Arresting the 'Mile a Minute' Weed

The 'mile a minute weed' *Mikania micrantha* is plant species which strangles forest and crops plants as it invades India. A native of South America, this climber is wreaking havoc as it spreads through north-east and south-west India. Unchecked, *Mikania* severely impacts agricultural production – controlling it (by hand weeding) increases the cost of cultivation. This means that production costs for many important crops and products such as pineapple, plantain, oil palm etc. have escalated, resulting in significant losses in revenue.

The weed impacts severely on teak and other forest plantation species creating losses in timber and pulp production. Smallholders have been especially affected. They have either abandoned cultivation of subsistence and tree crops in *Mikania*-infested areas or changed to other crops to combat the *Mikania* menace. This weed has further affected the livelihoods of tribal people living in forests of Kerala by impeding the collection of forest products.

Mikania micrantha 'strangling' Assam tea

In Kerala, south India, *Mikania* is now widespread in homegardens, plantations and natural forests. The Kerala Forest Research Institute (KFRI), the principal collaborator in the first phase of this project (R6735, 1997–99), quantified the sociological and economical impacts of the invasive plant together with its distribution in the State. The lead organization, CABI Bioscience, identified a South American rust fungus, *Puccinia spegazzinii*, which is suitable for use as a biological control agent.

South American rust fungus, *Puccinia spegazzinii*, attacking Mikania weed

Building on the initiatives set in motion during Phase 1, KFRI developed and implemented a surveillance programme to cover the neighbouring states of Karnataka, Goa and Tamil Nadu. This showed that *Mikana* is dispersing steadily into Tamil Nadu and has moved much closer to the border between Kerala and Karnataka. Continuous monitoring of sampling plots throughout Kerala demonstrates that the weed is increasing year by year.

The absence of permission to import the biological control agent was identified as a major adoption constraint by the CPP promotional taskforce in 2001. However, KFRI raised awareness of *Mikania* by publishing articles in national and local newspapers and magazines, and producing popular videos. In addition, discussions with policy makers lead to the Government of India issuing a permit for the introduction of a fungal pathogen agent, the rust fungus *Puccinia spegazzinii,* for the control of *Mikania*. This is the first time that the Government has allowed importation of an exotic pathogen – not only a first for India, but also for South East Asia. This permit enabled the CPP to proceed with funding for a project (R8228) which it is hoped will, by its completion, allow for the release of this biological control agent to assist farmers in arresting the progress of the 'mile a minute weed.

R8228: Classical biological control of *Mikania micrantha* with *Puccinia spegazzinii*: Implementation Phase
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