

## EFFECT OF COWDUNG AND *Gliricidia* ON THE INFESTATION OF PARASITIC NEMATODES AND YIELD OF ONION

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Small red onion (*Allium ascalonium.L*) is one of the high value food crops popularly grown in Sri Lanka, including the Batticaloa district. Major onion growing area in Batticaloa is Kaluthawali and in the recent time parasitic nematodes *Aphelencooides besse*, *Xiphinema elongatu*, *Helicotylenchus evanessi* posed a severe problem in this area. As there are no disease resistant varieties available in small red onion, the only alternative is to control this disease causing organism by chemical, biological or through agronomic practices.

In this context, role of different organic substances on nematode management is a subject of considerable important. In view of the above foreseen facts, investigation was carried out to use easily available organic substances to control nematodes and thereby the performance and yield of small red onion is improved.

The dried cowdung and shade dried *Gliricidia* leaf in powder form at three levels in each were used in nine combinations as treatments, arranged in a randomized complete block design with three replications. The treatment without cowdung and *Gliricidia* was the control in this experiment. Data were collected on plant height, number of damaged leaves, nematode population in soil and bulb yield.

The application of cowdung and *Gliricidia* showed a significant improvement in plant height, number of leaves produced and bulb yield and concurrently they reduced the nematode population in soil and their damage to plants. The data revealed that the combined application of cowdung at the rate of 2.93kg/m<sup>2</sup> and *Gliricidia* at the rate 0.84kg/m<sup>2</sup> showed the best performance of onion plants and produced the highest bulb yield which was significantly ( $P < 0.05$ ) higher than the bulb yields of other treatments. The bulb yield with cowdung (2.93kg/m<sup>2</sup>) and *Gliricidia* (0.84kg/m<sup>2</sup>) was almost double to the yield obtained from the control treatment without cowdung and *Gliricidia*. These organic substances (cowdung and *Gliricidia*) are readily available and their usage is a useful mean to control nematodes and to increase the yields in onion grown in nematode affected areas in general and Batticaloa district in particular.