

# Title of Papers Presented at the 130th Meeting of The JAPANESE SOCIETY Oral presentations

## Oral Presentations

**101** Sequence determination of mitochondrial genome of Boro-type cytoplasmic male sterile rice

○Kazama, T., K. Toriyama (Grad. Sch. Agri. Sci., Tohoku Univ.)

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**102** Evolutional and functional role of endogenous virus segments in the genomes of *Oryza* AA-genome species

☆Saito, N.<sup>1</sup>, S. Chen<sup>1</sup>, K. Yamada<sup>1</sup>, I. Choi<sup>2</sup>, J. R. Encabo<sup>2</sup>, Y. Koide<sup>1</sup>, Y. Kishima<sup>1</sup>  
(1.Res. Fac. Agr., Hokkaido Univ., 2.International Rice Research Institute)

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**103** Genome sequencing and annotation of ten wild *Vigna* species using PacBio RSII sequencer

○Sakai, H.<sup>1</sup>, K. Naito<sup>1</sup>, K. Sato<sup>2</sup>, K. Teruya<sup>2</sup>, E. Ogiso-Tanaka<sup>1</sup>, A. Kaga<sup>1</sup>, T. Shibata<sup>3</sup>, S. Shigenobu<sup>4</sup>, T. Nishiyama<sup>5</sup>, M. Hasebe<sup>4</sup>, T. Itoh<sup>1</sup>, T. Hirano<sup>2</sup>, N. Tomooka<sup>1</sup> (1.National Agriculture and Food Research Organization, 2.Okinawa Institute of Advanced Sciences, 3.Tohoku Medical Megabank Organization, 4.National Institute for Basic Biology, 5.Kanazawa University)

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**104** Comprehensive identification and analysis of heavy-ion beam-induced mutations by whole-genome and exome sequencing in rice

☆Ichida, H., R. Morita, Y. Shirakawa, Y. Hayashi, T. Abe (RIKEN Nishina Center)

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**105** Genetic analysis of agronomic traits in Rice Nested Association Mapping population

○Abe, A., H. Takagi, H. Yaegashi, A. Uemura, K. Oikawa, H. Utsushi, H. Kikuchi, Y. Ogasawara, M. Shimizu, R. Terauchi (Iwate Biotech. Res. Cent.)

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**106** Exploration of rhizome formation genes by QTL analysis with GBS

☆Furuta, T.<sup>1</sup>, K. Uehara<sup>1</sup>, H. Kondo<sup>1</sup>, S. Reuscher<sup>1</sup>, K. Doi<sup>2</sup>, M. Ashikari<sup>1</sup> (1.Biosci. and biotech. center, Nagoya University, 2.Graduate school of bioagricultural science, Nagoya University)

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**107** Validation of QTLs for seedling establishment at low temperature in rice

☆Iwata, N.<sup>1</sup>, T. Nishimura<sup>2</sup>, Y. Hirayama<sup>2</sup>, T. Sato<sup>2</sup>, A. Torada<sup>1</sup> (1.HOKUREN Agric. Res. Inst., 2.HRO/Kamikawa Agri.Exp.Sta.)

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**108** QTL analysis for chalky grain appearance of high temperature resistant cultivar 'Genkitsukushi'

○Miyahara, K.<sup>1</sup>, M. Ishibashi<sup>1</sup>, O. Yamaguchi<sup>1</sup>, M. Miyazaki<sup>2</sup>, M. Kondo<sup>3</sup>, S. Fukuoka<sup>4</sup> (1.Fukuoka Agric. Forest. Res. Cent., 2.Fukuoka Pref. Gover. Office, 3.Grad. Sch. of Bioagri., Nagoya Univ., 4.NICS)

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**109** Genetic Analysis of Growth Pattern and Yield Related Traits in Rice under Different Growing Season

☆Toda, Y.<sup>1</sup>, H. Wakatsuki<sup>2</sup>, K. Ebana<sup>3</sup>, M. Yamasaki<sup>4</sup>, H. Kanegae<sup>1</sup>, T. Hayashi<sup>5</sup>, H. Nakagawa<sup>2</sup>, T. Hasegawa<sup>2</sup>, H. Iwata<sup>1</sup> (1.Grad. Sch. Agr. Life Sci., U. Tokyo, 2.NIAES, 3.NIAS, 4.Food Resources Education and Research Ctr., Grad. Sch. Agric. Sci., Kobe U., 5.NICS)

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**110** Fine mapping of the earliness gene of the wheat breeding line "Chogokuwase" located on the long arm of 3B chromosome

☆Masuda, H.<sup>1</sup>, G. Numanul Haque<sup>1</sup>, H. Yamashita<sup>1</sup>, H. Nishida<sup>1</sup>, N. Mizuno<sup>2</sup>, M. Fujita<sup>3</sup>, S. Nasuda<sup>2</sup>, K. Kato<sup>1</sup> (1.Grad. Sch. Environ. Life Sci., Okayama U., 2.Grad. Sch. Agr., Kyoto U., 3.NICS)

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**111** Effect of the heading-time gene *HvCEN* in Japanese barley varieties

○Nishida, H.<sup>1</sup>, E. Aoki<sup>2</sup>, K. Kato<sup>1</sup> (1.Grad. Sch. Environ. Life Sci., Okayama U., 2.NICS)

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**112** Identification of genes on a midget chromosome derived from rye using RNA-seq

○Murata, M., K. Sato (IPSR, Okayama Univ.)

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**113** Isolation and functional analysis of seed dormancy QTL *Qsd1* in barley

○Sato, K.<sup>1</sup>, K. Takeda<sup>2</sup>, T. Matsumoto<sup>2</sup>, T. Komatsuda<sup>2</sup> (1.IPSR, Okayama Univ., 2.Inst. Crop Sci., NARO)

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**114** Wheat water-saving drought tolerance affected by enhancement of ABA signaling pathway

☆Mega, R.<sup>1</sup>, F. Abe<sup>2</sup>, J. Kim<sup>6</sup>, K. Tanaka<sup>4</sup>, H. Kobayashi<sup>4</sup>, Y. Sakata<sup>5</sup>, H. Tsujimoto<sup>1</sup>, K. Hanada<sup>3</sup>, M. Okamoto<sup>1,7</sup> (1.ALRC, Tottori Univ., 2.NARO inst. Crop Sci., 3.Frontier Res. Acad. for Young Researchers, Kyushu Inst. Tech., 4.NODAI Genome Res. Center, 5.Applied Biosci., Tokyo Univ. of Agriculture, 6.PRESTO, JST, 7.CSRS, RIKEN)

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**115** Genome wide association study of grain yield and related traits in MSD population under heat stress environments

☆Elbashir, A.<sup>1,3</sup>, Y. Gorafi<sup>2,3</sup>, J. Kim<sup>2,4</sup>, I. Tahir<sup>3</sup>, A. Elhashimi<sup>3</sup>, M. Abdeldaim<sup>3</sup> (1.Graduated School of Agricultural Sciences, Tottori University, 2.Arid Land Research Center, Tottori University, Japan, 3.Agricultural Research Corporation, Wad Medani, Sudan, 4.Center for Sustainable Resource Science, RIKEN, Japan)

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**116** Genetical mapping of a gametocidal gene *Gc2-4S<sup>sh</sup>* in common wheat

☆Yoshioka, M.<sup>1</sup>, N. Mizuno<sup>1</sup>, N. Sakai<sup>1</sup>, B. Friebel<sup>2</sup>, S. Nasuda<sup>1</sup> (1.Grad. Sch. Agr., Univ. Kyoto, 2.Wheat Genetics Resource Center, Kansas State University)

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**117** Genetic analysis of a novel locus controlling the cuticular wax production in wild wheat progenitor *Aegilops tauschii*

☆Nishijima, R.<sup>1</sup>, C. Tanaka<sup>2</sup>, K. Yoshida<sup>3</sup>, S. Takumi<sup>1</sup> (1.Grad. Sch. Agr. Sci., Kobe Univ., 2.Kobe Univ. Second. Sch., 3.Org. Adv. Sci. Tech., Kobe Univ.)

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**201** GWAS and QTL analysis of anthocyanin pigmentation in sorghum

☆Shichijo, M.<sup>1</sup>, H. Takanashi<sup>1,2</sup>, Y. Sano<sup>1</sup>, M. Fujimoto<sup>1,2</sup>, H. Kanegae<sup>1</sup>, M. Kobayashi<sup>2,3</sup>, K. Yano<sup>2,3</sup>, T. Koshiba<sup>2,4</sup>, T. Tokunaga<sup>2,4</sup>, H. Iwata<sup>1,2</sup>, W. Sakamoto<sup>5</sup>, N. Tsutsumi<sup>1,2</sup> (1.Grad. Sch. Agric. Life Sci., Univ. Tokyo, 2.JST, CREST, 3.Sch. Agric., Meiji Univ., 4.Earth Note, Co. Ltd, 5.Inst. Plant Sci. Res., Okayama Univ.)

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**202** QTL analysis of panicle traits in *Sorghum bicolor*

☆Sano, Y.<sup>1</sup>, M. Fujimoto<sup>1,2</sup>, H. Takanashi<sup>1,2</sup>, H. Kanegae<sup>1,2</sup>, M. Kobayashi<sup>2,3</sup>, K. Yano<sup>2,3</sup>, T. Koshiba<sup>2,4</sup>, T. Tokunaga<sup>2,4</sup>, H. Iwata<sup>1,2</sup>, M. Kusaba<sup>2,5</sup>, W. Sakamoto<sup>2,6</sup>, N. Tsutsumi<sup>1,2</sup>

(1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.JST, CREST, 3.Fac. Agr., Meiji Univ., 4.Earth Note Co. Ltd., 5.Grad. Sch. Sci., Hiroshima Univ., 6.Inst. Plant Sic. Res., Okayama Univ.)

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## **203** QTL analysis of the stay-green trait using a sorghum RIL population

☆Wahinya, F.<sup>1</sup>, R. Hijiya<sup>1</sup>, H. Kanegae<sup>2</sup>, H. Takanashi<sup>2</sup>, M. Fujimoto<sup>2</sup>, M. Ishimori<sup>2</sup>, M. Kobayashi<sup>4</sup>, K. Yano<sup>4</sup>, N. Oonishi<sup>1</sup>, H. Iwata<sup>2</sup>, M. Kusaba<sup>3</sup>, N. Tsutsumi<sup>2</sup>, W. Sakamoto<sup>1</sup> (1.Institute of Plant Science and Resources, Okayama University, 2.Graduate School of Agricultural and Life Sciences, The University of Tokyo, 3.Graduate School of Science, Hiroshima University, 4.Faculty of Agriculture, Meiji University)

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## **204** Positional cloning of leaf color gene (P/tan) in sorghum bicolor

○Kawahigashi, H.<sup>1</sup>, S. Kasuga<sup>2</sup>, J. Yonemaru<sup>1</sup>, T. Ando<sup>1</sup>, H. Kanamori<sup>1</sup>, J. Wu<sup>1</sup>, H. Mizuno<sup>1</sup>, M. Monma<sup>1</sup>, Z. Fujimoto<sup>3</sup>, T. Matsumoto<sup>1</sup> (1.NICS, 2.Shinshu University, 3.Advanced Analysis center, NARO)

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## **205** Construction of a genotyping pipeline for segregating populations and its application to QTL mapping and genomic selection

☆Kajiya-Kanegae, H.<sup>1,2</sup>, T. Takashi<sup>2,3</sup>, H. Takanashi<sup>1,2</sup>, M. Fujimoto<sup>1,2</sup>, M. Ishimori<sup>1,2</sup>, K. Yamazaki<sup>1,2</sup>, T. Koshiba<sup>2,3</sup>, M. Kobayashi<sup>2,4</sup>, A. Nagano<sup>2,5</sup>, K. Yano<sup>2,4</sup>, T. Sazuka<sup>2,6</sup>, T. Fujiwara<sup>1,2</sup>, T. Tokunaga<sup>2,3</sup>, N. Tsutsumi<sup>1,2</sup>, H. Iwata<sup>1,2</sup> (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.CREST, JST, 3.EARTHNOTE Co., Ltd., 4.Sch. Agr., Meiji Univ., 5.Fac. Agr., Ryukoku Univ., 6.Biosci. Biotech. Cent., Nagoya Univ.)

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## **206** Mapping of QTLs associated with awn length in sorghum recombinant inbred lines

☆Takanashi, H.<sup>1,2</sup>, H. Kanegae<sup>1</sup>, M. Ishimori<sup>1</sup>, M. Kobayashi<sup>2,3</sup>, K. Yano<sup>2,3</sup>, R. Hijiya<sup>4</sup>, N. Ohnishi<sup>4</sup>, W. Fiona<sup>4</sup>, H. Iwata<sup>1,2</sup>, N. Tsutsumi<sup>1,2</sup> (1.Grad. Sch. Agric. Life Sci., Univ. Tokyo, 2.JST, CREST, 3.Sch. Agric., Meiji Univ., 4.Inst. Plant Sci. Res., Okayama Univ.)

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## **207** Prediction of biomass in F1 generation in *Sorghum* using genome-wide markers

☆Ishimori, M.<sup>1</sup>, K. Yamazaki<sup>1</sup>, H. Kajiya-Kanegae<sup>1,2</sup>, H. Takanashi<sup>1,2</sup>, M. Fujimoto<sup>1,2</sup>, T. Koshiba<sup>2,3</sup>, M. Kobayashi<sup>2,4</sup>, K. Yano<sup>2,4</sup>, T. Tokunaga<sup>2,3</sup>, N. Tsutsumi<sup>1,2</sup>, T. Fujiwara<sup>1</sup>, H. Iwata<sup>1,2</sup> (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.CREST, JST, 3.EARTHNOTE Co., Ltd., 4.Fac. Agr., Meiji Univ.)

