

Title of Papers Presented at the 139th Meeting of The JAPANESE SOCIETY OF BREEDING

Oral Presentations

101 Gene expression profiling in anthers of two wild-type tomato species containing the Rf gene.

☆Iki, Y., H. Takei, T. Ariizumi (Faculty of Life and Environmental Sciences, University of Tsukuba)

102 Pedigree Finder: a web-based pedigree viewer for graph databases

○Kajiya-Kanegae, H. ¹, K. Matsushita ^{1,2}, T. Hayashi ¹, A. Takezaki ³, M. Yano ¹, G. Kikui ¹, J. Yonemaru ^{1,2} (1.RCAIT, NARO, 2.NICS, NARO, 3.IAM, NARO)

103 Improvement of a plant genome information portal site, Plant GARDEN (2020, Q4 ver)

○Ichihara, H. ¹, M. Kohara ¹, M. Yamada ¹, A. Ghelfi ¹, H. Hirakawa ¹, S. Shirasawa ¹, T. Tamura ², E. Sugihara ², Y. Nakamura ¹, A. Nakaya ³, S. Tabata ¹, S. Isobe ¹ (1.Kazusa DNA Res. Inst., 2.PMC, Univ. Tsukuba, 3.Grad. Sch. Front. Sci., Univ. Tokyo)

104 Time-course RNA-seq analysis of rice plants under endoplasmic reticulum stress conditions

☆Nishijima, R., T. Kawakatsu (NIAS)

105 Establishment of research base for development of climate-resilient crops by employing omics-data

○Uga, Y. ¹, T. Tanabata ², T. Kawakatsu ³ (1.Institute of Crop Science, National Agriculture and Food Research Organization, 2.Kazusa DNA Research Institute, 3.Institute of Agrobiological Sciences, National Agriculture and Food Research Organization)

106 Development of RSAtrace3D, a robust 3D vectorization software for root system quantification

☆Teramoto, S. ¹, T. Tanabata ², Y. Uga ¹ (1.Inst. Crop. Sci., NARO, 2.Kazusa DNA Research Institute)

107 iPOTs: Internet of Things-based pot system controlling optional treatment of soil water condition for plant phenotyping under drought stress

☆Numajiri, Y. ¹, K. Yoshino ², S. Teramoto ¹, A. Hayashi ³, R. Nishijima ², T. Tanaka ¹, T. Hayashi ⁴, T. Kawakatsu ², T. Tanabata ³, Y. Uga ¹ (1.Inst. Crop. Sci., NARO, 2.Inst. Agrobiol. Sci., NARO, 3.Kazusa DNA Res. Inst., 4.Res. Cent. Agricul. Info. Tech., NARO)

108 Elucidation of the plasticity of the rice root system in soil against high temperature stress using X-ray CT

☆Yoshida, S. ¹, Y. Numajiri ¹, S. Teramoto ¹, T. Tanabata ², Y. Uga ¹ (1.Inst. Crop. Sci., NARO, 2.Kazusa DNA Res. Inst.)

109 Comparative analysis of the transcriptomes under drought condition between rice varieties with distinct root system architecture

☆Yoshino, K. ¹, Y. Numajiri ², S. Teramoto ², S. Yoshida ², R. Nishijima ¹, Y. Uga ², T. Kawakatsu ¹ (1.NIAS, 2.NICS)

110 Analysis of effect of low phosphorus field environment on rice growth with genome-wide transcriptome and biomarker profiling

○Sato, Y., H. Takehisa (Inst. Crop. Sci., NARO)

111 Effect detection of phosphorus biomarker using hyperspectral system

○Takehisa, H. ¹, F. Ando ², Y. Takara ², A. Ikehata ³, Y. Sato ¹ (1.Inst. Crop. Sci., NARO, 2.EBA JAPAN CO., LTd., 3.Food Res. Inst., NARO)

112 Homoeologous gene expression analysis of wheat cultivars and synthetic hexaploid wheats as an example of cold response.

☆Okada, M. ², J. Sun ³, T. Tameshige ^{4,5}, M. Hatakeyama ^{1,6}, R. Shimizu-Inatsugi ¹, S. Takumi ², J. Sese ^{7,8}, K. Shimizu ^{1,4} (1.IEU, UZH, 2.Grad. Sch. Agr. Sci., Kobe U., 3.NARO, 4.KIBR, YCU., 5.Faculty of Science, Niigata U., 6.FGCZ, 7.AIST, 8.Humanome Lab)

113 Phenotypic and genetic variation of salt tolerance and growth traits in comprehensive quinoa inbred lines

☆Kobayashi, Y. ¹, N. Mizuno ², M. Toyoshima ¹, M. Fujita ³, S. Fukuda ⁴, M. Ueno ², K. Tanaka ⁵, T. Tanaka ⁵, E. Nishihara ⁴, H. Mizukoshi ⁵, Y. Yasui ², Y. Fujita ^{1,6} (1.Biol. Resources Post-harvest Div., JIRCAS, 2.Grad. Sch. Agri., Kyoto Univ., 3.RIKEN CSRS, 4.Fac. Agri., Tottori Univ., 5.Actree Co., Ltd., 6.Grad. Sch. Life Environ. Sci., Univ. Tsukuba)

114 Whole genome sequencing of the model strain Gojo-0 and construction of molecular genetic basis in Chrysanthemum

☆Nakano, M. ¹, H. Hirakawa ², A. Toyoda ³, T. Ito ⁴, K. Shirasawa ², S. Isobe ², K. Taniguchi ¹, M. Kusaba ¹ (1.Grad. sch. Int. Sci., Hiroshima univ., 2.Kazusa DNA Res.inst., 3.Nat. Inst. Genet., 4.Tokyo Tech.)

115 Genome sequence of the Lisianthus *Eustoma grandiflorum* and development of DNA markers

○Kawakatsu, K. ¹, A. Toyoda ², A. Nagano ³, T. Kawakatsu ⁴, Y. Nakano ¹, H. Imamura ⁵, N. Fukuta ¹, T. Hisamatsu ¹, H. Yamaguchi ¹, T. Mochizuki ², Y. Tanizawa ², M. Sakamoto ², Y. Nakamura ² (1.NIVFS, NARO, 2.Natl. Inst. Genet., 3.Fac. Agr. Univ. Ryukoku, 4.Inst Agrobiological Sci, NARO, 5.KARC, NARO)

116 Transposon activation and mutagenesis by sequence-specific demethylation using viral vectors expressing ribozymes

☆Matsunaga, W. ¹, T. Inukai ¹, T. Matsumura ², C. Masuta ¹ (1.Res. Fac. Agr., Hokkaido Univ., 2.AIST, Hokkaido Ctr.)

117 Identification of key regulators of anthocyanin biosynthesis in leaf lettuce (*Lactuca sativa* L.) grown under artificial light.

☆Wada, K. ¹, H. Sakai ², Z. Fujimoto ², N. Inagaki ², Y. Nakai ³, D. Ogawa ¹, J. Yonemaru ¹, H. Itoh ¹ (1.Inst. Crop. Sci., NARO, 2.Adv. Anal. Ctr., NARO, 3.Kyushu Okinawa Agric. Res. Ctr., NARO)

118 Genome composition of tetraploid rice plants consisting of Asian and African cultivars

Furuta, T. ¹, K. Nagaki ¹, K. Kashihara ¹, D. Kuniyoshi ², K. Kitajima ², Y. Koide ², Y. Kishima ², ○T. Yamamoto ¹ (1.Institute of Plant Science and Resources, Okayama Univ., 2.Research Faculty of Agriculture, Hokkaido Univ.)

119 Genome and haplotype analysis using the expanded NARO rice core collection

○Shenton, M. ¹, N. Tanaka ¹, K. Sugimoto ¹, K. Eban ², M. Ishimoto ¹ (1.Inst. Crop. Sci., NARO, 2.Genetic Resources Center, NARO)

120 Genome assemblies of two wild tomatoes

Takei, H. ¹, K. Shirasawa ², K. Kuwahara ¹, A. Toyoda ⁴, Y. Takezawa ³, S. Iioka ³, ○T. Ariizumi ¹ (1.Grad. Sch. Life Env. Sci. Univ. Tsukuba, 2.Kazusa DNA Res Inst, 3.TOKITA SEED CO LTD, 4.Natl Inst Gene)

121 Association analysis between bolting time and DNA polymorphisms in introns and 5'-upstream regions of Flowering locus C (FLC) genes in *Raphanus sativus* L.

☆Mori, H., H. Tasaka, M. Yamamoto, H. Kitashiba (Grad. Sch. Agri. Sci., Tohoku Univ.)

122 Genome wide association study of root diameter distribution in soybean grown under an arid land environment

☆Bui, K. ^{1,2}, T. Naruse ¹, H. Takahashi ¹, K. Hirano ³, Y. Toda ⁴, Y. Omori ⁴, M. Tsuda ⁵, A. Kaga ⁶, Y. Yamasaki ⁷, H. Tsujimoto ⁷, Y. Ichihashi ⁸, M. Hirai ⁸, T. Fujiwara ⁴, H. Iwata ⁴, M. Matsuoka ³, M. Nakazono ¹ (1.Grad. Sch. Bioagri. Sci., Nagoya Univ., 2.Dept. of Agronomy, Vietnam Nat. Univ. of Agriculture, 3.Biosci. Biotech. Cent., Nagoya Univ., 4.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 5.Grad. Sch. Life & Env. Sci., Univ. Tsukuba, 6.NARO, 7.Arid Land Research Center, Tottori Univ., 8.RIKEN)

123 Nanopore-based comparative genomics study of muskmelon

○Yano, R. ^{1,2}, T. Ariizumi ^{2,3}, S. Nonaka ^{2,3}, Y. Kawazu ⁴, H. Ezura ^{2,3} (1.Advanced analysis center, NARO, 2.Life and Environmental Sci., Univ. of Tsukuba, 3.T-PIRC, Univ. of Tsukuba, 4.Inst. Vegetable and Floriculture Sci., NARO)

124 De novo whole genome assembly in hexaploid sweetpotato, 'Xushu 18'

○Isobe, S. ¹, K. Shirasawa ¹, H. Hirakawa ¹, M. Tanaka ², Y. Takahata ², U. Yoon ^{3,4}, Q. Cao ⁵, Q. Liu ⁶, H. Zai ⁶, S. Kwak ^{4,6}, D. Ma ⁵ (1.Kazusa DNA Research Institute, 2.Kyushu Okinawa Agricultural Research Center, NARO, 3.RDA National Institute of

Agricultural Science, 4.KRIBB, 5.Inst. Of Sweetpotato Res., CAAS, 6.China Agricultural University)

125 Identification of genetic regions associated with the southern root-knot nematode (SP2) resistance in sweetpotato using a novel GWAS method for polyploids

☆Obata, N. ¹, R. Sasai ¹, H. Tabuchi ², E. Yamamoto ³, K. Shirasawa ⁴, M. Tahara ¹, Y. Monden ¹ (1.Grad. Sch. Environ. Life Sci., Okayama Univ., 2.KARC/NARO, 3.Grad. Sch. Agr., Meiji Univ., 4.Kazusa DNA Res. Inst.)

