



**EASTERN UNIVERSITY, SRI LANKA**  
**THIRD YEAR SECOND SEMESTER EXAMINATION IN AGRICULTURE 2003/2004**  
**SOIL PROPERTIES ACH 3201 (1:00/30)**

Answer all questions

Time: 2 hours

1. A final year agriculture student carried out a research work in his area by using poultry manure (10t/ha), rice straw (5t/ha) and cattle manure (10t/ha) with same amount of chemical fertilizer and obtained the following results.

Treatment	Soil phosphorus (kg/ha)	P <sub>2</sub> O <sub>5</sub> leached (kg/ha)	Phosphorus Use Efficiency (%)	Residual soil phosphorus (Kg/ha)
Poultry manure + Chemical fertilizer	553.6	7.87	17	380.1
Rice straw + Chemical fertilizer	296.4	3.76	87	30.5
Cattle manure + Chemical fertilizer	384.0	4.12	38	149.1
Chemical fertilizer	204.1	16.52	24	5.1

- i. Explain the effect of organic manure on soil phosphorus content
- ii. "Though the soil phosphorus content is lower in straw treated soil than other organic manure treated soils the phosphorus use efficiency is higher in straw treated plots than others" Explain this with reasons.
- iii. Explain the effect of organic manure on P<sub>2</sub>O<sub>5</sub> leaching
- iv. Predict the major property of soil used in this study
- v. Write a brief conclusion for this study.

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