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## **208** Identification of genomic region regulating heading date in foxtail millet (*Setaria italica*) by using QTL-seq

☆Yoshitsu, Y.<sup>1</sup>, M. Takakusaki<sup>2</sup>, H. Takagi<sup>3</sup>, A. Abe<sup>4</sup>, R. Terauchi<sup>4</sup>, K. Hatakeyama<sup>1</sup>, Y. Takahata<sup>1</sup> (1.Fac. Agri., Iwate Univ, 2.Iwate Agric. Res. Ctr., Kenpoku Agr. Inst, 3.Ishikawa Pref. Univ, 4.Iwate Biotech. Res. Center)

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**209** Analysis of the mitochondrial transcripts from a male-sterile onion

☆Tsujimura, M.<sup>1</sup>, H. Izumotani<sup>2</sup>, M. Shigyo<sup>3</sup>, K. Kaminoyama<sup>4</sup>, T. Sakamoto<sup>4</sup>, S. Kimura<sup>4</sup>, T. Terachi<sup>4</sup> (1.Kyoto Sangyo U. Plant Organelle Genomics R.C., 2.Grad. Sch. Life sci., Kyoto Sangyo U., 3.Fac. Agr., Yamaguchi U., 4.Fac. Life Sci., Kyoto Sangyo U.)

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**210** Development of sensitive SNP-detection techniques for effective selection of mutants

○Kitashiba, H.<sup>1</sup>, K. Koitabashi<sup>1</sup>, R. Kohata<sup>2</sup>, T. Nishio<sup>1</sup> (1.Grad. Sch. Agri. Sci., Tohoku Univ., 2.Fac. Agri., Tohoku Univ.)

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**211** New marker technology, GRAS, using next generation sequencer

○Enoki, H.<sup>1</sup>, M. Mori<sup>1</sup>, M. Tanaka<sup>2</sup>, Y. Tarumoto<sup>3</sup> (1.Toyota Motor Corporation, Biotechnology & Afforestation Laboratory, 2.NARO, Central Region Agricultural Research Center, 3.NARO, Kyushu Okinawa Agricultural Research Center)

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**212** Mapping of novel soybean flowering time gene with NGS technique

○Watanabe, S.<sup>1</sup>, C. Tsukamoto<sup>1</sup>, T. Yamada<sup>2</sup>, A. Kaga<sup>3</sup>, T. Anai<sup>1</sup> (1.Fac. Agr., Univ. Saga, 2.Grad. Sch. Agr., Univ. Hokkaido, 3.NIAS)

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**213** Gene regulatory network in E1-FT2a/FT5a mediated flowering pathway of soybean

☆Takeshima, R.<sup>1</sup>, J. Zhu<sup>1</sup>, S. Watanabe<sup>2</sup>, F. Kong<sup>3</sup>, T. Yamada<sup>1</sup>, J. Abe<sup>1</sup> (1.Grad. Sch. Agric., Hokkaido U., 2.Fac. Agr., Saga U., 3.Northeast Institute of Geography and Agroecology, China)

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**214** Development and the future issues of rice “Genome Mixer” as a tool to be allogamous during the breeding process

○Tanaka, J.<sup>1</sup>, M. Akasaka<sup>1</sup>, Y. Taniguchi<sup>2</sup>, M. Oshima<sup>2</sup>, Y. Tabei<sup>2</sup> (1.NICS, 2.NIAS)

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**215** Genome sequence analysis in strawberry by DenovoMAGIC

Hirakawa, H.<sup>1</sup>, K. Shirasawa<sup>1</sup>, H. Nagasaki<sup>1</sup>, S. Nagano<sup>1</sup>, F. Maeda<sup>2</sup>, ○S. Isobe<sup>1</sup>  
(1.Kazusa DNA Research Institute, 2.Chiba Pref. Agri. For. Res. Center)

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**216** Detection of haplotype blocks using genome wide polymorphism in Japanese pears

○Tanaka, T.<sup>1,2</sup>, R. Onuki<sup>2</sup>, S. Terakami<sup>3</sup>, N. Urasaki<sup>4</sup>, K. Tarora<sup>4</sup>, S. Goeku<sup>4</sup>, M. Shoda<sup>4</sup>, T. Yamamoto<sup>3</sup>, T. Itoh<sup>2</sup> (1.NICS, 2.NAAC, 3.NIFTTS, 4.Okinawa Prefectural Agricultural Research Center)

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**217** A high-density SNP genetic map in autohexaploid sweetpotato ( $2n=6x=90$ )

○Shirasawa, K.<sup>1</sup>, M. Tanaka<sup>2</sup>, Y. Takahata<sup>2</sup>, D. Ma<sup>3</sup>, Q. Cao<sup>3</sup>, Q. Liu<sup>4</sup>, H. Zhai<sup>4</sup>, S. Kwak<sup>5</sup>, J. Jeong<sup>5</sup>, U. Yoon<sup>6</sup>, H. Hirakawa<sup>1</sup>, S. Isobe<sup>1</sup> (1.KDRI, 2.NARO KARC, 3.CAAS, 4.CAU, 5.KRIBB, 6.RDA)

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**218** QTL analysis for number of fruiting bodies and weight per mushroom in the wood-log cultivation of *Lentinula edodes* using RAD sequencing

○Terashima, K.<sup>1</sup>, A. Maeda<sup>2</sup>, A. Sasaki<sup>1</sup>, A. Nagano<sup>3</sup>, K. Hasebe<sup>1</sup> (1.Tottori Mycological institute, 2.Tottori Prefecture, 3.Faculty of Agriculture, Ryukoku University)

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**301** Genome adaptation of flowering-time genes during propagation of rice cultivation area

○Itoh, H.<sup>1</sup>, K. Wada<sup>1</sup>, K. Shibasaki<sup>1</sup>, H. Sakai<sup>1</sup>, S. Fukuoka<sup>1</sup>, J. Wu<sup>1</sup>, J. Yonemaru<sup>1</sup>, M. Yano<sup>1</sup>, T. Izawa<sup>2</sup> (1.NARO, Institute of Crop Science, 2.University of Tokyo, Faculty of Agriculture)

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**302** Two evolutionary pathways of awnlessness in rice

☆Uehara, K.<sup>1</sup>, W. Diane<sup>2</sup>, T. Furuta<sup>1</sup>, A. Minami<sup>1</sup>, K. Nagai<sup>1</sup>, K. Asano<sup>1</sup>, K. Miura<sup>3</sup>, Y. Shimizu<sup>1</sup>, M. Ayano<sup>1</sup>, K. Doi<sup>1</sup>, N. Komeda<sup>1</sup>, G. Anthony<sup>2</sup>, J. Wu<sup>5</sup>, H. Yasui<sup>4</sup>, A. Yoshimura<sup>4</sup>, M. Susan R.<sup>2</sup>, M. Ashikari<sup>1</sup> (1.Bioscience and Biotechnology center, 2.Cornell University, 3.Fukui Prefectural University, 4.Kyushu University, 5.NIAS)

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**303** Investigation of novel loci involved in the loss of seed shattering using backcross population between *Oryza rufipogon* and *O. sativa* Indica Kasalath

☆Oka, Y., Y. Takenaka, N. Takama, C. Inoue, T. Htun, Y. Tsujimura, T. Ishii, R. Ishikawa (Grad. Sch. Agr. Sci., Kobe Univ.)

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**304** Diversity of pistil *S* gene orthologs in Poaceae

○Kakeda, K., T. Hiramatsu, M. Murakami (Fac. Bioresour., Mie Univ.)

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**305** Molecular genetic characterization of a lax spike mutant (*lax-a*) that causes homeotic changes of lodicules to anthers in barley

○Taketa, S.<sup>1</sup>, M. Jost<sup>2</sup>, T. Yuo<sup>1</sup>, N. Stein<sup>2</sup> (1.IPSR, Okayama University, 2.IPK, Gatersleben, Germany)

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**306** Effects of *Aegilops mutica* cytoplasm on the expression of flowering promoter gene *VRN1* in bread wheat

Komada, Y., M. Matsumura, ○K. Murai (Dep. Biosci., Fukui Pref. Univ.)

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**307** Alteration of expression patterns in homoeologous genes of the class B MADS-box gene are controlled by epigenetic regulation in bread wheat

☆Kuwabara, T.<sup>1</sup>, K. Umekita<sup>1</sup>, K. Nagaki<sup>2</sup>, M. Murata<sup>2</sup>, K. Murai<sup>1</sup> (1.Dep. Biosci., Fukui Pref. Univ., 2.IPSR, Okayama Univ.)

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**308** Identification and expression analysis of a gene for trithorax-group in bread wheat

☆Umekita, K.<sup>1</sup>, K. Nagaki<sup>2</sup>, M. Murata<sup>2</sup>, K. Murai<sup>1</sup> (1.Dep. Biosci., Fukui Pref. Univ., 2.IPSR, Okayama Univ.)

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**309** Analysis of rice mutants showing abnormal embryonic organs

☆Korehisa, R., J. Ito, K. Hibara (Grad. Sch. Agric. Life Sci., U. Tokyo)

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**310** Histochemical analysis of internode elongation in rice

☆Oosato, M.<sup>1</sup>, K. Nagai<sup>2</sup>, M. Ashikari<sup>2</sup> (1.Gra. Sch. Bio. Sci. Uni. Nagoya, 2.Biosci. Biotech. Cen. Uni. Nagoya)

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**311** Early flowering mutant X61 regains its photoperiod sensitivity by harboring the late flowering time mutant gene, *ef7*

○Saito, H.<sup>1</sup>, A. Siddika<sup>1</sup>, K. Mustafa<sup>1</sup>, Y. Yoshitake<sup>1</sup>, T. Yokoo<sup>1</sup>, E. Fushimi<sup>3</sup>, T. Tsukiyama<sup>4</sup>, M. Teraishi<sup>1</sup>, Y. Okumoto<sup>1</sup> (1.Grad. Sch. Agri., Kyoto Univ., 2.Dep. Agri. Region. Reclama., Kibi Int. Univ., 3.NARO Institute for Agro-Environmental Sciences, 4.Fac. Agr., Kindai Univ.)

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**312** Genetic analyses of mutants related to the elongation of sterile lemma and rudimentary glume in rice spikelet

☆Koyasaki, K., Y. Nara, M. Kodani, I. Takamure, Y. Kishima (Res. Fac. Agr., Hokkaido. U.)

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**313** Analysis of two opposite lemma (*tol*) mutant that shows defects in organ arrangement in rice spikelet

☆Sugiyama, S.<sup>1</sup>, W. Tanaka<sup>1</sup>, T. Toriba<sup>1</sup>, T. Sakamoto<sup>2</sup>, T. Kurata<sup>3</sup>, H. Hirano<sup>1</sup> (1.Sch. Sci., Univ. Tokyo, 2.Grad. Sch. Life Sci., Kyoto Sangyo Univ, 3.Grad. Sch. Life Sci., Tohoku Univ)

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**314** QTL cloning of qSOR1, controlling root growth angle in rice

☆Kitomi, Y.<sup>1,2</sup>, E. Hanzawa<sup>3</sup>, S. Kawai<sup>1</sup>, N. Kanno<sup>1</sup>, H. Fujisawa<sup>1</sup>, H. Kanamori<sup>1</sup>, J. Wu<sup>1</sup>, T. Sato<sup>3</sup>, Y. Uga<sup>1</sup> (1.Institute of Crop Science, NARO, 2.Grad. Sch. Agric. Life Sci., U. Tokyo, 3.Grad. Sch. Agr. Sci., Tohoku U.)

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**315** Expression analysis of *LOG* homologs in rice

☆Yokota, J., K. Hibara, J. Itoh (Grad. Sch. Agric. Life Sci., U. Tokyo)

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**316** Analysis of the gene responsible for the enhancement of the phenotype of *fon2-3* mutation

☆Yasui, Y.<sup>1</sup>, W. Tanaka<sup>1</sup>, T. Sakamoto<sup>2</sup>, T. Kurata<sup>3</sup>, H. Hirano<sup>1</sup> (1.Sch. Sci., Univ. Tokyo, 2.Fac. Life Sci., Kyoto Sangyo Univ., 3.Grad. Sch. Life Sci., Tohoku Univ.)

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**401** Point mutation of centromere specific histonH3 CENH3 impairs loading to centromeres and induce haploid plants

☆Ishii, T.<sup>1</sup>, R. Karimi-Ashtiyani<sup>1</sup>, M. Niessen<sup>2</sup>, N. Stein<sup>1</sup>, S. Heckmann<sup>1</sup>, M. Gurushidze<sup>1</sup>, A. Banaei-Moghaddam<sup>1</sup>, J. Fuchs<sup>1</sup>, V. Schubert<sup>1</sup>, K. Koch<sup>2</sup>, O. Weiss<sup>1</sup>, D. Demidov<sup>1</sup>, K. Schmidt<sup>2</sup>, J. Kumlehn<sup>1</sup>, A. Houben<sup>1</sup> (1.Leibniz Inst., Plant Genetics and Crop Plant Research (IPK), 2.KWS SAAT SE)

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**402** The method for generating transformation amenable barley lines

○Hisano, H.<sup>1</sup>, H. Ando<sup>1</sup>, Y. Motoi<sup>1</sup>, P. Hayes<sup>2</sup>, K. Sato<sup>1</sup> (1.IPSR, Okayama Univ., 2.Oregon State Univ.)

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**403** Gene expression profiling of intraspecific hybrids with growth abnormalities between tetraploid wheat and wild wheat relative *Aegilops umbellulata*

☆Okada, M.<sup>1</sup>, K. Yoshida<sup>2</sup>, S. Takumi<sup>1</sup> (1.Grad. Sch. Agr. Sci., Kobe Univ., 2.Org. Adv. Sci. Tech., Kobe Univ.)

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**404** Accumulation of insoluble proteins is involved in lethality expressed in hybrid tobacco cells (*Nicotiana suaveolens* x *N. tabacum*)

☆Ueno, N.<sup>1</sup>, W. Marubashi<sup>2</sup>, M. Kanekatsu<sup>1</sup>, T. Yamada<sup>1</sup> (1.United Grad. Sch. Agr., Tokyo U. Agr. Tec., 2.Fac. Agr., Meiji U.)

