Agroforestry encompasses a set of land management practices which aim to utilize the benefits from woody species and annual crops together. In such systems, interactions between trees and non-tree constituents play an essential role. This has to be respected by suitable fertilizer measures.
As in agriculture, the soil is able to support higher yields in agroforestry when the nutrient offer is in a good relation to the nutrient demand of the growing plants in the mixed stands. The maximum plant production level is limited by the economic value of the additional yield compared with the costs of fertilization and/or by ecological conditions when fertilizers are applied in an unsuitable way and contribute to increasing soil and water pollution.
The general aim should be to reach optimum yield within ecologically tolerable limitations.
If the soil is worthy of improvement, more fertilizers should be applied. The same is true for recultivating degraded or devastated land (fertilization for amelioration).
Furthermore, fertilization is important as an effective measure for a compensating process against the impact of harmful atmospheric immissions from industries, urbanization, traffic and other stressing sources such as industrial animal husbandry.
This so-called compensating fertilization is applied in forestry for the chemical neutralization of acid rain and against a disturbed nutrient balance in the soil caused by nitrogen oxides, ammonia, heavy metal dusts and other air-borne materials
In the light of this, it must be recognized that fertilizers are an essential tool in all land-use systems aiming at an optimal economic production under sustainable management conditions.
Fertilization makes it possible to exploit the soil according to its natural cropping potential without risks for its deterioration, while the noncultivated part of the landscape can, to a wide extent, be protected.

Scientific investigations and research working on land-use systems therefore have to pursue two goals (Fig. 1):
1. to utilize nature by an intensive, but sustainable management of its resources and
2. to protect nature as far as possible from any harm by man.

In both direction, man is confronted with many problems of a socio-economic and ecological nature caused by his permanent attempts to exploit the natural reserves to their utmost, regardless of the limits to be respected where a sustainable utilization has to be maintained.

Such prevailing one-sided economic thinking has already shown its deterioration consequences in European agriculture - characterized by monocultural cropping (with high doses of pesticides), the formation of big uniform land areas (better productivity of machineries) and industrialized animal husbandry (severe soil impacts by surplus liquid manure).
That agriculture and forestry, which cover more than 80 % of the land in Europe, are a decisive factor for the ecological evaluation of landscape, has been largely neglected.
This symposium has shown very clearly that it would have been neither possible nor productive to evaluate results from production models which do not correspond to the real components and conditions in agriculture as well as in all systems using soil as a productive factor.
Economic modelling approaches focused on the key features of agricultural production cannot operate satisfactorily when soil and landscape belonging to it are not included as real cost factors regarding their environmental value.
A "two component" evaluation scale, exclusively based on capital and labor - as is common in industry - can be suitable only when the soil is considered to be homogenous in a uniform landscape (puszta in Hungary, pampas in Argentine, steppe in Sibiria, Great Plains in USA etc.).
But theses cases cannot be found in most of the European countries, where heterogeneity of soil prevails and a mosaic structure is a dominant feature of landscape. Under these conditions, simplified economic models -working effectively in industrial enterprises, in which soil does not play any role at all - contrast dramatically with most land-use systems and must, therefore, fail.