126 De novo genome assembly of pea (*Pisum sativum*) with nanopore sequencing technology

○Shirasawa, K. ¹, K. Sasaki ^{2,3}, H. Hirakawa ¹, S. Isobe ¹ (1.Kazusa DNA Res. Inst., 2.U. Tokyo, 3.Present address: JIRCAS)

127 Genome wide association study for traits of edible pod in pea

☆Sasaki, S. ¹, K. Shirasawa ², K. Tonosaki ¹, Y. Takahata ¹, K. Hatakeyama ¹ (1.Fac. Agri., Iwate Univ., 2.Kazusa DNA Res. Inst.)

128 Effect of combination with root growth angle QTL(DRO1) and other root-related QTLs on root system architecture and yield performance

☆Iba, M. ¹, Y. Kitomi ², S. Teramoto ², Y. Numajiri ², N. Kuya ², S. Yoshida ², K. Irie ¹, Y. Uga ² (1.Grad. Sch. Agri., Tokyo Univ. Agri., 2.Inst. Crop. Sci., NARO)

129 Genome-wide Association Mapping for Heat Tolerance in Rice Seeds under Treatment of Hot Water Disinfection

☆Yamazaki, W. ¹, J. Lee ², K. Katsura ¹, M. Kanekatsu ¹ (1.Grd. Sch. Agr., Tokyo U. Agr. Tec., 2.TTC GRC. SI., IRRI)

130 Evolutionary analysis of HIS1-like gene families in plant

☆Kuroha, T., S. Hirose, M. Kawagishi-Kobayashi, S. Chechetka, H. Yoshida (Inst. Agrobiological Sci., NARO)

131 A mutation of PPO-A1i exhibiting very low polyphenol oxidase (PPO) activity in wheat

☆Nakamaru, A., H. Ito, S. Ikenaga, T. Takayama, T. Nakamura (Tohoku Agricultural Research Center, NARO)

132 Whole-genome sequencing of the gamma-irradiated wheat mutants identified the causative deletions of the mutant phenotypes.

☆Komura, S. ¹, H. Jinno ², T. Sonoda ², Y. Ohno ³, H. Handa ^{3,4}, S. Takumi ¹, F. Kobayashi ³, K. Yoshida ¹ (1.Grad. Sch. Agri. Sci., Kobe Univ., 2.Kitami Agri. Exp. Stn., HRO, 3.NICS, NARO, 4.Grad. Sch. Life Envi. Sci., Kyoto Pref. Univ.)

133 QTL analysis of yield-related traits in common wheat using DH lines derived from Shunyou and Kitahonami

☆Mizuno, N. ¹, G. Ishikawa ¹, H. Kojima ¹, M. Tougou ¹, C. Otobe ¹, M. Fujita ¹, K. Nakamura ² (1.Inst. Crop. Sci., NARO, 2.Kyushu Okinawa Agr. Res. Cent., NARO)

201 Analysis of mechanisms regulating meristem size of lateral root in rice

☆Kawai, T. ¹, R. Akahoshi ², M. Takahashi-Nosaka ³, H. Takahashi ¹, Y. Sato ³, M. Nakazono ¹, A. Yamauchi ¹, Y. Inukai ⁴ (1.Grad. Sch. Bioagr., Nagoya U., 2.Sch. Agr., Nagoya U., 3.NIG, 4.ICREA, Nagoya U.)

202 Developmental mechanisms of lateral root primordia in response to auxin localization in rice

☆Akahoshi, R. ¹, T. Kawai ², M. Inari-Ikeda ⁴, M. Sato ⁵, H. Tsuji ⁵, M. Takahashi-Nosaka ³, H. Takahashi ², Y. Sato ³, M. Nakazono ², A. Yamauchi ², Y. Inukai ⁴ (1.Sch. Agr., Nagoya U., 2.Grad. Sch. Bioagr., Nagoya U., 3.NIG, 4.ICREA, Nagoya U., 5.KIBR, Yokohama City U.)

203 Analysis of novel mutants similar to *baby boom* triple mutant that is defective in dorsal-ventral axis formation in rice embryogenesis.

☆Tezuka, T. ¹, K. Ta ², S. Shimizu-Sato ², M. Nosaka-T ^{1,2}, T. Suzuki ^{1,2}, Y. Sato ^{1,2} (1.Sch. life sci., SOKENDAI, 2.Plant genetics., Natl. Inst. Genet)

204 Morphogenesis modeling of seed pods of soybean

☆Hikichi, K., Y. Tokuyama, M. Dwiyaniti, Y. Koide (Faculty of agriculture, Hokkaido University)

205 Regulation of plastochron by three MANY-NODED DWARF genes in barley

○Hibara, K. ¹, M. Miya ², A. Benvenuto ², N. Hibara(Matsuo) ², M. Mimura ³, T. Yoshikawa ⁴, M. Suzuki ⁵, M. Kusaba ⁶, S. Taketa ⁷, J. Itoh ² (1.Sch. Agri., Kibi Int. Univ., 2.Grad. Sch. Agri. Life Sci., Univ. Tokyo, 3.NIG, 4.Grad. Sch. Agri., Kyoto Univ., 5.Horti. Sci., Univ. Florida, 6.Grad. Sch. Int. Sci. Life, Univ. Hiroshima, 7.IPRS, Okayama Univ.)

206 Transcription of some genes involved in fruit body formation on fruiting deficient mutants of *Flammulina velutipes* under lowered temperature

☆Hirayama, A. ¹, H. Shimizu ², M. Yamaguchi ³, E. Tanesaka ¹ (1.Fac. Agr., Kindai Univ., 2.Agric. Tech. Inst. Nagano Farmers' Fed., 3.JA Nakano-City)

207 Analysis of heading time in durum wheat developed by introducing clock variant genes from wheat

○Kato, K. ¹, T. Mizue ², G. Luo ¹, K. Kato ³, K. Takata ⁴ (1.Grad. Sch. Environ. Life Sci., Okayama U., 2.Fac. Agr., Okayama U., 3.WARC/NARO, 4.Obihiro U. Agr. Vet. Med.)

208 Effects of *HvELF3* and *HvPhyC* on flowering time under field conditions in barley

☆Yajima, S. ¹, K. Kato ², H. Nishida ² (1.Fac. Agr., Okayama U., 2.Grad. Sch. Environ. Life Sci., Okayama U.)

209 Elucidation of molecular mechanism of delay in phase transition from BVP to PSP by low temperature

☆Kokaji, H. ¹, H. Saito ², K. Nishimura ¹, S. Yabe ³, A. Shimizu ⁴, H. Nakagawa ⁵, A. Nagano ⁶, T. Nakazaki ¹ (1.Grad. Sch. Agri., Univ. Kyoto, 2.Int'l. Agri. Sci., JIRCAS, 3.Inst. Crop. Sci., NARO, 4.Sch. Environ. Sci., Univ. Shiga Pref, 5.Ins. Agro-Environ. Sci., NARO, 6.Sch. Agri., Univ. Ryukoku)

210 Imaging Florigen distribution in the shoot apical meristem

Ando, S. ¹, M. Sato ¹, A. Fujita ², M. Yamada ², ○H. Tsuji ¹ (1.Kihara Inst. Biol. Res., Yokohama City Univ., 2.Grad. Sch. Biol. Sci., Nara Inst. Biol. Res.)

211 Role of *qGZn9a* controlling grain zinc concentration in rice, *Oryza sativa*

☆Ogasawara, M. ¹, N. Miyazaki ¹, G. Monden ¹, K. Taniko ¹, L. Sathya ¹, M. Iwata ¹, T. Ishii ¹, J. Ma ², R. Ishikawa ¹ (1.Grad. Sch. Agr. Sci., Kobe Univ., 2.IPSR, Okayama Univ.)

212 Barley albino lemma 1 resulted from mutations in the Golden2 gene reduces seed weight

○Taketa, S., M. Hattori, T. Takami, E. Himi, W. Sakamoto (IPSR, Okayama University)

213 Identification of PRC2 targets in rice endosperm

○Tonosaki, K. ¹, A. Ono ², H. Furuumi ³, K. Nonomura ⁴, Y. Sato ³, M. Endo ⁵, L. Comai ⁶, K. Hatakeyama ¹, T. Kawakatsu ⁵, T. Kinoshita ² (1.Fac. Agri., Iwate Univ., 2.KIBR, Yokohama City Univ., 3.Plant Genet., Natl. Inst. Genet., 4.Plant Cytogenet., Natl. Inst. Genet., 5.NIAS, 6.UC Davis)

214 Comprehensive search for gravity-responsive genes of rice root tip after simulated microgravity condition generated by a three-dimensional clinostat

☆Kuya, N. ¹, Y. Kitomi ¹, R. Nishijima ², T. Kawakatsu ², Y. Uga ¹ (1.Inst. Crop. Sci., NARO, 2.Inst. Agrobiological Sci., NARO)

215 Formation of a barrier to radial oxygen loss in L-type lateral roots extended by cutting of adventitious root tips of rice

○NOORROHMAH, S., M. Nakazono, H. Takahashi (Grad. Sch. Bioagri. sci, Nagoya University)

216 Analysis of diversity in the dormancy of rice seeds using the NARO World Rice Core Collection

☆Okazaki, S. ¹, K. Murata ², T. Yamada ¹, M. Kanekatsu ¹ (1.Grd. Sch. Agr., Tokyo U. Agr. Tec., 2.Toyama Pref. Agr. Forest. Fish. Res. Cent.)