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**405** Production of somatic hybrids between leaf mustard and CMS cabbage

○Yamagishi, H.<sup>1</sup>, F. Sakiyama<sup>1</sup>, J. Kanayama<sup>2</sup>, M. Jikuya<sup>2</sup> (1.Fac. Life Sci., Kyoto Sangyo U., 2.Grad. Sch. Life Sci., Kyoto Sangyo U.)

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**406** Triparental interspecific hybridization by ovule culture and embryo rescue in Sweetpea

○Morimoto, Y., Y. Mori (Okayama Pref Res Inst Agriculture)

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**407** Collection of radish S haplotypes for development of the international standards

Haseyama, Y.<sup>1</sup>, E. Tonouchi<sup>1</sup>, S. Okamoto<sup>2</sup>, K. Sakamoto<sup>2</sup>, H. Kitashiba<sup>1</sup>, ○T. Nishio<sup>1</sup> (1.Tohoku University, Graduate School of Agricultural Science, 2.Takii Seed Co., Ltd)

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**408** Identification of the genes located at the S locus of *Linum grandiflorum*, a heterostylous flax

○Ushijima, K.<sup>1</sup>, T. Akagi<sup>2</sup>, K. Ikeda<sup>3</sup>, Y. Shichijo<sup>4</sup>, K. Shimada<sup>4</sup>, R. Nakano<sup>1</sup>, Y. Kubo<sup>1</sup> (1.Grad. Sch. Env. Life Sci., Okayama Univ., 2.Grad. Sch. Agr., Kyoto Univ., 3.Fac. Agr., Yamagata Univ., 4.Fac. Agr., Okayama Univ.)

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**409** Transcriptome analysis of buckwheat stamens to identify the genes involved in heteromorphic self-incompatibility

○Aii, J.<sup>1</sup>, T. Ota<sup>2</sup>, Y. Yasui<sup>3</sup>, M. Mori<sup>4</sup>, S. Sato<sup>1</sup>, A. Tamaki<sup>1</sup>, A. Nakano<sup>1</sup>, C. Campbell<sup>5</sup>, M. Nagano<sup>5</sup>, H. Tanaka<sup>1</sup> (1.NUPALS, 2.Dep. Evol. Stud. Biosys., Grad. Univ, 3.Grad. Sch. Agr., Kyoto Univ, 4.Res. Inst. Bioresour. Biotech., Ishikawa Pref. Univ, 5.Canadian Buckwheat International)

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**410** A new technique to contribute agricultural application by the new phenomenon, pollen tube dependent ovule enlargement without fertilization

☆Honma, Y.<sup>1</sup>, R. Kasahara<sup>1,2</sup> (1.Institute of Transformative Bio-Molecules, Nagoya University, 2.PRESTO, JST)

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**411** DNA marker-assisted genetic analysis of the center of origin in a biofuel plant, *Jatropha curcas* L.

☆Li, H.<sup>1</sup>, S. Tsuchimoto<sup>2</sup>, K. Harada<sup>2</sup>, M. Yamasaki<sup>3</sup>, H. Sakai<sup>2</sup>, N. Wada<sup>2</sup>, A. Alipour<sup>1</sup>, T. Sasai<sup>1</sup>, A. Tsunekawa<sup>4</sup>, H. Tsujimoto<sup>4</sup>, T. Ando<sup>5</sup>, H. Tomemori<sup>4</sup>, S. Sato<sup>6</sup>, H. Hirakawa<sup>7</sup>, V. Pecina Quintero<sup>8</sup>, A. Zamarripa<sup>9</sup>, P. Santos<sup>10</sup>, A. Hegazy<sup>11</sup>, A. Ali<sup>12</sup>, K. Fukui<sup>13</sup> (1.Department of Biotechnology, Graduate School of Engineering, Osaka University, 2.Plant Bioengineering for Bioenergy Laboratory, Graduate School of Engineering, Osaka University, 3.Kobe Food Resources Education and Research Center, Graduate School of Agricultural Science, Kobe University, 4.Arid Land Research Center, Tottori University, 5.The Center for International Affairs, Tottori University, 6.Graduate School of Life Sciences, Tohoku University, 7.Kazusa DNA Research Institute, 8.INIFAP-Campo Experimental Bajío, Carr. Mexico, 9.INIFAP-Campo Experimental Rosario Izapa, Mexico, 10.University of the Philippines Los Baños, Philippines, 11.University of Sadat City, Egypt, 12.University of Khartoum, Sudan, 13.Graduate School of Pharmaceutical Science, Osaka University)

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**412** Phylogenetic and diversity analyses of wild *Carthamus* genetic resources collected in Caucasia and Kyrgyz

○Sasanuma, T.<sup>1</sup>, M. Kodera<sup>1</sup>, T. Smekalova<sup>2</sup>, O. Kovaleva<sup>2</sup> (1.Fac. Agr., Yamagata Univ., 2.VIR)

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**413** Studies on lateral root development and root skewing in *Arabidopsis thaliana*

☆Dudhate, A.<sup>1,2</sup>, H. Shinde<sup>1,2</sup>, D. Tsugama<sup>3</sup>, S. Liu<sup>4</sup>, T. Takano<sup>1,2</sup> (1.ANESC., Univ. Tokyo, 2.Grad. Sch. Agric. Life Sci., Univ. Tokyo, 3.Res. Fac. Agri., Univ. Hokkaido, 4.Northeast Forestry, Univ. China)

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**414** Screening of candidate potato genetic resources for resistance to white potato cyst nematode

☆Asano, K.<sup>1</sup>, Y. Yamashita<sup>2</sup>, E. Shimosaka<sup>1</sup>, S. Tamiya<sup>1</sup> (1.NARO Hokkaido Agr. Res. Cent., 2.Central Agri. Exp. Stn, HRO)

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**415** Breeding of a new waxy six-rowed barley cultivars “White Fiber” with high beta-glucan content

○Uehara, Y.<sup>1</sup>, H. Maejima<sup>1</sup>, S. Yoshida<sup>2</sup>, K. Yagasaki<sup>3</sup>, T. Ushiyama<sup>2</sup>, S. Hosono<sup>1</sup>, M. Kubota<sup>2</sup>, N. Sakai<sup>1</sup>, H. Tabuchi<sup>1</sup>, K. Goto<sup>4</sup>, N. Nakazawa<sup>2</sup>, T. Taniguchi<sup>3</sup>, T. Arai<sup>2</sup>, N. Takahashi<sup>2</sup>, K. Nakamura<sup>5</sup> (1.Nagano Agr.Exp.Stn., 2.Nagano Agr.Exp.Stn.ret., 3.Nagano Vegetable and Ornamental Crops Exp. Stn., 4.Nagano Animal Industry Exp. Stn., 5.NARO/KARC)

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**416** Possibility of controlling gene linkage in rice by a novel mutation

○Tran, D.<sup>1</sup>, D. Tran<sup>2</sup> (1.Hiroshima University, 2.Agricultural Genetics Institute, Vietnam)

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**417** Diversity of melon fruit and seed cultivated in Western and Southern Yunnan, China

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

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**418** Genetic studies on Bambuseae species in Japan. XL. Morphological aspect of the intergeneric hybrids, especially on the variation between the plants

○Muramatsu, M. (\*)

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**501** Application of Breath Adapter Directional sequencing (BrAD-Seq) for wheat

○Yoshida, K.<sup>1,2</sup>, N. Mizoo<sup>1</sup>, Y. Ichihashi<sup>2,3</sup>, A. Uemura<sup>4</sup>, S. Takumi<sup>5</sup> (1.Org. Adv. Sci. Tech, Kobe Univ., 2.JST, PRESTO, 3.Riken, CSRS, 4.IBRC, 5.Grad. Sch. Agr. Sci., Kobe Univ.)

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**502** DDM1 mediated epigenetic regulation is involved in heterosis in *Arabidopsis thaliana*

☆Ishikura, S.<sup>1</sup>, N. Miyaji<sup>1</sup>, E. Itabashi<sup>1</sup>, S. Takada<sup>1</sup>, S. Takahashi<sup>2</sup>, M. Shimizu<sup>3</sup>, T. Yasuda-Takasaki<sup>1</sup>, M. Seki<sup>2</sup>, R. Fujimoto<sup>1</sup> (1.Grad. Sch. Agri., Univ. Kobe, 2.Riken Center for Sustainable Resource Science, 3.Iwate Biotechnology Research Center Department of Genomic & Breeding)

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**503** Increased expression of soybean retrotransposon *SORE-1* in reproductive organs

☆Nakashima, K., M. Tsuchiya, J. Abe, A. Kanazawa (Grad. Sch. Agr., Hokkaido Univ.)

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**504** Study on the role of inositol pyrophosphates in ABA responses

☆Kairo, Y., G. Hayakawa, H. Takanashi, K. Yoshida (Grad. Sch. Agri., Univ. Tokyo)

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**505** Changes in the small RNA production and cytosine methylation status of the chalcone synthase genes during the epigenetic reversion of cosuppression in petunia

☆Fukumoto, S.<sup>1</sup>, M. Kasai<sup>1</sup>, A. Taneda<sup>2</sup>, A. Kanazawa<sup>1</sup> (1.Res. Fac. Agr., Hokkaido Univ., 2.Grad. Sch. Sci. Technol., Hirosaki Univ.)

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**506** Methylome analysis in Chinese cabbage

☆Fukushima, N.<sup>1</sup>, S. Takahashi<sup>2</sup>, E. Itabashi<sup>1</sup>, M. Shimizu<sup>3</sup>, T. Yasuda<sup>1</sup>, Y. Suzuki<sup>4</sup>, M. Seki<sup>2</sup>, R. Fujimoto<sup>1</sup> (1.Grad. Sch. Agri., Univ. Kobe, 2.RIKEN Center for Sustainable Resource Science, 3.Iwate Biotechnology Research Center, 4.Grad. Sch. Frontier Sci., Univ. Tokyo)

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**507** The role of *FRIGIDA* and *FLOWERING LOCUS C* in determining of flowering time in *Brassica rapa* L.

☆Takada, S., E. Itabashi, N. Miyaji, T. Takasaki-Yasuda (Graduate School of Agricultural Science, Kobe University)

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**508** Development of gene expression indicator for elucidating nutrition physiology of rice under field conditions

○Sato, Y., H. Takehisa (Institute of Crop Science, NARO)

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**509** Analysis of nutritional and developmental status in rice under field conditions using gene expression indicators

☆Takehisa, H., Y. Sato (Institute of Crop Science, NARO)

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**510** Whole transcriptome sequencing in Japanese pear (*Pyrus pyrifolia*)

☆Kobayashi, M.<sup>1</sup>, Y. Nakamura<sup>1</sup>, C. Nishitani<sup>2</sup>, K. Yokoyama<sup>1</sup>, H. Ohyanagi<sup>1,3</sup>, T. Yamamoto<sup>2</sup>, K. Yano<sup>1</sup> (1.Dept. Life Sci., Sch. Agr., Meiji Univ., 2.Inst. Fruit Tree and Tea Sci., NARO (NIFTS), 3.Comput. Biosci. RC. (CBRC), King Abdullah Univ. Sci. Tech. (KAUST))

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**511** An Integrative Tomato Database TOMATOMICS: Current Updates

☆Kudo, T.<sup>1</sup>, M. Katayama<sup>1</sup>, S. Terashima<sup>1</sup>, M. Kobayashi<sup>1</sup>, M. Saito<sup>1</sup>, M. Kanno<sup>1</sup>, S. Asano<sup>1</sup>, K. Aoki<sup>2</sup>, K. Yano<sup>1</sup> (1.Sch. Agri., Meiji Univ., 2.Grad. Sch. Life Sci., Osaka Pref. Univ.)

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**512** Design of low-density marker set for cost-effective genomic selection in tomato

○Yamamoto, E., A. Ohyama, H. Matsunaga, K. Miyatake, H. Yamaguchi, T. Nunome (NIVFS)

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**513** Accuracy evaluation of genomic selection about cultivation experimental data of sorghum in Mexico and Fukushima

☆Hattori, T.<sup>1</sup>, M. Ishimori<sup>1</sup>, H. Kajiya-Kanegae<sup>1</sup>, H. Takanashi<sup>1,2</sup>, M. Fujimoto<sup>1,2</sup>, M. Minamikawa<sup>1</sup>, T. Koshiba<sup>2,3</sup>, M. Kobayashi<sup>2,4</sup>, A. Nagano<sup>5</sup>, K. Yano<sup>2,4</sup>, T. Tokunaga<sup>2,3</sup>, N. Tsutsumi<sup>1,2</sup>, H. Iwata<sup>1,2</sup> (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.CREST, JST, 3.Earth Note Co., Ltd., 4.Fac. Agr., Meiji Univ., 5.Fac. Agr., Ryukoku Univ.)

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**514** Genomic prediction models based on multiple kernel learning considering heterogeneity of relationship matrices among genomic regions

○Iwata, H.<sup>1,2,3</sup>, M. Ishimori<sup>1</sup>, A. Eltayeb<sup>3</sup>, H. Kajiya-Kanegae<sup>1,2</sup>, H. Takanashi<sup>1,2</sup>, M. Fujimoto<sup>1,2</sup>, T. Hattori<sup>1</sup>, M. Minamikawa<sup>1</sup>, J. Yoneda<sup>2,4</sup>, T. Koshiba<sup>2,4</sup>, A. Nagano<sup>5</sup>, M. Kobayashi<sup>2,6</sup>, K. Yano<sup>2,6</sup>, T. Sazuka<sup>2,7</sup>, T. Tokunaga<sup>2,4</sup>, N. Tsutsumi<sup>1,2</sup> (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.CREST, JST, 3.ALRC, Tottori Univ., 4.EARTHNOTE Co., 5.Fac. Agr., Ryukoku Univ., 6.Fac. Agr., Meiji Univ., 7.Biosci. Biotech. Cent., Nagoya Univ.)

