

**EASTERN UNIVERSITY, SRI LANKA**  
**Third Year Second Semester Examination In Agriculture – 2009/2010**  
**(Feb / March – 2012)**

**ACH – 3201 Soil Properties and Soil Fertility Management.**  
**Practical Examination**



**Time: One hour**  
**Answer all questions**

1. In a farmers field you have disked in a large amount (may be 5 tons-dry basis/ha) of rice straw just about a week before planting chillies. At planting time you applied chemical fertilizer to supply recommended amount of N, P and K. The chillie germinate and shortly, thereafter leaves turns to yellow. Tests show very low  $\text{NO}_3^-$  nitrogen in the tissue. What is wrong with the chillie, and why? The farmer on whose field this is observed asks you, what to do. What is your answer?
2. A third year Agriculture student did trial "A" and trial "B" in Agric chemistry laboratory. In trial "A" and trial "B" PVC tube having 5cm internal diameter and 33 cm height was taken and bottom of the PVC tube was covered with muslin cloth and filled with P g of soil  
Trial A –P g of sandy soil was taken from University farm.  
Trial B – Equal amount of sandy soil taken from University farm and Reddish Brown Earth (RBE) soil from Karadiyanaru farm were mixed together and from the mixture Pg soil was taken

Contd...../2

Recommended amount of  $(\text{NH}_4)_2\text{SO}_4$  as nitrogen fertilizer was mixed with P g of soil taken for each trial and filled in PVC tubes. Tube was fixed in a stand. Soil in tube was saturated with water and at saturation 50 ml of water was added to each tube and the leachate was collected in beakers.

- Volume of the leachate collected was measured by using measuring cylinder.
- Leachates were analyzed for N, by using standard method.

	Volume of Leachate collected (ml)	$\text{NO}_3^-$ content in leachate (Kg/ha)
Tube .....	12.5	25.8
Tube .....	8.2	14.5

- a. He forgot to mark the receiving flask used to collect the leachate during the trial. Help him to guess the readings for trial A and trial B.
- b. Indicate the reason for your guessing.

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