

439. Samra, J.S. 1994. Considerations for agroforestry research. In: Agroforestry Traditions & Innovations (eds.) Pratap Narain, K.S.Dadhwal and R.K.Singh ICAR-UNDP Advance Centre on Agroforestry, CSWCRTI, Dehradun: 178.

In this paper, the author has briefly enumerated some of the vital issues pertaining to agroforestry research. According to him, agroforestry is a multivariate complex system and its analysis by simple designs or methods generally used for crops have several limitations. In an agroforestry system, position of a tree remains fixed which introduces competition phases in well-defined orientations. Greater mobilization of nutrients as well as moisture fluxes over deeper and extensive layers and their redistribution through stem flow and through fall sets in spatial patterns in their distribution. There are also complementary and competitive mechanism at the level of roots of tree and intercrops. Competition avoidance tendencies i.e. tree roots mining lower layers and intercrop exploiting upper horizons disturbs the natural equilibrium in the third dimension i.e. profile depth. Plot size in most of agroforestry trials should be large. Allelopathic effects and spatial distribution of allelochemicals is another important consideration. Research methodologies should assume continuity among observations both in space and time. Neighbourness and not independence among the observations should be given due consideration. Availability of hard and software with the possibility of data storage, retrieval and processing at affordable costs are some of the redeeming features of the present day scenario. Selection of provenances with a canopy architecture which allow maximum penetration of sunshine is needed for maximisation of production. Site conditions of wastelands are highly variable and site-specific technologies have to be developed. Soil physical changes and biological shifts due to changed carbon, nutrients and moisture cycling are also not completely understood. Better elaboration of dissipation of kinetic energy of rainfall and hydrological changes in a two or three layered canopy is desirable. More quantitative data is required on conservation issues and economic viability of a system for adoption at farmers' fields.