

Biological Control of *Sida acuta* in Australia's Northern Territory

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Spinyhead sida (*Sida acuta*) is a facultative perennial weed of improved pastures, disturbed areas and roadsides in northern Australia. It is a small erect shrub with woody stems and a deep taproot, usually growing to about 1 m in height but exceeding 2 m in favourable circumstances. It can dominate areas that are heavily grazed. It is a native of Mexico and central America and has spread throughout the tropics and subtropics. Chinese miners are thought to have introduced the plant into Australia approximately 100 yrs ago. In 1984 a joint biological control programme, involving the Department of Primary Industry and Fisheries and the CSIRO, was commenced with the establishment of an exploratory station in Mexico. In September 1989, following 3 yrs of host-specificity testing, the Mexican leaf-beetle *Calligrapha pantherina* was released from quarantine. It has since been released onto *S. acuta* infestations at several hundred sites in the Northern Territory, either directly from laboratory cultures or from field collections. Population increase in the field has at times been dramatic, but spread away from the points of release has been slow. An insecticidal-check experiment demonstrated that field populations of the beetle could reduce seed production of *S. acuta* by greater than 90%. A model of the impact this level of seed reduction would have on the density of the following generation of plants predicted a 37% reduction. This prediction was confirmed by results in the field.