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**515** Monitoring of soybean growth in early stage based on point cloud data

☆Noshita, K.<sup>1</sup>, W. Guo<sup>1</sup>, A. Kaga<sup>2</sup>, H. Iwata<sup>1</sup> (1.Grad. Sch. Agr. Life Sci., 2.NGRC)

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**516** Screening strategy for detecting mutations using NGS

○Ikawa, H.<sup>1</sup>, Y. Sato<sup>2</sup>, K. Kamatsuki<sup>1</sup>, K. Shimbori<sup>1</sup>, N. Namiki<sup>1</sup>, T. Kumamaru<sup>3</sup>, Y. Nagamura<sup>2</sup>, K. Sugimoto<sup>2</sup> (1.Genome Informatics Dept., Tsukuba Div., Mitsubishi Space Software Co.,Ltd., 2.Institute of Crop Science, NARO, 3.Faculty of Agriculture, Kyushu Univ.)

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**517** CATchUP : a web database for spatiotemporally restricted expression patterns in genes

☆Nakamura, Y., T. Kudo, S. Terashima, M. Saito, N. Matsuda, M. Kanno, S. Asano, K. Yano (Sch. of Agri., Meiji Univ.)

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## 518 How to use drones and image analysis in breeding fields?

☆Guo, W.<sup>1</sup>, B. Zheng<sup>2</sup>, K. Watanabe<sup>1</sup>, H. Iwata<sup>1</sup>, S. Chapman<sup>2</sup>, S. Ninomiya<sup>1</sup>  
(1.Graduate School of Agriculture and Life Sciences, The University of Tokyo, 2.CSIRO Agriculture)

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## 601 Identification of quantitative trait loci controlling zinc concentration in seed using Australian wild rice, *Oryza meridionalis*

☆Taniko, K.<sup>1</sup>, M. Iwata<sup>1</sup>, G. Monden<sup>1</sup>, O. Chhourn<sup>1</sup>, S. Yoshida<sup>1</sup>, T. Ishii<sup>1</sup>, J. Ma<sup>2</sup>, R. Ishikawa<sup>1</sup> (1.Grad. Sch. Agr. Sci., Kobe Univ., 2.IPSR, Okayama Univ.)

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## 602 Effects of ripening temperature on chain-length distributions of amylopectins in rice

☆Machida, Y., A. Kobayashi, K. Tomita (Fukui Agr. Exp. Stn.)

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## 603 Genome wide association study for texture properties of cooked rice of Japanese rice cultivars

○Wada, T.<sup>1</sup>, M. Yamasaki<sup>2</sup>, O. Ideta<sup>3</sup>, T. Inoue<sup>4</sup>, M. Tsubone<sup>1</sup>, K. Miyahara<sup>1</sup>, M. Miyazaki<sup>5</sup> (1.Fukuoka Agricultural and Forestry Research Center, 2.Food Resources Education and Research Ctr, Grad. Sch. Agric. Sci., Kobe U., 3.WARC, NARO, 4.Keichiku Ext. Cent., 5.Fukuoka Pref. Office)

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## 604 Fine mapping of causative gene related to green seed coat in soybean

☆Tokumitsu, Y.<sup>1</sup>, M. Tsuchida<sup>1</sup>, M. Kusaba<sup>2</sup>, J. Abe<sup>1</sup>, T. Yamada<sup>1</sup> (1.Grad. Sch. Agr., Univ. Hokkaido, 2.Grad. Sch. Sci., Univ. Hiroshima)

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## 605 Studies on effects of indeterminate growth habit on seed weight in soybean

☆Kato, S.<sup>1</sup>, T. Sayama<sup>2</sup>, M. Ishimoto<sup>2</sup>, T. Nishio<sup>3</sup>, S. Shimamura<sup>1</sup>, K. Hirata<sup>1</sup>, A. Kikuchi<sup>1</sup> (1.Tohoku Agricultural Research Center, NARO, 2.Institute of Crop Sciences, NARO, 3.Grad. Sch. Agric. Sci., Tohoku Univ.)

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## 606 Application of machine learning for the establishment of multistep composite genomic selection in autogamous crops

○Yonemaru, J.<sup>1</sup>, K. Matsubara<sup>1</sup>, D. Ogawa<sup>1</sup>, H. Maeda<sup>2</sup>, R. Mizobuchi<sup>1</sup>, E. Yamamoto<sup>3</sup>, H. Tsunematsu<sup>1</sup>, N. Kobayashi<sup>1</sup>, H. Kato<sup>1</sup>, M. Yano<sup>1</sup>, T. Yamamoto<sup>1</sup>, T. Ishii<sup>1</sup> (1.NARO, Institute of Crop Science, 2.NARO, Central Region Agricultural Research Center, 3.NARO, Institute of Vegetable and Floriculture Science)

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**607** Variation of nicotine content in tea core collection

☆Yamashita, H.<sup>1</sup>, I. Kurita<sup>1</sup>, T. Ikka<sup>1</sup>, A. Ogino<sup>2</sup>, K. Furukawa<sup>3</sup>, A. Morita<sup>1</sup> (1.Grad. Sch. Agr., Shizuoka Univ., 2.NIFTS, 3.Dep. Chem. Bio., Nat. Inst. Tec., Numazu Col.)

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**608** QTL and transcriptome analysis of primed-seed longevity

☆Sano, N., M. Seo (RIKEN CSRS)

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**609** For identification of genetic regions involved in hybrid vigor in *Arabidopsis thaliana*

☆Miyaji, N., S. Ishikura, S. Takada, E. Itabashi, T. Takasaki-Yasuda, R. Fujimoto (Grad. Sch. Agr., Univ. Kobe)

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**610** Reaction of resistance genes of monogenic lines to blast pathogen in wild rice collected from Mekong Delta of Viet Nam

☆Pham, T. (Hiroshima university IDEC)

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**612** Effect of Salt on Growth of Rice Landraces in Vietnam

☆La, H.<sup>1</sup>, D. Tran<sup>1</sup>, T. La<sup>2</sup>, D. Tran<sup>3</sup> (1.Hiroshima University-IDEC, 2.Plant Genetic Resource, 3.Agricultural Genetics Institute)

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**613** QTLs analysis for resistance to the whitebacked planthopper, *Sogatella furcifera*, in the rice cultivar 'ARC10239' using genotyping-by-sequencing approach

☆Oshiro, S.<sup>1</sup>, Y. Yamagata<sup>1</sup>, M. Matsumura<sup>2</sup>, K. Doi<sup>3</sup>, H. Sunohara<sup>3</sup>, M. Tasaki<sup>3</sup>, A. Yoshimura<sup>1</sup>, H. Yasui<sup>1</sup> (1.Faculty of Agriculture, Graduate School of Kyushu University, 2.NARO Kyushu Okinawa Agricultural Research Center, 3.Graduate School of Bioagricultural Sciences, Nagoya University)

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**614** Major QTLs inherited from 'Koihonoka' and the application to rice breeding in Tohoku area

○Ishikawa, R.<sup>1</sup>, Y. Kawamura<sup>2</sup>, K. Maeda<sup>2</sup>, S. Ohmori<sup>3</sup>, H. Tabuchi<sup>4</sup>, M. Koie<sup>1</sup>, K. Tanaka<sup>5</sup> (1.Fac. of Agri. and Life Sci., Hirosaki Univ., 2.Agr.Res.Inst.,Aomori Pref. Indust.

Tech. Res. Cent., 3.NARO, 4.Kyushu Okinawa Agric. Res. Center, NARO, 5.Fac. of Hum. and Social Sci.,Hirosaki Univ.)

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### **615 Diagnostic SNP marker of resistance QTLs for Cercospora leaf spot in sugar beet**

○Taguchi, K., K. Okazaki, Y. Kuroda (NARO, Hokkaido Agric. Res. Cent.)

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### **616 Screening of resistant cultivars of *Brassica rapa* for identification of resistance genes to *Albugo candida***

☆Nishimoto, R., N. Miyaji, H. Koma, R. Fujimoto, Y. Tosa, I. Chuma (Graduate School of Faculty of Agriculture Kobe University)

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### **617 Development of water stress evaluation in soybean seed germination using acoustic emission wave**

○Teraishi, M., T. Kondo, M. Nishida, H. Watanabe, Y. Fujii, Y. Okumoto (Graduate School of Agriculture, Kyoto University)

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## **Poster presentations**

### **P001 Selection strategy considering segregation of genetic ability in genomic selection**

☆Tanaka, R.<sup>1</sup>, S. Yabe<sup>2</sup>, H. Iwata<sup>1</sup> (1.Grad. Sch. Agric. Life Sci., Univ.Tokyo, 2.Institute of Crop Science, NARO)

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### **P002 Outcross tests using recombinant rice plants with male sterility in a near-natural environment-type closed greenhouse**

☆Akasaka, M.<sup>1</sup>, Y. Taniguchi<sup>2</sup>, K. Abe<sup>2</sup>, M. Oshima<sup>2</sup>, Y. Tabei<sup>2</sup>, J. Tanaka<sup>1</sup> (1.NICS, 2.NIAS)

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### **P003 Construction of prediction models of genomic breeding values using RILs derived from a cross of F<sub>1</sub> hybrids of tomato and evaluation of accuracy of the models**

○Ohyama, A.<sup>1</sup>, H. Matsunaga<sup>1</sup>, E. Yamamoto<sup>1</sup>, K. Miyatake<sup>1</sup>, H. Yamaguchi<sup>1</sup>, T. Nunome<sup>1</sup>, H. Fukuoka<sup>2</sup>, T. Hayashi<sup>3</sup> (1.Institute of Vegetable and Floriculture Science, NARO, 2.NARO Institute of Vegetable and Tea Science (Present address: Takii & Co., Ltd), 3.Institute of Crop Science, NARO)

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### **P004 Genomic selection for brewing traits in dioecious hop (*Humulus lupulus L.*)**

☆Shibamura, M.<sup>1</sup>, M. Uemoto<sup>1</sup>, M. Kihara<sup>1</sup>, N. Suda<sup>1</sup>, K. Oogushi<sup>1</sup>, H. Iwata<sup>2</sup> (1.BRDD, Sapporo Brew. Ltd., 2.Grad.Sch.Agric.Life.Sci., U.Tokyo)

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**P005** Utilizing of image analysis system “ImageJ” for resistance assay of rot of the seed potato by controlling of soil conditions

☆Sakamoto, Y.<sup>1</sup>, K. Mori<sup>2</sup>, W. Watanabe<sup>3</sup>, Y. Matsuo<sup>1</sup>, T. Ozaki<sup>2</sup>, T. Nakao<sup>4</sup>, M. Chaya<sup>1</sup> (1.Nagasaki Agricultural and Forestry Technical Development Center, 2.Nagasaki Agriculture & Forestry Department, 3.Nagasaki Goto Development Bureau, 4.NARO Hokkaido Agricultural Research Center)

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**P006** Selection for barley lines with high roasted barley tea quality by Brix scale

○Taira, M.<sup>1</sup>, E. Aoki<sup>2</sup>, T. Yanagisawa<sup>2</sup> (1.Kyushu Okinawa Agricultural Research Center, NARO., 2.Institute of Crop Science, NARO.)

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**P007** Iso-Seq analysis of leaf transcriptome of rice

○Kawahara, Y.<sup>1</sup>, N. Tanabe<sup>1</sup>, T. Izawa<sup>2</sup> (1.Institute of Crop Science, NARO, 2.Grad. Sch. Agr. Life Sci., Univ. Tokyo)

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**P008** Change of allelic combination among flowering related loci affects seed yield and oil content in soybean

☆Sayama, T.<sup>1</sup>, A. Kaga<sup>2</sup>, S. Watanabe<sup>1,3</sup>, S. Kato<sup>4</sup>, M. Takahashi<sup>5</sup>, M. Ishimoto<sup>1</sup> (1.NICS, NARO, 2.GRC, NARO, 3.Fac. Agric., Saga U., 4.TARC, NARO, 5.KARC, NARO)

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**P009** Sequence analysis of P-type H<sup>+</sup> ATPase in Phalaenopsis orchid

☆Ito, M., Y. Takahara (Nagaoka University of Technology)

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**P010** Efforts to phenotyping of rice panicle traits by non-destructive conditioning

○Hobo, T.<sup>1</sup>, S. Ota<sup>2</sup>, A. Agata<sup>2</sup> (1.Biosci. Biotech. Ctr., Nagoya U., 2.Grad. Sch. Bioagr. Sci., Nagoya U.)

