235. **Grewal, S.S., Juneja, M.L., Singh, K. and Singh, S. 1994.** A comparison of tw agroforestry systems for soil, water and nutrient conservation on degraded lan *Soil Technology,* 7:145-153.

In the biomass starved Shiwalik foothill ecosystem of the subtropical northern India, th study was conducted to evaluate the production and conservation potential of tw agroforestry systems (AFS), namely (i) *Leucaena leucocephala* (K-8) for fuelwood at 2 2m spacing in upper and *Leucaena* (El Salvador) at 0.5 x 0.5 m spacing for fodder i lower canopy (LL), ii) *Leucaena* as above in upper and napier grass (*Pennisetum purpureu* for fodder in lower canopy (LN). These were compared with (iii) the traditional rainfe crop sequence of sesame followed by rapeseed (SR) and iv) an absolute control of cultivate fallow (CF) on 20 x 8m uniform runoff plots having a 2% slope and a typical light texture eroded gravelly soil (Udic Ustocrepts). The 3-year (1986-1988) mean monsoon seaso runoff with 816 mm rainfall were 44, 11.2, 20.5 and 23.0%; soil erosion loss 0.28, 1.0 2.69 and 5.63 tonnes; N loss 6.6, 19.5, 42.5 and 51.3 kg and K loss 1.2, 1.8, 3.0 an 5.0 kg ha^{-1} yr^{-1} from LN, LL, SR and CF, respectively. The soil profile of SR indicated a n deficit of 15, 2 and 14 kg but that of LN and LL a gain of 38, 10 and 20 kg and 66, 26 an 57 kg ha^{-1} of available N, P and K in 4 years. The AFS were more conservation effecti

than traditional crops on eroded marginal soil. Inclusion of such systems in the conservation technologies has been suggested.