

## External Presentations

### Main Submitted Theses and Oral Presentations

April 1, 2019 - March 31, 2020

The papers posted here have been published in English-language journals and in Japanese-language journals with English titles. Conference presentations have been given at international conferences and at Japanese conferences with English titles.

#### Polymers

##### Direct observation of long-chain branches in a low density polyethylene

K. Shinohara\*, M. Yanagisawa, Y. Makida\* (Advanced Materials Development Laboratory, \* Japan Advanced Institute of Science and Technology)

Scientific Reports, 9, Article number: 9791 (2019)

##### Introduction of functionalized air bag cover thermoplastic elastomers

H. Kageyama (Petrochemicals Research Laboratory)

SPE Automotive TPO Engineered Polyolefins Global Conference 2019 (U.S.A.), October 6 - October 9, 2019

##### Development of substrate materials for flexible printed circuit board of 5G technology – Improvement of dielectric performance of liquid crystalline polymer (LCP) -

M. Nabika, S. Otomo, S. Azami (Energy & Functional Materials Research Laboratory)

Japanese Liquid Crystal Conference 2019 (Ibaraki, Japan), September 4 - September 6, 2019

#### Inorganic and metallic materials

##### Band engineering, carrier density control, and enhanced thermoelectric performance in multi-doped SnTe

A. Doi\*1,2, S. Shimano\*1,2, D. Inoue\*2, T. Kikitsu\*2, T. Hirai\*1, D. Hashizume\*2, Y. Tokura\*2,3, Y. Taguchi\*2 (\*1 Advanced Materials Development Laboratory, \*2 RIKEN, \*3 The University of Tokyo)

APL Materials, 7(9), 091107 (2019)

#### Speciality chemicals

##### Novel coupling agents for reducing hysteresis loss in rubber/filler compositions

N. Kamimoto (Energy & Functional Materials Research Laboratory)

Tire Technology EXPO 2020 (Germany), February 25 - February 27, 2020

#### Crop protection chemicals

##### Mechanism of acequinocyl resistance and cross-resistance to bifenthrin in the two-spotted spider mite, *Tetranychus urticae* (Acari: Tetranychidae)

N. Sugimoto, M. Osakabe\* (Health & Crop Sciences Research Laboratory, \* Kyoto University)

Applied Entomology and Zoology, 54, 421 (2019)

##### Discovery of metyltetraprole: Identification of tetrazolinone pharmacophore to overcome QoI resistance

Y. Matsuzaki, Y. Yoshimoto\*1, S. Arimori\*2, S. Kiguchi\*2, F. Iwahashi (Health & Crop Sciences Research Laboratory, \*1 Misawa Works, \*2 Planning & Coordination Office, Health & Crop Sciences Sector)

Bioorganic & Medicinal Chemistry, 28, 115211 (2020)

##### Effect of metofluthrin-impregnated spatial repellent devices combined with new long-lasting insecticidal nets (Olyset®Plus) on pyrethroid-resistant malaria vectors and malaria prevalence: field trial in south-eastern Malawi

H. Kawada\*1, S. Nakazawa\*1, K. Shimabukuro\*2, K. Ohashi, E. A. Kambewa\*3, D. F. Pemba\*3 (Health & Crop Sciences Research Laboratory, \*1 Nagasaki University, \*2 Nagano College of Nursing, \*3 University of Malawi)

Japanese Journal of Infectious Diseases, 73, 124 (2020)

##### Metyltetraprole, a novel putative complex III inhibitor, targets known QoI-resistant strains of *Zymoseptoria tritici* and *Pyrenophora teres*

H. Suemoto, Y. Matsuzaki, F. Iwahashi (Health & Crop Sciences Research Laboratory)

Pest Management Science, 75(4), 1181 (2019)

##### Discovery of Pavecto®-A new QoI-fungicide

Y. Yoshimoto, S. Arimori\* (Health & Crop Sciences Research Laboratory, \* Planning & Coordination Office, Health & Crop Sciences Sector)

19th International Reinhardtsbrunn Symposium (Germany), April 7 - April 11, 2019

##### Biological profile of Pavecto®-a new QoI-fungicide: discovery of tetrazolinone chemical class and *in vitro* / *in vivo* analysis of the activity against QoI-resistant fungal strains

