

Daily Schedule and Sessions of 27th JSPMI Annual Meeting

Wednesday, September 20

- 12:00 p.m. – Registration
- 1:00 – 1:10 p.m. Opening Ceremony
- 1:10 – 2:25 p.m. Oral Presentation (5 titles)

1 Gibberellin is a key factor in the regulation of mycorrhizal symbiosis in *Bletilla striata* (Orchidaceae)

*Chihiro Miura¹, Tatsuki Yamamoto², Katsushi Yamaguchi³, Yuri Kanno⁴, Takahiro Yagame⁵, Masahide Yamato⁶, Mitsunori Seo⁴, Shuji Shigenobu³, Hironori Kaminaka¹

¹Fac. Agri., Tottori Univ., ²Grad. Sch. Agri., Tottori Univ., ³NIBB, ⁴RIKEN CSRS, ⁵Mizuho Kyo-do Mus., ⁶Fac. Edu., Chiba Univ

2 Orchids germinate asymbiotically by using the regulatory system of mycorrhizal symbiosis

*Yuki Furui¹, Chihiro Miura², Tatsuki Yamamoto¹, Takahiro Yagame³, Masahide Yamato⁴, Hironori Kaminaka²

¹Gard. Sch. Agri., Tottori Univ., ²Fac. Agri., Tottori Univ., ³Mizuho Mus., ⁴Fac. Edu., Chiba Univ.

3 *NITRATE UNRESPONSIVE SYMBIOSIS 1* mediates control of root nodule symbiosis in response to nitrate

*Hanna Nishida^{1,2,3}, Sachiko Tanaka², Yoshihiro Handa², Momoyo Ito³, Takashi Soyano^{1,2}, Masayoshi Kawaguchi^{1,2}, Takuya Suzaki³

¹SOKENDAI, ²NIBB, ³Univ. Tsukuba

4 Regulation of Nitric oxide by LjGlb1-1 is involved in nodulation and nodule senescence in the *Lotus japonicus*–*Mesorhizobium loti* symbiosis

*Mitsutaka Fukudome¹, Laura Calvo-Begueria², Eri Watanabe¹, Maria Carmen Rubio², Niels Sandal³, Jens Stougaard³, Ryujiro Imaizumi⁴, Toshio Aoki⁴, Manuel Becana², Toshiki Uchiumi¹

¹Kagoshima Univ., ²CSIC, ³Aarhus Univ., ⁴Nihon Univ.

5 How do host legume plants reject cheating rhizobia?

*Tomomi Nakagawa^{1,2}, Kazuhiko Saeki³, Kiminori Toyooka⁴, Mayuko Sato⁴, Hideki Hirakawa⁵, Mifu Oosawa³, Mayumi Wakasaki⁴, Mai Fukuhara^{1,6}, Takushi Kawahigashi⁷, Ayae Yoshida⁷, Norio Suganuma⁷, Shusei Sato⁸, Hisayuki Mitsui⁸, Shin Okazaki⁹, Masayoshi Kawaguchi^{1,6}

¹NIBB, ²Nagoya Univ., ³Nara Woman's Univ., ⁴RIKEN • CSRS, ⁵Kazusa DNA Res. Inst.,
⁶SOKENDAI, ⁷Aichi Educ. Univ., ⁸Tohoku Univ., ⁹Tokyo Univ. Agri. Technol.

2:25 – 2:35 p.m. Break

2:35 – 3:35 p.m. Oral Presentation (4 titles)

6 Lateral root-related factors that function downstream of nodulation specific NIN transcription factor

*Takashi Soyano¹, Makoto Hayashi², Masayoshi Kawaguchi¹

¹NIBB, ²RIKEN

7 Analysis of Type III secretion system effector and host element involved in infection inhibition in the interaction between *Bradyrhizobium elkanii* USDA61 and *Lotus japonicus*

*Shohei Kusakabe¹, Takakazu Kaneko², Michiko Yasuda³, Hiroki Miwa³, Shin Okazaki³,
Shusei Sato¹

¹Tohoku Univ., ²Kyoto Sangyo Univ., ³Tokyo Univ. Agri. Technol.

