

Poster Sessions

September 20: 13:30-14:30 (Odd Numbers) / September 21: 13:00-14:00 (Even Numbers)

Herbicide 1

P-001

Rinskor™ Active 2.7% NeoEC: a novel formulation of auxin herbicide for post-emergence use in transplanted rice in Taiwan

Ta-I Huang, Yi-Hsiou Huang

Dow AgroSciences Taiwan, Taiwan, Republic of China

P-002

2,4-Di-tertbutylphenol isolated from *Pennisetum purpureum*: a potential natural preemergence herbicide

T. S. Chuah¹, A. H. Naimah¹, W. S. Wan Nur Suzani Sazleen¹, C.M. Mazira¹, M.Z. Norhafizah², A.R. Shamsul Bahri¹

¹University of Malaysia Terengganu, Malaysia; ²Universiti Malaysia Kelantan, Malaysia

P-003

Rinskor™ Active GR, a novel herbicide for water injection market in Korea

Jeewan Yi¹, Kyehwan Lee², Won Hur², Ikuo Shiraishi¹, Mauricio Morell¹

¹Dow AgroSciences LLC, Korea; ²Kyungnong Corporation

P-004

Herbicidal characteristics of secondary metabolites from *Streptomyces* sp. KRA14-329 and their possible mode of action

Hyun-Suk Yeom¹, Jung Sub Choi¹, Young Kwan Ko¹, Young Sook Kim¹, Hun Tak Sin², Kee Woong Park²

¹Korea Research Institute of Chemical Technology, Korea; ²Chungnam National University, Korea

Herbicide 2

P-005

Council Complete - Field performance (efficacy, selectivity) in rice

Kenji Sugiura, Tatsuya Yamaoka, Masaaki Sase, Shinichi Shirakura

Bayer CropScience K.K., Japan

P-006

Study on the methodology to evaluate weed-control efficacy of rice herbicides against *Paspalum distichum* L. (knotgrass)

Shinichi Shirakura, Rika Matsuura, Tatsuya Yamaoka, Chieko Ueno, Hidenori Hayakawa, Kenji Sugiura

Bayer CropScience K.K. (Japan), Japan

P-007

Bio-efficacy evaluation of herbicides in rice cultivation in Sri Lanka

H. M. S. D. Kulatunga¹, D. D. Witharana², A. S. K. Abeysekara², U. B. Wickrama²

¹University of Peradeniya, Sri Lanka; ²Rice Research and Development Institute, Sri Lanka

P-008

Control of weedy-rice in Japan using mixtures including pyrazoxyfen and flucetosulfuron

Yousuke Kobayashi, Taketo Suganuma, Megumi Miyashita, Shigeru Mitani

Ishihara Sangyo Kaisha, Ltd., Japan

P-009

Study on the mode of action and metabolic detoxification of a novel herbicide, fenquinotrione

Shunsuke Yamamoto, Yoshitaka Tanetani, Kiyoshi Kawai

Kumiai Chemical Industry Co., LTD., Japan

Herbicide 3

P-010

Comparison of the physiological effects of five different auxinic herbicides on *Arabidopsis thaliana* mutants

Toshiki Komai¹, Yukari Sunohara¹, Hiroyuki Kawano¹, Satoshi Iwakami², Ken-ichiro Hayashi³, Hiroshi Matsumoto¹

¹University of Tsukuba, Japan; ²Kyoto University, Japan; ³Okayama University of Science, Japan

P-011

Identification of genes potentially associated with nicosulfuron tolerance in maize via bulked segregant RNA-seq

Xiaomin Liu, Guiqi Wang, Xian Xu, Binghua Li, Huanhuan Zhang, Zhizun Qi

Hebei Academy of Agriculture and Forestry Sciences, China

P-012

Response of soybean applied with flumioxazine 50% soluble concentrate and its residual effect on sunflower and pearl millet

R. Thirumalaikumar, R. Kalpana, N. S. Venkataraman, K. Balakrishnan, R. Babu

Tamil Nadu Agricultural University, India

P-013

Nicosulfuron: a new herbicide for weed control in corn fields in Thailand

Hiroyuki Okamoto, Satoko Fujii, Hiroshi Kikugawa

Ishihara Sangyo Kaisha, Ltd., Japan

Herbicide Usage 1

P-014

Selection of appropriate herbicides for establishment of weed control system and occurrence of invasive exotic weeds in adzuki bean

Jae-Bok Hwang, Tae-Seon Park, Hong-Kyu Park, Hak-Sin Kim, In-Bae Choi, Bon-Il Koo, Hee-Soo Bae
National Institute of Crop Science, Korea

P-015

Assessment of different weed control methods on growth and yield of wheat

Mohammad Shamim Hasan Mandal¹, Md. Hazrat Ali², A. K. M. R. Ruhul Amin², Sheikh Muhammad Masum², Hasan Mehraj³