217 Field Survey of Cassava Flowering Phenomena in Southeast Asia and Application to Cassava Breeding by Controlling Flowering time

☆Tokunaga, H. ¹, Q. Do Thi Nhu ², A. Nguyen Hai ², N. Pham Thi ³, H. Le Huy ², M. Ishitani ⁴, S. Pao ⁵, V. Nguyen Anh ², H. Tsuji ⁶, Y. Utsumi ¹, M. Seki ¹ (1.RIKEN, 2.Agricultural Genetics Institute, 3.Hung Loc Agricultural Research Center, 4.International Center for Tropical Agriculture, 5.University of Battambang, 6.Kihara Institute for Biological Research, Yokohama City University)

218 Dominance model basically explains the heterosis in a hybrid sorghum variety "Tentakaka".

☆Wake, T. ¹, S. Hashimoto ¹, H. Nakamura ¹, M. Minamiyama ¹, S. Nakamura-Araki ², K. Shinohara-Ohmae ², E. Koketsu ², S. Okamura ², K. Miura ³, H. Kawaguchi ⁴, S. Kasuga ⁵, T. Sazuka ² (1.Grad. Sch. Bioagri., Nagoya Univ., 2.Biosci. and Biotech. Center, Nagoya Univ., 3.Dept. Biosci. Fukui Pref. Univ., 4.Grad. Sch. Sci. Tech. Innov., Kobe Univ., 5.AFC, Fac. of Agri. Shinshu Univ.)

219 Improving the prediction accuracy of rice phenotypes using environmental kernels constructed based on crop growth models

☆Chen, T. ¹, C. SATO ², A. Abe ³, M. Yamasaki ⁴, H. Shimono ⁵, H. Iwata ¹ (1.Graduate School of Agricultural and Life Sciences, The University of Tokyo, 2.Ifuririn, Ltd., 3.Department of Genomics and Breeding, Iwata Biotechnology Research Center, 4.Food Resources Education and Research Center, Graduate School of Agricultural Science, Kobe University, 5.Department of Genomics and Breeding, Iwata Biotechnology Research Center)

220 Modeling of fruit peelability of citrus using image analysis of fruits

☆Minamikawa, M. ¹, K. Nonaka ², H. Hamada ², T. Shimizu ², H. Iwata ¹ (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.NIFTS, NARO)

221 Genetic analysis of biomass-related features extracted by deep learning of UAV remote sensing images

☆Okada, M. ¹, C. Barras ¹, Y. Toda ¹, Y. Oomori ¹, Y. Yamasaki ², H. Takahashi ³, H. Takanashi ¹, M. Tsuda ⁴, M. Hirai ⁵, H. Tsujimoto ², A. Kaga ⁶, M. Nakazono ³, T. Fujiwara ¹, H. Iwata ¹ (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.Arid Land Res. Ctr., Tottori Univ., 3.Grad. Sch. Bioagri. Sci., Nagoya Univ., 4.T-PIRC, Univ. Tsukuba, 5.Ctr. for Sustainable Resource Sci., RIKEN, 6.Inst. Crop Sci., NARO)

222 Haplotype analysis of data from UAV imagery of rice MAGIC population to understand rice yield and biomass

○Ogawa, D. ¹, T. Sakamoto ², H. Tsunematsu ¹, N. Kanno ¹, Y. Nonoue ¹, J. Yonemaru ¹ (1.Inst. Crop. Sci., , NARO, 2.Inst. Agro-Environ. Sci., NARO)

223 Genetic analysis of traits related to canopy structure in soybean using UAV

○Kaga, A. ¹, K. FujiiFujii ¹, A. Fukuda ¹, K. Machida ¹, T. Matsumoto ¹, A. Kikuchi ², K. Komatsu ³, Y. Kono ⁴, N. Oki ⁵, S. Watanabe ⁶, K. Hirata ², T. Yamada ¹, H. Iwata ⁷, W.

Guo ⁷ (1.NICS, NARO, 2.TARC, NARO, 3.WARC, NARO, 4.CARC, NARO, 5.KARC, NARO, 6.Univ. Saga, 7.Grad. Sch. Agr. Life Sci., Univ. Tokyo)

224 Development of a data-driven breeding platform and supporting APIs

○Iwata, H. ¹, S. Honda ², J. Diot ¹, J. Pineda ², A. Setiawan ², M. Inamori ¹, S. Kirie ¹, M. Minamikawa ¹, K. Nonaka ³, T. Shimizu ³, J. Tressou ¹, R. Chinnachodteeranun ², K. Honda ² (1.Grad. Sch. Agr. Life Sci., Univ. of Tokyo, 2.ListenField, 3.Inst. Fruit Tree Tea Sci., NARO)

225 Application of the secure computation system San-Shi for the secure usage of breeding big-data.

○Yonemaru, J. ¹, H. Kajiya-Kanegae ¹, H. Eguchi ¹, K. Ota ², J. Hashimoto ², S. Nishida ³ (1.NARO, 2.NTT Secure Platform Laboratories, 3.NTT DOCOMO, INC.)

226 Feasibility verification of breeding data analysis on the secure computation system San-Shi

○Hashimoto, J. ¹, K. Ota ¹, R. Kikuchi ¹, T. Fukami ¹, T. Morita ¹, S. Nishida ², J. Yonemaru ³, H. Kajiya-Kanegae ³ (1.NTT Secure Platform Laboratories, 2.NTT DOCOMO, INC., 3.NARO)

227 Studies on tillering behavior for breeding in welsh onion -II- Half Diallel Analysis of tiller number at three growth stages

☆Ogasawara, K., N. Tanaka, S. Niikura (Tohoku Seed Co.)

228 Accelerating soybean breeding in a CO₂-supplemented growth chamber

☆Nagatoshi, Y. ¹, Y. Fujita ^{1,2} (1.Biol. Resources Post-harvest Div., JIRCAS, 2.Grad. Sch. Life Environ. Sci., Univ. Tsukuba)

229 Genomics-based discrimination of 2n gamete formation mechanisms in polyploids

○Nishiyama, S. ¹, P. Sun ², H. Asakuma ³, R. Voorrips ⁴, J. Fu ², R. Tao ¹ (1.Grad. Sch. Agric., Kyoto Univ., 2.Chinese Academy of Forestry, 3.Fukuoka Agric. Res. Center, 4.Wageningen Univ. & Res.)

230 Development of an algorithm for analyzing time-series images of wheat and Arabidopsis in the field

○Goto, T. ¹, A. Tonouchi ¹, T. Tameshige ², R. Akiyama ³, R. Shimizu-Inatsugi ³, K. Shimizu ^{2,3}, N. Kutsuna ¹, Y. Shimahara ¹ (1.LPIXEL inc., 2.Kihara Institute for Biological Research, Yokohana City University, 3.Department of Evolutionary Biology and Environmental Studies, University of Zurich)

231 Visualization of the crop trait ontology using Cytoscape.js library

○Horyu, D. ¹, A. Onogi ², T. Hayashi ³ (1.Inst. Crop. Sci., NARO, 2.Fac. Agr. Ryukoku Univ., 3.Res. Ctr. for Agr. Info Tech., NARO)

232 Reference method of previous year cultivation and quality data from current wheat and barley breeding lines, using database software "Claris FileMaker Pro"

○Tougou, M. ¹, G. Ishikawa ¹, H. Kojima ^{1,2}, C. Otobe ¹, M. Fujita ¹ (1.Inst. Crop. Sci., NARO, 2.HQ, NARO)

233 Production of leaf hairless Radish(*Raphanus sativus* L.) using CRISPR/Cas9

☆Muto, N., T. Matsumoto (Graduate School of Agriculture, Tokyo University of Agriculture)

234 CRISPR/Cas9-mediated mutagenesis of myrosinase genes in radish (*Raphanus sativus* L. var. sativus)

○Okuzaki, A. ¹, K. Komatsu ², N. Muto ³, H. Kashiwagi ¹, Y. Mitsui ², M. Takahara ⁴, Y. Tabei ⁴, T. Matsumoto ³, N. Koizuka ¹ (1.Col. of Agri., Univ. Tamagawa, 2.Facul. of Agri., Tokyo Univ. of Agri., 3.Grad. Sch. of Agri., Tokyo Univ. of Agri., 4.NARO)

301 The genomic region on chromosome 6DS derived from a wheat cultivar 'Utah-100' associated with resistance to dwarf bunt in Hokkaido

☆Doman, K. ¹, M. Kurushima ², H. Jinno ^{3,4}, S. Ohnishi ³, C. Souma ¹, T. Suzuki ¹ (1.Central Agri. Exp. Stn., HRO, 2.Kamikawa Agri. Exp. Stn., HRO, 3.Kitami Agri. Exp. Stn., HRO, 4.Agri. Res. Dept., HRO)

302 Investigation of barley yellow mosaic virus resistance mechanism using GFP-expressing viral vector

☆Tanokami, M. ¹, W. Wang ², M. Yamamoto ², Y. Tamura ¹, S. Kobayashi ¹, Y. Nakazawa ¹, H. Nishigawa ² (1.Tochigi Prefectural Agricultural Experiment Station, 2.Utsunomiya University)

303 Identification of a resistance gene to white rust in *Brassica rapa* L.

☆Miyaji, N. ¹, M. Shimizu ², C. Suzukamo ³, M. Katsumata ³, T. Yasuda-Takasaki ¹, I. Chuma ⁴, R. Fujimoto ¹ (1.Grad. Sch. Agric. Sci., Kobe Univ., 2.IBRC, 3.Watanabe Seed Co., Ltd., 4.Obihiro Univ. Agric. Vet. Med.)

