Development of negative emission technologies based on food, agriculture, forestry, and fisheries industries (Amount covered by the government: Up to 15.92 billion yen)

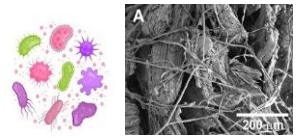
- Agriculture, forestry, and fisheries are the industries with an essential mission to supply food stably, and moreover are **significant carbon dioxide sinks** through the management and conservation of croplands, forests, and oceans.
- Accelerating the development of technologies for **carbon capture and storage in agriculture**, **promoting cyclic use of forests and reforestation**, and **tackling to expand seaweed beds (blue carbon), which is a carbon sink and essential to fisheries**. Those measures will lead to both carbon neutrality and the development of industries.

【R&D Item 1】 Establishment of high-functional biochar supply and utilization technology

- **Biochar**, made from organic matters, including rice husks, by carbonization (conversion to persistent carbon) is **sources of persistent carbon as effective carbon storages, are expected to sequestrate carbon dioxide into cropland. They are considered as major methods for decarbonization**.
- **Develop high-functional biochar that improves crop yields by about 20%** by adding microbial functions that help supply nutrients and promote crop growth, and furthermore, establish a method for evaluating the environmental value of agricultural products cultivated with this biochar to increase incentives encouraging farmers to adopt it.

Biochar

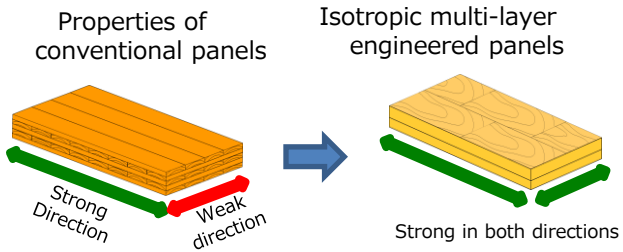
+



Microbial that help supply fertilizer components and promote crop growth

【R&D Item 2】 Development of isotropic multi-layer engineered panels for high-rise wooden constructions

- Establish efficient techniques with high yield ratio to produce new engineered panels that have identical **strength in two dimensions (isotropic)** and are made from domestic wood.
- Utilizing the new engineered panels for high-rise constructions can increase demands for domestic wood. This will accelerate sustainable and **cyclic use of forest resources (harvesting, utilizing and planting) and, thereby, contribute to the enhancement of carbon dioxide removals in forests**.



【R&D Item 3】 Innovative technology of creating seaweed bank for promoting blue carbon.

- It is an important matter to restore seaweed beds as a blue carbon ecosystem for securing a carbon sink, maintaining and increasing fisheries resources, and preventing disaster.
- **Innovating a block for marine construction adding materials which promote seaweed growth** and a **cartridge for transplanting seaweed, which reduce weight as one quarter from current product**. Developing seaweed supply system to restore or create the seaweed beds efficiently by integrating the above technologies.