

장흥군버섯산업연구원

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장흥군버섯산업연구원



Cultivation Test Center

Facilities of main research building

- ▷ Genetic breeding research laboratory
- ▷ Processing Industrialization Research Laboratory
- ▷ Instrument analysis room
- ▷ Genetic herbarium
- ▷ Sample weighing room

Breeding Functionality Lab

Research Direction

- Discovery and access of genetic resources in compliance with international agreements: UPOV and Nagoya Protocol
- Development of new specialized varieties of oak mushrooms and distribution of advanced technologies to increase farm income
- Development of customized technology and support for related farm organizations to improve the added value of mushrooms

Laboratory Status

- Researchers: 7
- Main equipment
 - ▷ Optical-stereoscopic microscope: Observation of microstructure and identification/classification of mushroom strains
 - ▷ Multi-stage culture and growth period: Cultivation of strains and investigation of growth environment
 - ▷ Real-time PCR: Real-time search for expressed genes of characteristic traits of mushrooms
 - ▷ Ultra-low temperature freezer: Long-term preservation of mushroom genetic resources and research materials

(<http://www.jmi.re.kr/>)

- Facilities available

- › Strain management room, strain preservation room, strain culture room, clean-room, etc.



Laboratory view



clean-room



optical/stereoscopic microscope

Research Info

- Securing mushroom genetic resources and verifying functionality
- Cultivation of new breeding of oak mushrooms and development of cultivation technology
- Development of mushroom productivity and disease-pest control technology
- Support for production farms and organizations and training of professional manpower
- Cultivation test site (Busan-myeon) and test field management-operation

Expected Effects

- Strengthening farm competitiveness and increasing income through development and distribution of new regionally specialized varieties of mushrooms
- Creating added value and revitalizing the local economy by resolving various on-site technical difficulties

Processing Industrialization Lab

Research Direction

- Creation of new demand through standardization, grading, and premiumization of mushrooms
- High-value-added commercialization of mushrooms using their pharmacological and functional properties
- Industrial support research
 - › Establishment of physical-human resource infrastructure for research based on cooperation among industry, academia, research institutes and government, and maximization of their synergy effects
 - › Establishment of an organic cooperation system through industrial support
 - › Support industries for the joint research, laboratories, prototype production, and equipment costs

Laboratory Status

- Researchers in charge: 5
- Industrial support research
 - › GC M/S: Qualitative/quantitative analysis of aroma components and volatile components of mushrooms
 - › HPLC: Analysis and separation/purification of mushroom components
 - › Atomic absorption spectrophotometer: Qualitative/quantitative analysis of inorganic components of mushrooms and cultivation media
 - › Ultra-fine grinder: Producing fine powder for industrial use
 - › Spectrophotometer: Testing of biological activity through absorbance and transmittance measurement



GC/MSD



Ultra-fine grinder



high-performance liquid

Research Info

- Joint research to improve industrial competitiveness
- Development of processing technology and products using mushrooms
(<http://www.jmi.re.kr/>)

- Analysis of useful ingredients and research on biological activity of mushrooms
- Establishment of mushroom quality standards, and the research and development of product standardization

Expected Effects

- Maximizing research results through research and development and establishing a foundation for mushroom industrialization
- Developing the domestic mushroom industry into a 21st-century strategic industry with future potential

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