304 Fusarium resistance and *FocBr1* polymorphism in *Brassica rapa* cultivars

☆Kawamata, M. ¹, M. Sato ², D. Shea ¹, M. Shimizu ³, R. Fujimoto ⁴, E. Fukai ¹, K. Okazaki ¹ (1.Grad. Sch. Sci. Tech., Niigata Univ., 2.Kakegawa Research Center, Sakata Seed Corporation, 3.IBRC, 4.Grad. Sch. Agric. Sci., Kobe Univ.)

305 Fine mapping of the QTL controlling constitutive aerenchyma formation in *Zea mizcaraguensis*

○Mano, Y. ¹, F. Omori ¹, H. Takahashi ², M. Nakazono ³ (1.Inst. Livest. Grassl. Sci., NARO, 2.Fac. Food Agri. Sci., Fukushima Univ., 3.Grad. Sch. Bioagri. Sci., Nagoya Univ.)

306 Effect of auxin distribution on aerenchyma and lateral root formations in *Zea mizcaraguensis* roots

☆Ning, J. ¹, H. Takahashi ¹, F. Omori ², Y. Mano ², M. Nakazono ¹ (1.Grad. Sch. Bioagri. Sci., Nagoya Univ., 2.NARO Inst. Livest. Grassl. Sci.)

307 Searching of important genes involved in a radial O₂ loss barrier formation in *Zea mizcaraguensis* by RNA-Seq analysis

Nakayama, Y. ¹, H. Takahashi ¹, M. Camagna ¹, Y. Sato ², A. Toyoda ², F. Omori ³, Y. Mano ³, ○M. Nakazono ¹ (1.Grad. Sch. Bioagric. Sci., Nagoya Univ., 2.Natl. Inst. Genet., 3.NARO Inst. Livest. Grassl. Sci.)

308 Mapping and characterization of brown planthopper resistance genes from indica rice variety, PTB33

☆Nguyen, D. ¹, S. Sanada-Morimura ², M. Matsumura ², H. Yasui ³, S. Zheng ⁴, D. Fujita ⁴ (1.United Grad. Sch. Agr. Sci., Kagoshima Univ., 2.Central Region Agr. Res. Ctr., NARO, 3.Fac. Agr., Kyushu Univ., 4.Fac. Agr., Saga Univ.)

309 Development of near-isogenic lines (NILs) for brown planthopper resistance genes with genetic background of indica rice IR64

☆KAMAL, M., D. Nguyen, S. Zheng, D. Fujita (Faculty of Agriculture, Saga University)

310 Simplification of breeding rice tolerance to salinity by MNU-induced mutation

☆CAN, T., V. NGUYEN, D. TRAN (Graduate School of Advance Science and Engineering, Hiroshima University)

311 Development of assay methods and QTL analysis for breeding soybeans conferred resistance to purple seed stain

○Hirata, K. ¹, T. Matsumoto ², F. Taguchi-Shiobara ², A. Kikuchi ¹ (1.NARO/TARC, 2.NARO/NICS)

312 Exploration of regulatory factor related to the formation of secondary aerenchyma in soybean

Baba, Y. ¹, Y. Takebayashi ², M. Kojima ², M. Takahashi ³, K. Nhung Ta ³, Y. Sato ³, H. Sakakibara ^{1,2}, M. Nakazono ¹, ○H. Takahashi ¹ (1.Grad. Sch. Bioagric. Sci., Nagoya Univ., 2.RIKEN, 3.National Institute of Genetics)

313 Pyramiding of Ic and T genes leads to highly tolerance for cold-induced seed cracking in yellow soybean

Yamaguchi, N. ¹, C. Suzuki ¹, Y. Yamashita ², ○M. Senda ³ (1.Tokachi Agricultural Experiment Station, HRO, 2.Central Agricultural Experiment Station, HRO, 3.Fac. Agric. Life Sci., Univ. Hirosaki)

314 Variation of abnormal anther morphology and its correlation with pollen sterility during chilling stress in rice

☆Yamamori, K. ¹, K. Ogasawara ¹, S. Ishiguro ¹, Y. Koide ¹, I. Takamure ¹, Y. Sato ², Y. Kishima ¹ (1.Grad.Sch.Agr.,Univ. Hokkaido, 2.NARO-HARC)

315 Development of a method for evaluating antimicrobial activity of seeds that enable long seed dormancy characteristic of wild *Oryza*

☆Yoshida, Y., Y. Sato (NIG)

316 The features for the high phosphorus use efficiency bread wheat derived from genetic resources

☆Yamasaki, Y. ¹, Y. Gorafi ^{1,2}, I. Tahir ², H. Tsujimoto ¹ (1.Arid Land Research Center, Tottori University, 2.Agricultural Research Corporation, Sudan)

317 Accelerated senescence and nitrogen remobilization in flag leaves contribute to maintained wheat yield at low nitrogen input

☆Murata, C. ¹, J. Alpuerto ², S. Lamichhane ², K. Brasier ², C. Griffey ², W. Thomason ², T. Fukao ^{1,2} (1.Dept. Biosci. Biotech., Fukui Pref. Univ., 2.Sch. Plant Env. Sci, Virginia Tech)

318 A multi-omics study on heat response by different growth-stages toward tolerant bread wheat selection

☆Matsunaga, S. ¹, Y. Toda ², R. Mega ³, Y. Yamasaki ⁴, H. Tsujimoto ^{1,4} (1.United Grad. Sch. Agr. Sci., Tottori Univ., 2.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 3.Grad. Sch. Sci. and Tech. for Innovation, Yamaguchi Univ., 4.Arid Land Research Center, Tottori Univ.)

319 Assessment of heat responses and exploration of novel genes related to heat tolerance in pearl millet (*Pennisetum glaucum* L.)

☆LOU, X. ¹, D. TSUGAMA ¹, S. GUPTA ², T. TAKANO ¹ (1.Asian Natural Environmental Science Center, 2.ICRISAT)

320 Identification of the male sterility gene in *Lilium formolongi* cv. "Akita kiyohime"

Moriyama, T. ¹, N. Yokoi ², S. Imakiire ³, T. Saito ², D. Shea ¹, H. Ohshima ¹, H. Saito ¹, E. Fukai ¹, ○K. Okazaki ¹ (1.Grad. Sch. Sci. Tech., Niigata Univ., 2.Akita Pref. Agric. Exp. Sta., 3.Kagoshima Pref. Inst. for Agric. Dev.)

321 Hypersensitive response induced by stacking of two candidate ORFs of clubroot resistant locus *Crr1b* in *Arabidopsis thaliana*

☆Akitaya, M. ¹, M. Shimizu ², M. Takahashi ³, S. Matsumoto ⁴, K. Tonosaki ¹, K. Hatakeyama ¹ (1.Fac. Agri., Iwate Univ., 2.IBRC, 3.Snow Brand Seed Co., Ltd., 4.IVFS, NARO)

322 Antagonistic regulation in response to gibberellin in rice internode elongation

○Nagai, K. ^{1,3,4,5}, Y. Mori ¹, S. Ishikawa ¹, R. Gamuyao ¹, Y. Niimi ¹, T. Hobo ¹, M. Fukuda ¹, H. Sakakibara ^{1,5}, T. Furuta ², H. Hisano ², H. Sato ², T. Akagi ², A. Yoshida ³, H. Tsuji ³, Y. Sato ⁴, M. Kojima ⁵, Y. Takebayashi ⁵, A. Fukushima ⁵, Y. Himuro ⁵, M. Kobayashi ⁵, J. Wu ⁶, W. Ackley ⁶, M. Ashikari ¹ (1.Nagoya Univ., 2.Okayama Univ., 3.Yokohama City Univ., 4.NIG, 5.RIKEN, 6.NARO)

323 Callose depletion during meiosis exhibits prominent meiotic defects in rice anthers

☆Somashekar, H. ^{1,2}, M. Mimura ¹, K. Nonomura ^{1,2} (1.National Institute of Genetics, 2.The Graduate University for Advanced Studies (SOKENDAI))

324 The effects of ambient temperature to photoperiodic flowering in rice

☆NAGALLA, A. ¹, N. Nishide ¹, K. Hibara ², T. Izawa ¹ (1.Grad. Sch. Agr. & Life Sci., Univ. Tokyo, 2.Grad. Sch. Agr. Reg. Vita., Kibi. Int. Univ)

325 Searching of cis-elements which regulate expression levels of root specific genes in rice

☆Jinno, K. ¹, T. Kawai ¹, K. Doi ¹, Y. Inukai ² (1.Grad. Sch. Bioagr., Nagoya U., 2.ICREA, Nagoya U.)

326 Analysis of phosphorus accumulation in rice with high expression of phosphorus absorption and metabolism related genes

☆Shiina, Y., T. Kajiwara, M. Soga, K. Yoshida (Grad. Sch. Agr.,Univ.Tokyo)

327 DAP-Seq with the candidate asparagus sex-determining factor AoMYB35

○Tsugama, D. ¹, K. Fujino ², T. Takano ¹ (1.ANESC., Univ. Toko, 2.Res. Fac. Agr., Hokkio Univ.)

328 Targeted modification of *Arabidopsis thaliana* plastid genome

☆Nakazato, I., Y. Tamura, N. Tsutsumi, S. Arimura (Grad. Sch. Agr. Life Sci., Univ. Tokyo)

329 Characterization of TFA3, a locus responsible for transformation amenability locating on the barley chromosome 2H.

○Hisano, H., H. Munemori, K. Sato (IPSR, Okayama U.)