8 Variation of a rhizobial effector NopP is the determinant for symbiotic incompatibility with *Rj2*-soybean

*Masayuki Sugawara¹, Satoko Takahashi¹, Yosuke Umehara², Hitoshi Kondo¹, Yuki Konno¹,
Shusei Sato¹, Hisayuki Mitsui¹, Kiwamu Minamisawa¹

¹Grad. Sch. Life Sci., Tohoku Univ., ²NARO

9 Functional analysis of *phc* and *tqs* quorum sensing systems in *Cupriavidus taiwanensis*, a nitrogen-fixing symbiont of *Mimosa pudica*

*Takayuki Wakimoto, Shuji Tani, Kenji Kai
Osaka Pref. Univ.

3:35 – 3:45 p.m. Break

3:45 – 4:45 p.m. Oral Presentation (4 titles)

10 Nitrogen fixation mutants of the actinobacterium *Frankia*

*Ken-ichi Kucho¹, Daiki Tamari¹, Shintaro Matsuyama¹, Yuri Kawazoe², Takeshi Nabekura²,
Louis S. Tisa³

¹Grad. Sch. Sci. Eng., Kagoshima Univ., ²Fac. Sci., Kagoshima Univ., ³Univ. New Hampshire

11 Mode of action of *Bacillus* biofertilizer "Kikuichi" to paddy rice.

*Tadashi Yokoyama¹, Masami Yoshikawa², Naoko Ohtsu¹, Katsuhito Kojima³, Hiroko Itho⁴,
Ui Ono⁵, Yoshinari Ohwaki⁶, Takashi Kenjyo⁷, Tomotaka Asano⁷

¹Inst. Agri., Tokyo Univ, Agri. Technol., ²Fac. Agri, Tokyo Univ, Agri. Technol., ³GIR, Tokyo Univ,
Agri. Technol., ⁴Nihon Univ., ⁵Kyoto-Otokuni Cent. Kyoto Pref. Improv. Populariz. Agri.,
⁶CARC/NARO, ⁷Asahi Industries Co., LTD.

12 Omic identification of nitrogen-fixing bacteria associated with roots of field-grown Sorghum

*Kiwamu Minamisawa¹, Shintaro Hara¹, Takashi Morikawa¹, Yasuhiro Kasahara², Taichi Koshiba³,
Kiyoshi Yamazaki⁴, Toru Fujiwara⁴, Tsuyoshi Tokunaga³

¹Tohoku Univ, ²Hokkaido Univ, ³Earthnote Co. Ltd., ⁴Univ. Tokyo

13 CLE-CLV1 signaling module regulates nematode infection via long-distance communication

*Satoru Nakagami¹, Chika Ejima¹, Bui Thi Ngan¹, Ryo Tabata², Michitaka Notaguchi², Hiroshi
Sato¹, Takashi Ishida¹ and Shinichiro Sawa¹

¹Grad. Sch. Sci. Technol., Kumamoto Univ., ²Grad. Sch. Bioagri. Sci., Nagoya Univ.

4:45 – 4:55 p.m.	Break
4:55 – 6:00 p.m.	General Discussion 1 (oral: 1–13)
6:00 – 7:00 p.m.	Poster Viewing (mixer)

Thursday, September 21

9:00 – 10:10 a.m.	Short Presentation (43 poster titles)
10:20 – 11:20 a.m.	Poster Viewing with Authors (<i>odd numbers</i>)
11:20 a.m. – 0:20 p.m.	Poster Viewing with Authors (<i>even numbers</i>)
Lunch/Special Session for Students and Early Career Researchers/Committee Meeting	
1:30 – 2:10 p.m.	General Discussion 2 (poster: P1 –P15)
2:10 – 2:20 p.m.	Break

