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From the Editor's Desk

One of the 21st century's significant challenges is sustainable food production for an ever-increasing human population that is estimated to reach from present 7.3 billion to approximately 9 billion by the year 2050. The world's agriculture, therefore, is under pressure to produce more food and ensure food security.

Relying on an input-intensive model to increase food production has its limitations with disastrous effects on soil fertility. The increase in yields of food production systems over the last few decades has been profoundly dependent on chemical pesticides and mineral fertilizers. As a result, around 40% of the cultivable land is already degraded due to various factors, including urbanization, soil sealing, soil acidification, salinization, soil erosion, and contamination. This degradation has severely affected biodiversity and environmental sustainability. Therefore, there is an urgent need for a paradigm shift in our attitude toward agriculture to achieve sustainable agriculture. It also attain significance in view of the fact that the decade 2021-2030 has been declared as the decade on ecosystems restoration by the United Nations to focus on the protection, revival and the conservation of ecosystems all across the globe for the welfare of human population and natural resources.

The integral importance of soil fertility in agricultural sustainability is slowly being realized. This also includes plant-symbiotic associations, among which the mycorrhizal symbiosis is one of the key players in structuring soil fertility. Although this association dates back to the early evolution of land plants, it is much talked about only in recent times.

As agroecosystem engineers, we need to look upon the AM fungi as future alternatives to costly and environmentally degrading inorganic fertilizers, pesticides, and insecticides. These fungi belonging to the phylum *Glomeromycota* are ubiquitous and have a multifunctional role in plant nutrition, protection against plant pathogens, stress tolerance, and maintaining soil structure and fertility. It is interesting to note that many agricultural practices, such as tillage and inorganic fertilizers, negatively affect AM fungal abundance and diversity. Therefore optimization (in terms of abundance and diversity) of mycorrhizal technology is essential for achieving sustainability in agroecosystems.

September 30, 2022

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