[Separate table] Recruitment of fixed-term research scientists

No.	Centers･Institutes	Research Division	Location	Research Title	Research Program *
N1	Hokkaido Agricultural Research Center, NARO (HARC/NARO)	Bioresource Crop Group, Division of Field Crop Research and Development	Memuro, Kasai, Hokkaido	Development of the efficient selection method and the breeding materials to improve buckwheat lines having extra high yield and high quality.	[1] Development of the efficient selection method and the breeding materials to breed buckwheat cultivars having extra high yield. [2] Development of the selection method for high quality cultivars using DNA marker assisted selection. Keywords: buckwheat, high yield, shattering, DNA marker
N2	Hokkaido Agricultural Research Center, NARO (HARC/NARO)	ICT Farming Group, Division of Farming System Research	Memuro, Kasai, Hokkaido	Development of the upland farming system using artificial intelligence	[1] Data analysis technologies such as crop images for intelligent agricultural machines. [2] Development of control technologies for agricultural robots. [3]Development of agricultural humanoid robot applications for unmechanized farm work. Keywords: crop sensing, machine learning, robot
N3	Tohoku Agricultural Research Center, NARO (TARC/NARO)	Forage Production Group, Division of Livestock and Forage Research	Morioka, Iwate	Development of paddy-upland rotation system including corn for grain production	[1]Development of the rational crop rotation system of corn and soybean. [2]Development of high-yield low-cost cultivation technique for corn and soybean by utilization compost. Keywords: forage crop, cultivation and physiology, effect of green manure, plant nutrition, material circulation
N4	Tohoku Agricultural Research Center, NARO (TARC/NARO)	Soil Fertility Management Group, Division of Agro-Environment Research	Morioka, Iwate	Development of suitable organic resource utilization technology for maintaining and restoring soil fertility for cultivating paddy rice in cold climate regions.	[1] Elucidation of the influence of application of organic resources on soil properties and the productivity of crops. [2] Development of a method to evaluate the effect of maintaining soil properties of organic resources available in the region. Keywords: soil science and plant nutrition, livestock waste compost, green manure, collaboration between cultivated farmers and livestock farmers, nutrient cycling
N5	Tohoku Agricultural Research Center, NARO (TARC/NARO)	Agricultural Meteorology Group, Division of Agro-Environment Research	Morioka, Iwate	Crop growth prediction based on physiological and morphological traits of field-grown crop genotypes	[1] Developing a methodology to rapidly detect field-grown crop status particularly in response to environmental stresses. [2] Developing a methodology to predict crop growth based on the weather data and the current crop status. Keywords: meteorological crop ecology, crop growth model, high-throughput phenotyping, large-scale paddy field, staple food crops
N6	Tohoku Agricultural Research Center, NARO (TARC/NARO)	Rice Production Group, Agricultural Radiation Research Center	Fukushima, Fukushima	Clarification of chemical formation mechanism of radiocesium in irrigation water and development of water management technologies to reduce transportation of radiocesium to rice	[1]Clarification of chemical formation mechanism of radiocesium in irrigation water and analysis of its influence on rice cultivation [2]Development of ICT-based and labor-saved water management technologies to reduce transportation of radiocesium to rice Keywords: irrigation water, chemical forms of radiocesium in water, water management, labor-saved management
N7	Central Region Agricultural Research Center, NARO (CARC/NARO)	Weed Management Group, Division of Crop Production Systems	Tsukuba, Ibaraki	Development of the herbicidal management of the hardly controllable weeds on the upland winter crop cultivation.	[1] Field study and ecological study of the weeds on the wheat, barley and vegetables cultivation. [2] Development of the integrated weed control technique using crop rotation, herbicide and cultivate management. Keywords: weed, winter crop, wheat, vegetable, ecology, integrated weed control.
