

Preface

This annual report summarizes the activities of education and research at the Graduate School/Faculty of Agriculture, Kyoto University, in the school year 2010, as a part of self-inspection and self-evaluation. The Graduate School / Faculty comprises of 7 divisions (Agronomy and Horticultural Science, Forest and Biomaterials Science, Applied Life Sciences, Applied Biosciences, Environmental Science and Technology, Natural Resource Economics, and Food Science and Biotechnology), 6 departments (Bioresource Sciences, Applied Life Sciences, Agricultural and Environmental Engineering, Food and Environmental Economics, Forest and Biomaterials Science, and Food Science and Biotechnology), Experimental Farm, Livestock Farm and endowed chairs. After partial privatization of Kyoto University as National University Corporation, we have been striving for the achievement of the medium-term goals set by the Graduate School / Faculty of Agriculture, such as “activation of FD (faculty development)”, “further activation of international exchange activities”, “making good use an education and research fund”, “activation of gender equality”, in addition to educational and research activities. In this year, we started the activities of newly established “Special Course in Agricultural Science For the Global Future of Life, Food and the Environments”, one of the K.U.-PROFILE new programs, in which education and research guidance in English are provided to international students. I feel greatly rewarded if this annual report should prove helpful in your task of fulfilling the goals of education and research at the partially privatized Graduate School / Faculty of Agriculture.

This annual report has been published thanks to the good offices of the members of the committee for self-inspection and self-evaluation. The Chief Editor of the Annual Report (Life, Food and Environment) would like to make a grateful acknowledgement for the cooperation of all the faculty members.

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Chief Editor of the Annual Report
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1-4 Department of Food and Environmental Economics

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Chair of Crop Science

2-1-1 Laboratory of Crop Science

2-1-2 Laboratory of Plant Breeding

Chair of Horticultural Science

2-1-3 Laboratory of Vegetable and Ornamental Horticulture

2-1-4 Laboratory of Pomology

Chair of Agricultural Ecology

2-1-5 Laboratory of Weed Science

2-1-6 Laboratory of Plant Production Systems

Chair of Food Quality Science

2-1-7 Laboratory of Food Quality Design and Development

2-1-8 Laboratory of Quality Analysis and Assessment

Chair of Plant Production Science (Experimental Farm)

2-1-9 Laboratory of Plant Production Control

2-2 Division of Forest and Biomaterials Science

Chair of Forest Resource Management

2-2-1 Laboratory of Forest Resources and Society

2-2-2 Laboratory of Tropical Forest Resources and Environments

Chair of Forest and Forestry Production

2-2-3 Laboratory of Forest Utilization

2-2-4 Laboratory of Forest Biology

Chair of Forest Environment Conservation

2-2-5 Laboratory of Landscape Architecture

2-2-6 Laboratory of Erosion Control

Chair of Biomaterials Technology

- 2-2-7 Laboratory of Biomaterials Design
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- 2-2-9 Laboratory of Fibrous Biomaterials

Chair of Biomaterials Function

- 2-2-10 Laboratory of Tree Cell Biology
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Chair of Forest Resources (Field Science Education and Research Center: FSERC)

- 2-2-13 Laboratory of Forest Information
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Chair of Wood Biomass Science

- 2-2-15 Laboratory of Biomass Morphogenesis and Information
(Research Institute for Sustainable Humanosphere)
- 2-2-16 Laboratory of Active Bio-based Materials
(Research Institute for Sustainable Humanosphere)
- 2-2-17 Laboratory of Sustainable Materials
(Research Institute for Sustainable Humanosphere)
- 2-2-18 Laboratory of Innovative Humano-habitability
(Research Institute for Sustainable Humanosphere)
- 2-2-19 Laboratory of Structural Function

2-3 Division of Applied Life Sciences

Chair of Applied Biochemistry

- 2-3-1 Laboratory of Cellular Biochemistry
- 2-3-2 Laboratory of Biomacromolecular Chemistry
- 2-3-3 Laboratory of Bioregulation Chemistry
- 2-3-4 Laboratory of Chemical Ecology

Chair of Molecular and Cellular Sciences

- 2-3-5 Laboratory of Plant Nutrition
- 2-3-6 Laboratory of Molecular Microbiology

Chair of Applied Microbiology

- 2-3-7 Laboratory of Fermentation Physiology and Applied Microbiology
- 2-3-8 Laboratory of Microbial Biotechnology

Chair of Bioorganic and Biophysical Chemistry

- 2-3-9 Laboratory of Bio-Analytical and Physical Chemistry
- 2-3-10 Laboratory of Biofunction Chemistry
- 2-3-11 Laboratory of Applied Structural Biology