2:20 – 3:00 p.m. General Discussion 3 (poster: P16–30)

3:00 – 3:10 p.m. Break

3:10 – 3:50 p.m. General Discussion 4 (poster: P31–43)

3:50 – 4:10 p.m. Break

4:10 – 4:55 p.m. Special Lecture 1

Exploring core microbiomes for designing resource-efficient and homeostatic agroecosystems

Toju Hirokazu

Associate Professor, Kyoto University

4:55 – 5:40 p.m. Special Lecture 2

Saving of “Phosphorus” in plant life

Tetsuro Mimura

Professor, Kobe University

6:00 – 8:00 p.m. Social Gathering

Friday, September 22

9:10 – 10:10 a.m. Oral Presentation (4 titles)

14 Molecular mechanism on the PAMP-induced extracellular oxidative burst

*Maya Kawabata¹, Hodaka Sato¹, Mizuho Takasu¹, Mika Matsuo², Hidenori Matsui^{1,2}, Yoshiteru Noutoshi^{1,2}, Mikihiro Yamamoto^{1,2}, Yuki Ichinose^{1,2}, Tomonori Shiraishi^{1,2,3}, Kazuhiro Toyoda^{1,2}

¹Fac. Agri. Okayama Univ., ²Grad. Environ. Life Sci. Okayama Univ., ³RIBS Okayama

15 Ultrastructural and cytological studies on *Mycosphaerella pinodes* infection of the model legume *Medicago truncatula*

Tomoko Suzuki^{1,2}, Aya Maeda¹, Masaya Hirose¹, Yuki Ichinose¹, Tomonori Shiraishi^{1,3},

*Kazuhiro Toyoda¹

¹Okayama Univ., ²Japan Women's Univ., ³RIBS Okayama

16 Regulation of mushroom-type biofilm formation by *Ralstonia solanacearum*

*Yasufumi Hikichi¹, Kazusa Hayashi¹, Akinori Kiba¹, Kouhei Ohnishi¹, Kenji Kai²,

¹Kochi Univ., ²Osaka Prefecture University.

17 Sugar-dependent expression of genes involved in the type III secretion system in *Xanthomonas oryzae* pv. *oryzae*

Yumi Ikawa, *Seiji Tsuge

Kyoto Pref. Univ.

10:10 – 10:25 a.m. Break

10:25 - 11:10 a.m. Oral Presentation (3 titles)

18 Phosphate status-dependent beneficial interactions between root endophyte *Colletotrichum tofieldiae* and *Arabidopsis thaliana*

*Kei Hiruma^{1,2}, Yusuke Saijo^{1,2}

¹NAIST, ²JST PRESTO

19 Phylogenetic analysis of nodulating bacteria associated with wild *Lotus japonicus* in Japan

*Masaru Bamba¹, Seishirou Aoki², Tadashi Kajita³, Yasuyuki Watano⁴, Hiroaki Setoguchi⁵, Syusei Sato⁶, Takashi Tsuchimatsu⁴

¹Grad. Sch. Sci., Chiba Univ., ²Grad. Sch. Arts. Sci., Univ. Tokyo, ³Trop. Bios. Res. Cent., Univ. Ryukyus, ⁴Dept. Biol., Chiba Univ., ⁵Grad. Sch. Human Env., Kyoto Univ., ⁶Grad. Sch. Life Sci., Tohoku Univ.