330 A novel chasmogamous mutant induced from the cleistogamous barley

○Kakeda, K. ¹, K. Kato ², N. Kushibe ¹, A. Nanape ¹, Y. Fujihara ¹, K. Watanabe ¹, T. Komatsuda ³, K. Sato ⁴ (1.Fac. Bioresour., Mie Univ., 2.Grad. Sch. Enviro. Life Sci., Okayama Univ., 3.Inst. Crop. Sci., NARO, 4.IPSR, Okayama Univ.)

331 Evaluation of the effect of mutations in the wheat *AP2* homoeologs on cleistogamous flowering using near-isogenic lines.

☆Nanape, A., K. Kakeda (Graduate School of Bioresources, Mie University)

332 Searching for causative mutations that affect starch properties in sweetpotato using nanopore sequencing

☆Tada, K. ¹, M. Tanaka ², A. Kobayashi ², K. Ushijima ¹, Y. Monden ¹ (1.Grad. Sch. Environ. Life Sci., Okayama Univ., 2.KARC/NARO)

333 Characterization of irradiated M1 plants in Yacon (*Smallanthus sonchifolius*) mutation breeding with γ ray

☆Okuno, G. ¹, T. Murata ², Y. Matsuda ¹, Y. Masuda ¹ (1.Grad.Sch.of Agri. Tokai U., 2.Sch. Indus.& Wel. Engi. Tokai U.)

401 Screening for Canadian food-grade soybean cultivars producing high yield and tolerant to chilling temperature

○Yamaguchi, N. ¹, H. Takahashi ¹, K. Ishikura ¹, I. Rajcan ², E. Cober ³ (1.Tokachi Agr. Exp. Sta., HRO, 2.Univ. Guelph, 3.Ottawa R&D Centre, AAFC)

402 Discovery and characterization of a novel glycosylation enzyme involved in the biosynthesis of saponin by co-expression analysis

○Ishimoto, M. ¹, Y. Fujisawa ¹, S. Chung ², H. Seki ^{2,3}, Y. Shimoda ⁴, S. Hiraga ¹, Y. Nomura ², K. Saito ^{3,5}, T. Muranaka ^{2,3} (1.Inst. Crop. Sci., NARO, 2.Grad. Sch. Eng., Osaka Univ., 3.RIKEN CSRS, 4.NIAS, NARO, 5.Grad. Sch. Pharm. Sci., Chiba Univ.)

403 Canopy temperature, Ionome and carbon isotope ratio would reveal physiological perspective of high yield wheat cultivar in Hokkaido.

○Ohnishi, S. ¹, T. Kamiya ², R. Mega ^{3,4}, T. Fujiwara ², H. Tsujimoto ³, Y. Sato ¹, K. Morita ^{1,5} (1.HRO Kitami AES, 2.Grad. Sch. Agr., Univ. Tokyo, 3.ALRC, Tottori Univ., 4.Grad. Sch. Sci. & Tech. for Innovation., Yamaguchi Univ., 5.HRO Kamikawa AES)

404 Field evaluation of heterosis in the top crosses of barley

☆Sakkour, A., H. Hisano, K. Sato (IPSR, Okayama U.)

405 Identification and functional analysis of a novel *LowAC1* gene regulating low-amylose property in rice.

☆Igarashi, H. ¹, H. Ito ², T. Shimada ³, D. Kang ¹, S. Hamada ¹ (1.Fac. Agric. Life. Sci., Hirosaki U., 2.Dept. Chem. Biol. Eng., NIT. Akita College, 3.Fac. Educ., Hirosaki U.)

406 Validation of stable QTLs for vascular bundle number at the panicle neck under indica rice genetic background

☆Nguyen, T., S. Suetsugu, Y. Nakamura, Z. Demeter, S. Zheng, F. Fujita (Saga University)

407 Genetic study of *qPbn3* regulating panicle branching pattern in rice

☆Agata, A. ^{1,2}, Y. Takeda ², S. Ota ², K. Doi ², Y. Inukai ³, D. Makihara ³, Y. Sato ¹, H. Kitano ⁴, T. Hobo ⁴ (1.National Institute of Genetics, 2.Grad. Sch. Bioagr. Sci., Nagoya U., 3.ICCAE, Nagoya U., 4.Biosci. Biotec. Ctr., Nagoya U.)

408 Collaboration among Government-Academia for new type of Genetic Resources Conservation - reveal the origin of 'Mitaka Osawa wasabi', Mitaka City, Tokyo

Hattori, M., M. Hiraumi, S. Yamamoto, S. Kunishima, K. Kobayashi, ○K. Yamane (Fac. Appl. Biol. Sch., Univ. Gifu)

409 ChIP-seq analysis of interspecific hybrid seeds between allopolyploid plants

☆Takamatsu, A. ¹, K. Nagaki ², Y. Ikeda ², S. Takumi ¹, K. Yoshida ¹ (1.Grad. Sch. Agri. Sci., Kobe U., 2.IPSR, Okayama U.)

410 Nucleotide substitutions in the Ogura cytoplasmic male sterile gene, *orf138*, of radish and the validity of fertility restorer genes.

○Yamagishi, H. ¹, A. Hashimoto ², A. Nakamura ¹, K. Morita ¹, T. Terachi ¹ (1.Fac. Life Sci., Kyoto Sangyo U., 2.R. C. of Botany, Kyoto Sangyo U.)

411 Specio-genetic analysis of *S* alleles in the naturalized radish populations on Yakushima.

☆Fukushima, K. ¹, T. Kanomata ^{2,3}, A. Kon ¹, H. Masuko-Suzuki ¹, K. Ito ¹, S. Ogata ¹, Y. Takada ¹, Y. Komatsubara ², T. Nakamura ⁴, T. Watanabe ⁴, S. Koizumi ⁴, H. Sanuki ⁴, J. Park ⁵, S. Niikura ⁶, K. Suwabe ⁷, S. Fujii ⁸, K. Murase ^{8,9}, S. Takayama ⁸, G. Suzuki ¹⁰, M. Watanabe ^{1,3} (1.Grad. Sch. Life Sci., Tohoku Univ., 2.Sendaidaiichi High Sch.,

3.EGGS, Tohoku Univ., 4.Yakushima Environ. & Cult. Learning Ctr., 5.Dept. Hort., Sunchon Natl. Univ., 6.Tohoku Seed Co., Ltd, 7.Grad. Sch. Bioresour., Mie Univ., 8.Grad. Sch. Agric. Life Sci., Univ. Tokyo, 9.PRESTO, JST, 10.Div. Natl. Sci., Osaka Kyoiku Univ.)

412 Genetic mapping of a hybrid sterility locus, S2, in rice

☆Myint, Z., M. Ogata, Y. Tokuyama, K. Hikichi, Y. Kishima, Y. Koide (Hokkaido University)

413 Segregation distortion caused by semisterility found in a cross between Australian wild rice and Asian cultivated rice

○Ichitani, K. ^{1,3}, M. Ichikawa ², D. Toyomoto ³, S. Taura ⁴, R. Henry ⁵, R. Ishikawa ⁶ (1.Fac. Agr., Kagoshima Univ., 2.Grad. Sch. Agr. Forest. Fish., Kagoshima Univ., 3.United Grad. Sch. Agr. Sci., Kagoshima Univ., 4.Inst. Gene Res., Kagoshima Univ., 5.QAAFI, Univ. of Queensland, 6.Fac. Agr. and Life Sci., Hirosaki Univ.)

414 Overcoming the hybrid sterility using the tetraploid hybrid between *Oryza sativa* and *O. glaberrima*

☆Kuniyoshi, D., M. Ishihara, Y. Koide, Y. Kishima (Laboratory of Plant Breeding, Research Faculty of Agriculture, Hokkaido University)

415 The temperature sensitive hybrid breakdown 1 induces intrasubspecific hybrid breakdown in rice.

☆Wakabayashi, T., Y. Yoneya, K. Kato (Obihiro University of Agriculture and Veterinary Medicine)

416 Identification of TA-CMS causative gene using mitoTALEN-mediated mitochondrial gene-knockout

☆Takatsuka, A. ¹, T. Kazama ², S. Arimura ³, K. Toriyama ¹ (1.Grad.Sch.Agr.Sci.,Tohoku Univ., 2.Fac. Agr., Kyushu Univ., 3.Grad. Sch. Life Sci., Univ. Tokyo)

417 Formation of diploid gametes in Epidendrum (Orchidaceae)

☆Kondo, H., A. Deguchi, S. Kikuchi, K. Miyoshi (Grad. Sch Holt. Sci., Univ. Chiba)

418 Cytoplasmic male sterile tomato show morphological abnormality specifically during pollen germination

☆Kuwabara, K. ¹, I. Harada ¹, Y. Matsuzawa ², S. Iioka ², K. Shirasawa ³, T. Ariizumi ⁴
(1.Grad. Sch. Life and Env. Sci., Univ. Tsukuba, 2.Tokita Seed Co., Ltd, 3.Kazusa DNA
Res. Inst., 4.Fac. Life Env. Sci., Univ. Tsukuba)

419 Breeding and brewing quality of the Canadian malting barley variety 'CDC Goldstar'
lacking lipoxygenase-1

○Makimoto, R. ¹, M. Nanamori ¹, Y. Tokizono ¹, T. Hoki ¹, W. Saito ¹, R. Aritomo ¹, T.
Yamaki ¹, N. Hirota ¹, N. Suda ¹, A. Beattie ² (1.Sapporo Breweries Ltd., 2.Crop
Development Centre, University of Saskatchewan)

420 QTL hotspots for combined heat and drought stress resilience in bread wheat grown
in Sudanese fields

☆Itam, M. ¹, Y. Gorafi ^{2,3}, I. Tahir ³, H. Tsujimoto ² (1.United Graduate School of
Agricultural Sciences, Tottori University, 2.Arid Land Research Center, Tottori University,
3.Agricultural Research Corporation)