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**P011** Quantification of soybean seed morphology by using image analysis

☆Sakamoto, R.<sup>1</sup>, A. Kaga<sup>2</sup>, H. Iwata<sup>1</sup> (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.NGRC)

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**P012** Genotype by environment interaction analysis in soybean using historical data

○Onogi, A.<sup>1,2</sup>, H. Iwata<sup>2</sup>, S. Ninomiya<sup>2</sup> (1.JST PRESTO, 2.Grad. Sch. Agric. Life Sci., Univ. Tokyo)

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**P013** Study of novel science communication method which combines the craft and short presentations for genetically modified foods

○Shimura, S.<sup>1</sup>, T. Ishikawa<sup>1</sup>, M. Yamazaki<sup>1</sup>, N. Komoto<sup>1</sup>, M. Ono<sup>2</sup>, Y. Tabei<sup>1</sup> (1.Section of Biotech Research Promotion and Public Affairs, NIAS, 2.Gene Research Center, Univ. Tsukuba)

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**P014** Development of late bolting F<sub>1</sub> hybrids of Chinese cabbage (*Brassica rapa* L.) which realize early spring cultivation without heating

☆Kitamoto, N.<sup>1</sup>, K. Nishikawa<sup>2</sup>, T. Matsuura<sup>3</sup>, H. Tsukazaki<sup>4</sup>, M. Honjo<sup>4</sup>, K. Hatakeyama<sup>1</sup>, Y. Takahata<sup>1</sup>, S. Yui<sup>4</sup> (1.Faculty of Agri., U. Iwate, 2.Sakata seed Corporation, 3.Iwate Agri. Res. Center, 4.NARO)

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**P015** Development of a New Rice Variety "Tohoku 210" with Low Amylose Content and Good Eating Quality

○Nakagomi, Y.<sup>1</sup>, T. Endo<sup>1</sup>, K. Nagano<sup>1</sup>, K. Sasaki<sup>2</sup>, B. Chiba<sup>2</sup>, K. Wagatsuma<sup>3</sup>, H. Hayasaka<sup>2</sup>, K. Saeki<sup>3</sup>, H. Sato<sup>1</sup>, M. Sakai<sup>2</sup> (1.Miyagi Pref. Furukawa Agric. Exp. Stn., 2.Miyagi Pref. Regional Promotion Office, 3.Miyagi Pref. Office)

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**P016** Development and evaluation of near isogenic lines with a blast resistance gene *Pi39* in the rice cultivar "Tsuyahime" genetic background

○Abe, Y.<sup>1</sup>, H. Goto<sup>2</sup>, M. Moriya<sup>2</sup>, M. Chuba<sup>1</sup>, T. Homma<sup>1</sup>, T. Suzuki<sup>1</sup>, K. Watanabe<sup>1</sup>, K. Hori<sup>3</sup> (1.Rice Breeding and Crop Sci. Exp. Stn., Yamagata Integrated Agr.Res.Cent., 2.Yamagata Integrated Agr.Res.Cent., 3.Institute of Crop Science NARO)

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**P017** Development and agronomic traits of near isogenic lines of Hitomebore with cold tolerance and blast resistance

○Endo, T.<sup>1</sup>, K. Saeki<sup>2</sup>, H. Sato<sup>1</sup>, Y. Nakagomi<sup>1</sup> (1.Miyagi Pref. Furukawa Agric. Exp. Stn., 2.Miyagi Pref. Office)

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**P018** Breeding of a new durum wheat variety "Seto Dure" for pasta making

○Takata, K.<sup>1</sup>, M. Yanaka<sup>1</sup>, N. Ishikawa<sup>1</sup>, W. Funatsuki<sup>1</sup>, T. Nagamine<sup>2</sup> (1.NARO/WARC, 2.NARO/ARC)

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**P019** Hokkai 324, a rice high-yielding and low amylose content variety in Hokkaido

○Yasuda, H.<sup>1</sup>, R. Kaji<sup>1</sup>, T. Umemoto<sup>2</sup>, H. Shimizu<sup>1</sup>, S. Matsuba<sup>1</sup>, N. Yokogami<sup>3</sup>, M. Kuroki<sup>2</sup>, T. Ikegaya<sup>1</sup> (1.NARO Hokkaido Agricultural Research Center, 2.NARO Institute Crop Science, 3.NARO Tohoku Agricultural Research Center)

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**P020** Breeding of a rice high-yielding strain "Hokkai327" for cold district

☆Ikegaya, T.<sup>1</sup>, R. Kaji<sup>1</sup>, T. Umemoto<sup>1,2</sup>, H. Shimizu<sup>1</sup>, S. Matsuba<sup>1</sup>, H. Yasuda<sup>1</sup>, N. Yokogami<sup>1,3</sup>, M. Kuroki<sup>1,2</sup> (1.NARO Hokkaido Agr Res Cent, 2.NARO Ins of Crop Sci, 3.NARO Tohoku Agr Res Cent)

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**P021** Breeding of the high sesamin and sesamolin sesame variety "Nishikimaru"

○Kato, M.<sup>1</sup>, N. Ogata<sup>1</sup>, M. Katsuta<sup>2</sup>, T. Yamada<sup>1</sup>, M. Sugiura<sup>3</sup>, S. Yasumoto<sup>4</sup> (1.NARO Institute of Crop Science, 2.NARO Hokkaido Agricultural Research Center, 3.NARO Western Region Agricultural Research Center, 4.NARO Central Region Agricultural Research Center)

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**P022** Breeding of barley lines for whole crop silage with various morphological characteristics

○Tonooka, T.<sup>1</sup>, T. Sugita<sup>1</sup>, M. Taira<sup>1</sup>, H. Araki<sup>1,2</sup>, N. Kawada<sup>1,3</sup> (1.NARO Kyushu Okinawa Agric. Res. Cent., 2.NARO Research Fellow, 3.Kyoto Gakuen Univ.)

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**P023** Will the rule for introducing genetic resources be changed? -Negotiation for further functioning of the ITPGRFA-

○Yamamoto, A. (Genetic Resources Center, NARO)

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**P024** Male sterile wild rice adapted to the Mekong delta

☆Dinh, L.<sup>1</sup>, K. Igarashi<sup>2</sup>, K. Toriyama<sup>2</sup>, I. Nakamura<sup>3</sup>, S. Makabe<sup>3</sup>, N. Tamura<sup>1</sup>, L. Nguyen<sup>4</sup>, B. Bui<sup>5</sup>, R. Ishikawa<sup>1</sup> (1.Fac. of Agri. and Life Sci., Hirosaki Univ., 2.Grad. Sch. Agri. Sci, Univ. Tohoku, 3.Grad. Sch. Hort. Chiba U., 4.Cuu Long Delta Rice Research Institute, Omon, Cantho, Viet Nam, 5.Institute of Agriculture, Southern Viet Nam, Viet Nam)

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**P025** Genetic variation of rice germplasm in north Laos based on polymorphism data of DNA markers

○Fukuta, Y.<sup>1</sup>, C. Muto<sup>2</sup>, K. Ebana<sup>2</sup>, K. Kawano<sup>3</sup>, V. Bounphanousay<sup>4</sup>, C. Bounphanousay<sup>4</sup>, K. Kanyavong<sup>4</sup>, P. Inthapanaya<sup>4</sup>, C. Bualaphanh<sup>4</sup>, T. Sato<sup>5</sup>, R. Ishikawa<sup>6</sup>, Y. Sato<sup>7</sup>, S. Yanagihara<sup>1</sup> (1.TARF, JIRCAS, 2.GRC, NARO, 3.NapouMinizokuBunka, 4.NAFRI, Lao, 5.Tohoku University, 6.Hirosaki University, 7.NIH)

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**P026** Genetic variation of days to heading in rice germplasm from northern Laos

○Muto, C.<sup>1</sup>, K. Ebana<sup>1</sup>, K. Kawano<sup>2</sup>, V. Bounohanousay<sup>3</sup>, C. Bounohanousay<sup>3</sup>, K. Kanyavong<sup>3</sup>, P. Inthapanaya<sup>3</sup>, C. Bualaphanh<sup>3</sup>, T. Sato<sup>4</sup>, R. Ishikawa<sup>5</sup>, Y. Sato<sup>6</sup>, S. Yanagihara<sup>7</sup>, Y. Fukuta<sup>7</sup> (1.Genet. Res. Cent., NARO, 2.Inst. South. Cult. Folkl. Stud., 3.NAFRI, LaoPDR, 4.Grad.Sch.Agr., Tohoku Univ., 5.Fac. Agri. Life Sci. Hirosaki Univ., 6.Natl. Inst. Humanities, 7.TARF, JIRCAS)

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**P027** Evaluation of Scab and Bacterial canker resistance in genetic resources of Japanese apricot

☆Numaguchi, K.<sup>1,2</sup>, Y. Kitamura<sup>1,3</sup>, Y. Tsuchida<sup>1</sup>, Y. Naka<sup>1</sup>, R. Ishikawa<sup>2</sup>, T. Ishii<sup>2</sup> (1.Japanese Apricot Lab., Wakayama Pref., 2.Grad. Sch. Agr. Sci., Kobe Univ., 3.Grad. Sch. Agr., Kyoto Univ.)

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**P028** Free amino acid measurement of brown rice in wild rice introgression lines

☆Ohmori, Y., T. Fijiwara (Dept. of Appl. Biol. Chem., Grad. Sch. of Agric. Life Sci., Univ. of Tokyo)

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**P029** Diversity of Phosphorus Accumulation and Distribution in Seedlings of World Rice Core Collection

☆Fukuda, T.<sup>2</sup>, M. Shiozaki<sup>1</sup>, M. Umeda<sup>1</sup>, K. Sasaki<sup>1</sup>, N. Aoki<sup>1</sup>, K. Yoshida<sup>1</sup> (1.Grad. Sch. Agric. Life Sci., Univ. Tokyo, 2.Fac. Agric., Univ. Tokyo)

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**P030** Evaluation of phosphorus concentration in seeds of World Rice Core Collection

☆Shiozaki, M.<sup>1</sup>, T. Fukuda<sup>2</sup>, M. Umeda<sup>1</sup>, K. Sasaki<sup>1</sup>, N. Aoki<sup>1</sup>, K. Yoshida<sup>1</sup> (1.Grad.Sch.Agric.Life Sci.,Univ.Tokyo, 2.Fac.Agric.,Univ.Tokyo)

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**P031** Difference in the inoculation effects and number of colonizing biofertilizer bacteria *Bacillus pumilus* TUAT1 strain in rice cultivars 'Ginbozu' and 'Aikoku'

☆Saito, K.<sup>1</sup>, S. Higuma<sup>2</sup>, M. Kanekatsu<sup>2</sup>, T. Yamada<sup>2</sup>, T. Yokoyama<sup>2</sup> (1.Fac. Agr., Tokyo U. Agr. Tech., 2.Grad. Sch. Agr., Tokyo U. Agr. Tech.)

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**P032** Exploration of the gene polymorphism and variance of antigen-antibody reactivity in Fag e 2, a buckwheat major allergen

☆Yamauchi, M.<sup>1</sup>, T. Hara<sup>1</sup>, R. Satoh<sup>3</sup>, H. Mukai<sup>2</sup>, R. Ohsawa<sup>1</sup> (1.Grad. Sch. Life & Env. Sci., Univ. Tsukuba, 2.Sch. Life & Env. Sci., Univ. Tsukuba, 3.Div. of Food Function Res., Food Res. Inst., NARO)

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**P033** Genetic diversity analysis and core collection formation in rapeseed genetic resources in Japan

☆Chen, R.<sup>1</sup>, T. Hara<sup>2</sup>, R. Ohsawa<sup>2</sup>, Y. Yoshioka<sup>2</sup> (1.Grad. Sch. Life & Envi. Sci., Univ. Tsukuba, 2.Facul. Life & Envi. Sci., Univ. Tsukuba)

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**P034** The complete mitochondrial genome sequences of Chinese cabbage and Mizuna (*Brassica rapa*)

☆Hatono, S.<sup>1</sup>, M. Tsujimura<sup>2</sup>, H. Yamagishi<sup>3</sup> (1.Grad. Sch. Life Sci., Kyoto Sangyo U., 2.Kyoto Sangyo U. Plant Organelle Genomics R. C., 3.Fac. Life Sci., Kyoto Sangyo U.)

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**P035** Polymorphism analysis of PolA1 gene in Japanese melon cultivars

☆Sato, M.<sup>1</sup>, D. Ogawa<sup>2</sup>, S. Makabe<sup>3</sup>, I. Nakamura<sup>3</sup> (1.Fac. Hort., Chiba U., 2.Inst. Hort. Plant Breed., 3.Grad. Sch. Hort., Chiba U.)

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**P036** Classification of *Citrus* germplasm coserved in the Citrus Germplasm Arboretum of Kindai Univ. using a retrotransposon *CIRE1* as a marker

○Horibata, A., T. Kato (Fac. of BOST, Kindai Univ.)

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**P037** Genetic relationship within seaberry *Hippophae rhamnoides* L. cultivars revealed by RAPD analysis

Yokota, Y.<sup>1</sup>, Y. Kawai<sup>2</sup>, R. Kikuchi<sup>1</sup>, K. Kondo<sup>3</sup>, ○N. Asakura<sup>1</sup> (1.Fac. Engin., Kanagawa Univ., 2.Fac. Agr., Tokyo Univ. of Agriculture, 3.The Research Institute of Evolutionary Biology)

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**P038** Genetic diversity analysis of melon germplasm collection using GBS

Pervin, M.<sup>1</sup>, ☆G. Shigita<sup>1</sup>, H. Nishida<sup>1</sup>, Y. Monden<sup>1</sup>, M. Sugiyama<sup>2</sup>, K. Tanaka<sup>3</sup>, K. Kato<sup>1</sup> (1.Grad. Sch. Environ. Life Sci., Okayama U., 2.NIVFS, 3.Fac. Humanit., Hirosaki U.)

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**P039** Assessment of genetic variability among melon accessions collected from Central Coastal Vietnam by morphological characters and molecular markers

☆Duong, T.<sup>1</sup>, P. Tran<sup>1</sup>, K. Tanaka<sup>2</sup>, N. Pervin<sup>1</sup>, H. Nishida<sup>1</sup>, K. Kato<sup>1</sup> (1.Grad. Sch. Environ. Life Sci., Okayama U., 2.Fac. Humanit., Hirosaki U.)

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**P040** Phylogenetic analysis of eight lines of *Nicotiana suaveolens* using AFLP and SSR markers

☆He, H., T. Morikawa, S. Yokoi, T. Tezuka (Grad. Sch. Life Envi. Sci., Osaka Pref. U.)

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**P041** A split-SaCas9 is available for a targeted mutagenesis in plant cells

☆Kaya, H.<sup>1</sup>, K. Ishibashi<sup>2</sup>, S. Toki<sup>1,3,4</sup> (1.Plant Genome Engineering Research Unit, NARO, 2.Plant and Microbial Research Unit, NARO, 3.Graduate School of Nanobioscience, Yokohama City University, 4.Kihara Institute for Biological Research, Yokohama City University)

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**P042** Optimization of mutation induction by heavy-ion beam irradiation in rice with seed water content change

○Hayashi, Y.<sup>1</sup>, R. Morita<sup>1</sup>, K. Ichinose<sup>1</sup>, S. Usuda<sup>1</sup>, Y. Shirakawa<sup>1</sup>, H. Tokairin<sup>1</sup>, T. Sato<sup>2</sup>, T. Abe<sup>1</sup> (1.Nishina Cent., Riken, 2.Grad. Sch. Agri. Sci., Tohoku Univ.)

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**P043** Endogenous post-transcriptional gene silencing of *GmSACPD* in high-stearic-acid soybean mutant induced by X-ray irradiation

☆Iijima, N.<sup>1</sup>, M. Hata<sup>1</sup>, A. Watanabe<sup>1</sup>, K. Takiguchi<sup>1</sup>, C. Kamimura<sup>1</sup>, T. Kawakami<sup>1</sup>, T. Anai<sup>2</sup>, T. Hoshino<sup>1</sup> (1.Fac. Agr., Yamagata Univ., 2.Fac. Agr., Saga Univ.)

