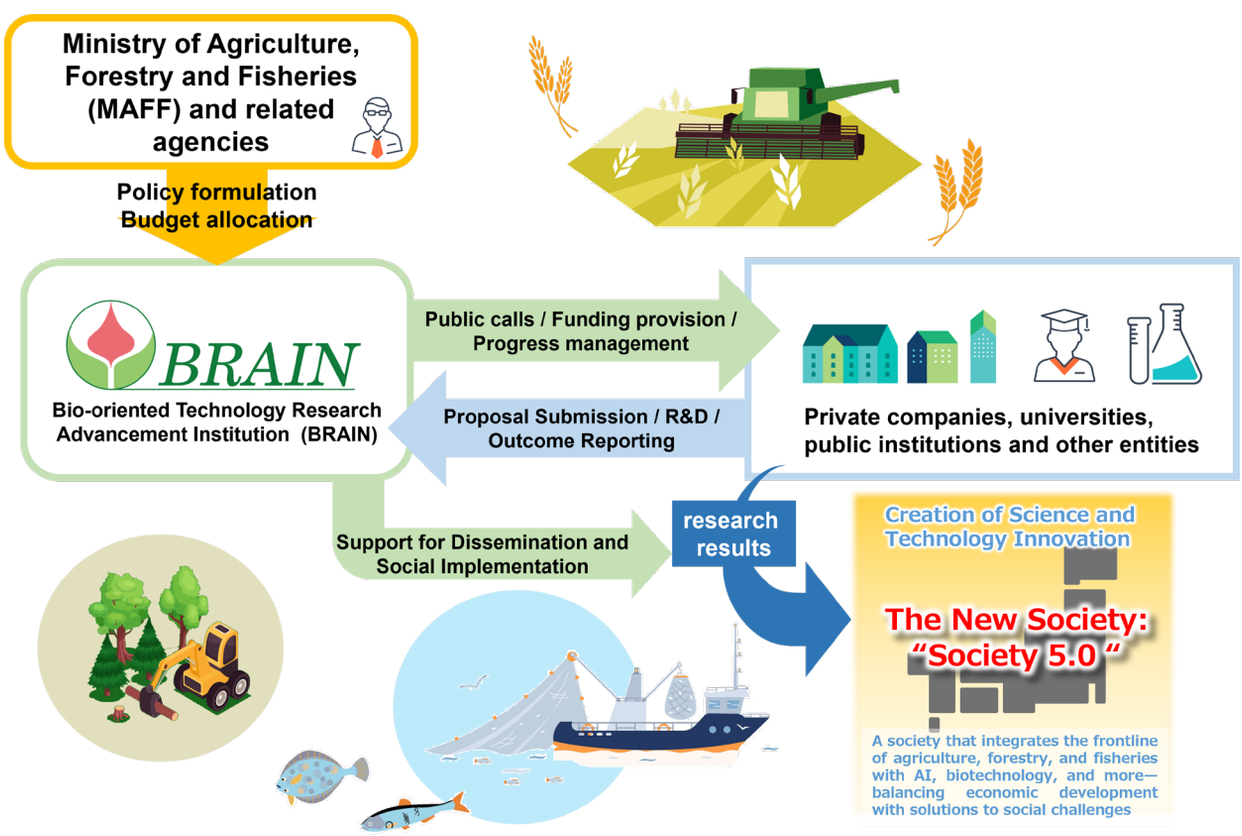
BRAIN

Bio-oriented Technology Research Advancement Institution (BRAIN)

– For creating innovation in agriculture, forestry, fisheries and the food industry –

Institutional Profile

The Bio-oriented Technology Research Advancement Institution (BRAIN) is the only funding agency in Japan dedicated to supporting research and development (R&D) in the fields of agriculture, forestry, fisheries and the food industry. BRAIN invites outstanding R&D proposals from universities, technical colleges, public research institutions, private companies, and other entities, provides research funding and project management support, and works to ensure that research outcomes are effectively implemented in society.



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Research Programs

The Moonshot R&D Program for Agriculture, Forestry and Fisheries

Supporting research toward "creating a society where 9 billion people can enjoy eating well in 2050"

BRAIN aims to foster disruptive innovation originating in Japan by promoting bold and ambitious research and development that departs from conventional technological extensions. As the funding agency for Moonshot Goal 5—"By 2050, to realize sustainable global food supply industry through full utilization of untapped biological functions"—BRAIN is advancing strategic research and development projects to achieve this vision.

Research Cases

- Bio-Economical Food Production System Using Circular Cell Culture of Algae and Animal Cells
- Realization of Zero Pest Damage Agriculture by Fully Utilizing Advanced Physical Methods and Unused Biological Functions

etc.

Cross-ministerial Strategic Innovation Promotion Program (SIP)

Supporting the initiative titled "Building a Resilient and Nourishing Food Supply Chain Management for a Sustainable Future"

The Council for Science, Technology and Innovation allocates funding across ministerial and disciplinary boundaries to promote integrated efforts ranging from basic research through to implementation and commercialization. BRAIN supports the operation of SIP (Phase 3) as the research funding agency responsible for implementing the initiative on "Building a Resilient and Nourishing Food Supply Chain Management for a Sustainable Future."

Research Cases

- Building a Breeding Foundation for Plant-Based Proteins (Soybeans) and Establishing Cultivation Techniques
- Building a Next-Generation Aquaculture System for Animal-Based Proteins (Aquatic Products)

etc.

Research and Implementation Promotion Program through Open Innovation

Supporting collaborative research among industry, academia, and government in agriculture, forestry, fisheries, and food

To accelerate the social implementation of innovations that contribute to the advancement of key national policies and the resolution of on-the-ground challenges, BRAIN promotes both fundamental research—aimed at generating innovative seeds in the agriculture, forestry, fisheries, and food sectors through industry–academia–government collaboration—and applied research at the implementation stage to enable the practical application of such outcomes.

Research Cases

- The World First Development of Wood Brews and Liquors Made from Trees
- The Establishment of Labor-Saving Cultivation Systems and a Producer Network Using ICT for Nationwide Promotion of the Seed Propagation Strawberry Variety "Yotsuboshi"
- Establishment of Techniques for Producing Large, Tasty Female Eels

etc.

Startup Supporting Program (supporting SBIR(Small/Startup Business Innovation Research))

Supporting R&D-based startups in the fields of agriculture, forestry, fisheries, and the food industry

To address policy and social challenges in these fields, BRAIN provides step-by-step support to startups aiming to create new businesses. With close, on-going guidance from program managers with extensive experience in commercialization, BRAIN assists these startups in establishing innovative technology seeds, conducting feasibility studies and proof-of-concept trials, and engaging in R&D for commercialization including technical refinement.

Research Cases

- Research and Development of "High-Performance Biochar" that Enables both Carbon Sequestration into Farmlands and Conversion to Organic Cultivation
- Creation of a Genome-Editing Breeding Platform for Aquatic Species

etc.

Development and Supply Program of Smart Agricultural Technology

Support for research, development, and refinement related to smart agricultural technologies

Based on the Act on the Promotion of Smart Agricultural Technology, BRAIN provides timely and robust support for research, development, and refinement activities related to smart agricultural technologies—undertaken by a wide range of stakeholders—in order to accelerate the development and supply of these technologies.

Research Cases

- Research and Development for Practical Application of AR Agricultural Work Assistant App for Smart Glasses

etc.

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