Y. Matsuzaki, F. Iwahashi (Health & Crop Sciences Research Laboratory)

19th International Reinhardtsbrunn Symposium (Germany), April 7 - April 11, 2019

### **Discovery of inpyrfluxam**

S. Kiguchi (Planning & Coordination Office, Health & Crop Sciences Sector)

14th IUPAC International Congress of Crop Protection Chemistry (Belgium), May 19 - May 24, 2019

### **Discovery and structure activity relationship of metyltetraprole**

S. Arimori, Y. Yoshimoto\*1, Y. Matsuzaki\*2, F. Iwahashi\*2 (Planning & Coordination Office, Health & Crop Sciences Sector, \*1 Misawa Works, \*2 Health & Crop Sciences Research Laboratory)

14th IUPAC International Congress of Crop Protection Chemistry (Belgium), May 19 - May 24, 2019

### **Discovery and biological profile of metyltetraprole**

Y. Matsuzaki, Y. Yoshimoto\*1, S. Arimori\*2, F. Iwahashi (Health & Crop Sciences Research Laboratory, \*1 Misawa Works, \*2 Planning & Coordination Office, Health & Crop Sciences Sector)

14th IUPAC International Congress of Crop Protection Chemistry (Belgium), May 19 - May 24, 2019

### **Discovery of oxazosulfyl**

M. Ito, Y. Nokura, M. Takahashi\*1, K. Yamada\*3, A. Iwata\*2 (Health & Crop Sciences Research Laboratory, \*1 Sumitomo Chemical Workers' Union, \*2 AgroSolutions Division – International, \*3 Sumika Technoservice Corporation)

14th IUPAC International Congress of Crop Protection Chemistry (Belgium), May 19 - May 24, 2019

### **Physiological and molecular analysis of oxazosulfyl on insect**

T. Suzuki, S. Yamato (Health & Crop Sciences Research Laboratory)

14th IUPAC International Congress of Crop Protection Chemistry (Belgium), May 19 - May 24, 2019

### **Highly efficient synthesis of aromatic $\alpha$ -keto acids from acetophenones using nitrosylsulfuric acid as an oxidant**

T. Matsunaga, Y. Kataoka, S. Tanimura, M. Kawamura (Health & Crop Sciences Research Laboratory)

The 4th International Symposium on Process Chemistry (Kyoto, Japan), July 24 - July 26, 2019

### **Challenges in developing new vector control tools**

R. Koganemaru, K. Ohashi (Health & Crop Sciences Research Laboratory)

American Chemical Society, Agrochemical Division Symposium (U.S.A.), August 25 - August 29, 2019

### **Impact on QoI sensitivity by application of Pavecto**

Y. Matsuzaki, S. Kiguchi\*, H. Suemoto, F. Iwahashi (Health & Crop Sciences Research Laboratory, \* Planning & Coordination Office, Health & Crop Sciences Sector)

Resistance 2019 (U.K.), September 16 - September 18, 2019

### **Novel vector control products and their efficacy from Sumitomo Chemical Co., Ltd.**

R. Koganemaru, K. Ohashi (Health & Crop Sciences Research Laboratory)

The 4th IUPAC International Conference on Agrochemicals Protecting Crops, Health and Natural Environment (APCHNE 2020) (India), January 7 - January 10, 2020

### **Long-lasting efficacy of SumiLarv<sup>®</sup>2MR for control of *Aedes aegypti* larvae**

K. Ohashi, T. Sasaki, M. Takano, N. Sakamoto (Health & Crop Sciences Research Laboratory)

71st Annual Meeting of Japanese Society of Medical Entomology (Yamaguchi, Japan), April 19 - April 21, 2019

### **Study on manufacturing conditions of impregnated granules using horizontal drum mixer**

M. Kishi, Y. Takemoto, M. Mizutani, M. Abe\*, N. Shimada\* (Health & Crop Sciences Research Laboratory, \* Production & Safety Fundamental Technology Center)

The 39th Symposium on Japan Agricultural Formulation and Application (Ibaraki, Japan), October 17 - October 18, 2019

### **Studies on a novel insecticide, oxazosulfyl (1) - Discovery and optimization -**

Y. Nokura, M. Ito, M. Takahashi\* (Health & Crop Sciences Research Laboratory, \* Sumitomo Chemical Workers' Union)

The 45th Annual Meeting of the Pesticide Science Society of Japan scheduled for March 8 - March 10, 2020 has been cancelled and a collection of lecture abstracts has been published.