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**P044** Toward the generation of carotenoid accumulating rice via genome editing

☆Endo, A.<sup>1</sup>, S. Toki<sup>1,2,3</sup> (1.Plant Genome Engineering Research Unit, NARO, 2.Graduate School of Nanobioscience, Yokohama City University, 3.Kihara Institute for Biological Research, Yokohama City University)

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**P045** Identification of mutations induced by heavy-ion beam irradiation in rice

○Morita, R.<sup>1</sup>, H. Ichida<sup>1</sup>, Y. Shirakawa<sup>1</sup>, Y. Hayashi<sup>1</sup>, S. Usuda<sup>1</sup>, K. Ichinose<sup>1</sup>, H. Tokairin<sup>1</sup>, T. Sato<sup>1,2</sup>, T. Abe<sup>1</sup> (1.RIKEN, Nishina Cent., 2.Grad. Sch. Agric. Sci., U. Tohoku)

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**P046** High level of DNA methylation detected in hybrid tobacco seedlings (*Nicotiana suaveolens* x *N. tabacum*) overcoming lethality

Nishimura, M.<sup>1</sup>, ☆H. Yamashita<sup>1</sup>, D. Nagashima<sup>1</sup>, W. Marubashi<sup>2</sup>, M. Kanekatsu<sup>1</sup>, T. Yamada<sup>1</sup> (1.Grad. Sch. Agr., Tokyo U. Agr. Tech., 2.Fac. Agr., Meiji U.)

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**P047** Studies on the variegated tobacco plants appeared in the chloroplast transformation experiment. IV. Construction of a new chloroplast transformation vector

☆Uemura, K., M. Hayashi, T. Terachi (Fac. Life Sci., Kyoto Sangyo U.)

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**P048** Characterization of a transplastomic lettuce containing a ferritin gene from soybean

☆Abe, K.<sup>1</sup>, E. Inoue<sup>2</sup>, K. Uemura<sup>3</sup>, T. Terachi<sup>3</sup> (1.Grad. Sch. Life Sci., Kyoto Sangyo U., 2.Grad. Sch. Eng. Kyoto Sangyo U, 3.Fac. Lifescences Kyoto Kyoto Sangyo U)

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**P049** The functional analysis of apomixis-specific genes - Analysis of non-graining ear in the whole plant within ASG-1 transgenic rice -

○Chen, L.<sup>1,2</sup>, D. Toyomoto<sup>2</sup>, T. Sugita<sup>3</sup>, T. Hamaguchi<sup>4</sup>, R. Okabe<sup>4</sup>, H. Ichikawa<sup>5</sup>, S. Toki<sup>5</sup> (1.Fac. Envir. Hort. Sci., Minami Kyushu U., 2.Grad. Sch. Hort. Food Sci., Minami Kyushu U., 3.Miyazkai Pref. Agri. Exprer. Sta., 4.Miyazaki Pref. Office, 5.NIAS)

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**P050** Genetic analysis of progenies with genome edited FAD2 gene in *Brassica napus*

○Okuzaki, A., C. Koizuka, K. Kaneko, M. Inaba, J. Imamura, N. Koizuka (Tamagawa Univ.)

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**P051** Risk assessment of transgenic silkworms and their test rearing as Type 1 Use of the Cartagena Act

○Komoto, N.<sup>1</sup>, M. Tsuda<sup>2</sup>, E. Okada<sup>1</sup>, T. Iizuka<sup>1</sup>, N. Kuwabara<sup>3</sup>, H. Itoh<sup>3</sup>, M. Ikeda<sup>3</sup>, H. Sezutsu<sup>1</sup>, Y. Tabei<sup>1</sup>, S. Tomita<sup>1</sup> (1.National Agriculture and Food Research Organization, 2.University of Tsukuba, 3.Gunma Sericultural Technology Center)

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**P052** Removal of rice retrotransposon Tos17 via genome editing

Mori, A.<sup>1</sup>, M. Mikami<sup>2,3</sup>, M. Endo<sup>2</sup>, A. Yokoi<sup>2</sup>, S. Toki<sup>2,3</sup>, ○H. Saika<sup>2</sup> (1.Natl. Inst. Agrobiol. Sci., 2.NARO, Inst. Agrobiol. Sci., 3.Yokohama City Univ., KIBR)

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**P053** *OsCKX2( Gn1a)*gene knock out by CRISPR/Cas9 system in indica rice

○Otake, M.<sup>1</sup>, M. Nagata<sup>1</sup>, M. Endo<sup>1</sup>, Y. Taniguchi<sup>1</sup>, S. Toki<sup>1</sup>, H. Sakakibara<sup>2</sup>, A. Komatsu<sup>1</sup> (1.Institute of Agrobiological Sciences,NARO, 2.CSRS,RIKEN)

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**P054** Search for host factors targeted by rice blast effectors: Implication for resistance breeding

☆Shimizu, M.<sup>1</sup>, Y. Nakano<sup>1</sup>, K. Yoshida<sup>2</sup>, H. Kanzaki<sup>1</sup>, R. Terauchi<sup>1</sup>, H. Saitoh<sup>1</sup> (1.IBRC, 2.Kobe Univ)

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**P055** Antifungal effect of ascorbic acid and an ROS scavenging enzyme in plant against rice blast fungus

☆Kato, M.<sup>1</sup>, T. Hikawa<sup>1</sup>, H. Yasuda<sup>2</sup>, Y. Sagehashi<sup>2</sup>, Y. Sato<sup>2</sup>, T. Inukai<sup>1</sup>, C. Masuta<sup>1</sup> (1.Res. Fac. Agr., Hokkaido Univ., 2.HARC, NARO)

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**P056** Functional analysis of rice sHMA as a susceptible gene

○Kanzaki, H.<sup>1</sup>, K. Ito<sup>1</sup>, C. Mitsuoka<sup>1</sup>, E. Kanzaki<sup>1</sup>, K. Fujisaki<sup>1</sup>, T. Takeda<sup>1</sup>, H. Saitoh<sup>1</sup>, S. Kamoun<sup>2</sup>, R. Terauchi<sup>1</sup> (1.Iwate Biotechnology Research Center, 2.The Sainsbury Laboratory)

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**P057** Genetic analysis for blast resistance in an Indica Group rice cultivar Basmati 370

○Khan, M.<sup>1</sup>, A. Tomita<sup>2</sup>, S. Yanagihara<sup>3</sup>, M. Latif<sup>1</sup>, Y. Fukuta<sup>3</sup> (1.BRRI, 2.University of Tsukuba, 3.JIRCAS)

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**P058** Resistance to bacterial blight in rice cultivar Asominori. III. Field resistance

○Taura, S.<sup>1</sup>, T. Tanaka<sup>2</sup>, C. Busungu<sup>3</sup>, Y. Kawaguchi<sup>2</sup>, T. Nishiobino<sup>2</sup>, K. Kawabe<sup>1</sup>, K. Ichitani<sup>2</sup> (1.Division of Gene Research, Kagoshima University, 2.Faculty of Agriculture, Kagoshima University, 3.United Graduate School of Agricultural Science, Kagoshima University)

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**P059** Transcriptome profiling of resistant and susceptible Chinese cabbage lines following inoculation of Fusarium yellows

Miyaji, N.<sup>1</sup>, M. Shimizu<sup>2</sup>, S. Takada<sup>1</sup>, M. Kaji<sup>3</sup>, T. Yasuda<sup>1</sup>, K. Okazaki<sup>4</sup>, ○R. Fujimoto<sup>1</sup> (1.Grad. Sch. Agric. Sci., Kobe Uni., 2.Iwate Biotech. Res. Cent., 3.Watanabe Seed Co. Ltd, 4.Grad. Sch. Sci. Tech., Niigata Uni.)

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**P060** Comparison of gene expression related to pathogen between *Pinus densiflora* and *P. thunbergii* infected by Pine wilt disease

☆Tamura, M.<sup>1</sup>, T. Hirao<sup>2</sup>, A. Watanabe<sup>1</sup> (1.Fac. of Agr., Kyushu Univ., 2.Forest Bio cent., FFPRI)

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**P061** Relationship between dynamics of pine wood nematode and pathogen related genes in *Pinus thunbergii*

☆Yamaguchi, R.<sup>1</sup>, K. Matsunaga<sup>2</sup>, T. Hirao<sup>3</sup>, A. Watanabe<sup>4</sup> (1.Grad. Sch. Bioresour. Bioenv. Sci., Kyushu Univ., 2.FTBC Kyushu, FFPRI, 3.FTBC, FFPRI, 4.Fac. Agr., Kyushu Univ.)

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**P062** Differential response of bread wheat (*Triticum aestivum* L.) genotypes to terminal heat stress for some vegetative and reproductive traits

☆Abdelmula, A.<sup>1</sup>, W. Babiker<sup>2</sup>, S. Gasim<sup>1</sup>, H. Eldessougi<sup>1</sup>, H. Tsujimoto<sup>3</sup> (1.Department of Agronomy-Faculty of Agriculture- University of Khartoum, 2.Federal Ministry of Agriculture-Sudan, 3.Laboratory of Molecular Breeding, Arid Land Research Center, Tottori University)

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**P063** Breeding of Near-isogenic Lines for Tamyb10 genotypes in bread wheat cv. "Norin 61" and its grain color and dormancy

○Matsunaka, H.<sup>1</sup>, M. Chono<sup>2</sup>, N. Kohyama<sup>2</sup>, Z. Nishio<sup>1,3</sup>, K. Nakamura<sup>1</sup> (1.NARO/KARC, 2.NARO/NICS, 3.Tokyo University of Agriculture)

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**P064** Identification and validation of QTLs for cold tolerance at the booting stage in a rice cross of a tolerant variety, Hananomai and a NERICA parent, WAB56-104

☆Wainaina, C.<sup>1</sup>, D. Makihara<sup>2</sup>, M. Nakamura<sup>3</sup>, A. Ikeda<sup>3</sup>, T. Suzuki<sup>3</sup>, Y. Mizukami<sup>3</sup>, T. Nonoyama<sup>3</sup>, K. Doi<sup>1</sup>, A. Yamauchi<sup>1</sup>, H. Kitano<sup>4</sup>, J. Kimani<sup>5</sup>, Y. Inukai<sup>2</sup> (1.Grad. Sch. Bioagr. Sci., Nagoya U., 2.Int. Coop. Ctr. for Agric. Ed., Nagoya U., 3.Aichi Agri. Res. Ctr. Mount. Reg. Agri. Res. Inst., 4.Biosci. Biotec. Ctr., Nagoya U., 5.Kenya Agr. Liv. Res. Org.)

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**P065** Studies on sodium-calcium exchanger gene ( *NCX10* ) in rice in response to salt stress

☆Shinde, H.<sup>1,2</sup>, A. Dudhate<sup>1,2</sup>, D. Tsugama<sup>3</sup>, S. Liu<sup>4</sup>, T. Takano<sup>1,2</sup> (1.ANESC., Univ. Tokyo, 2.Grad. Sch. Agric. Life Sci., Univ. Tokyo, 3.Res. Fac. Agri., Univ. Hokkaido, 4.Northeast Forestry, Univ. China)

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**P066** An evaluation of cold tolerance acquired through cold acclimation in local rice varieties of Hokkaido

○Sagehashi, Y., Y. Sato (NARO Hokkaido Agr Res Cent)

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**P067** Varietal differences of soybean for drought in paddy field

○Takada, Y., M. Saruta, K. Yamashita (WARC/NARO)

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**P068** Improved seedling vigor under cold stress in transgenic rice plants overexpressing ABA insensitive PP2C gene

○Sato, Y.<sup>1</sup>, A. Endo<sup>2</sup> (1.NARO Hokkaido Agricultural Research Center, 2.NARO Institute of Agrobiological Sciences)

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**P069** Genome wide SNPs identification in four sorghum cultivars with contrasting drought tolerance

☆Eltayeb E., A.<sup>1</sup>, M. Ishimori<sup>2</sup>, H. Iwata<sup>2</sup> (1.Arid Land Res. Cen., Tottori Univ., 2.Agr. Life Sci., Univ. Tokyo)

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**P070** Map-based cloning of a salt tolerance gene *Ncl* and its utilization for improvement of salt tolerance in soybean

Do, T.<sup>1</sup>, H. Chen<sup>1</sup>, H. Vu<sup>1</sup>, A. Hamwieh<sup>1</sup>, T. Yamada<sup>2</sup>, T. Sato<sup>3</sup>, Y. Yan<sup>4</sup>, H. Cong<sup>4</sup>, M. Shono<sup>1</sup>, K. Suenaga<sup>1</sup>, ☆D. Xu<sup>1</sup> (1.JIRCAS, 2.Grad. Sch. Agr., Hokkaido U., 3.Grad. Sch. Life Sci. Tohoku U., 4.Xinjiang Acad. Agr. Sci., China)

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**P071** Identification and functional analysis of potassium transporter genes from a halophyte plant, *S. virginicus*

○Tada, Y.<sup>1</sup>, C. Endo<sup>1</sup>, M. Katsuhara<sup>2</sup>, A. Ikezawa<sup>1</sup>, T. Kurusu<sup>1</sup> (1.Sch. of Biosc. Biotechnol., Tokyo Univ. of Technol., 2.Inst. of Plant Sci. Resources, Okayama Univ.)

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**P072** Bulk analysis of pepper spot-related loci in Chinese cabbage

Sueoka, R.<sup>1</sup>, ☆K. Mori<sup>1</sup>, O. Kawaide<sup>3</sup>, F. Azuhata<sup>3</sup>, S. Niikura<sup>3</sup>, N. Hayasida<sup>2</sup> (1.Shinshu University Master's Program at the Graduate School of Science and Technology, 2.Division of Applied Biology, Faculty of Textile Science and Technology, 3.TOHOKU SEED CO., LTD.)

