

The 2018 Fall Annual Meeting of Japan Poultry Science Association

September 6, 2018

Tohoku University, Faculty of Agriculture

468-1 Aramaki Aza Aoba, Aoba-ku, Sendai 980-0845, JAPAN

Room1

(Presentation 7min.
Discussion 3min.)

Morning Session

(Genetics, Breeding, Reproduction, Physiology, Management)

- I - 1 Effect of a single-nucleotide polymorphism in the Elongase 5 gene on fatty acid content and flavor in the Aomori Shamorock chicken 9:00- 9:10
○Hiromi Kawai¹ and Hideaki Takahashi²
(¹Livestock Research Institute ,AITC ² Institute of Livestock and Grassland Science, NARO)
- I - 2 Development of DigiTag2 assay for genotyping 58 SNPs associated with egg production traits and its application to the Rhode Island Red chickens 9:10- 9:20
○Su Lai Yee Mon¹, Takeshi Shimogiri¹, Ayane Ohno², Tatsuya Niinomi², Shinichi Sato³, Tsuyoshi Ohtake³, Kengo Nishimatsu⁴, Hisashi Wakahara⁴, Motohide Nishio⁵, Eiji Kobayashi⁵, Mariko Tsutsui² and Yoichi Yamamoto²
(¹Kagoshima Univ., ²NLBC Okazaki Stn., ³NLBC, ⁴Goto Hatchery, Inc., ⁵NARO)
- I - 3 The search for behavioral stress response-related gene in Hinai-Jidori by whole genome sequencing of bulked DNA samples 9:20- 9:30
○Daiki Aoya¹, Kazuhiro Rikimaru¹ and Takashi Bungo²
(¹ Akita Pref. Livestock Exp. Stn. , ² Hiroshima Univ.)
- I - 4 Estimation of genetic parameter and breeding value in Rhode Island Red chickens as a breeding resource 9:30- 9:40
○Ayane Ohno¹, Tatsuya Niinomi¹, Eiji Kobayashi², Motohide Nishio², Mariko Tsutsui¹ and Yoichi Yamamoto¹
(¹NLBC Okazaki, ²NARO)

Break (10 min.)

9:40- 9:50

- I - 5 Immunomagnetic Isolation of Gonadal Germ Cells (GGCs) in domestic chicken. 9:50-10:00
 ○Masaya Kishi, Minoru Takehara, Atsushi Asano, Naoto Ishikawa, Atsushi Tajima.
 (Grad. School of Life and Environmental Sciences, Univ. Tsukuba)
- I - 6 Analysis of SSEA-1 expression in chicken gonad 10:00-10:10
 ○Yukina Inutani¹, Fuko Nakano¹, Hiroya Nakamura², Hiroshi Tanifuji³ and Kazuei Matsubara^{1,2}
 (¹GS of Arts and Sci., Iwate Univ., ²UGS of Agri. Sci., Iwate Univ., ³Koiwai Farm)
- I - 7 Influence to germ cells of busulfan by intraperitoneal injection to male chick. 10:10-10:20
 ○Fuko Nakano¹, Yukina Inutani¹, Jiro Hiroya Nakamura², Tanifuji Hiroshi³, Daiki Aoya⁴, Rikimaru Kazuhiro⁴ and Kazuei Matsubara^{1,2}
 (¹GS of Arts and Sci., Iwate Univ., ²UGS of Agri.Sci., Iwate Univ., ³Koiwai Farm, ⁴Akita Pref. Livestock Exp.)
- I - 8 Involvement of glucose transporter-1 in sperm motility in chickens 10:20-10:30
 ○Rangga Setiawan^{1, 2}, Chathura Priyadarshana¹, Atsushi Tajima³, and Atsushi Asano³
 (¹Graduate School, Univ Tsukuba, ²Animal Husbandry, Padjadjaran Univ, ³Univ Tsukuba)
- I - 9 The relationship between morphological and physiological development of early chick embryos 10:30-10:40
 ○Minoru Takehara, Masaya Kishi, Atsushi Asano, Naoto Ishikawa, Atsushi Tajima
 (Grad. School of Life and Environmental Sciences, Univ. Tsukuba)
- Break (10 min.) 10:40-10:50
- I -10 Effects of vaccination on AvBDs localization in the intestine of broiler chicks 10:50-11:00
 ○Minori Tsuruta¹, Takahiro Nii¹, Naoki Isobe^{1,2}, Yukinori Yoshimura^{1,2}
 (¹ Grad Schl Biosphere Sci, Hiroshima Univ., ² RCAS, Hiroshima Univ.)
- I -11 Optimal behavioral tests for estimation of behavior traits in chickens 11:00-11:10
 ○Koichi Yoshidome, Yoshimitsu Oouchi, Takashi Bungo
 (Hiroshima Univ.)
- I -12 Peck Order in Captivity Helmeted guineafowl (*Numida Meleagris*) 11:10-11:20
 ○Mitsuki Shimoda¹ and Hiroshi Ogawa² (¹Tokyo Agriculture Of Univ)