20 Visualization and evaluation of root secretion activity by using ¹¹CO₂ with a positron-emitting tracer imaging system and its influence on rhizosphere bacterial community structure

*Yusuke Unno¹, Yong-Gen Yin², Nobuo Suzui², Satomi Ishii², Keisuke Kurita², Naoki Kawachi², Takuro Shinano³

¹Inst. Environ. Sci., ²QST Takasaki, ³TARC/NARO

11:10 – 11:25 a.m. Break

11:25 – 12:00 p.m. General Discussion 5 (oral: 14–20)

12:00 – 12:30 p.m. JSPMI 27th General Meeting & Closing Ceremony

Scientific Posters of JSPMI 27th Annual Meeting

Wednesday, September 20

12:00 p.m. – Poster Set-Up

Thursday, September 21

9:00 – 10:10 a.m. Short Presentation (all posters)

10:20 – 11:20 a.m. Poster Viewing with Authors (*odd numbers*)

11:20 a.m. – 0:20 p.m. Poster Viewing with Authors (*even numbers*)

1:30 – 2:10 p.m. General Discussion (P1–P15)

2:20 – 3:00 p.m. General Discussion (P16–P30)

3:10 – 3:50 p.m. General Discussion (P31–P43)

Friday, September 22

9:00 – 12:30 p.m. Poster Take-Down

【Posters, 43 titles】

P1 Analysis of caffeine secretion into the rhizosphere of *Coffea* plants and search for caffeine transporters

*Hirofumi Kakegawa¹, Tomo Kawakami¹, Nobukazu Shitan², Shuuka Nagayama³, Shinjiro Ogita³, Kazufumi Yazaki¹, Akifumi Sugiyama¹

¹Kyoto Univ., ²Kobe Pharma. Univ., ³Pref. Univ. Hiroshima

P2 Screening of caffeine metabolizing microbes from rhizosphere of coffee

*Tomo Kawakami, Kazufumi Yazaki, Akifumi Sugiyama

RISH., Kyoto Univ.

P3 Dynamics analysis of daidzein secreted from soybean roots in soil for soybean rhizosphere modeling

*Fuki Okutani¹, Shoichiro Hamamoto², Naoto Nihei², Taku Nishimura², Kazufumi Yazaki¹, Akifumi Sugiyama¹

¹RISH., Kyoto Univ., ²Agri. Grad.Sch. Agri. Life Sci., Univ. Tokyo.

P4 Fluorescence labeling of bradyrhizobia that form root/stem nodules on *Aeschynomene indica* and its application

*Shingo Hata¹, Hiroshi Kouchi²

¹Fac. Agri., Ryukoku Univ., ²International Christian Univ.

P5 TetR family of *Bradyrhizobium japonicum* affects the profile of symbiotic genes expression in early infection with soybean

*Yoshitake Orikasa, Koumei Taneda, Keisuke Takeshima, Takuji Ohwada
Obihiro Univ.

P6 Identification of crucial genes for symbiotic nitrogen fixation using gene co-expression network analysis

*Tsuneo Hakoyama¹, Yoshikazu Shimoda², Makoto Hayashi¹

¹RIKEN CSRS, ²NARO NIAS

P7 Investigation of *Bradyrhizobium elkanii* USDA94 T3SS effector relating to symbiosis with *Lotus japonicus*

*Yuki Nishida¹, Sanae Yoshimura¹, Kento Ashida¹, Manabu Itakura¹, Shin Okazaki², Shusei Sato³,
Takakazu Kaneko¹

¹Kyoto Sangyo Univ., ²Tokyo Univ. Agri. Technol., ³Tohoku Univ.

P8 A novel type III effector of *Bradyrhizobium elkanii* abolishing infection and nodule development in *Vigna radiata*

*Hien P. Nguyen, Shin Okazaki

Tokyo Univ. Agri. Technol.

P9 Interactions between T3SS effector and R protein relevant to symbiotic incompatibility

*Hitoshi Kondo, Masayuki Sugawara, Yuya Iwano, Shusei Sato, Hisayuki Mitsui, Kiwamu Minamisawa

Grad. Sch. Life Sci., Tohoku Univ.

P10 Experimental evolution of bradyrhizobial symbiosis island by using a symbiotic incompatibility

*Haruka Odake, Masayuki Sugawara, Satoko Takahashi, Kiwamu Minamisawa

Grad. Sch. Life Sci., Tohoku Univ.

