

# Mikania Micrantha: ITS MANAGEMENT IN COFFEE PLANTATIONS OF NORTH EAST INDIA

Atiqur Rahman Bora, Jayanta Deka, Iswar Chandra Barua and Tasvina R Borah



**Introduction:** The North East Region of India offers vast potentiality for production of premium coffee which may help for its economic development. Infestation of most of the coffee plantations, by the invasive perennial vine *Mikania micrantha* reduced productivity, induced black rot disease and fruit drop which made coffee cultivation economically unsustainable. The problem has not received due importance and so far no recommended practice for management of the weed have been developed.

**Materials/Methods:** The study was conducted in 2016-17 & 2017-18 at the Regional Coffee Research Station, Diphu, India on Robusta coffee (*Coffea canephora*). Dormancy of the weed seeds were broken and germination hastened (Nyamongo *et al.*, 2009) by soil application of gibberellic acid (GA). The germinating weed plants were then killed by pre and post-emergent application of either Oxyfluorfen and Glyphosate (Shen *et al.*, 2013) or Oxyfluorfen and Glyphosate + 2, 4-Dichlorophenoxyacetic Acid.

**Conclusion/Perspectives:** This study was the first of its kind on the detailed effect of *M. micrantha* on coffee and its management. The treatment combinations including soil application of gibberellic acid did not have any effect on growth and yield of coffee. *M. micrantha* on coffee could be managed effectively by the application of Oxyfluorfen (0.29 kg ha<sup>-1</sup>) followed by Glyphosate (0.99 kg ha<sup>-1</sup>). The findings will help to overcome the problem caused by *M. micrantha* on sustainable coffee production in the infested areas.

**References:** 1) Nyamongo, D.O., Nyabundi, J., Daws, M.I., 2009. Germination and dormancy breaking requirements for *Vernoniagalamentis* (Asteraceae). Seed Sci & Technol 37,1-9.  
 2) Shen, S., Xu, G., Zhang, F., Jin, G., Liu, S., Liu, M., Chen, A., Zhang, Y., 2013. Harmful Effects and Chemical Control Study of *M. micrantha* H. B. K. in Yunnan, Southwest China. Afr J of Agric Res 8 (44), 5554–5561.

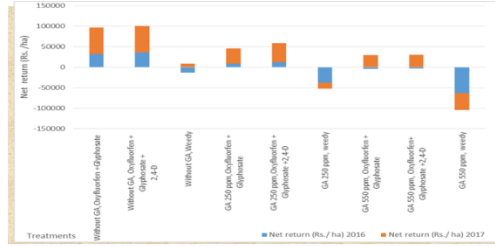


Figure 1: Net return as effected by treatments

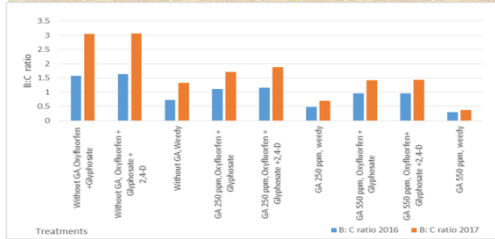


Figure 2: B:C ratio as effected by treatments



Figure 3: *M. micrantha* infestation on coffee plant

**Results/Discussion:** Application of GA (500 ppm) on soil significantly increased seed germination of

*M. micrantha* over 250 ppm and control without effecting growth and yield of coffee. Improved vegetative and yield attributing characters, higher yield, net return and benefit-cost ratio of coffee was recorded in the treatments comprising without GA, Oxyfluorfen (0.29 kg/ ha) followed by Glyphosate (0.99 kg/ ha) and without GA, Oxyfluorfen (0.29 kg ha<sup>-1</sup>) followed by Glyphosate (0.99 kgha<sup>-1</sup>) + 2,4-Dichlorophenoxyacetic Acid (0.73kg ha<sup>-1</sup>) as compared to the weedy check.