- I -13 Genome-wide association study for egg production rate and egg quality in Rhode Island Red chickens 11:20-11:30
 ○Eiji Kobayashi¹, Motohide Nishio¹, Ayane Ohno², Tatsuya Niinomi², Shinichi Sato³, Tsuyoshi Ohtake³, Takatoshi Kojima³, Takeshi Shimogiri⁴, Mariko Tsutsui² and Yoichi Yamamoto²
 (¹ NARO, ²NLBC Okazaki Stn., ³NLBC, ⁴Kagoshima Univ.)
- I -14 Detection of candidate variant for Haugh unit in chicken using a genome-wide association study 11:30-11:40
 Tsuyoshi Ohtake¹, ○Shinichi Sato¹, Takatoshi Kojima¹, Eiji Kobayashi², Ayane Ohno³, Tatsuya Niinomi³, Takeshi Shimogiri⁴ and Mariko Tsutsui³
 (¹NLBC., ²NILGS., ³NLBC Okazaki., ⁴Kagoshima Univ.)
- Lunch Break (100min.) 11:40-13:20
- General Meeting • Award Ceremony (70min.) 13:20-14:30
- Break (10min.) 14:30-14:40

Afternoon Session

(Reproduction, Physiology, Anatomy, Histology, Environment and Hygiene, Processing and Products)

- I -15 Effect of the sugar chain on surface of SST-epithelial cells on sperm migration into SSTs 14:40-14:50
 ○Mei Matsuzaki¹, Shusei Mizushima², Noritaka Hirohashi³ and Tomohiro Sasanami¹
 (¹Shizuoka Univ., ²Hokkaido Univ., ³Shimane Univ.)
- I -16 Observation of onset of incubation behavior of the Silky fowl. 14:50-15:00
 ○Norio Kansaku¹, Emi Nakamura¹, Aya Kosuda, Miyako Soejima¹, Toshio Tanaka¹, Takehito Kuwayama², Tomohiro Kono²
 (¹Azabu Univ., ²Tokyo Univ. of Agriculture.)
- I -17 Morphologic observation of ultimobranchial glands of laying hen in the egg-laying period. 15:00-15:10
 ○Katsuyoshi Kitajima and Hiromi Nakajima (Ibaraki Univ)
- I -18 Effect of fasting in regulating transthyretin and prolactin-releasing peptide mRNA expression in chicken 15:10-15:20
 ○Misa Takeda and Takeshi Ohkubo (Ibaraki Univ. Coll. Agric.)
- I -19 Tissue localization of FcRY receptor and its binding activity against to IgY-Fc mutants in chickens 15:20-15:30
 ○Atsushi Murai, Kohki Ikeda, Misato Kobayashi and Fumihiko Horio
 (Nagoya Univ., Graduate School Bioagr. Sci.)

- I -20 Changes on the uptake of egg yolk precursor to developing follicle in laying hens under the heat stress conditions 15:30-15:40
 ○Yua Shoji, Akihiro Kurosawa, Tsuyoshi Shimmura and Kan Sato
 (Tokyo University of Agriculture and Technology)
- I -21 Effects of TLR Ligands on Avian β -defensin Expression in the Cecum of Chicks. 15:40-15:50
 ○Takumi Terada¹, Takahiro Nii^{1,2}, Naoki Isobe^{1,2} and Yukinori Yoshimura^{1,2}
 (¹Grad. Schl. Biosphere Sci., Hiroshima Univ., ²RCAS, Hiroshima Univ.)
- I -22 Effects of dextran sodium sulfate administration on expression of egg precursor related factors in hen liver. 15:50-16:00
 ○Takahiro Nii, Naoki Isobe, Yukinori Yoshimura
 (Grad. Sch. of Biosphere Sci., Hiroshima Univ.)
- I -23 Adverse effect of the ununiformed environment on production in the large henhouse (Part 2) 16:00-16:10
 ○Takashi Kamata (Poultry consultant)
- I -24 Relationship Between Body Weight and Egg Productivity in White Leghorn Reared in Open-sided, Semi-windowless and Windowless Poultry Houses 16:10-16:20
 ○Yasunobu Wada^{1,2}, Kan Takeuchi² and Katsuki Koh³
 (¹Grad. Sch., Shinshu Univ., ²Marunaga Egg Land, Inc., ³Shinshu Univ.)

