THE ROLE OF GENETICS IN AGROFORESTRY SYSTEMS

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Agroforestry is the science and practice of intensive land-use management combining trees and/or shrubs with crops and/or live stocks. There are five integrated Agroforestry practices. They are alley cropping, forest farming, riparian buffers, silvopasture, and windbreaks. The trees in Agroforestry systems are the main emphasis. We can use genetics to improve the longevity, quality, and insect resistant of each species. Genetic enhancements will improve the longevity of each tree species by cultivating the desired genes. Gene pools for genetically altered trees can be produced in the laboratory. Finding the correct combination of genes will be the limiting factor. Genes determine the quality as well as the ability of tree species to resistant insect pests. Several pests have found trees as food sources which in turn causes tree mortality. Producing insect resisting trees through the use of genetics can enhance tree quality. High quality tree generates increased income to the landowner. Landowners desire to produce a profit from enterprises that are money-making endeavors. The Agroforestry practices have the ability to diverse the landowners land use. Genetics can be used in any aspect of these practices. It can play a major role in not only the trees which were previously mentioned, but also any other areas such as crops or even live stocks. Genetics has many venues to be directly incorporated into Agroforestry practices.