Chair of Molecular Biofunction (Institute for Chemical Research)

- 2-3-12 Laboratory of Chemistry of Molecular Biocatalysts
- 2-3-13 Laboratory of Molecular Microbial Science (Institute for Chemical Research)

Division of Diagnostics and Control of Humansphere

(Research Institute for Sustainable Humansphere)

2-3-14 Laboratory of Plant Gene Expression

2-3-15 Laboratory of Metabolic Science of Forest Plants and Microorganisms

2-3-16 Laboratory of Biomass Conversion

2-4 Division of Applied Biosciences

Chair of Science of Plant Resources

2-4-1 Laboratory of Plant Genetics

2-4-2 Laboratory of Crop Evolution

Chair of Science of Plant Protection

2-4-3 Laboratory of Plant Pathology

2-4-4 Laboratory of Insect Ecology

2-4-5 Laboratory of Insect Physiology

Chair of Animal Genetics and Reproduction

2-4-6 Laboratory of Animal Breeding and Genetics

2-4-7 Laboratory of Reproductive Biology

Chair of Animal Anatomy, Nutrition and Resources

2-4-8 Laboratory of Nutritional Science

2-4-9 Laboratory of Animal Physiology and Functional Anatomy

2-4-10 Laboratory of Animal Husbandry Resources

Chair of Marine Biological Resources

2-4-11 Laboratory of Fisheries and Environmental Oceanography

2-4-12 Laboratory of Marine Stock-Enhancement Biology

Chair of Marine Microbiology

2-4-13 Laboratory of Physiology and Genetics of Marine Microbes

2-4-14 Laboratory of Marine Environmental Microbiology

Chair of Marine Bio-production

2-4-15 Laboratory of Technology of Marine Bio-products

2-4-16 Laboratory of Marine Biological Function

2-5 Division of Environmental Science and Technology

Chair of Bio-environmental Science

2-5-1 Laboratory of Forest Ecology

2-5-2 Laboratory of Forest Hydrology

2-5-3 Laboratory of Forest Biochemistry

Chair of Agro-ecosystem Science

2-5-4 Laboratory of Tropical Agriculture

2-5-5 Laboratory of Soil Science

2-5-6 Laboratory of Terrestrial Microbial Ecology

2-5-7 Laboratory of Ecological Information

Chair of Environmental Development Engineering

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2-5-9 Laboratory of Water Resources Engineering

Chair of Land and Water Resources Management

2-5-10 Laboratory of Irrigation, Drainage and Hydrological Environment Engineering

2-5-11 Laboratory of Rural Planning

Chair of Bioproduction Engineering

2-5-12 Laboratory of Agricultural Systems Engineering

2-5-13 Laboratory of Field Robotics

2-5-14 Laboratory of Agricultural Process Technology

Chair of Nuclear Science and Engineering (Research Reactor Institute)

2-5-15 Laboratory of Radiation Safety Control

2-6 Division of Natural Resource Economics

Chair of Management & Information of Agricultural Enterprise

2-6-1 Laboratory of Farm Management

2-6-2 Laboratory of Farm Managerial Information and Accounting

Chair of International Agricultural Economics

2-6-3 Laboratory of Regional Environmental Economics

2-6-4 Laboratory of Food and Environmental Policy

2-6-5 Laboratory of Forest Policy and Economics

2-6-6 Laboratory of International Rural Development

Chair of Comparative Agricultural History & Philosophy of Agricultural Science

2-6-7 Laboratory of Comparative Agricultural History

2-6-8 Laboratory of Philosophy of Agricultural Science

2-7 Division of Food Science and Biotechnology

Chair of Food Life Sciences

2-7-1 Laboratory of Enzyme Chemistry

2-7-2 Laboratory of Food and Environmental Sciences

2-7-3 Laboratory of Organic Chemistry in Life Science

Chair of Food Bioscience

2-7-4 Laboratory of Nutrition Chemistry

2-7-5 Laboratory of Molecular Function of Food

2-7-6 Laboratory of Physiological Function of Food

Chair of Food Production Technology

2-7-7 Laboratory of Bioengineering

2-7-8 Laboratory of Basic and Applied Molecular Biotechnology

2-8 Laboratory of comparative Agricultural Science

2-9 Facilities

2-9-1 Experimental Farm

2-9-2 Livestock Farm

2-10 Endowed Chair

2.10.1 Industrial Microbiology

2.10.2 AJINOMOTO Integrative Research for Advanced Dieting

2.10.3 Food and Agricultural Safety and Ethics