The candidates for the Presentation Award of young scientists are the following numbers.

I - 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

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Morning Session

(Nutrition and Feeds, Physiology, Anatomy, Histology, Processing and Products)

- II - 1 Influence of amino acid-Amadori products on amino acid uptake and protein synthesis of chicken embryonic myotubes. 9:00- 9:10
○Natsuki Kawashima¹ and Kazumi Kita²
(¹Grad. Sch. Arts Sci., Iwate Univ., ²Fac. Agr., Iwate Univ.)
- II - 2 AMPK activation by AICAR induces the proliferation status in chicken skeletal muscle cells 9:10- 9:20
○Taeko Ohki¹, Tatsuya Oyama¹, Yu Kato¹, Kan Sato¹ (¹Tokyo Agriculture and Technology Univ)
- II - 3 Effects of chicken serum on lipid accumulation and expressions of myoblast markers in C2C12 myoblast. 9:20- 9:30
○Rukana Kohroggi¹, Saki Shimamoto¹, Daichi Ijiri¹, Kazuki Nakashima², Ryo Kamimura¹, Nao Nishikoba¹, Akira Ohtsuka¹
(¹Kagoshima Univ., ²NILGS)
- II - 4 Insulin stimulates translocation of GLUT1 to the plasma membrane and increases glucose uptake in primary cultured chick adipocytes. 9:30- 9:40
○Ryo Kamimura¹, Saki Shimamoto¹, Rukana Kohroggi¹, Kazuki Nakashima², Akira Ohtsuka¹, Daichi Ijiri¹ (¹Kagoshima Univ., ²NILGS)
- Break (10min.) 9:40- 9:50
- II - 5 Mitigation effect of supplemental yeast fraction on the jejunum of broilers under high temperature 9:50-10:00
○Takashi Hirota¹, Yoshimistu Ouchi¹, Koichi Yoshidome¹, Lautine Faivre², Berger Clara², Takahiro Ide³ and Takashi Bungo¹
(¹Hiroshima Univ., ²Phileo Lesaffre Animal Care, ³YPTECH Co., Ltd.)

- II - 6 Molecular mechanism of heat stress-induced muscle proteolysis in chickens 10:00-10:10
 ○Kyohei Furukawa, Motoi Kikusato and Masaaki Toyomizu
 (Agricultural Science, Tohoku Univ.)
- II - 7 Effect of Thermal Conditioning and Folate on Methylation/Demethylation of BDNF Promoters 10:10-10:20
 ○Yoshimitsu Ouchi, Kouichi Yoshidome, Takashi Hirota, Naoki Uchikawa, Miko Yamato and Takashi Bungo
 (Hiroshima Univ.)
- II - 8 Elucidation of cellular mechanism by which antigen-specific initial immune response is delayed in chickens under heat stress condition. 10:20-10:30
 ○Ryota Hirakawa¹, Tomonori Nochi¹, Motoi Kikusato¹, Kyohei Hurokawa¹, Atsushi Murai² and Masaaki Toyomizu¹
 (¹Tohoku Univ., ² Nagoya Univ.)
- Break (10min.) 10:30-10:40
- II - 9 Oral administration of watermelon rind extract causes hypothermia in young chicks 10:40-10:50
 ○Linh T. N. Nguyen, Hatem M. Eltahan, Cuong V. Pham, Guofeng Han, Vishwajit S. Chowdhury and Mitsuhiro Furuse (Kyushu University)
- II -10 Improvement of *in vitro* digestibility of shrimp meal by the addition of persimmon peel 10:50-11:00
 ○Manisa Sangkaew and Katsuki Koh (Shinshu Univ.)
- II -11 Studies on the storage stability of brown rice for the productive performance of eggs. 11:00-11:10
 ○Haruki Watanabe¹, Masato Nakamura², Naoya Kawarada³ and Takahisa Ichikawa¹
 (¹Mie Livestock Res Cen., ²Mie (Chuo) Agricultural Devel .Ctr .Stn., ³Mie Agricultural Res Ins.)
- II -12 Induction timing of nutritional imprinting by amino acid administration to chicken embryos and comparison of differences in nutritional imprinting among chicken species. 11:10-11:20
 ○Yoshiyuki Ohta, Junichi Shiraishi, Motoni Kadowaki, and Shinobu Fujimura
 (Nippon Vet. Life Sci. Univ., and Niigata Univ.)
- II -13 Effect of myostatin on atrogen-1 expression in chicken myotubes 11:20-11:30
 ○Takaoki Saneyasu, Kazuhisa Honda and Hiroshi Kamisoyama
 (Kobe Univ.)