P11 Various structures of symbiosis islands classified into a distinct clade of *Bradyrhizobium elkali*

*Yudai Gamo¹, Manabu Itakura¹, Kiwamu Minamisawa², Takakazu Kaneko¹

¹Kyoto Sangyo Univ., ²Tohoku Univ.

P12 Comparison between symbiosis island and genome core of bradyrhizobia nodulating *Lespedeza* and *Glycine*

*Yuki Konno¹, Seiya Kajiwara², Tomoyuki Nemoto², Masayuki Sugawara¹, Kiwamu Minamisawa¹

¹Tohoku Univ., ²Ishinomaki Senshu Univ.

P13 Symbiotic phenotype of various host plants inoculated with *bacA* and *nifV* mutants of broad-host-range rhizobia

*Shun Hashimoto¹, Teerana Greetatorn², Pongpan Songwat², Kohki Goto³, Panlada Tittabutr², Neung Teaumroong², Ken-ichi Kucho¹, Toshiki Uchiumi¹

¹Grad. Sch. Sci. Eng., Kagoshima Univ., ²Suranaree Univ. Technol., ³Fac. Sci., Kagoshima Univ.

P14 Determination of ferritin gene overexpression effects to nitrogen fixation activity in *Lotus japonicus*.

*Yamikani Chikoti, Masahiro Miyaji, Mallika Duangkhet, Emmanuel Ngatech, Mika Nomura
Kagawa Univ.

P15 Screening of santopine degrading rhizobia and identification of its catabolism genes

*Tomohisa Shimasaki, Kun Yuan, Shin Okazaki, Yoshiharu Fujii

Tokyo Univ. Agri. Technol.

P16 Expression of nitrogen-fixation genes in Fix⁻ nodules formed by *Sinorhizobium meliloti* Δ *mcpS* mutant

*Iori Imamura, Mayuka Iizuka, Akira Tabuchi

Fac. Agri., Shinshu Univ.

P17 Transcriptional regulation of the *nif* operon in actinomycete *Frankia*

*Ryotaro Matsuki, Hitomi Okuno, Ken-ichi Kucho

Grad. Sch. Sci. Eng., Kagoshima Univ.

P18 *Rhizobia* response and symbiosis process *in vitro* under Aluminium stress conditions

*Artigas Ramírez María Daniela¹, Silva Jessica Danila², Ohkama-Ohtsu Naoko³, Yokoyama Tadashi³

¹United Grad. Sch., Tokyo Univ. Agri. Technol., ²Universidade Estadual Paulista, ³Tokyo Univ. Agri. Technol.

P19 Genome wide association study of stress tolerance based on root elongation in *Lotus japonicus*

*Masatsugu Hashiguchi¹, Yuki Hanzaki¹, Stig Andersen², Shusei Sato³, Hidenori Tanaka¹ and Ryo Akashi¹

¹Univ. of Miyazaki, ²Aarhus Univ., ³Tohoku Univ.

P20 Expression of phytolegumin genes of *Glycine max* as abiotic stress response

*Masato Araragi, Mitsutaka Fukudome, Airi Ikeura, Toshiki Uchiumi

Grad. Sch. Sci. Eng., Kagoshima Univ.

P21 Analysis of *nitrate unresponsive symbiosis 3 (nrsym3)* mutant involved in nitrogen response during nodulation

*Fumika Misawa¹, Hanna Nishida^{1,2,3}, Takamasa Suzuki⁴, Momoyo Ito¹, Masayoshi Kawaguchi^{2,3}, Takuya Suzaki¹

¹Univ. Tsukuba, ²SOKENDAI, ³NIBB, ⁴Chubu Univ.

