World Food Prize 2025

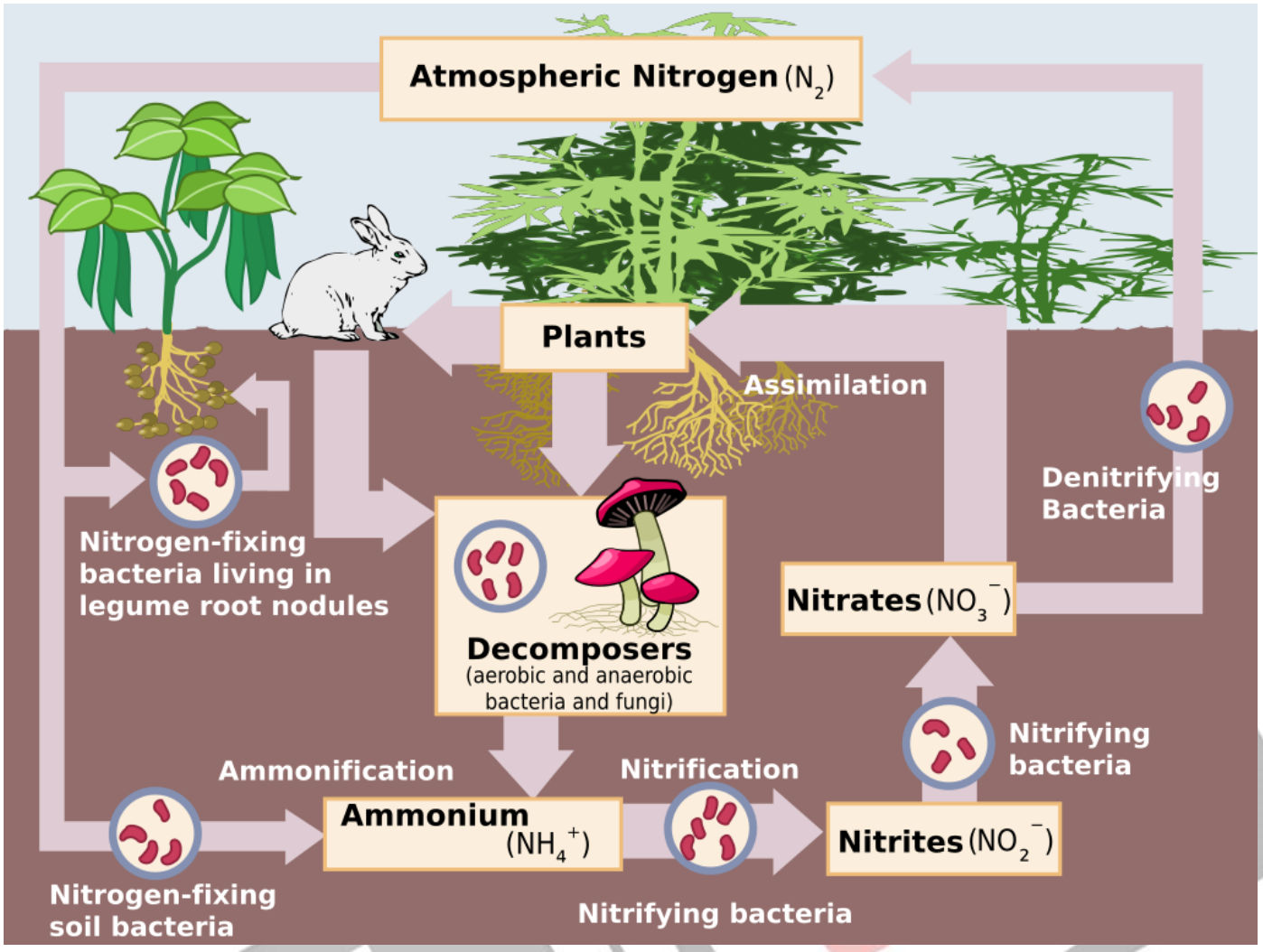
Source: DTE

Brazilian microbiologist **Mariangela Hungria** has been awarded the **World Food Prize 2025** for her pioneering work in **Biological Nitrogen Fixation(BNF)** and development of **microbial technologies** that reduce chemical fertiliser use.

- **Mariangela** pioneered **rhizobia-based nitrogen fixation** in legumes, this innovation reduced chemical fertilizer use, saving **Brazilian farmers USD 40 billion annually,** and boosted soybean production **from 15 million tonnes in 1979 to an estimated 173 million** tonnes by 2025.
- Her work drove **Brazil's "Micro Green Revolution"** through **sustainable, low-cost microbial technologies.**

Biological Nitrogen Fixation(BNF):

- Biological nitrogen fixation is a natural process where certain **microorganisms convert atmospheric nitrogen (N_2) into ammonia (NH_3),** a form usable by plants.
    - This improves soil fertility and lessens the need for chemical fertilizers.
    - Key nitrogen-fixing bacteria include ***Rhizobium*, *Anabaena*, *Nostoc*, *Azotobacter*, and *Clostridium pasteurianum*.**



World Food Prize:

- It was founded in **1986** by **Nobel Laureate Norman Borlaug,** is a top global award recognizing contributions in **improving food quantity, quality** and **accessibility** and **agriculture**.
- It awards **USD 500,000 annually** to innovators in **agriculture, nutrition, food technology, and hunger alleviation.**
- The first recipient was **India's M.S. Swaminathan (1987),** father of **Indian green revolution.**

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