N8	Central Region Agricultural Research Center, NARO (CARC/NARO)	Hokuriku Farm Work Systems Group, Division of Lowland Farming	Joetsu, Niigata	Advanced farming technologies using ICT for paddy rotation system in Hokuriku area	[1] This subject is to develop a farming technique using useful ICT in consideration of a local characteristic in Hokuriku area. In this manner, we aim at high efficiency and the optimization of the farming. Keywords: paddy rotation system, heavy clay soil, workability

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N9	Western Region Agricultural Research Center, NARO (WARC/NARO)	Farm Management Group, Division of Farming Systems Research	Fukuyama, Hiroshima	Development of employment non-expert and skill training system for horticulture farm	[1] Analysis of skill & knowledge of protected horticulture in semi-mountainous area. [2] Manual preparation for employment non-expert in protected horticulture farm. [3] Development of skill training system in public sector for horticulture farm. Keywords: horticulture farm, skill, employment of non-expert, human resources, semi-mountainous area
N10	Western Region Agricultural Research Center, NARO (WARC/NARO)	Insect Pest Management Group, Division of Agro-Environment Research	Fukuyama, Hiroshima	Development of a monitoring system on occurrence of insect pests by using odor sensor and image processing	[1] Development of a system to identify and estimate amount of minute insect pests on sticky trap by using image processing. [2] Development of a new technique for monitoring occurrence of insect pests by using odor sensor for insect pests and crop SOS signal caused by their injury. [3] Examination of a condition for introduction of developed systems into fields. Keywords: classification, chemical ecology, image processing, molecular biology
N11	Western Region Agricultural Research Center, NARO (WARC/NARO)	Hillside Disaster Prevention Group, Division of Hillside Horticulture Research	Zentsuji, Kagawa	Development of methods for evaluating a risk of damage and for prevention and/or reduction of natural disasters	[1] Investigation and analysis of location and distribution, accessibility, utilization and condition of maintenance related to small earth dams. [2] Development of methods for evaluating risk of damage to small earth dams, based on location and distribution, accessibility, utilization and condition of maintenance. Keywords: GIS, collapse, statistic model
N12	Western Region Agricultural Research Center, NARO (WARC/NARO)	Hillside Disaster Prevention Group, Division of Hillside Horticulture Research	Zentsuji, Kagawa	Development of land improvement technologies to convert paddy fields to dry fields	[1] Development of the technique to convert paddy fields to dry fields in hilly and semi-mountainous areas. [2] Risk assessment of the conversion of paddy fields to dry fields in hilly and semi-mountainous areas. Keywords: high-value crops, land improvement, soil erosion
N13	Western Region Agricultural Research Center, NARO (WARC/NARO)	Wildlife Management Group, Division of Japanese Black Cattle Production and Wildlife Management Research	Ohda, Shimane	Investigation of behavioral traits of the terrestrial bird and development of countermeasure techniques for damage caused by the terrestrial bird	[1]Analysis of behavioral traits of the terrestrial bird in Chugoku, Kyushu and Okinawa area [2]Development of countermeasure techniques for damage caused by the terrestrial bird in sweet potato and pineapple fields of Kyushu and Okinawa area Keywords: animal behaviour, motor ability, learning ability, warning behaviour
N14	Kyushu Okinawa Agricultural Research Center, NARO (KARC/NARO)	Crop Physiology and Genetics Group, Division of Upland Farming Research	Miyakonojo, Miyazaki	Physiological and genetic research on the dry matter production of sweetpotato.	[1] Cultivation experiment on the dry matter production of sweetpotato using segregating lines. [2] Genetic analysis on the dry matter production of sweetpotato using genomic information. Keywords: sweetpotato, yield, dry matter content, tuberous root, genetic analysis.
N15	Kyushu Okinawa Agricultural Research Center, NARO (KARC/NARO)	Strawberry Production Group, Division of Horticulture Research	Kurume, Fukuoka	Establishment of cultivation system of strawberry utilizing plant and environmental information in large and medium size greenhouses	[1] Acquisition methods of plant and environmental data in greenhouses, and establishment of the database. [2] Establishment of cultivation system of strawberry utilizing various indexes and data. Keywords: information utilization, sensing technology, data mining, environment control
N16	Kyushu Okinawa Agricultural Research Center, NARO (KARC/NARO)	Vegetable Pest Management Group, Division of Agro-Environment Research	Koshi, Kumamoto	Development of IPM for virus diseases of fruit vegetables in southwestern Japan.	[1]Development of control measures for virus disease of fruit vegetables based on ecological study. [2]Development of diagnostic methods for virus diseases of fruit vegetables. Keywords: insect-borne virus, Tospovirus, Geminivirus.