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**P073** Identification of the low amylose mutants from the newly developed "Tsuyahime" mutant library by TILLING

☆Kawakami, T.<sup>1</sup>, T. Yoshida<sup>2</sup>, H. Goto<sup>3</sup>, Y. Abe<sup>4</sup>, M. Chuba<sup>4</sup>, T. Hoshino<sup>1,2</sup> (1.Grad. Sch. Agr., Yamagata Univ., 2.Fac. Agr., Yamagata Univ., 3.Yamagata Int. Agr. Res. Cent., 4.Rice Breed. Crop Sci. Exp. Stn., Yamagata Int. Agr. Res. Cent.)

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**P074** Possible factors contributing to rice cooking potential in cooked rice with good eating quality for home-meal replacement

☆Doman, K.<sup>1</sup>, K. Nakamichi<sup>2</sup>, Y. Hirayama<sup>1</sup>, T. Yanagihara<sup>2,3</sup>, T. Sato<sup>1</sup> (1.Kamikawa Agri.Exp.Stn.,HRO, 2.Central Agri.Exp.Stn.,HRO, 3.Food Processing Research Center,HRO)

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**P075** Effect of protein content on the Hardness Index and glassy grain rate in near isogenic barley lines to Hordoinoline

○Takahashi, A.<sup>1</sup>, T. Ikeda<sup>1</sup>, T. Yoshioka<sup>1</sup>, T. Yanagisawa<sup>2</sup> (1.WARC/NARO, 2.NICS)

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**P076** Variation of aluminum accumulation of mature leaves in tea core collection

☆Tanaka, Y.<sup>1,2</sup>, T. Ikka<sup>2</sup>, A. Ogino<sup>3</sup>, A. Morita<sup>2</sup> (1.U. Grad. Sch. Agr. Sci., Gifu Univ., 2.Grad. Sch. Agr., Shizuoka Univ., 3.NIFTS)

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**P077** Variation in endosperm enzyme activity of rice grain in a Japanese rice germplasm accessions

○Hori, K.<sup>1</sup>, K. Iijima<sup>1</sup>, Y. Tsuji<sup>2</sup>, I. Omata<sup>2</sup>, S. Niki<sup>2</sup>, K. Kimura<sup>2</sup>, K. Ebana<sup>3</sup>, K. Takano<sup>2</sup>, K. Suzuki<sup>1</sup> (1.NICS, 2.Tokyo Univ. Agric., 3.NGRC)

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**P078** Effect of ripening temperature and cooked rice metabolome profiles in new rice cultivar "Yamagata 112"

☆Goto, H.<sup>1</sup>, M. Wakayama<sup>2</sup>, N. Asanome<sup>3</sup>, Y. Abe<sup>4</sup> (1.Yamagata Integrated Agr. Res. Cent., 2.Inst. Adv. Biosci., Keio Univ., 3.Agriculture, Forestry and Fisheries Department, Yamagata Prefectural Government, 4.Rice Breeding and Crop Sci. Exp. Stn., Yamagata Integrated Agr. Res. Cent.)

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**P079** Glassiness measurement of waxy barley by Barley glassiness tester model RN-840

○Maejima, H.<sup>1</sup>, H. Kojima<sup>2</sup>, T. Yanagisawa<sup>3</sup>, S. Maki<sup>4</sup> (1.Nagano Pref.Agr.Exp.Sta., 2.KETT, 3.NICS, 4.Zenbakuren)

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**P080** Molecular genetic analysis of the rice stay-green mutant *dcd1*

☆Yamatani, H.<sup>1</sup>, K. Kohzuma<sup>1,2</sup>, M. Nakano<sup>1</sup>, Y. Hayashi<sup>3</sup>, T. Takami<sup>4</sup>, Y. Kato<sup>4</sup>, Y. Monden<sup>5</sup>, T. Kumamaru<sup>6</sup>, Y. Okumoto<sup>7</sup>, W. Sakamoto<sup>2,4</sup>, T. Abe<sup>3</sup>, M. Kusaba<sup>1,2</sup> (1.Grad. Sch. Sci., Hiroshima Univ, 2.CREST, 3.RIKEN, Nishina Cent, 4.Inst. Plant Sci. Res., Okayama Univ, 5.Grad. Sch. Env and Life Sci., Okayama Univ, 6.Fac. Agri., Kyusyu Univ, 7.Grad. Agri., Kyusyu Univ)

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**P081** Characterization and genotypic difference of grain weight in Japanese rice cultivars

☆Yabe, S.<sup>1,2</sup>, H. Yoshida<sup>3</sup>, M. Yamasaki<sup>4</sup>, T. Hayashi<sup>1</sup>, H. Nakagawa<sup>3</sup> (1.NARO Institute of Crop Science, 2.PRESTO, JST, 3.NARO Institute for Agro-Environmental Sciences, 4.Food Resources Education and Research Ctr., Grad. Sch. Agric. Sci., Kobe Univ.)

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**P082** Evaluation on basic agronomical traits and bread-making quality related traits in bread wheat genetic resources collected in Caucasia

☆Hirayama, K.<sup>1</sup>, R. Akaike<sup>1</sup>, K. Takata<sup>2</sup>, T. Smekalova<sup>3</sup>, O. Kovaleva<sup>3</sup>, T. Sasanuma<sup>1</sup> (1.Fac. Agr., Yamagata Univ., 2.WARC, 3.VIR)

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**P084** Genome-wide association study for yield related traits of soybean breeding population in Hokkaido

☆Sekine, D.<sup>1</sup>, S. Fujita<sup>2,3</sup>, H. Korosaki<sup>2</sup>, F. Kousaka<sup>2,3</sup>, N. Yamaguchi<sup>3</sup>, M. Tsuda<sup>4</sup>, T. Matsumoto<sup>1</sup>, T. Shimizu<sup>1</sup>, Y. Katayose<sup>1</sup>, M. Ishimoto<sup>1</sup>, A. Kaga<sup>5</sup> (1.NICS, 2.HRO Central Agric. Exp. Stn, 3.HRO Tokachi Agric. Exp. Stn, 4.Grad. Sch. Life&Env Sci., U. Tsukuba, 5.NGRC)

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**P085** Characterization of leaf traits related to early growth in rice using NERICA and local varieties cultivated in Africa

☆Agata, A.<sup>1</sup>, D. Juventia<sup>2</sup>, T. Hobo<sup>3</sup>, K. Doi<sup>1</sup>, Y. Inukai<sup>4</sup>, D. Makihara<sup>4</sup>, H. Kitano<sup>3</sup> (1.Grad. Sch. Bioagr. Sci., Nagoya U., 2.Fac. Agr., Nagoya U., 3.Biosci. Biotec. Ctr., Nagoya U., 4.ICCAE, Nagoya U.)

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**P086** Analysis of cell wall thickness of wild and domesticated barley endosperm

○Saisho, D.<sup>1</sup>, R. Matsushima<sup>1</sup>, M. Honjo<sup>2</sup>, M. Yasugi<sup>3</sup>, A. Nagano<sup>4,5</sup>, K. Takahagi<sup>6,7</sup>, K. Mochida<sup>1,6,7</sup>, S. Taketa<sup>1</sup>, W. Sakamoto<sup>1</sup> (1.IPSR, Okayama U., 2.CER, Kyoto U., 3.Natl. Inst. Basic Biol., 4.Ryukoku U., 5.JST CREST, 6.CSRS, RIKEN, 7.Grad. Sch. Nanobio., Yokohama City U.)

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**P087** Functional analysis of auxin in rice leaf development

☆Kubo, F., Y. Yasui, H. Hirano (Sch. Sci., Univ. Tokyo)

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**P088** Estimation of new loci involved in non-shattering behaviour of Japonica cultivated rice, Nipponbare

☆Tsujimura, Y., M. Than, K. Numaguchi, T. Ishii, R. Ishikawa (Grad. Sch. Agr. Sci., Kobe Univ)

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**P089** Evaluation of shooting ability from nodes using backcross recombinant inbred lines between *Oryza rufipogon* and *O. sativa*

☆Ikemoto, M., T. Ohyagi, P. Thanh, R. Ishikawa, T. Ishii (Grad. Sch. Agr. Sci., Kobe Univ.)

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**P090** Further characterization of the candidate sex-determining gene AoMYB35 in garden asparagus

☆Tsugama, D., K. Matsuyama, M. Ide, K. Fujino, K. Masuda (Dept. Agr., Hokkaido Univ.)

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**P091** Identification of florigen gene family in bread wheat and their expression profiling in the synthetic wheat

☆Mitsuhashi, A.<sup>1</sup>, S. Takumi<sup>2</sup>, H. Tsuji<sup>1</sup>, K. Shimizu<sup>1,3</sup>, H. Tsujimoto<sup>4</sup>, T. Ban<sup>1</sup> (1.KIBR, YCU, 2.Grad. Sch. Agr. Sci., Kobe Univ., 3.University of Zurich, 4.Arid Land Res. cent., Tottori Univ.)

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**P092** Inhibition of miR172 biosynthesis in Soybean cv. Peking under LD condition

☆Ozawa, S.<sup>1</sup>, K. Hatakeyama<sup>1</sup>, Y. Takahata<sup>1</sup>, S. Yokoi<sup>2</sup> (1.Fac. Agr., Iwate Univ., 2.Grad. Sch. Lif. Envi. Sci., Osaka Pref. Univ.)

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**P093** Analysis of the QTL associated with flowering and hypocotyl elongation in Chinese cabbage (*Brassica rapa* L.)

☆Onodera, D.<sup>1</sup>, N. Kitamoto<sup>1</sup>, S. Yui<sup>2</sup>, K. Nishikawa<sup>3</sup>, K. Hatakeyama<sup>1</sup>, Y. Takahata<sup>1</sup> (1.Faculty of Agri.,Iwate University, 2.NARO, 3.SAKATA SEED CORPORATION)

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**P094** Development of codominant DNA marker identifying dominant/recessive alleles of *VRN-A1* and distribution of *VRN-A1* alleles in Japanese bread wheat cultivars

☆Matsumura, M., K. Murai (Dep. Biosci., Fukui Pref. Univ.)

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**P095** *Phospholipid Binding Protein Homolog ( PBPH)* regulates direction of root growth in *Arabidopsis thaliana*

☆Araya, T.<sup>1</sup>, N. von Wieren<sup>1</sup>, H. Takahashi<sup>2</sup> (1.MPE, IPK Gatersleben, 2.BMB, Michigan State Univ.)

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**P096** Microarray analysis for photo-regulation of shoot regeneration in callus cultures derived from barley immature embryos

○Rikiishi, K., H. Nishimura, M. Maekawa (Inst. Plant Sci. Res., Okayama U.)

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**P097** Functional analysis of the protein complex of preSATP6 associated with cytoplasmic male sterility in sugar beet

☆Arakawa, T., M. Matsunaga, K. Kitazaki, T. Kubo (Res. Fac. Agr., Univ. Hokkaido)

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**P098** Effects of variations in fertility restorer genes on the expression of Ogura male-sterility in radish

☆Jikuya, M.<sup>1</sup>, T. Terachi<sup>2</sup>, H. Yamagishi<sup>2</sup> (1.Grad. Sch. Life Sci., Kyoto Sangyo U., 2.Fac. Life Sci., Kyoto Sangyo U.)

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**P099** Molecular polymorphism of recessive *rf1* alleles in sugar beet maintainer lines

☆Uchiyama, D., T. Ohgami, S. Ue, T. Kubo (Grad. Sch. Agr., Hokkaido Univ.)

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**P100** A comparative analysis on regulation of mitochondrial orf79 expression in various rice, which possesses orf79

☆Shida, R., E. Hajime, T. Kazama, K. Toriyama (Grad. Sch. Agri. Sci., Tohoku Univ.)

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**P101** A development of new cytoplasmic male sterility lines from the NIAS World Rice Core Collection

☆Murakami, T., D. Astika Sari, K. Igarashi, T. Kazama, K. Toriyama (Grad. Sch. Agri., Univ. Tohoku.)

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**P102** Analysis of an activator for a pollen killer locus S35 in rice

☆Kubo, T.<sup>1</sup>, A. Yoshimura<sup>1</sup>, N. Kurata<sup>2,3</sup> (1.Fac.Agr., Grad. Sch., Kyushu Univ., 2.Natl. Inst. Genet., 3.NARO)

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**P103** Genome-wide association study of agronomic traits in soybean mini core collection using Axiom 200K SNP genotyping array

○Kaga, A.<sup>1</sup>, M. Tsuda<sup>2</sup>, S. Kurokawa<sup>3</sup>, D. Sekine<sup>4</sup>, T. Shimizu<sup>4</sup>, M. Ishimoto<sup>4</sup>, N. Tomooka<sup>1</sup> (1.NGRC, 2.Grad. Sch. Life & Env. Sci., U. Tsukuba, 3.CARC/NARO, 4.NICS)

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**P104** The relationships between diversity of flowering response and alleles of flowering time genes

☆Ogiso-Tanaka, E.<sup>1</sup>, Y. Yokota<sup>1</sup>, A. Kaga<sup>1</sup>, N. Kamei<sup>2</sup>, M. Ishimoto<sup>1</sup> (1.Institute of Crop Science, NARO, 2.Thermo Fisher Scientific Life Technologies Japan Ltd.)

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**P105** Genomic structure of leaf rust resistance gene locus, *LrRW12*, on wheat chromosome 6B

○Kobayashi, F.<sup>1</sup>, N. Mizuno<sup>2</sup>, T. Tanaka<sup>1</sup>, H. Kanamori<sup>1</sup>, Y. Katayose<sup>1</sup>, J. Wu<sup>1</sup>, K. Sato<sup>3</sup>, S. Nasuda<sup>2</sup>, H. Handa<sup>1</sup> (1.NICS, 2.Grad. Sch. Agric., Kyoto Univ., 3.IPSR, Okayama Univ.)

