

Abstract

Soil fertility depletion through crop removal, soil erosion and leaching is a major challenge to increased crop productivity in Sub-Saharan Africa. Whereas nitrogen can be replenished using *Rhizobium* inoculants and growing leguminous crops, P is difficult to replenish. This is due to the high fixing capacity of most soils in Africa and the high cost of inorganic fertilizers. Arbuscular mycorrhiza fungi (AMF), endophytic fungi reputed for their ability to enhance P uptake can be used to alleviate P deficiencies and improve crop productivity. Although the technology has been used in developed countries, it has not been applied in crop production systems in Africa to any significant level. This is due to poor management of indigenous AMF populations, high cost of inoculants and challenges associated with the inoculum production and efficacy. These challenges are discussed in detail in this paper. Possible and practical ways of impacting these challenges are discussed. They include production of inoculum in farmers' fields to reduce transport costs, development of multi-agent inoculants to reduce cost of inoculum and genetic manipulation to improve the quality of the symbionts.