### **Studies on a novel insecticide, oxazosulfyl (2) - Mode of action -**

T. Suzuki, S. Yamato (Health & Crop Sciences Research Laboratory)

The 45th Annual Meeting of the Pesticide Science Society of Japan scheduled for March 8 - March 10, 2020 has been cancelled and a collection of lecture abstracts has been published.

### **Studies on a novel insecticide, oxazosulfyl (3) - Biological profile -**

M. Kamezaki (Health & Crop Sciences Research Laboratory)

The 45th Annual Meeting of the Pesticide Science Society of Japan scheduled for March 8 - March 10, 2020 has been cancelled and a collection of lecture abstracts has been published.

#### **Studies on a novel insecticide, oxazosulfyl (4) - Efficacy of oxazosulfyl GR for nursery-box application -**

E. Sakamoto, N. Tokoro (Health & Crop Sciences Research Laboratory)

The 45th Annual Meeting of the Pesticide Science Society of Japan scheduled for March 8 - March 10, 2020 has been cancelled and a collection of lecture abstracts has been published.

#### **Studies on a Novel Fungicide, Inpyrfluxam (1) - Biological Profile of Inpyrfluxam -**

S. Watanabe, J. Iwakawa, R. Sakai, F. Iwahashi (Health & Crop Sciences Research Laboratory)

The 2020 Annual Meeting of the Phytopathological Society of Japan scheduled for March 19 - March 21, 2020 has been cancelled and a collection of lecture abstracts has been published.

#### **Studies on a Novel Fungicide, Inpyrfluxam (2) - Biological Profile of Inpyrfluxam -**

M. Kurahashi, J. Iwakawa, N. Yasuda, S. Watanabe, R. Sakai (Health & Crop Sciences Research Laboratory)

The 2020 Annual Meeting of the Phytopathological Society of Japan scheduled for March 19 - March 21, 2020 has been cancelled and a collection of lecture abstracts has been published.

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### **Medical and pharmaceutical materials**

#### **Sumitomo's approach: Development of manufacturing and analytical methods for high quality long RNA oligos**

T. Miki (Health & Crop Sciences Research Laboratory)

TIDES: Oligonucleotide and Peptide Therapeutics (U.S.A.), May 20 - May 23, 2019

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### **Catalysts**

#### **Green and sustainable technology for the earth - Maximizing value of product chain with Sumitomo's advanced process recycling hydrogen chloride back to chlorine -**

Y. Kitagawa, K. Seki\* (Industrial Chemicals Division, \* Petrochemicals Research Laboratory)

The 23rd World Chlor-alkali Conference (Singapore), June 20 - June 21, 2019

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### **Computer simulation**

#### **Computational study for electrical and optical properties of organic semiconducting polymers**

M. Ishida, S. Nishino, Y. Abe\*, T. Hoshi\* (Advanced Materials Development Laboratory, \* Tottori University)

HPCI Research Report, 4(1), 37 (hp150066) (2019)

#### **Discuss efforts against sustainable productivity by using computational fluid dynamics – A case of Japanese chemical company –**

N. Shimada (Production & Safety Fundamental Technology Center)

18th Asian Pacific Confederation of Chemical Engineering Congress (APCChE 2019) (Hokkaido, Japan), September 23 - September 27, 2019

#### **A modified cut-cell approach for inclined boundary conditions on computational fluid dynamics**

S. Tanaka, N. Shimada, Y. Matoba (Environmental Health Science Laboratory, \* Production & Safety Fundamental Technology Center)

The 72nd Annual Meeting of the American Physical Society's Division of Fluid Dynamics (U.S.A.), November 23 - November 26, 2019

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### **Toxicological safety assessment**

#### **Implications for the predictivity of cell-based developmental toxicity assays developed two decades apart**

S. Kawamura, N. Horie, N. Okahashi, H. Higuchi (Environmental Health Science Laboratory)

Toxicological Research, 35(4), 343 (2019)

#### **Segmental aplasia of a uterine horn in two RccHan: WIST rats**

Y. Shimotsuma, S. Takeda, K. Ogata, K. Miyata (Environmental Health Science Laboratory)

Journal of Toxicologic Pathology, 32(4), 293 (2019)