¹Hiroshima Univeristy, Japan; ²Sher-e-Bangla Agricultural University, Bangladesh; ³Ehime University, Japan

P-016

Expanding pre-emergence weed control options in safflower (*Carthamus tinctorious*)

Clair L. Keene¹, Caleb D. Dalley²

¹North Dakota State University, Williston Research Extension Center, USA; ²North Dakota State University Hettinger Research Extension Center, USA

P-017

Herbicidal efficacy of metamifop granule or emulsifiable concentrate to *Leptochloa chinensis* (L.) Nees

Ken-ichi Sudo¹, Masahiro Akazawa¹, Yoshihiro Asanuma², Kentaro Shirouzu²

¹Japan Association for Advancement of Phyto-Regulators, Japan; ²Kaken Pharmaceutical co., LTD., Japan

P-018

Efficacy of herbicides for weed control and their residues in sweet corn

Amornpan Koysungnoen¹, Avishek Datta¹, Tosapon Pornprom²

¹Asian Institute of Technology, Thailand; ²Kasetsart University, Thailand

P-019

Effects of formulation and soil moisture conditions on efficacy of soil applied herbicides to a grass weed dominating in rice fields of tropical savanna

Akiko Usui¹, Atsushi Ogawa¹, Chiharu Sone¹, Hirohiko Morita^{1,2}

¹Akita Prefectural University, Japan; ²Japan Association for Advancement of Phyto-Regulators, Japan

Herbicide Usage 2

P-020

Antagonism of herbicides with different mode of action for the management of *Digitaria insularis*

Camila Ferreira de Pinho, Jéssica Ferreira Lourenço Leal, Amanda Santos Souza, Samia Rayara de Sousa Ribeiro, Gabriella Francisco Pereira Borges de Oliveira, André Lucas Simões Araujo, Joyce de Aguiar Carvalho, Caio Victor Lopes Pereira

UFRRJ - Federal Rural University of Rio de Janeiro, Brazil

P-021

Carryover of diclosulam on corn in crop rotation

Camila Ferreira de Pinho, Samia Rayara de Sousa Ribeiro, Gabriella Francisco Pereira Borges de Oliveira, Amanda dos Santos Souza, Jéssica Ferreira Lourenço Leal, Luane Lima Souza, Marcelo Pereira Sampaio, Alex Sandro da Cruz Damasceno

UFRRJ - Federal Rural University of Rio de Janeiro, Brazil

Herbicide Usage 3

P-022

Effects of benomyl and diuron mixed application on their degradation in tea field soil and impacts on soil bacterial community

Po-Yu Lai, Zhi-Zhan Li, Jui-Hung Yen

National Taiwan University, Taiwan

P-023

Effect of green manure amendment on the dissipation of pendimethalin and changes in soil microbial communities

Chung-An Tan¹, Wen-Ching Chen², Fang-Yu Hsu¹, Jui-Hung Yen¹

¹National Taiwan University, Taiwan; ²National Chung-Hsing University, Taiwan

P-024

Microbial degradation of oxadiazon and thiobencarb by dissimilatory metal reducing bacteria *Shewanella* spp. KR12 under anoxic condition

Yu-Hsin Hsiung, Jui-Hung Yen

National Taiwan University, Taiwan

P-025

Evaluation of paraquat residue in rice fields based on a long-term experiment for 35 years

Naoki Nakamura, Junichi Okuno, Yoshitsugu Odanaka, Ayako Kawata, Shigeo Gonda, Masao Yokoyama

Japan Association for Advancement of Phyto-Regulators, Japan

P-026

Evaluation of leaching of imazapyr+imazapic herbicides considering the different soil moisture

Gabriella Francisco Pereira Borges de Oliveira, Amanda dos Santos Souza, Jéssica Ferreira Lourenço Leal, Samia Rayara Ribeiro, Raíza Ritielle Carvalho Scalzer, Guilherme Araujo Rocha, Eduardo Souza de Amorim, Camila Ferreira de Pinho

Federal Rural University of Rio de Janeiro (UFRRJ), Brazil

P-027

Comparison of transcriptome analysis of japonica and indica type rice (*Oryza sativa* L.) using next generation sequencing (NGS) by benzobicyclon treatment.