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N17	Institute of Fruit Tree and Tea Science, NARO (NIFTS/NARO)	Cultivation and Physiology Unit, Division of Apple Research	Morioka, Iwate	Characterization of high quality columnar dessert apple and establishment of labor-saving cultivation techniques	[1] Development of efficient nursery cultivation of columnar apples. [2] Selection of suitable rootstocks for columnar apples. [3] Establishment of fruit-setting techniques of columnar apples. Keywords: water control, labor-saving cultivation, fruit-setting techniques
N18	Institute of Fruit Tree and Tea Science, NARO (NIFTS/NARO)	Pest Management Unit, Division of Apple Research	Morioka, Iwate	Improvement of the forecasting techniques of orchard invasion by fruit stink bugs in cool climate areas in Japan	[1] Development of efficient monitoring techniques of fruit stink bugs utilizing pheromone-baited trap. [2] Clarification on the optimum timing for the control of fruit sting bugs in northern Japan, based on their occurrence and ecology. Keywords: fruit stink bug, characteristics of life history, migratory insect pest pheromone-baited trap
N19	Institute of Fruit Tree and Tea Science, NARO (NIFTS/NARO)	Pest Management Unit, Division of Grape and Persimmon Research	Higashihiroshima, Hiroshima	Evaluation of influence of virus infection on fruit quality of grape and development of control methods	[1] Evaluation of influence of virus infection on fruit quality and yield of grape. [2] Investigation on pollen transmission of grapevine rupestris stem pitting- associated virus. Keywords: Grapevine, virus, fruit quality, GRSPaV, natural transmission
N20	Institute of Vegetable and Floriculture Science, NARO (NIVFS/NARO)	Breeding technology unit, Division of vegetable breeding	Tsu, Mie	Development of the next generation breeding technologies, like genomic selection, based on the polymorphic information of genome wide markers for vegetables	[1] Development of breeding technology of tomato with high quality and high yield using genomic information. [2] Development of breeding technology of onion using genomic information. Keywords: genetic breeding, statistical genetics, phenotype prediction, phenotype measurement
N21	Institute of Livestock and Grassland Science, NARO (NILGS/NARO)	Animal Genetics Unit, Division of Animal Breeding and Reproduction Research	Tsukuba, Ibaraki	Development of novel parasitic mite control methods in honey bees	[1] Analysis of physiological and ecological characteristics in parasitic mite of honey bees. [2] Development of acaricide treatment with novel mechanisms of action. Keywords: acaricide, honey bee, physiological analysis, parasitic mite of honey bees
N22	Institute of Livestock and Grassland Science, NARO (NILGS/NARO)	Poultry Metabolism and Nutrition Unit, Division of Animal Metabolism and Nutrition	Tsukuba, Ibaraki	Studies on improvement of chicken health and quality of chicken products by using functional feeds.	[1] Investigation and evaluation of various feedstuffs or feed materials as a functional feed for the health benefits of chickens. [2] Determination of the relationship between chicken health and quality of chicken products. Keywords: broiler, oligosaccharide, organic acid, antioxidants, metabolome analysis
N23	Institute of Livestock and Grassland Science, NARO (NILGS/NARO)	Plant Protection Unit, Division of Forage Crop Research	Nasushiobara, Tochigi	Development of integrated pest management for stable corn production.	[1] Development of integrated pest management techniques for stable ear corn production based on ecological studies of Lepidopteran pests. [2] Analysis of interaction between Fusarium blight and Lepidoptera damage for reduction of mycotoxin problem on ear corn production. Keywords: forage pests, damage analysis, mycotoxin
N24	National Institute of Animal Health, NARO (NIAH/NARO)	Subtropical Disease Control Unit, Division of Transboundary Animal Disease	Kagoshima, Kagoshima	Comprehensive searching of livestock arboviruses in Japan and its neighboring regions and investigation of their transmission cycle	[1] Arbovirus isolation and detection from field-collected hematophagous arthropods, such as mosquitoes, biting midges and ticks. [2] Evaluation of vector competence of arthropods for livestock arboviruses by experimental infection. [3] Ecological analysis of arthropod vectors: distribution, seasonal activity, immature habitats and blood source. Keywords: arbovirus, vector, veterinary science

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N25	Food Research Institute, NARO (NFRI/NARO)	Sensory Science Unit, Division of Food Function Research	Tsukuba, Ibaraki	Physiological and psychological analysis for the elucidation of the palatability of Japanese food materials and its utilization	[1] Development of sensory evaluation method for Japanese food materials by physiological and psychological method. [2] Statistical analysis of the relationship between Japanese food preference and human sensation, cognition, and physiological responses. Keywords: the senses at the periphery, kansei engineering, design of the food quality