- II -14 Breast muscle imidazole dipeptide levels and plasma branched-chain amino acid metabolite levels are changed along with growth in egg-type male chickens 11:30-11:40
 ○Shozo Tomonaga¹, Junichi Shiraishi², Takahiro Kawase³, Takamitsu Tsukahara³, Yoshiyuki Ohta²
 (¹Grad. Sch. Agr. Kyoto Univ., ²Nippon Vet. Life Sci. Univ., ³ Kyoto Inst. Nutr. Pathol.)

Lunch Break (100min.) 11:40-13:20

General Meeting • Award Ceremony (70min.) 13:20-14:30

Break (10min.) 14:30-14:40

Afternoon Session

(Nutrition and Feeds, Physiology)

- II -15 Central administration of taurine causes hypothermia, but oral administration induces hyperthermia in chicks 14:40-14:50
 Hatem M. Eltahan, Guofeng Han, Hui Yang, Linh T. N. Nguyen, Cuong V. Pham, Mitsuhiro Furuse and ○Vishwajit S. Chowdhury (Kyushu University)
- II -16 *In ovo* feeding of L-leucine influences amino acid metabolism and heat-shock proteins mRNA expression in broiler chicks 14:50-15:00
 ○Guofeng Han¹, Hui Yang¹, Kosuke Tashiro¹ Takashi Bungo², Mitsuhiro Furuse¹ and Vishwajit S. Chowdhury¹(¹Kyushu Univ., ²Hiroshima Univ.)
- II -17 Comparison of the rates of muscle protein turnover between the fast- and slow-growing broiler chicks during the neonatal period. 15:00-15:10
 ○Saki Shimamoto¹, Daichi Ijiri¹, Kazuki Nakashima², Shozo Tomonaga³ and Akira Ohtsuka¹ (¹Kagoshima Univ., ²NILGS., ³Kyoto Univ.)
- II -18 Effects of differences in dietary paddy rice varieties on laying performance and egg quality in layers 15:10-15:20
 ○Miho Asano , Sumiyo Ishikawa , Kiyoshi Sakai and Saburo Kondo (Gifu Pref. Livestock Res. Inst.)
- II -19 Plasma metabolomic analysis in chick brain chimeras 15:20-15:30
 ○Jun-ichi Shiraishi ¹, Shozo Tomonaga ², Hiroko Ohki-Hamazaki³, Yoshiyuki Ohta¹
 (¹ Nippon Vet. Life Sci. Univ., ² Grad. Sch. Agr. Kyoto Univ., ³ Kitasato Univ.)
- II -20 The effects of trehalose on feed without antibacterial material in broiler chickens. 15:30-15:40
 ○Koichi Matsushita¹, Namika Kobayashi¹, Motoi Kikusato², Kazuhisa Mukai³
 (¹Yamanashi Pref. Livestock Dairy Tec. Cen. ²Grad.School of Agricultural Sci., Tohoku Univ. ³Hayashibara Co. Ltd.)

- II -21 Effects of feeding paddy rice or rice related materials on egg quality. 15:40-15:50
 ○Namika Kobayashi¹,Kiho Ishihara¹, Sachi Ashizawa¹, Koichi Matsushita¹, Haruhiko Ohtsu² and Hitoshi Murakami²
 (¹Yamanashi Pref. Livestock Dairy Tech. Center., ²Inst. of Livestock and Grassland Sci., NARO)
- II -22 Improvement of growth performance of young broiler by non-starch polysaccharide-degrading enzymes from *Paenibacillus* sp. 15:50-16:00
 ○Yusuke Hagiwara^{1,2}, Yasuhiro Mihara¹, Kazuki Nakagawa¹, Koichi Sakagami², Ryuta Sagara², Bat-Erdene Undramaa², Rie Yatsunami² and Satoshi Nakamura²
 (¹Ajinomoto Co., Inc, ²Tokyo Tech)
- II -23 Effects of dietary mirin cake on growth performance and meat quality of meat-type Nagoya Breed 16:00-16:10
 ○Hideshi Ohguchi, Hiromitsu Miyakawa, Katsutoshi Kino and Kazuhisa Nakamura
 (Aichi Agricultural Research Center)
- II -24 Effect of the Addition of Astaxanthin to Diets with Whole-Grain Paddy Rice on Growth Performance and Meat Quality in the Meat-type Nagoya Breed 16:10-16:20
 ○Hiromitsu Miyakawa, Tomoko Kojima, Hideshi Ohguchi and Kazuhisa Nakamura
 (Aichi Agricultural Research Center)

The candidates for the Presentation Award of young scientists are the following numbers.

II - 1, 2, 3, 5, 6, 7, 8, 9, 10, 11