Sangsu Kim, Yonghwan Lee, Sungwoo Kim, Yejin Kim

National Academy of Agricultural Science, Korea

P-028

Effects of fluazifop-P-butyl on chlorophyll fluorescence characteristics of *Acanthospermum hispidum* seedlings

Xiaoyong Luo¹, Yuhong Shang¹, Congjun Yang¹, Zhihang Liu¹, Fei Zhou¹, Hiroshi Matsumoto²

¹Qingdao Agricultural University, China; ²University of Tsukuba, Japan

P-029

Basic research of effect of soil organic matter on glyphosate sorption onto a soil

Hirotsu Murano, Masayuki Sano, Shiho Orii, Mari Miyata, Toshiyuki Isoi

Meijo University, Japan

P-030 **APWSS Student Travel Grant**

Influence of cow bonechar addition on reduce bioavailability of aminocyclopyrachlor and mesotrione in an agricultural soil

Kassio Ferreira Mendes, Ricardo Ferraz Silveira, Rodrigo Floriano Pimpinato, Valdemar Luiz Tornisielo

University of So Paulo, Brazil

P-031 **APWSS Student Travel Grant**

Bonechar as an adsorbent for removing hexazinone, diuron, ametryn and sulfometuron-methyl from drinking water

Kassio Ferreira Mendes, Rosana Maria de Oliveira Freguglia, Rodrigo Floriano Pimpinato, Valdemar Luiz Tornisielo

University of So Paulo, Brazil

Herbicide Resistance (Status)

P-032

Geographical distribution of ALS inhibitor resistant paddy weeds in Gyeonggi and Gangwon provinces of Korea

Soo-Hyun Lim, Minjung Yook, Yeon-Ho Park, Hyejin Yu, Do-Soon Kim

Seoul National University, Korea

Herbicide Resistance (Management)

P-033

Evaluation of different per-emergence herbicides in comparison with glyphosate for effective weed control in glyphosate-resistant cotton

Nadeem Iqbal, Bhagirath S. Chauhan, Sudheesh Manalil, Steve Adkins

The University of Queensland, Australia

P-034

Benefits of narrow-row spacing in weed suppression in glyphosate-resistant cotton

Nadeem Iqbal, Bhagirath S. Chauhan, Sudheesh Manalil, Steve Adkins

The University of Queensland, Australia

P-035

Control and cross-resistance of barnyardgrass to ALS- and ACCase-inhibitors in rice field in Korea

Tae Seon Park, Jae Bok Hwang, Hong Kyu Park

National Institute of Crop Science, Korea

P-036

Penoxsulam resistance in barnyardgrass (*Echinochloa crus-galli*) in rice fields of China

Guoqi Chen, Qiong Wang, Wei Zhang, Jiapeng Fang, Liyao Dong

Nanjing Agricultural University, China

P-037 **APWSS Student Travel Grant**

Proactive herbicide resistant weed management through synergetic integration of chemical and non-chemical tools in wheat

V. K. Sindhu, Samar Singh, S. S. Punia, Samunder Singh, Anil Duhan

CCS Haryana Agricultural University, India

P-038

Fitness of BC3F2-BC3F4 generations of crosses between two herbicide-resistant transgenic oilseed rape and wild *Brassica juncea*

Xiaoling Song, Xiaolei Wang, Qingling Zhang, Jian Wang, Sheng Qiang

Nanjing Agricultural University, China

P-039

Resistance of *Fimbristylis miliacea* (L.) Vahl populations to acetolactate synthase-inhibiting herbicides

Rudjana Phinyosak, Tosapon Pornprom

Kasetsart University, Thailand

P-040

Responses to several herbicides in multiple herbicide resistant biotypes of *Echinochloa crus-galli* var. *formosensis*

Akira Uchino¹, Satoshi Iwakami², Masato Hashimoto³, Kenshiro Hamamura³, Ken-ichi Matsushima⁴, Hiroaki Watanabe³

¹NARO, Japan; ²Kyoto University, Japan; ³The Japan Association for Advancement of Phyto-Regulators, Japan; ⁴Tokyo University of agriculture, Japan

Herbicide Resistance (Target-Site Resistance)

P-041

Effects of enantioselective imazapyr on resistant strain *Arabidopsis thaliana* GH90

Bo Y. Liao, Yu-Ling Hsiao, Jui-Hung Yen

National Taiwan University, Taiwan

P-042

Alteration in the EPSPS promoter might be involved in the regulation of the expression of EPSPS in goosegrass, *Eleusine indica*

Chun Zhang, Li Feng, Xing-shan Tian

Guangdong Academy of Agricultural Sciences, China

P-043

Amino acid substitutions in ALS genes of *Cyperus brevifolius* biotypes resistant to sulfonylurea herbicides from several golf courses, Japan

Junichi Okuno¹, Satoshi Iwakami², Akira Uchino³, Koji Nakamura⁴, Ryoya Nakamura⁴, Kunio Tsuchida¹, Masao Yokoyama¹

¹Japan Association for Advancement of Phyto-Regulators, Japan; ²Kyoto University, Japan; ³NARO, Japan; ⁴SHIN CHUGOKU Turfgrass Research Institute, Japan

