B-45: Status of selected chemical characteristics of rice soils in the low country wet zone

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The wet zone of Sri Lanka is about 20% of the total land area of the country. Rice is the main crop in the region and rice yields are very low when compared to the other rice growing areas of the country. A soil analytical programme was therefore conducted to investigate the statas of selected chemical characteristics in the wet zone rice soils.

A total of 150 soil samples (0-15cm depth) were collected from rice fields of low country wet zone. They were analysed for available phosphorus (Olsen's bicarbonate extraction), potassium (NH_4OAc extraction), and organic matter content in the soils was determined by Walkey-Black method. In addition, pH (1:1 H_2O) was also measured.

Results indicated that af the samples collected 33% samples had P up to 5 mg/kg. 36% samples had P between 5 and 10 mg/kg and 26% samples had P between 10-20 mg/kg and 5% samples had more than 20mg/kg.

In addition, results revealed that of the soil samples collected 48% had K up to 80 mg/kg, 35% samples had K between 80-160 mg/kg and 17% samples had more than 160 mg/kg. Results further showed that 9% samples had pH more than 5.

Results of this analytical programme showed that of the soil samples collected, 5% had organic matter content below 2%, 53% samples had 2-5%, 30% samples had between 5-10% and 12% samples had between 10-15%.

These results showed that a majority of the wet zone rice soils are low in P and K. In addition, most of these soils are very acidic and also low in organic matter. Hence, application of P and K fertilizers, organic manures (with exception of bog and half bog soils) and liming materials would be necessary to improve soil fertility in the wet zone rice soils of Sri Lanka