#### **Effects of the insecticide esfenvalerate on zooplankton in an indoor synthetic model ecosystem**

M. Miyamoto, T. Fujisawa (Environmental Health Science Laboratory)

Journal of Pesticide Science, 44(2), 112 (2019)

#### **In vitro metabolism of pesticides and industrial chemicals in fish**

T. Katagi (Bioscience Research Laboratory)

Journal of Pesticide Science, 45(1), 1 (2020)

#### **Involvement of peroxisome proliferator-activated receptor-alpha in liver tumor production by permethrin in the female mouse**

M. Kondo, K. Miyata, H. Nagahori, K. Sumida\*1, T. G. Osimitz\*2, S. M. Cohen\*3, B. G. Lake\*4, T. Yamada (Environmental Health Science Laboratory, \*1 Bioscience Research Laboratory, \*2 Science Strategies, LLC, \*3 University of Nebraska Medical Center, \*4 University of Surrey)

Toxicological Sciences, 168(2), 572 (2019)

**A microarray-based comparative analysis of gene expression profiles in thyroid glands in amphibian metamorphosis: differences in effects between chemical exposure and food restriction**

K. Ose, F. Yamada\*, A. Ohara\*, N. Suzuki\*, T. Fukuda\*, M. Miyamoto, K. Sumida\* (Environmental Health Science Laboratory, \* Bioscience Research Laboratory)  
Journal of Applied Toxicology, 39(7),1030 (2019)

**A risk assessment framework for self-management of poorly soluble low toxic nanomaterials**

S. Kawai, M. Niwano, M. Sato (Environmental Health Science Laboratory)  
Heliyon, 5(8), e02165 (2019)

**The effects on the endocrine system under hepatotoxicity induction by phenobarbital and di (2-ethylhexyl) phthalate in intact juvenile male rats**

T. Yamaguchi\*1,2, M. Maeda\*1, K. Ogata\*1, J. Abe\*1, T. Utsumi\*1, K. Kimura\*2 (\*1 Environmental Health Science Laboratory, \*2 Okayama University)  
The Journal of Toxicological Sciences, 44(7), 459 (2019)

**Historical control data on developmental toxicity studies in rats**

M. Kuwagata\*1, Y. Sakai\*2, S. Tanaka\*3, H. Takashima\*4, R. Katagiri\*5, T. Matsuoka\*6, K. Noritake\*7, M. Senuma\*1, T. Shimizu\*8, H. Hojo\*9, K. Ibi\*10, S. Kudo\*11, T. Oota\*12, M. Ube\*13, Y. Miwa\*14, S. Kajita\*15, T. Uesugi\*16, K. Yabe\*17, T. Tateishi\*18, N. Nakano\*19, T. Taniguchi, A. Yamashita\*20, T. Hirano\*21, Y. Kirihata\*22, Y. Sakai\*23, S. Nishizawa\*24, M. Fujiwara\*2, H. Mineshima\*7, M. Horimoto\*25, M. Ema\*26 (Environmental Health Science Laboratory, \*1 Food and Drug Safety Center, \*2 Astellas Pharma Inc., \*3 Public Interest Incorporated Foundation, Biosafety Research Center, \*4 BoZo Research Center Inc., \*5 Chugai Pharmaceutical Co., LTD., \*6 Daiichi Sankyo CO., LTD., \*7 Eisai Co., Ltd., \*8 Ina Research Inc., \*9 The Institute of Environmental Toxicology, \*10 Kaken Pharmaceutical Co., Ltd, \*11 Kyorin Pharmaceutical Co., Ltd., \*12 LSI Medience Corporation, \*13 Mitsubishi Tanabe Pharma Corporation, \*14 Nihon Bioresearch Inc., \*15 Ono Pharmaceutical Co., Ltd., \*16 Otsuka Pharmaceutical Co Ltd., \*17 Safety Research Institute for Chemical Compounds Co., Ltd., \*18 Shin Nippon Biomedical Laboratories Ltd., \*19 Shionogi & Co., Ltd., \*20 Sumitomo Dainippon Pharma Co., Ltd., \*21 Taiho Pharmaceutical Co., Ltd., \*22 Taisho Pharmaceutical Co., Ltd., \*23 Takeda Pharmaceutical Company Ltd., \*24 Teijin Pharma Limited, \*25 Chiba Institute of Science, \*26 National Institute of Advanced Industrial Science and Technology)  
Congenital Anomalies, 59(4), 125 (2019)