P22 Variation of symbiotic nitrogen fixation capacity in soybean mini core collection

*Yosuke Umehara¹, Masaki Hayashi², Akito Kaga³, Fukuyo Tanaka², Yoshinari Ohwaki², Masao Ishimoto³, Makoto Hayashi⁴

¹NIAS/NARO, ²CARC/NARO, ³NICS/NARO, ⁴CSRS/RIKEN

P23 Effects of symbiotic Nitrogen Fixation using variety of rhizobia species in Kenya's three Soybean varieties

*Emmanuel Ngetich, Masahiro Miyaji, Malika Duanghet, Yamikan Frank Chikoti, Mika Nomura Kagawa Univ.

P24 Identification of *Lotus LRR receptor* gene regulated the symbiotic interaction with *Mesorhizobium loti exoU* mutant

*Yasuyuki Kawaharada^{1,2}, Niels Sandal², Vikas Gupta², Haojie Jin², Stig U. Andersen², Jens Stougaard²

¹Iwate Univ. ²Aarhus Univ., CARB

P25 *LAN*, a new gene of *Lotus japonicus*, regulates rhizobial invasion system and works differently from known pathway in nodule symbiosis

*Motomi Hoshino¹, Hanna Nishida^{1,2,3}, Takuya Suzaki¹

¹Univ. Tsukuba, ²SOKENDAI, ³NIBB

P26 Functional analysis of dof1 transcription factor which affects nitrogen fixation in *Lotus japonicus*

*Masahiro Miyaji, Takahiro Okayama, Shigeyuki Tajima, Mika Nomura
Kagawa Univ.

P27 A calmodulin-binding transcriptional activator controls nodule organogenesis

*Akihiro Yamazaki¹, Akira Miyahara², Miwa Nagae², Yosuke Umehara², Makoto Hayashi¹
¹RIKEN, ²NIAS

P28 Rac/ROP GTPases regulate rhizobia infection and Nodule organogenesis mediating different calcium responses in *Medicago truncatula*

*Akira Akamatsu^{1,2}, Giles E.D. Oldroyd²
¹Kwansei Gakuin Univ., ²John Innes Centre

P29 Phylogeography analysis of *Oxytropis japonica*, a Japanese alpine legume

*Shimpei Hasegawa¹, Tomohiro Kawai¹, Naoto Seo², Shusei Sato³, Kazufumi Yazaki², Kojiro Takanashi^{1,4}

¹Fac. Sci., Shinshu Univ., ²RISH, Kyoto Univ., ³Grad. Sch. Life Sci., Tohoku Univ., ⁴IMS, Shinshu Univ.

P30 National Bioresource Project (NBRP) in Phase 4. –New organization and plan for *Lotus* and *Glycine* program–

*Masatsugu Hashiguchi¹, Shusei Sato², Ryo Akashi¹
¹Univ. Miyazaki, ²Tohoku Univ.

P31 Induction of rice AM symbiosis-related genes by a heterochitooligosaccharide with defined sequence

*Koyo Nojima, Yusuke Tatsumi, Kohki Akiyama
Osaka Pref. Univ.

P32 Mycorrhizal fungi infections using super-root derived from *Lotus corniculatus*

*Minami Koie¹, Masatsugu Hashiguchi¹, Naoya Takeda², Masayoshi Kawaguchi³, Akihiro Suzuki⁴, Ryo Akashi¹

¹Univ. Miyazaki, ²Kwansei Gakuin Univ., ³NIBB, ⁴Saga Univ.

P33 Analysis of arbuscular mycorrhizal community structures on rice in low-phosphate field with

different fertilization treatments

*Makoto Kanasugi¹, Sachiko Masuda², Kazuhiro Sasaki³, Shin Okazaki¹

¹Tokyo Univ. Agri. Technol., ²Riken, ³Univ. Tokyo

P34 The effect of different concentration of nitrogen source on endophytic colonization of *Azospirillum* sp. B510 in rice plant

*Kamrun Naher, Hiroki Miwa, Shin Okazaki, Michiko Yasuda

Tokyo Univ. Agri. Technol.