421 Generation of the double mutations for the extremely early heading date,
ghd7osprr37, in rice.

○Fujino, K. ¹, Y. Kawahara ¹, K. Shirasawa ² (1.NARO, 2.Kazusa DNA Research Institute)

422 Genetic structure in melon landraces from Southwestern Yunnan, China, based on
chloroplast and nuclear genome markers

Nagumo, M. ¹, ○K. Tanaka ¹, M. Suzuki ¹, Y. Akashi ², T. Yamamoto ³, T. Yoshino ⁴, R.
Ishikawa ¹, C. Long ⁵, K. Kato ² (1.Hirosaki U., 2.Grad. Sch. Environ. Life Sci., Okayama
U., 3.Hagihara Farm Co., Ltd., 4.Kunming Inst. Bot., 5.Minzu U. China)

423 PCR-based genotyping for chloroplast sequence inferred to wild species of Cucumis
closely related to melon.

☆Nagai, T. ¹, J. Maruyama ¹, K. Tanaka ², G. Shigita ^{3,4}, I. Odirichi Nnennaya ³, H.
Nishida ³, K. Kato ³ (1.Fac. Agric., Okayama U, 2.Fac. Agric. Life Sci.,Hirosaki U.,
3.Grad.Sch. Environ. Life Sci., Okayama U., 4.TUM)

424 Southeast Asia is rich in melon landraces resistant to Melon Necrotic Spot Virus
(MNSV)

☆Imoh, O. ¹, T. Dung ¹, M. Pervin ¹, G. Shigita ¹, K. Tanaka ², H. Nishida ¹, K. Kato ¹
(1.Grad. Sch. Environ. Life Sci., Okayama U., 2.Fac. Agric. Life Sci., Hirosaki U.)

425 Exploration of tomato mutants involved in fruit metabolite accumulation using NBRP-Tomato mutant collections

○Sugimoto, K. ¹, Y. Shinozaki ^{1,2}, K. Hoshikawa ^{1,3}, N. Ito ¹, Y. Fujimori ¹, H. Ezura ¹
(1.T-PIRC, Univ. Tsukuba, 2.GIR, Tokyo Univ. Agric. Tech., 3.JIRCAS)

426 Production of new lines by using methods of mass selection and RAPD-PCR

☆Haze, J. ^{1,2}, L. Chen ^{1,2} (1.Fac. Envir. Hort. Sci., Minami Kyushu U., 2.Grad. Sch. Hort. Food. Sci., Minami Kyushu U.)

427 Exploring Brassica rapa resources with broad-spectrum resistance to turnip mosaic virus

☆TIAN, A., H. TAKAHASHI, M. YAMAMOTO, H. KITASHIBA (Grad. Sch. Aric. Sci., Univ. Tohoku)

428 The genetic diversity and geographic differentiation of a global collection of 2,065 wild soybean (*Glycine soja*) accessions

○Li, F. ¹, T. Sayama ², Y. Yokota ¹, S. Hiraga ¹, M. Hashiguchi ³, H. Tanaka ³, R. Akashi ³, M. Ishimoto ¹ (1.Inst. Crop. Sci., NARO, 2.WARC, NARO, 3.Fac. Agric., Miyazaki Univ.)

Poster Presentations

P01-A Effect of DNA marker selection on early generation population of wheat to improve flour yield -Comparison among crossing combinations and generations -

○Ikenaga, S. ¹, G. Ishikawa ², H. Ito ¹, A. Nakamaru ¹, Y. Taniguchi ¹, T. Takayama ¹
(1.Tohoku Agricultural Research Center, NARO, 2.Inst. Crop. Sci., NARO)

P02-B Development of mechanized system for soybean breeding and evaluation of its effectiveness

☆Nanjo, Y. ¹, M. Saruta ¹, T. Yamada ¹, K. Takahashi ¹, A. Fukuda ¹, N. Oki ², M. Hajika ¹
(1.Inst. Crop. Sci., NARO, 2.Kyushu Okinawa Agr. Res. Ctr., NARO)

P03-C Time-series measurement of soybean growth process using UAV remote sensing and modeling of its genetic and environmental effects

☆Toda, Y. ¹, G. Sasaki ¹, Y. Omori ¹, Y. Yamasaki ², H. Takahashi ³, H. Takanashi ¹, M. Tsuda ⁴, H. Kajiya-Kanegae ⁵, H. Tsujimoto ², A. Kaga ⁶, M. Nakazono ³, T. Fujiwara ¹, H. Iwata ¹ (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.Arid Land Res. Ctr., Tottori Univ., 3.Grad. Sch. Bioagri. Sci., Nagoya Univ., 4.T-PIRC, Univ. Tsukuba, 5.Res. Ctr. for Agr. Info. Tech., NARO, 6.Inst. Crop Sci., NARO)

P04-A Estimating percentages of Fusarium-damaged area in kernels and deoxynivarenol concentration in two-row hulled barley by multispectral imaging.

○Yanaka, M. ¹, M. Taira ¹, T. Ikeda ² (1.KARC/NARO, 2.WARC/NARO)

P05-B Evaluation of appearance of cooked rice in small cup by image analysis

☆Akita, K. ¹, H. Ishikawa ¹, M. Hirayama ¹, Y. Fukazawa ², K. Okamoto ³, K. Okano ¹ (1.Plant Biotech. Inst., Ibaraki Agri. Cent., 2.Ibaraki Pref. Kenou Agri. & For. Mgmt. Office, 3.Ibaraki Pref. Agri. Col.)

P06-C Characterization of RNA silenced and grafted tomato (2): *SIFAD7*

○Nishiguchi, M. ¹, S. Nakamura ¹, K. Hondo ², K. Sugimoto ³, Y. Shinozaki ⁴, H. Ezura ³, K. Kobayashi ¹ (1.Fac. Agric., Ehime Univ., 2.ADRES, Ehime Univ., 3.Fac. Life Environ. Sci., Univ. Tsukuba, 4.GIR, Tokyo Univ. Agric. Tech.)

P07-A Communication for promoting public understanding for genome editing crops and foods

○Takahara, M. ¹, N. Fukino ¹, T. Akama ¹, M. Ohta ¹, T. Fujii ², T. Ishikawa ¹, Y. Tabei ¹ (1.New Tech. Promotion Office, Strategic Planning HQ, NARO, 2.JATAFF)

P08-B A Text Mining Analysis of Twitter Conversation on Labelling of Genome-Edited Foods

○Fukino, N. ¹, S. Shimura ^{1,2}, Y. Kwon ³, S. Itaka ^{3,4}, G. Kikui ³, M. Ohta ¹, T. Akama ^{1,3}, M. Takahara ¹, Y. Tabei ¹ (1.Strategic Planning Headquarters, NARO, 2.Res. Cent. Agr. Inf. Tech., NARO, 3.Inst. Agrobiol. Sci., NARO, 4.Fac. Sci. Tec., Tokyo Univ. Sci.)

P09-C Responses on Twitter for notification of a genome-edited food (GABA-tomato) to the competent authorities

○Akama, T. ^{1,2}, M. Ohta ¹, G. Kikui ², N. Fukino ¹, M. Takahara ¹, Y. Tabei ¹ (1.Strategic Planning Headquarters, NARO, 2.Inst. Agrobiol. Sci., NARO)

P10-A Breeding of 'Hyugakabocha' of Miyazaki original vegetable ~Production of new lines produced from crossings among different varieties~

○Chen, L. ^{1,2}, T. Hori ¹, S. Jokan ¹, K. Yoshimura ² (1.Fac. Envir. Hort. Sci., Minami Kyushu U., 2.Grad. Sch. Hort. Food Sci., Minami Kyushu U.)

P11-B Breeding of the new rice variety 'Mienoyume BSL' with resistance to brown spot (*Bipolaris oryzae*)

○Matsumoto, K. ¹, Y. Ota ¹, T. Yamakawa ¹, T. Ono ^{1,2}, S. Seta ¹, Y. Honda ¹, R. Mizobuchi ³, H. Sato ^{3,4} (1.Mie Pref. Agri. Res. Inst., 2.Mie Pref. Kuwana Agri. Ext. Cent., 3.Inst. Crop. Sci., NARO, 4.MAFF)

P12-C Development of potato breeding line with resistance to white potato cyst nematode for warm region.

☆Sakamoto, Y. ¹, I. Sakata ², M. Ryu ^{1,3}, Y. Yamada ¹, S. Iino ¹, S. Matsumoto ¹, Y. Matsuo ^{1,4} (1.Nagasaki Agric. & For. Tech. Dev. Cent., 2.Hokkaido Agri. Res. Cent., NARO, 3.Nagasaki Pref. Agric. & For. Dep., 4.Nagasaki Pref. Goto Dev. Bur.)

