

Arbuscular Mycorrhizal Fungi

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Arbuscular Mycorrhizal Fungi Latest News

A new study published in Science has reported the first global map of the earth's vast underground network of arbuscular mycorrhizal (AM) fungi.

About Arbuscular Mycorrhizal Fungi

- These are **groups of root obligate biotrophs** belonging to the phylum Glomeromycota.
- These are **soil-borne microorganisms that form symbiotic associations** with approximately 80% of terrestrial vascular plants.
- AMF are **primary biotic soil components** which, when missing or impoverished, can lead to a less efficient ecosystem functioning.
- **Structure:** These are made up of **tiny branching threads called hyphae**.
- These hyphal networks form two-way pipes to channel nutrients and carbon to and from plants.
- Grassland ecosystems like those in **South Sudan, the Tibetan plateau, and India's Banni grasslands** house **40% of the world's AM fungal networks**.

- Its networks also weigh around 300 million tonnes of carbon, which is four- to six-times the weight of the entire human population.
- **Ecological Role**
 - They are **considered natural biofertilizers** which provide the host with water, nutrients, and pathogen protection, in exchange for photosynthetic products.
 - They **provide nutrients** and water in exchange for the carbon produced by the plants, and help to regulate the climate by drawing carbon into soils.
 - It formed symbiotic relationships with **70% of plant species, trading nutrients for carbon and** sequesters an **estimated 4 billion tonnes of CO2-equivalent a year.**

Source: TH

Source: <https://vajiramandravi.com/current-affairs/arbuscular-mycorrhizal-fungi/>

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