N26	Food Research Institute, NARO (NFRI/NARO)	Food Quality Evaluation and Control Unit, Division of Food Processing and Distribution Research	Tsukuba, Ibaraki	Development of sensory evaluation methods based on new scientific basis for agricultural products and foods	[1] Analysis of the interaction of senses such as smell and taste. [2] Development of sensory evaluation technology considering interaction between senses. Keywords: flavor profiling, analytical sensory evaluation, panel training, combined sensation
N27	Institute of Agrobiological Sciences, NARO (NIAS/NARO)	New Silk Research Unit, Division of Biotechnology	Tsukuba, Ibaraki	Development and practical application of high performance silk	[1] Establishment of reeling and processing technologies for cocoons from various silkworm races including transgenics. [2] Research and development of modification and evaluation technology for the physical properties of raw silk. Keywords: filature, textile science, insect physiology, biochemistry
N28	Institute of Crop Science, NARO (NICS/NARO)	Breeding Materials Development Unit, Division of Basic Research	Tsukuba, Ibaraki	Refinement and evaluation of rice germplasm for enhancement of competitiveness of agriculture	[1] Development of diversified rice genetic resources with genome information, and study of introduction and evaluation of the foreign genetic resources of plants. [2] Development of analysis techniques of gene function providing genetic diversity in rice. Keywords: genome-wide association analysis, international collaboration, plant genetic resources
N29	Institute for Agro-Environmental Sciences, NARO (NIAES/NARO)	Climate Impact Assessment Unit, Division of Climate Change	Tsukuba, Ibaraki	Development of stochastic strategies to assess climate change impacts on various crops	[1] Analysis of future changes in agro-climatic elements required for assessing climate change impacts on various crops. [2] Development of stochastic method to assess climate change impacts on crop production in Japan. Keywords: climate model projections, stochastic assessment, climate change adaptation plan
N30	Institute for Agro-Environmental Sciences, NARO (NIAES/NARO)	Ecosystem Services Assessment Unit, Division of Biodiversity	Tsukuba, Ibaraki	Development of monitoring and assessment methods of ecosystem services based on pollination towards sustainable and stable agriculture	[1] Clarification of pollinator fauna surrounding farmland, and development of monitoring and assessment methods of ecosystem function. [2] Clarification of farming activities on the relationship between biodiversity and pollinator services in agricultural landscape. Keywords: ecosystem service, pollinator, biodiversity, sustainable agriculture, landscape structure
N31	Institute for Agro-Environmental Sciences, NARO (NIAES/NARO)	Insect Systematics Unit, Division of Informatics and Inventory	Tsukuba, Ibaraki	Making a database of taxonomic information and specimen labels mainly concerning major insect pests in Japan using the specimens deposited in the insect museum of NIAES, NARO	[1] Database making of taxonomic information and specimen labels of major insect pests in agro-environment. [2] Accumulation of DNA bar code information involving morphologically similar insect species in agro-environment. [3] Development of discrimination methods of the species in Diptera and Hymenoptera mainly. Keywords: insects, DNA barcoding, database, classification and identification, discrimination method
N32	Advanced Analysis Center, NARO (NAAC/NARO)	Bioactive Compounds Team	Tsukuba, Ibaraki	Development of method for analysis and evaluation of organic compounds contributing to Regulatory Science	[1] Analysis and evaluation of organic compounds formed by manufacturing, processing and cooking of food technology development for reducing hazardous chemical substances occurred by heating of foods. [2] Structure analysis of low molecular weight organic compounds in agricultural products and foods using MS, NMR and other chemical instrumental analysis. Keywords: brown sugar, roasted food, acrylamide, fatty acid esters of 3-MCPD

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No.	Centers･Institutes	Research Division	Location	Research Title	Research Program *
N33	Genetic Resources Center, NARO (NGRC/NARO)	Genetic Resources Conservation and Information Team	Tsukuba, Ibaraki	Research of development for advancement of information publishing system on genetic resources	[1] Research of development for systematization of characterization-related terms and method of data retrieval and visualization to efficiently publish characterization and evaluation information on plant, microorganisms, and animal genetic resources on the Web. [2] Research of development for efficient imaging, image database, and retrieval system of morphological information on plant, microorganisms, and animal genetic resources. Keywords: information system, image processing, genetic resources, genebank

* Research project of the NARO can be referred to the following site: http://www.naro.affrc.go.jp/english/research-programs/4th-midterm-plan.html