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**P106** NGS analysis of a new rice cultivar 'Akinokirameki' with resistance to high-temperature during ripening period

○Takahashi, H.<sup>1</sup>, K. Kato<sup>2</sup>, T. Kawamoto<sup>2</sup>, K. Ueda<sup>1</sup>, K. Sakurai<sup>1</sup>, A. Watanabe<sup>1</sup>, H. Akagi<sup>1</sup> (1.Fac. Biores. Sci., Akita Pref. U., 2.Akita Pref. Agriculture Research Center)

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**P107** Mitochondrial genome sequencing of an alloplasmic line of common wheat having cytoplasm of rye (*Secale cereale*)

☆Iwahashi, N.<sup>1</sup>, M. Tsujimura<sup>2</sup>, M. Murata<sup>3</sup>, T. Terachi<sup>4</sup> (1.Grad. Sch. Life Sci., Kyoto Sangyo U., 2.Kyoto Sangyo U. Plant Organelle Genomics. R.C., 3.IPSR, Okayama U., 4.Fac. Life Sci., Kyoto Sangyo U.)

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**P108** Gene structure and expression analysis of Anthocyanidin synthase of wheat

☆Himi, E., M. Maekawa (Institute of Plant Science and Resources, Okayama University)

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**P109** Screening and confirmation of QTL detected for seed yield of breeding lines in soybean

○Yamada, T., D. Sekine, K. Takahashi, M. Takahashi (NARO Inst. Crop Sci.)

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**P110** Framework linkage maps constructed by using an interspecific cross between Japanese pear (*Pyrus pyrifolia*) and Iwateyamanashi (*Pyrus ussuriensis*)

☆Sekimoto, Y.<sup>1</sup>, T. Yamamoto<sup>2</sup>, F. Hosaka<sup>2</sup>, Y. Yoshida<sup>1</sup>, H. Katayama<sup>1</sup> (1.Food Resources Edu. and Res. Center, Grad. Sch. Agri., Kobe U., 2.Institute of Fruit Tree and Tea Science, NARO)

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**P111** Detection of QTLs for grain dormancy in winter wheat with excellent resistance to pre-harvest sprouting

○Kamada, T.<sup>1</sup>, W. Nakane<sup>1</sup>, T. Nishimura<sup>2,3</sup>, H. Jinno<sup>4</sup>, M. Mori<sup>1</sup>, H. Miura<sup>1</sup>  
(1.Obihiro.Univ. Agr. & Vet. Med., 2.Kamikawa Agri.Exp.Stn.,HRO, 3.UGAS, Iwate Univ.,  
4.Kitami Agri.Exp.Stn.,HRO)

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**P112** QTL analysis of SBWMV resistance in barley

○Okada, K.<sup>1</sup>, T. Kato<sup>1</sup>, K. Sato<sup>2</sup>, Y. Fujita<sup>3</sup>, K. Mishina<sup>3</sup>, S. Oda<sup>3</sup>, T. Komatsuda<sup>3</sup>, K. Namai<sup>1</sup> (1.Tochigi Prefectural Agricultural Experiment St., 2.Okayama University,  
3.NARO)

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**P113** Evaluation of panicle spreading loci and related gene expression in wild rice *Oryza rufipogon*

☆Nishioka, R., H. Mikazuki, Y. Tanaka, K. Numaguchi, R. Ishikawa, T. Ishii (Grad. Sch. Agr. Sci., Kobe Univ.)

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**P114** Genetic analysis on extremely early heading rice population derived from the cross between varieties from Hokkaido

Uchiyama, T.<sup>1</sup>, ☆Y. Koide<sup>1</sup>, Y. Ohta<sup>1</sup>, A. Tezuka<sup>2</sup>, A. Nagano<sup>2</sup>, Y. Kishima<sup>1</sup> (1.Res. Fac. Agr., Hokkaido Univ., 2.Fac. Agr., Ryukoku Univ.)

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**P115** Association analysis using SSR markers to find QTL for heading date in barley

○Elakhdar, A., A. Sobhy, T. Kumamaru (Laboratory of Plant Genetics Resources, Faculty of Agriculture, Kyushu University)

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**P116** Earliness *per se* gene that shortens days from the emergence of the flag leaf to the heading in tetraploid wheat

☆Saito, T., K. Nishimura, H. Saito, A. Kitajima, T. Nakazaki (Grad. Sch. Agr., Univ. Kyoto)

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**P117** Genetic analysis of seed shattering without the formation of an abscission layer in common buckwheat

☆Nagai, H.<sup>1</sup>, T. Morishita<sup>2</sup>, R. Ohsawa<sup>1</sup>, T. Hara<sup>1</sup> (1.Grad. Sch. Life & Env. Sci., Univ. Tsukuba, 2.National Agriculture and Food Research Organization, Hokkaido Agricultural Research Center)

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**P118** Identification of grain shape QTLs characteristic of a brewing rice cultivar "Yamadanishiki"

☆Okada, S.<sup>1</sup>, T. Sakamoto<sup>1</sup>, M. Suehiro<sup>1</sup>, W. Yokoyama<sup>1</sup>, K. Iijima<sup>2</sup>, K. Hori<sup>2</sup>, M. Yamasaki<sup>1</sup> (1.Food Resources Education and Research Ctr., Grad. Agric. Sci., Kobe U, 2.Institute of Crop Science, NARO)

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**P119** QTL analysis for spike and seed morphology in recombinant inbred lines from the cross using spelt wheat

☆Sakai, Y., R. Funata, A. Kadota, L. Cao, M. Tokui, H. Miura, K. Onishi (Obihiro Univ. Agr. & Vet. Med.)

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**P120** QTL analysis for fruiting in autumn of the first year in the wood-log cultivation of *Lentinula edodes* in 1st and 2nd backcross generations

Terashima, K.<sup>1</sup>, A. Maeda<sup>2</sup>, ○A. Sasaki<sup>1</sup>, A. Nagano<sup>3</sup>, K. Hasebe<sup>1</sup> (1.Tottori Mycological Institute, 2.Tottori Prefecture, 3.Ryukoku University)

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**P121** Development of DNA markers for selection of spore deficient mutation in breeding of shiitake mushroom (*Lentinula edodes*) based on next generation sequencing

☆Shirai, N.<sup>1</sup>, M. Kawai<sup>2</sup>, Y. Obatake<sup>2</sup>, Y. Sakamoto<sup>3</sup>, H. Muraguchi<sup>4</sup>, T. Matsumoto<sup>5</sup> (1.Grad. Sch. Sci., Tottori Univ., 2.Nara Forest Institute, 3.Iwate Biotechnology Research Center, 4.Fac. Biores. Sci., Akita Pref. Univ., 5.Fac. Agr., Tottori Univ.)

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**P122** DNA marker linked to the everbearing flowering gene in the cultivated strawberry, which is applicable to many cultivars

○Honjo, M.<sup>1</sup>, H. Koishihara<sup>2</sup>, H. Tsukazaki<sup>1</sup>, S. Nishimura<sup>2</sup>, S. Yui<sup>1</sup> (1.TARC/NARO, 2.TOYOTA MOTOR CORPORATION)

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**P123** Developing of DNA markers for bracytic stem trait in soybean

○Saruta, M., Y. Takada, K. Yamashita (NARO/WARC)

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**P124** Mutant allele specific DNA markers designated for *Psy* and *Ccs* genes in pepper (*Capsicum* spp.)

☆Tsurumaki, K.<sup>1</sup>, Y. Inaba<sup>2</sup>, Y. Matsumoto<sup>2</sup>, T. Sasanuma<sup>1,2</sup> (1.United Grad. Sch. Agr. Sci., Iwate Univ., 2.Fac. Agr., Yamagata Univ.)

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**P125** Cross-species transferability of cucurbits microsatellite markers to chayote (*Sechium edule* (Jacq.) Sw.)

☆Machida-Hirano, R.<sup>1</sup>, M. Ledezma-Rodríguez<sup>2</sup>, B. Amaro-González<sup>2</sup>, M. Cortés-Cruz<sup>2</sup>, J. Cadena-Iñiguez<sup>3</sup>, K. Watanabe<sup>1</sup> (1.Gene Research Center, Univ. Tsukuba, 2.CNRG, INIFAP, 3.Montesillo, COLPOS)

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**P126** Development of the parental lines selection marker for caffeine-less tea breeding

☆Ogino, A.<sup>1</sup>, F. Taniguchi<sup>1</sup>, S. Matsumoto<sup>1</sup>, H. Fukuoka<sup>1,2</sup> (1.NARO, 2.Takii Co. Ltd.)

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**P127** Genome-wide association studies of essential oils in hop (*humulus lupulus* L)

☆Uemoto, M., N. Suda, K. Ogushi (BRDD, Sapporo Brew. Ltd.)

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**P128** Phylogenetic analysis of *Jatropha* from Botswana using SNP markers

☆Uenoyama, R.<sup>1</sup>, Y. Nanasato<sup>1,2</sup>, G. Chiyapo<sup>3</sup>, M. Kai<sup>4</sup>, K. Adachi<sup>5</sup>, E. Nanba<sup>5</sup>, C. Mazereku<sup>3</sup>, K. Akashi<sup>1</sup> (1.Grad. Sch. Agri., Univ. Tottori, 2.Forestry and Forest Products Research Inst., 3.Department of Agricultural Research, Botswana, 4.Division of Technical Department, Univ. Tottori, 5.Division of Functional Genomics, Research Center for Bioscience and Technology, Univ. Tottori)

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**P129** Development of PCR-markers from *Leymus racemosus* Genome by Mi-seq enabled Identification of Alien Chromosomes in Wheat Genetic Background

☆Edet, O.<sup>1,2,5</sup>, J. Kim<sup>3</sup>, K. Hanada<sup>4</sup>, M. Okamoto<sup>1</sup>, H. Tsujimoto<sup>1</sup> (1.Arid Land Research Center, Tottori University, 2.United Graduate School of Agricultural Sciences, Tottori University, 3.RIKEN Center for Sustainable Resource Science, Japan, 4.Department of Bioscience and Bioinformatics, Kyushu Institute of Technology, Japan, 5.Department of Crop Science, University of Calabar, Nigeria)

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**P130** High-density linkage map construction for identifying *Streptomyces ipomoeae* pathogen resistance gene in sweetpotato

☆Aikawa, Y<sup>1</sup>, K. Shirasawa<sup>2</sup>, A. Kuramoto<sup>3</sup>, Y. Imai<sup>4</sup>, S. Isobe<sup>2</sup>, M. Tahara<sup>1</sup>, Y. Okada<sup>5</sup>, O. Jahana<sup>6</sup>, Y. Monden<sup>1</sup> (1.Grad. Sch. Env. & Life Sci., Okayama Univ., 2.Kazusa DNA Res. Inst., 3.Grad. Sch. Agri., Kyoto Univ., 4.Tottori Univ. Technical dept., 5.KONARC, 6.OPARC)

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**P131** Genetic mapping of rice mutants with low nitrate uptake ability

☆Teramoto, S.<sup>1</sup>, Y. Ohmori<sup>1</sup>, H. Hasegawa<sup>2</sup>, T. Tanisaka<sup>3</sup>, T. Fujiwara<sup>1</sup> (1.Grad. Sch. Agr. Life Sci., Univ. Tokyo, 2.Grad. Sch. Environ. Sci, Univ. Shiga Pref., 3.Grad. Sch. Agric., Kyoto Univ.)

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**P132** Development of a radiation hybrid mapping population for the gametocidal gene *Gc2-4S<sup>sh</sup>* in common wheat

☆Sakai, N., M. Yoshioka, N. Mizuno, S. Nasuda (Grad. Sch. Agr., Univ. Kyoto)

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**P133** Linkage analysis to identify a gene relating to the seed coat types in *Brassica rapa*

☆Maeda, T.<sup>1</sup>, K. Tanaka<sup>2</sup>, N. Shibata<sup>2</sup>, H. Yamagishi<sup>2</sup> (1.Grad. Sch. Life Sci., Kyoto Sangyo U., 2.Fac. Life Sci., Kyoto Sangyo U.)

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**P134** Construction of a high-density linkage map for identifying root-knot nematode (*Meloidogyne incognita*) resistance gene in sweetpotato

☆Kishimoto, K.<sup>1</sup>, K. Shirasawa<sup>2</sup>, R. Sasai<sup>1</sup>, A. Kuramoto<sup>3</sup>, S. Isobe<sup>2</sup>, M. Tahara<sup>1</sup>, Y. Okada<sup>4</sup>, H. Tabuchi<sup>4</sup>, A. Kobayashi<sup>4</sup>, Y. Monden<sup>1</sup> (1.Grad. Sch. Env. & Life Sci., Univ. Okayama, 2.Kazusa DNA Res. Inst., 3.Grad. Sch. Agri., Kyoto Univ., 4.KONARC)

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**P136** Genome editing of rice alpha amylases for improving grain maturation under a high temperature

○Kuroda, M., T. Yamaguchi, H. Yamakawa (NARO Central Agric. Res. Cent.)

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**P137** Analysis of transcriptomic responses to carbonate stress in the carbonate-tolerant plant *Puccinellia tenuiflora* and the carbonate-sensitive plant *Poa annua*

☆Nakamura, S.<sup>1,2</sup>, S. Kobayashi<sup>1,3</sup>, D. Tsugama<sup>4</sup>, S. Liu<sup>5</sup>, T. Takano<sup>1,2</sup> (1.ANESC., Univ. Tokyo, 2.Grad. Sch. Agric. Life Sci., Univ. Tokyo, 3.Daiichi Sankyo Co., Ltd., 4.Res. Fac. Agri., Univ. Hokkaido, 5.Northeast Forestry, Univ. China)

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**P138** 16S metagenomics analysis of microbiome communities in root-knot nematode (*Meloidogyne incognita*) and *Streptomyces ipomoea* infected soils

☆Nakashima, H.<sup>1</sup>, T. Ishige<sup>2</sup>, T. Kuranouchi<sup>3</sup>, Y. Momota<sup>4</sup>, K. Yonemoto<sup>5</sup>, M. Tahara<sup>1</sup>, Y. Monden<sup>1</sup> (1.Grad. Sch. Env. & Life Sci., Okayama Univ., 2.NODAI Genome Research Center, 3.NICS, 4.CARC, 5.TAFFTSC)

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