**Diurnal gain and nocturnal reduction of body weight in young adult rabbits: the reverse of the circadian rhythm observed in rats and mice**

S. Kawamura, H. Yamazoe, Y. Hosokawa (Environmental Health Science Laboratory)  
Journal of Toxicology Current Research, 4:016 (2020)

**Photodegradation of strobilurin fungicide mandestrobin in aqueous media**

T. Adachi, Y. Suzuki, T. Fujisawa (Environmental Health Science Laboratory)  
14th IUPAC International Congress of Crop Protection Chemistry (Belgium), May 19 - May 24, 2019

**Refinement of bioconcentration factors of alkylphenols considering *in vitro* biotransformation rates in fish liver S9 fraction**

C. Miyata, Y. Matoba, M. Sato (Environmental Health Science Laboratory)  
SETAC North America 40th Annual Meeting (Canada), November 3 - November 7, 2019

**Test performance evaluation of the miniaturized Ames test relative to the conventional method**

Y. Inoue, R. Matsuyama, S. Kitamoto (Environmental Health Science Laboratory)  
ACEM/JEMS 2019 (The joint Meeting of The 6th Asian Congress on Environmental Mutagens and the 48th Annual Meeting of the Japanese Environmental Mutagen Society) (Tokyo, Japan), November 18 - November 20, 2019

**Application of X-ray micro-computed tomography (micro-CT) for fetal skeletal examination in developmental toxicity study in rats**

R. Ihara, T. Taniguchi, K. Matsuda, K. Iwashita, T. Utsumi (Environmental Health Science Laboratory)  
The 59th Annual Meeting of the Japanese Teratology Society (Aichi, Japan), July 26 - July 28, 2019

**Morphological differences of rib and transverse process of lumbar vertebra between two rat strains**

Y. Hosokawa, K. Matsuda, M. Matsumoto, K. Iwashita, T. Utsumi (Environmental Health Science Laboratory)  
The 59th Annual Meeting of the Japanese Teratology Society (Aichi, Japan), July 26 - July 28, 2019

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**Life science**

**Removal of greenhouse microclimate heterogeneity with conveyor system for indoor phenotyping**

D. Ma\*2, N. Carpenter\*2, S. Amatya\*2, H. Maki\*1,2, L. Wang\*2, L. Zhang\*2, S. Neeno\*2, M. R. Tuinstra\*2, J. Jin\*2 (\*1 Health & Crop Sciences Research Laboratory, \*2 Purdue University)  
Computers and Electronics in Agriculture, 166, 104979 (2019)

### **Abscisic acid derivatives with different alkyl chain lengths activate distinct abscisic acid receptor subfamilies**

K. Yoshida\*, Y. Kondoh\*, F. Iwahashi, Y. Nakano\*, K. Honda\*, E. Nagano, H. Osada\* (Health & Crop Sciences Research Laboratory, \* RIKEN)

ACS Chemical Biology, 14, 1964 (2019)

### **Circulating natural antibodies against 3'-sialyllactose complement the diagnostic performance of CA19-9 for the early detection of pancreatic ductal adenocarcinoma**

K. Yamada\*2, K. Higashi, H. Nagahori\*1, K. Saito (Advanced Materials Development Laboratory, \*1 Environmental Health Science Laboratory, \*2 Osaka Ohtani University)

Cancer Biomarkers, 27(1), 121 (2020)

### **Homeostatic function of dermokine in the skin barrier and inflammation**

A. Utsunomiya\*1, T. Chino\*1, N. Utsunomiya\*1, V. H. Luong\*1, A. Tokuriki\*1, T. Naganuma\*2,3, M. Arita\*2,3, K. Higashi, K. Saito, N. Suzuki, A. Ohara, M. Sugai\*1, K. Sugawara\*4, D. Tsuruta\*4, N. Oyama\*1, M. Hasegawa\*1 (Environmental Health Science Laboratory, \*1 University of Fukui, \*2 Keio University, \*3 RIKEN, \*4 Osaka City University)

Journal of Investigative Dermatology, 140(4), 838(2020)

### **Highly accurate detection and identification methodology of xenobiotic metabolites using stable isotope labeling, LC/HRMS/MS analysis, and data mining techniques**