P13-A 'Emitawawa', a new rice cultivar with good property for bread and high yield, whose harvesting time is different from an elite cultivar 'Mizuhochikara'

☆Nakanishi, A. ¹, K. Tamura ¹, T. Kataoka ¹, H. Sato ^{1,2}, Y. Tamura ¹, M. Sakai ^{1,3}, T. Fushimi ^{4,5}, Y. Takeuchi ¹ (1.NARO/KARC, 2.MAFF, 3.NARO/CRARC, 4.JIRCAS/TARF, 5.NARO Headquarters)

P14-B Structural elucidation of soybean saponins by LC-PDA/MS/MS profile analysis

☆Son, H. ¹, G. Takahashi ¹, T. Mori ¹, M. Sasaki ¹, H. Muraoka ³, S. Hiraga ², M. Ishimoto ², C. Tsukamoto ¹ (1.Faculty of Food Science, Bioresources Science, United Graduate School of Agricultural Science, Iwate University, 2.National Institute of Agrobiological Sciences, 3.Faculty of Science and Engineering, Department of Chemistry and Biological Sciences)

P15-C Analysis of low seed cesium lines identified from soybean mutant population

○Takagi, K. ¹, Y. Yokota ², H. Matsunami ¹, K. Kubo ¹, Y. Fujisawa ², S. Hiraga ², A. Kaga ², T. Anai ³, M. Ishimoto ² (1.Tohoku Agric. Res. Cent., NARO, 2.Inst. Crop Sci., NARO, 3.Fac. Agric., Univ. Saga)

P16-A Genetic diversity of genetic resources of *Aegilops tauschii* collected in Georgia

○Sasanuma, T. ¹, A. Hirata ¹, H. Nishida ², Z. Asanidze ³, T. Bragvadze ³, O. Kovaleva ⁴, T. Smekalova ⁴ (1.Fac. Agr., Yamagata Univ., 2.Grad. Sch. Environ. Life Sci., Okayama Univ., 3.Ilia State Univ., 4.VIR)

P17-B Analysis of genetic diversity in sweetpotato genetic resources using genome-wide SNP polymorphism

○TANAKA, M. ¹, K. Suematsu ¹, K. Shirasawa ², K. Katayama ³, S. Isobe ² (1.Kyushu Okinawa Agric. Res. Cent., NARO, 2.Kazusa DNA Research Institute, 3.Hokkaido Agric. Res. Cent., NARO)

P18-C Exploration of glaucous variation in the genebank collections of wild diploid wheat *Triticum urartu*

○Watanabe, N. ¹, P. Martinek ² (1.The Little Nursery, 2.Agrotest Fyto, Ltd.)

P19-A Association between genetic and trait differentiations in the wild wheat relative *Aegilops umbellulata*

☆Son, I. ¹, N. Kasazumi ², M. Okada ², S. Takumi ², K. Yoshida ² (1.Fac. Agri., Kobe U., 2.Grad. Sch. Agri. Sci., Kobe U.)

P20-B Variation in *SiLes1* gene involved in seed shattering in foxtail millet

○Fukunaga, K. ¹, S. Matsuyama ¹, A. Abe ², M. Kobayashi ², K. Ito ² (1.Fac. Bioresource Sci., Pref. Univ. Hiroshima, 2.Iwate Biotechnology Research Center)

P21-C How discussion on access to and benefit-sharing from digital sequence information will affect data utilization in plant breeding?

○MACHIDA-HIRANO, R., A. YAMAMOTO, E. DOMON (Genet. Resour. Cent., NARO)

P22-A Characterization of semi-dwarfing and late-maturing isogenic rice

○Tomita, M., R. Tokuyama, T. Yokoyama (Res. Inst. Green Sci. & Technol., Shizuoka Univ.)

P23-B Characterization of the genomic sequence data around common cutworm resistance genes in soybean (*Glycine max*) using short- and long-read sequencing methods

○Ogiso-Tanaka, E. ¹, N. Oki ², T. Tanaka ³, T. Shimizu ³, M. Ishimoto ³, M. Hajika ³, A. Kaga ³ (1.CMBR.,NMNS, 2.KARC.,NARO, 3.Inst. Crop. Sci., NARO)

P24-C Building the foundation for genomic breeding using Arican rice varieties

☆Furuta, T. ¹, Y. Sato ², M. Ashikari ³ (1.Istitute of Plant Science and Resources, Okayama University, 2.National Institute of Genetics, 3.Bioscience and Biotechnology Center, Nagoya University)

P25-A Exploration of sex-related regions from whole genome resequencing data in multiple *Morus alba* cultivars.

☆Shimizu, R. ¹, R. Atsumi ¹, H. Matsumura ² (1.Grad. Sch. Sci. Tech., Shinshu Univ, 2.Gene Res. Ctr., Shinshu Univ)

P26-B Effect of different heading dates on the grain quality for producing sake in the progeny derived from a cross between "Ishikawasake 68" and "Ishikawa 65".

○Takata, M. ¹, K. Kontani ², M. Nishikawa ², H. Takagi ², M. Sekine ², H. Hatanaka ¹ (1.Ishikawa Prefectural Agriculture And Forestry Research Center, 2.Ishikawa Prefectural University)

P27-C Association analysis between polymorphism of HvDRO1 and root growth angle in barley strains

☆Nakano, Y. ¹, J. Konishi ², H. Ito ², T. Tanaka ^{3,4}, M. Seki ¹, H. Aoki ¹, T. Nagamine ¹ (1.CARC, NARO, 2.Grad. Sch. Bioindust., Tokyo Univ. Agr., 3.Inst. Crop. Sci., NARO, 4.HQ, NARO)

P28-A Construction of high-density genetic map through GRAS-Di system in *Avena strigosa*

○Uwatoko, N., M. Katsura, A. Arakawa, T. Takai (Kyushu Okinawa Agricultural Research Center, NARO)

P29-B Sat-BSA: an NGS-based method for identifying novel genes underlying phenotypic variations among cultivars

☆Segawa, T. ¹, C. Nishiyama ¹, N. Makita ¹, M. Nishikawa ¹, T. Imamura ¹, M. Mori ¹, Y. Sugihara ², A. Abe ³, H. Takagi ¹ (1.Ishikawa Prefectural University, 2.Kyoto University, 3.Iwate Biotechnology Research Center)

P30-C Verification of the QTL for branching in the recombinant inbred lines from a cross between Japanese and modern US soybean varieties

○Fukuda, A. ¹, R. Okuno ², O. Uchikawa ², S. Morita ², D. Ogata ², T. Sugimoto ³, A. Hishinuma ⁴, S. Kato ⁴, T. Sayama ⁵, Y. Yokota ¹, T. Shimizu ¹, F. Taguchi-Shiobara ¹, E. Ogiso-Tanaka ^{1,6}, A. Kaga ¹, M. Hajika ¹, M. Ishimoto ¹ (1.NICS, 2.Fukuoka Agr. Forest Res. Cent., 3.Hyogo Pre. Tech. Cent. Arg. Forest. Fish., 4.TARC/NARO, 5.WARC/NARO, 6.CMBR/NMNS)

P31-A Nested association mapping using aus-derived population of rice

☆Kitony, J., V. Reyes, H. Sunohara, M. Tasaki, S. Nishiuchi, K. Doi (Graduate School of Bioagricultural Sciences, Nagoya University)

P32-B Development of the web-application enabling interactive visualization of the population structure data

Solovieva, E., ○H. Sakai (NARO)

P33-C Development and evaluation of Gn1a and WFP introgression lines in NERICA genetic background

☆Reyes, V. ^{1,3}, R. Shim ^{2,3}, H. Sunohara ¹, J. Kitony ¹, S. Nishiuchi ¹, K. Jena ³, M. Ashikari ², K. Doi ¹ (1.Graduate School of Bioagricultural Sciences, Nagoya University, 2.Bioscience and Biotechnology Center, Nagoya University, 3.International Rice Research Institute, Philippines)

P34-A 3D genome organization of Monosomic Alien Addition Lines of

☆Mayumi, A. ¹, A. Hosaka ¹, H. Yasui ², K. Nonomura ³, S. Matsunaga ⁴, T. Sakamoto ⁵, N. Takeda ¹, K. Yamaguchi ¹, H. Tsuji ¹ (1.Kihara Institute for Biological Research, Yokohama City University, 2.Faculty of Agriculture, Kyushu University, 3.National Institute of Genetics, 4.The University of Tokyo, 5.Tokyo University of Science)

P35-B Quantitative analysis of subunits composing heterotrimeric G protein complex in rice

○Kobayashi, Y., M. Ojima, Y. Yoshimura, G. Tyaya, K. Miura, Y. Iwasaki (Dept. Biosci., Fukui Pref. Univ.)

P36-C Functional analysis of the rice Cystatin 6.

☆Naya, E., C. Nishikata, R. Hatakeyama, K. Koyama, Y. Saitoh (Fac.agri.,iwate Univ.)

P37-A Identification of novel mutant alleles of wax-biosynthetic enzyme genes of barley

○Nakata, M. ¹, M. Taira ¹, M. Yanaka ¹, K. Nakamura ¹, M. Seki ², H. Aoki ², T. Nagamine ² (1.KARC, NARO, 2.CARC, NARO)

P38-B Analysis of rice white glume mutant

☆Ohmori, S., T. Mizubayashi, A. Shomura, U. Yamanouchi, S. Fukuoka (Institute of Crop Science, NARO)

P39-C Production of radish mutant populations by EMS treatment and the effect of EMS concentrations on mutation frequency

☆Hoshikawa, Y., A. Matsuo, N. Urago, A. Shimura, Y. Suyama, H. Kitashiba (Grad.Sch.Agric.,Univ.Tohoku)

P40-A PODC: an update of a database of plant omics and knowledge-based information

☆Endo, T. ¹, M. Kanno ¹, K. Hirata ¹, S. Tsuboko-Ishii ¹, K. Uruma ¹, A. Yan ¹, S. Koshimizu ¹, E. Yamamoto ², E. Nambara ³, H. Ohyanagi ^{1,4}, K. Yano ¹ (1.Dept. Life Sci., Sch. Agr., Meiji Univ., 2.Grad. Sch. Agr., Meiji Univ., 3.Dept. Cell Systems Biol., Univ. of Toronto, 4.King Abdullah Univ. Sci. & Technol.)

P41-B Effectiveness of cucurbit resistant genetic resources against diverse anthracnose (*Colletotrichum orbiculare*) strains distributed in Japan

☆Matsuo, H. ¹, Y. Yoshioka ² (1.Grad. Sch. Life & Env. Sci., Univ. Tsukuba, 2.Fac. Life Env. Sci., Univ. Tsukuba)

P42-C Evaluation of the resistance in wheat to *Japanese soil-borne wheat mosaic virus*

○Fujita, Y., M. Chono (Inst. Crop. Sci., NARO)

P43-A Evaluation of formation of a constitutive barrier to radial oxygen loss in *Oryza glumaepatula* IRGC105668 accession

☆Ejiri, M., K. Shiono (Grad. Sch. Biosci. & Biotech., Fukui Pref. Univ.)

