

## Effect of elevated temperature on soil nutrition under different land use

Soil samples from different land use pattern *viz.* Mustard-Rice-Maize, Linseed- Rice, Green gram- Groundnut- Toria, Lemon orchard (5 years old), Linseed-Rice-Field pea (Zero tillage), *Jhum* land, Terraced rice, Agroforestry and Non cultivated pasture land have been collected and initial nutrient status was analyzed. Then these samples were saturated at field capacity, and transferred into a moisture proof container, thereafter the samples were kept in a BOD incubator at 42°C for 1 month. Nutrient analysis data revealed that all parameters showed increasing trend due to heat treatment which might be due to combined effect of heat induced mineralization of organic sources as well as cellular materials of dead microbial cells.

### Nutrient analysis of soil samples

Parameters	Initial		42°C treated	
	Range	Mean	Range	Mean
pH (1:2.5 Soil: water suspension)	4.28-5.92	4.86	4.59-5.88	5.09
EC (dS m <sup>-1</sup> )	0.023-0.180	0.071	0.043-0.391	0.140
Oxidizable organic carbon (%)	0.22-1.22	0.56	0.27-1.19	0.58
Mieralizable N (kg ha <sup>-1</sup> )	75.3-194.4	110.8	106.6-294.8	147.4
Available P (kg ha <sup>-1</sup> )	41.5-380.9	122.9	46.5-365.8	129.2
Available K (kg ha <sup>-1</sup> )	47.4-448.1	166.9	75.3-448.1	180.5



Soil sample collection



Experimental setup