For general information, Agriculture, Fisheries and Conservation Department is responsible for vegetation maintenance inside Country Parks, Special Areas and Sites of Special Scientific Interests. Leisure and Cultural Services Department is responsible for maintaining vegetation in public parks, open spaces, along streets and highways. Vegetation maintenance on unallocated and unleased Government land not maintained by other Government departments is under the jurisdiction of respective District Land Offices.

Agriculture, Fisheries and Conservation Department
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Mikania micrantha (Top) in habitat; (Middle) herbarium specimen; (Bottom) a seed with a terminal tuft of white bristles.

References

- Cock, M. J. W. (1982). Potential biological control agents for *Mikania micrantha* H. B. K. from the Neotropical region. *Tropical Pest Management* 28, 242-254.
- Hu, Y-j. & But, P-h. (1991). A study on life cycle and response to herbicides of *Mikania micrantha*. *ACTA Scientiarum Naturalium Universitatis SunYatSeni* 33,88-95. (in Chinese)
- Huang, Z-l., Cao, H-l., Liang, X-d., Ye, W-h., Feng, H-l. & Cai, C-x. (2000). The growth and damaging effect of *Mikania micrantha* in different habitats. *Journal of Tropical and Subtropical Botany* 8, 131-138. (in Chinese)
- Kong, G-h., Wu, Q-g., Hu, Q-m. & Ye, W-h. (2000). Further supplementary data on *Mikania micrantha* H. B. K. (Asteraceae). *Journal of Tropical and Subtropical Botany* 8,128-130. (in Chinese)
- Parker, C. (1972). The *Mikania* problem. *PANS* 18,312-315.
- Schatz, T. J. (2000). The effect of cutting on the survival *Mimosa pigra* and its application to the use of blade ploughing as a control method. *Plant Protection Quarterly* 16,50-54.
- Swamy, P. S. & Ramakrishnan, P. S. (1987). Weed potential of *Mikania micrantha* H. B. K., and its control in fallows after shifting agriculture (Jhum) in North-East India. *Agriculture, Ecosystems and Environment* 18,195-204.
- Swamy, P. S. & Ramakrishnan, P. S. (1988). Effect of fire on growth and allocation strategies of *Mikania micrantha* under early successional environments. *Journal of Applied Ecology* 25,653-658.
- Waterhouse, D. F. (1994). Biological control of weeds: Southeast Asian prospects. *Australian Centre for International Agricultural Research (ACIAR)*. Canberra. Pp. 124-135.
- Wen, D-z., Ye, W-h., Feng, H-l. & Cai, C-x. (2000). Comparison of basic photosynthetic characteristics between exotic invader weed *Mikania micrantha* and its companion species. *Journal of Tropical and Subtropical Botany* 8,140-146. (in Chinese)