M. Takahashi\*1, Y. Izumi\*1, F. Iwahashi, Y. Nakayama\*2, M. Iwakoshi, M. Nakao\*1, S. Yamato, E. Fukusaki\*3, T. Bamba\*1 (Health & Crop Sciences Research Laboratory, \*1 Kyushu University, \*2 Sojo University, \*3 Osaka University)

67th Conference on Mass Spectrometry and Allied Topics (U.S.A.), June 2 - June 6, 2019

### **Generation of olfactory placodal /epithelial organoids from human pluripotent stem cells**

T. Nakano, Y. Takahashi, S. Kitamoto, Y. Tomigahara (Environmental Health Science Laboratory)

ISSCR 2019 Annual Meeting (U.S.A.), June 26 - June 29, 2019

### **Field transcriptomics: learning from gene-coexpression networks towards optimization and prediction of mycorrhizal functioning in the field**

T. Ezawa\*, Y. Sugimura\*, A. Kawahara, H. Maruyama\* (Health & Crop Sciences Research Laboratory, \* Hokkaido University)

10th International Conference on Mycorrhiza (Mexico), June 30 - July 5, 2019

### **Tight and flexible regulation of mycorrhizal formation and functioning through a gene-coexpression network module in diverse and fluctuating environments**

Y. Sugimura\*, A. Kawahara, H. Maruyama\*, T. Ezawa\* (Health & Crop Sciences Research Laboratory, \* Hokkaido University)

10th International Conference on Mycorrhiza (Mexico), June 30 - July 5, 2019

### **Field transcriptomics reveals a gene-coexpression module that regulates mycorrhizal formation and functioning**

A. Kawahara, Y. Sugimura\*, H. Maruyama\*, T. Ezawa\* (Health & Crop Sciences Research Laboratory, \* Hokkaido University)

Rhizosphere 5 (Canada), July 7 - July 11, 2019

### **Two distinct gene-coexpression networks, mycorrhizal module and phosphate-starvation module, are independently regulated in the field**

T. Ezawa\*, Y. Sugimura\*, A. Kawahara, H. Maruyama\* (Health & Crop Sciences Research Laboratory, \* Hokkaido University)

Rhizosphere 5 (Canada), July 7 - July 11, 2019

### **Selective activation of abscisic acid receptors by 3'-alkyl ABAs**

K. Yoshida\*, Y. Kondoh\*, F. Iwahashi, Y. Nakano\*, K. Honda\*, E. Nagano, H. Osada\* (Health & Crop Sciences Research Laboratory, \* RIKEN)

7th RIKEN-Max Planck Joint Symposium on Systems Chemical Biology (Germany), September 15 - September 18, 2019

### **Quantitative signal analysis of a ligand-gated ion channel on a lipid bilayer using continuous-time wavelet transformation**

H. Sugiura\*1, T. Yamada\*1, A. Ozoe, Y. Kodama, Y. Takahashi, T. Osaki\*1,2, S. Takeuchi\*1,2 (Environmental Health Science Laboratory, \*1 Kanagawa Institute of Industrial Science and Technology, \*2 The University of Tokyo)

30th 2019 International Symposium on Micro-NanoMechatronics and Human Science (Aichi, Japan), December 1 - December 4, 2019

### **Selective activation of abscisic acid receptors by 3'-alkyl ABAs**

K. Yoshida\*, Y. Kondoh\*, F. Iwahashi, Y. Nakano\*, K. Honda\*, E. Nagano, H. Osada\* (Health & Crop Sciences Research Laboratory, \* RIKEN)

RIKEN Seminar: Chemical Probe Workshop (Saitama, Japan), July 1, 2019

### **Absolute control or dedication? Evolutionary implications of the plant gene-coexpression network for mycorrhizas, the plant-fungal symbiosis**

T. Ezawa\*, Y. Sugimura\*, A. Kawahara, H. Maruyama\* (Health & Crop Sciences Research Laboratory, \* Hokkaido University)

21st Annual Meeting of the Society of Evolutionary Studies, Japan (Hokkaido, Japan), August 7 - August 10, 2019

### **Mode of action of piperovatine against voltage-gated sodium channels**

T. Suzuki, S. Yamato (Health & Crop Sciences Research Laboratory)

The 2020 Annual Meeting of the Japan Society for Bioscience, Biotechnology and Agrochemistry scheduled for March 25 - March 28, 2020 has been cancelled and a collection of lecture abstracts has been published.