P44-B Novel tolerance responses to UV-C in a hypomorphic *argonaute1* mutant, T-32 of *Arabidopsis*

○Watanabe, A., H. Ando, K. Ueda, K. Sakurai, H. Akagi (Fac. Bioresource Sci., Akita Pref. Univ.)

P45-C Ionomics analysis of leaves of Japanese rice cultivars grown in non-fertilized paddy field

☆Mori, T. ¹, K. Hasegawa ², M. Amano ¹, M. Saiki ³, S. Nishiuchi ², J. Murase ², T. Kamiya ³, T. Fujiwara ³, M. Matsuoka ⁴, H. Takahashi ², M. Nakazono ² (1.Faculty Agric., Nagoya Univ, 2.Grad. Sch. Bioagric. Sci., Nagoya Univ, 3.Grad. Sch. Agri. Life. Sci., Univ. Tokyo, 4.Bioscience and Biotechnology Center, Nagoya Univ)

P46-A Breeding of wheat white grain lines with different pre-harvest sprouting resistance.

○Ito, H., S. Ikenaga, A. Nakamaru, Y. Taniguchi, T. Takayama (Tohoku Agr. Res. Ctr., NARO)

P47-B Prediction modeling of the biomass of soybean mini core collection under controlled environment

○Tsuda, M. ¹, A. Kaga ², H. Iwata ³, Y. Ohmori ³, T. Fujiwara ³ (1.T-PIRC, U. of Tsukuba, 2.Res. Ctr. for Agr. Info. Tech., NARO, 3.Grad. Sch. Agr. Life Sci., Univ. Tokyo)

P48-C Characterization of molecular response to phosphorus deficiency in wild rice by an ion-gene co-expression analysis.

○Ohmori, Y., T. Fujiwara (Grad. Sch. of Agric. and Life Sci., Univ. of Tokyo)

P49-A Evaluation of multiplex lines of white potato cyst nematode resistance gene *GpaIV^S_{adg}* in potato.

○Shimosaka, E., K. Asano, I. Sakata, K. Akai, S. Okamoto, K. Katayama (Hokkaido Agri. Res. Cent., NARO)

P50-B An influence on yield by GE in a rice.

○ENDO, T., M. Kisara, Y. Ishimori (Miyagi Prefectural Furukawa Agricultural Experiment Station)

P51-C Possibility of soybean lines with many pod in drained paddy field with heavy clay soil in Hokuriku region

○Kono, Y. ¹, K. Takahashi ², Y. Takada ³ (1.Cent.Agr.Res.Cent.,NARO, 2.Inst.Crop.Sci.,NARO, 3.West.Agr.Res.Cent.,NARO)

P52-A Prediction of segregation in potato tuber flesh color

○Habe, I., Y. Sakamoto (Nagasaki Agri. and Fore. Tech. Dev. Ctr.)

P53-B A simple discrimination method to detect barley pink seed disease.

○Abe, D. ¹, T. Saito ¹, A. Kawaguchi ¹, K. Tomioka ¹, N. Kohyama ², A. Takahashi ², N. Ishikawa ¹, T. Yoshioka ¹, Y. Nogata ¹ (1.Western Region Agricultural Research Center, NARO, 2.Inst. Crop. Sci., NARO)

P54-C Cassava molecular breeding for high amylose starch

☆Utsumi, Y. ¹, M. Tanaka ¹, C. Utsumi ¹, S. Takahashi ¹, H. Tokunaga ¹, Y. Nakamura ^{2,3,4}, M. Seki ^{1,5,6} (1.RIKEN CSRS, 2.Akita Pref. Univ., F Biores. Sci., 3.Akita. Nat. Sci. Lab., 4.Starch Tech. Co., Ltd., 5.RIKEN CPR, 6.KIBR, Univ. Yokohama City)

P55-A Copy-number analysis of organelle genomes and *18S rDNA* in the hybrids between rice cultivars, Nipponbare and Kasalath, using real-time PCR

☆Takama, R. ¹, K. Ichitani ², T. Kuboyama ¹ (1.Col. Agr., Ibaraki U., 2.Fac. Agr., Kagoshima U.)

P56-B Functional analysis of *VIVIPAROUS 1* gene (*VP1*) in wild *Oryza* with deep seed dormancy

☆Shimizu-Sato, S. ¹, K. Ta ¹, Y. Yamagata ², I. Yoon ³, T. Hattori ⁴, Y. Sato ¹ (1.NIG, 2.Fac. Agr., Kyushu Univ., 3.The National Institute of Agricultural Sciences, Republic of Korea, 4.Grad. Sch. Bioagr. Sci., Nagoya Univ.)

P57-C Relationship between GABA content and seed dormancy of wheat

○Himi, E. (School of Agriculture, Kibi International University)

P58-A Allelic variation of *VRN-A3* locus in wild emmer wheat and its distribution in cultivated wheat species

☆Nishimura, K. ¹, N. Mori ², H. Handa ³, K. Kawaura ⁴, A. Kitajima ⁵, T. Nakazaki ¹
(1.Grad. Sch. Agr., Kyoto Univ., 2.Grad. Sch. Agr. Sci., Kobe Univ., 3.Grad. Sch. Life Env. Sci., Kyoto Pref. Univ., 4.KIBR, YCU, 5.KUAS)

P59-B Imaging of auxin and cytokinin signaling in the shoot apical meristem of rice

☆Sato, M. ¹, Y. Sakamoto ², S. Matsunaga ³, H. Tsuji ¹ (1.KIBR., Yokohama city Univ., 2.Dept. Biol. Sci., Grad. Sch. Sci., Osaka Univ., 3.Grad. Sch. Front. Sci., Tokyo Univ.)

P60-C Analysis of florigen intercellular transfer and concentration gradient formation by live imaging

☆Nakamura, J., M. Tanaka, H. Tsuji (Kihara Inst. Biol. Res., Yokohama City Univ.)

P61-A Analysis of rice shoot apical meristem and leaves growth trajectory

☆Yoshida, A. ¹, A. Hosaka ¹, A. Yoshida ^{1,2}, J. Ito ¹, H. Tsuji ¹ (1.Yokohama City University Kihara Institute for Biological Research(KIBR), 2.Tokyo University of Agriculture and Technology)

P62-B Developmental trajectory analysis of barley life cycle using field transcriptome data

☆Okada, S. ¹, D. Saisho ¹, A. Kanatani ^{1,2}, Y. Ikeda ¹, J. Ito ³, H. Tsuji ³, K. Inoue ², Y. Uehara ², M. Shimizu ², K. Mochida ^{1,2,3}, T. Hirayama ¹ (1.IPSR, Okayama Univ., 2.CSRS, RIKEN, 3.KIBR, Yokohama City Univ.)

P63-C Pseudo-time transition of barley life cycle in the field

○Saisho, D. ¹, S. Okada ¹, A. Kanatani ^{1,2}, Y. Ikeda ¹, J. Ito ³, H. Tsuji ³, K. Mochida ^{1,2,3}, T. Hirayama ¹ (1.IPSR, Okayama Univ., 2.CSRS, RIKEN, 3.KIBR, Yokohama City Univ.)

P64-A Search for genes responsible for hybrid necrosis between wild einkorn species

☆Noguchi, S. ¹, K. Yoshida ², S. Takumi ² (1.Fac. Agri., Kobe U., 2.Grad. Sch. Agri. Sci., Kobe U.)

P65-B Gene flow between Genetically Modified *Brassica napus* and feral *B. napus* on a riverbank around Yokkaichi port

☆Tsutsumi, H. ¹, E. Yanagi ¹, M. Oshima ², R. Ohsawa ², M. Tsuda ³ (1.Grad. Sch. Life & Env. Sci., Univ. Tsukuba, 2.Facul. Life & Env. Sci., Univ. Tsukuba, 3.T-PIRC, Univ. Tsukuba)

P66-C Induction of chromosome doubling strains of medicinal herb species in *Drosera*

☆Katogi, T. ¹, Y. Hoshi ², Y. Homan ² (1.Grad. Sch. Agri., Univ. Tokai, 2.Sch. Agri., Univ. Tokai)

P67-A Effect of Aluminium and gene expression during embryogenesis of tea plant (*Camellia sinensis*) .

○Furukawa, K. ¹, T. Ikka ², S. Inaba ¹, S. Taniguchi ¹ (1.National institute of technology, NUMAZU college, 2.Fac. Agr., Shizuoka Univ.)

P68-B Analysis of ultrastructure of cytoplasmic male sterile sugar beet with incompletely restoring *Rf1*

Itoh, K. ¹, ○K. Kitazaki ¹, N. Katsura ¹, H. Matsuhira ², Y. Kuroda ², T. Kubo ¹ (1.Res. Fac. Agr.,Hokkaido Univ., 2.NARO HARC)

P69-C Molecular evolutionary aspects of sugar beet *Rf1*

Arakawa, T. ^{1,2}, H. Kagami ¹, T. Katsuyama ¹, H. Sugaya ¹, Y. Kuroda ³, H. Matsuhira ³, K. Kitazaki ¹, ○T. Kubo ¹ (1.Res. Fac. Agr., Hokkaido Univ., 2.Gifu Pref. Res. Inst. Agr. Tech., 3.Hokkaido Agr. Res. Ctr., NARO)

P70-A Histological observation and identification of the causative gene on genic male sterility expressed in *Brassica rapa* ssp. *rapa* cv. 77B

☆Ozeki, M. ¹, K. Komatsu ², k. Tanaka ³, R. Ohtake ³, H. Masuko-Suzuki ⁴, Y. Takada ⁴, M. Watanabe ⁴, Y. Mitsui ^{1,2}, K. Wakui ^{1,2} (1.Grad. Agri. Dept. of Human and Animal-Plant Relationships, Tokyo Univ. of Agri., 2.Faculty of Agr. Dept. of Bioresource Dev., Tokyo Univ. of Agri., 3.NODAI Genome Res. Ctr., Tokyo Univ. of Agri., 4.Grad. Sch. Sci., Tohoku Univ.)
