B-44 Identification of Mukunuwenna (*Alternanthera sessilis*) germplasm resistant to white rust and red leaf diseases

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Introduction of clones of leafy vegetables resistant to leaf diseases is important from the point of view of the farmer as well as the consumer. White rust and red leaf spot are 2 economically important diseases in *Alternanthera sessilis* (L.) DC (Mukunuwenna), a popular leafy vegetable grown on a commercial scale.

Fifteen clones from the germplasm collection of Mukunuwenna were screened by artificial inoculation with spore suspensious (white rust) or by adding diseased leaf samples to the soil (red leaf spot) and increasing humidily. The effect of

application of 2 fungicides and of muriate of potash to the stubble, immediately after the harvest was also investigated with respect to red leaf spot. Arcsin transformed data of mean disease severity percentages were statistically analysed by analysis of variance and the means were separated by Duncan's multiple range test. Microscopic observations and inoculation tests revealed that white rust is caused by *Albugo* sp. and red leaf spot by *Cercospora alternantherae.*

Broad leaf, bushy type clones M4, M4-1, M8, M8A and Sarana Mukunuwenna were highly resistant to both diseases. Narrow leaf, runner type clones M5 and M9 were highly resistant to white rust but susceptible to red leaf spot, while M11 was highly susceptible to white rust but resistant to red leaf spot. The narrow leaf runner type clones M1, M2, M3 and M13 were susceptible to both diseases, but M6 and M7 were either resistant or moderately resistant. Disease severity in field and greenhouse studies strongly correlated ($r=0.87$).

Red leaf spot could be controlled to manageable levels by Benlate, Captan and potassium fertilizer in moderately resistant clones M6 and M7.