

RESEARCH NEWS**CONTROLLING LEAF SPOT DISEASE IN MUKUNUWENNA
(*Alternanthera sessilis*) USING SAFE CHEMICALS AND EFFECT OF
CLIMATIC FACTORS ON DISEASE SEVERITY AND YIELD**

L.C. WIJETILAKA, W.R.A.C.D. RANASINGHE and M.M.W. PERERA
Regional Agricultural Research and Development Centre, Makandura

Mukunuwenna (*Alternanthera sessilis*) is a commercially potential leafy vegetable grown mainly in Colombo, Gampaha, Kalutara, Puttalam and Kurunegala districts. However, farmers apply pesticides to control pests and diseases not knowing the cause of the damage. Objective of the study was to identify the farmer methods of pest control and determine the effect of safe chemicals to control foliar diseases in mukunuwenna. Since, farmers do not practice crop rotation this experiment was also designed to control diseases without crop rotation practice.

A questionnaire was developed and survey was conducted in *yala* 2005 in Mukunuwana and Chilaw areas. Severity of important diseases, fungicides used, methods of application and dosages, were recorded. An experiment was conducted at the Regional Agricultural Research and Development Centre, Makandura in *maha* 2005/2006. Fertilizer and cultural practices were carried out as recommended by the Department of Agriculture. Foliar sprays commenced 7 days after crop establishment at intervals of 10 days until 14 days prior to harvest in order to control White rust (WR) and Red leaf spot (RLS) diseases. Disease severity were recorded weekly.

Survey results showed that the major pests associated with mukunuwenna are *Omiyodis indicata*, *Sellipus* spp., *Cassida* spp. and *Aphis gossypii*. Most important diseases were RLS (*Cecospora alternantherae*) and WR (*Albugo* spp.). The predominantly used fungicide was Mancozeb (Vondozeb). A variety of insecticides and mixtures of pesticides were also used by the growers. Pesticide application was carried out without any rationale. According to farmers' perception, spraying insecticides using power sprayers was more effective than Knapsak sprayer. However, farmers were reluctant to purchase power sprayers due to high cost. Crop rotation which is essential for minimizing pest and disease problems was not practiced by farmers.

The botanicles, namely garlic (*Allium sativum*) (200 g / 10³ ml), neem (*Azadirachta indica*) (100 ml / 10³ ml) and the fungicide chlorothalonil (Daconil) 15 ml / 10 l were used as safe chemicals. Results showed that extracts of garlic and neem successfully controlled both WR and RLS. Severity of both diseases showed significant positive correlation with marketable yield in the third harvest.