P35 Isolation of nitrogen-fixing bacteria from sorghum roots based on metagenome analysis

*Takashi Morikawa¹, Shintaro Hara¹, Sawa Arai¹, Yasuhiro Kasahara², Taichi Koshiba³, Kiyoshi Yamazaki⁴, Toru Fujiwara⁴, Tsuyoshi Tokunaga³, Kiwamu Minamisawa¹

¹Grad. Sch. Life Sci., Tohoku Univ., ²Inst. Low Temp. Sci., Hokkaido Univ., ³Earthnote Co. Ltd.,

⁴Grad. Sch. Agri. Life Sci., Univ. Tokyo

P36 Genome-based analysis of ureide degradation and carbon metabolism in soybean-associated *Methylobacterium*

*Sawa Arai, Shintaro Hara, Masayuki Sugawara, Kiwamu Minamisawa

Grad. Sch. Life Sci., Tohoku Univ.

P37 Induction of heterophylly by plant-microbe interactions in semi-aquatic plant *Rorippa aquatica* (Brassicaceae)

*Manabu Itakura, Seisuke Kimura, Kaori Kaminoyama, Takakazu Kaneko

Kyoto Sangyo Univ.

P38 The mechanisms underlying response to chitin not mediated by known receptors in plants

*Sumire Matsukawa¹, Mayumi Egusa², Chihiro Miura², Shiori Nakatani², Jyunpei Yamada², Haruko Imaizumi-Anraku³, Tsuneyoshi Endo², Yoko Nishizawa³, Shinsuke Ifuku⁴, Hironori Kaminaka²

¹Dept. Agri. Sci., Grad. Sch. Sust. Sci., Tottori Univ., ²Fac. Agri., Tottori Univ., ³Inst. Agri. Sci., NARO, ⁴Dept. Eng., Grad. Sch. Sust. Sci., Tottori Univ.

P39 Novel sensor kinases involved in signaling in the quorum sensing of *Ralstonia solanacearum* strain OE1-1 using methyl 3-hydroxymyristate as the quorum sensing signal

*Kazusa Hayashi¹, Kouhei Ohnishi², Akinori Kiba¹, Kenji Kai³, Yasufumi Hikichi¹

¹Fac. Agri., Kochi Univ., ²RIMG, Kochi Univ., ³Sch. Life and Environmental Sci., Osaka Pref. Univ.

P40 Why does *Rehmannia mosaic virus* Japanese strain induce systemic necrosis on tomato plants

under high temperature ?

*Takuya Hamada, Akinori Kiba, Yasufumi Hikichi

Fac. Agri., Kochi Univ.

P41 Analyses of symbiotic compatibility between orchids and *Rhizoctonia* fungi

*Masaya Honjyo¹, Chihiro Miura², Masako Fuji², Shintaro Komiyama², Tatsuki Yamamoto², Takahiro Yagame³, Masahide Yamato⁴, Hironori Kaminaka²

¹Dept. Agri. Sci., Grad. Sch. Sust. Sci., Tottori Univ., ²Fac. Agr., Tottori Univ., ³Mizuho Kyo-do Mus.,

⁴Fac. Edu., Chiba Univ.

P42 Genotyping of *Meloidogyne incognita* isolates

*Erika Asamizu¹, Kenta Shirasawa², Hideki Hirakawa², Hideaki Iwahori¹

¹Ryukoku Univ., ²Kazusa DNA Res. Inst.

P43 Physiological activity of symbiotic organ-specific cysteine rich peptides on the *sbmA* mutant bacteria

Nahoko Uchi¹, *Narumi Nozaki², Mitsutaka Fukudome², Ken-ichi Osuki², Miyuzu Suzuki³, Shuji Shigenobu³, Toshiki Uchiumi²

¹Grad. Schl. Med. Dent. Sci., Kagoshima Univ., ²Grad. Schl. Sci. Eng., Kagoshima Univ., ³NIBB