

## **Microbiome Supporting Regenerative Agriculture**

***Food System*** is an interconnection of activities in food supply chains from upstream to downstream. It involves cultivation, harvest, processing, distribution, consumption and waste management. The food supply chain can be categorized into either the domestic chain or the globalized chain. The domestic chain or garden to table has fewer activities and actors, while the globalized chain consists of multiple steps and players.

Traditional food system is a linear supply chain, consuming large volume of resources with very little to no material recirculation. It has become a global challenge to develop a circular food supply chain.

Food has become the biggest driver of environmental degradation; food is also the biggest victim of that degradation. Food production can drive soils loss, increase droughts and floods and other major weather events which in turn lower the food production. Food system transformation is therefore necessary to achieve a sustainable food system and regenerative agriculture can play a significant role in this transformation.

***Regenerative agriculture*** is a system of agricultural practices and principles that support biodiversity, enrich soils, improve watersheds, and increase the capacity of the soil to capture carbon, contributing to the reversal of global warming. Regenerative agriculture itself is not a specific practice, but rather a variety of sustainable agriculture techniques used in combination. For example, the use of biocontrol / biofertilizer / the interaction of microbes and plants and microbiome.

### **Highlight Topics**

- Food Systems Microbiomes - Improving Sustainability of Food Production
- Industrial Perspectives on Regenerative Agriculture
- Natural Plant Elicitor for Crop Protection

- Comparative Metagenomics Reveals Microbial Signatures of Sugarcane Phyllosphere in Organic Management
- Microbes on ASEAN's Agriculture and Food Production, Nutrition and Security
- Thailand's Pathway to Sustainable and Equitable Food System