P-044

Copy number variation in acetolactate synthase genes of thifensulfuron-methyl resistant *Alopecurus aequalis* (shortawn foxtail) accessions in Japan

Satoshi Iwakami^{1,2,3}, Yoshiko Shimono¹, Yohei Manabe¹, Masaki Endo², Hiroyuki Shibaike², Akira Uchino², Tohru Tominaga¹

¹Kyoto University, Japan; ²NARO, Japan; ³University of Tsukuba, Japan

P-045

The use of molecular genotyping as a tool to manage herbicide resistant ryegrass (*Lolium spp.*) in South Africa

Hestia Nienaber

Agricultural Research Council, South Africa

P-046

The target-site resistance of *Eclipta Prostrata* to acetohydroxyacid synthase inhibitors in China paddy field

Hailan Cui, Dan Li, Xiangju Li

Chinese Academy of Agricultural Sciences, China

P-047

CAPS markers developed for detecting mutations at 376 and 574 sites of ALS in tribenuron-resistant flaxweed

Xian Xu, Xiaomin Liu, Binghua Li, Beibei Shen, Guiqi Wang

Hebei Academy of Agriculture and Forestry Sciences, China

P-048

Tribenuron-methyl resistance and mutation diversity of the AHAS gene in shepherd's purse (*Capsella bursa-pastoris* (L.) Medik.) in Henan Province, China

Jinxin Wang, Lele Zhang, Weitang Liu

Shandong Agricultural University, China

P-049

***Sagittaria trifolia* resistant to ALS inhibitors and its population dynamics in paddy fields of Korea**

Ok Jae Won¹, Jong Chan Won², Young Tae Kim¹, Jeongran Lee³, Jeung Ju Lee², Kee Woong Park¹

¹Chungnam National University, Korea; ²Gyeongsang National University, Korea; ³National Institute of Agricultural Sciences, Korea

Herbicide Resistance (Non-Target-Site Resistance)

P-050

Induction of Glufosinate-resistance in Sri Lankan rice (*Oryza sativa* L.) varieties via scutellum-derived callus mutagenesis

Shyama R. Weerakoon, R. A. D. Deshani Lakshika, Seneviratne Somaratne

The open University of Sri Lanka, Sri Lanka

P-051

Non-target site resistance to glyphosate in *Lolium multiflorum* in Japan

Kouhei Kurata, Yoshiko Shimono, Satoshi Iwakami, Masahiro Miyashita, Tohru Tominaga

Kyoto University, Japan

P-052

Investigation of the resistance mechanisms to several ACCase inhibitors in multiple-herbicide resistant *Echinochloa phyllopogon*

Yoshitaka Kamidate¹, Satoshi Iwakami², Yukari Sunohara¹, Masaki Endo³, Seiichi Toki³, Akira Uchino³, Hiroshi Matsumoto¹

¹University of Tsukuba, Japan; ²Kyoto University, Japan; ³NARO, Japan

P-053 **IWSS**

Salinity-induced redox homeostasis and hormonal modulation reduce herbicide 2,4-D efficacy in *Echinochloa crusgalli*

Faisal Islam, Muhammad A. Farooq, Jian Wang, Theodore M. Mwamba, Weijun Zhou

Zhejiang University, China

P-054

Heterologous production and characterization of CYP81A enzymes from a multiple herbicide-resistant weed, *Echinochloa phyllopogon*

Takuya Yamaguchi¹, Satoshi Iwakami², Yukari Sunohara¹, Hiroshi Matsumoto¹

¹University of Tsukuba, Japan; ²Kyoto University, Japan

P-055

Quinclorac resistance in *Echinochloa crusgalli* var. *zelayensis*

Liyao Dong, Yuan Gao, Jiangyan Xu, Guoqi Chen

Nanjing Agricultural University, China

Biological Control

P-056

Ecological characteristics during growth and dormancy stages in the phytophagous beetle *Gastrophysa atrocyanea* Mots.

Hiroshi Tsuyuzaki, Daiki Goto, Yūsuke Kamata, Miki Ono, Makoto Abe

Akita Prefectural University, Japan

P-057 **APWSS Student Travel Grant**

Evaluation of fungi, *Paradendryphiella salina* as potential biocontrol agent of aquatic weed, waterhyacinth

Writuparna Dutta, Puja Ray

Presidency University, India

Invasive Alien Species

P-058

Variability and phenotypic plasticity of *Ulex europaeus* seeds in the Hawaiian Archipelago and California, U.S.A: How do they support its invasiveness?

Mika Hozawa¹, James Boyd Friday², Eiji Nawata¹, Kanehiro Kitayama¹

¹Kyoto University, Japan; ²University of Hawaii at Manoa, USA

P-059

Weed flora of Timor Leste

John Westaway¹, Sancha de Jesus Marcal², Andrew Mitchell¹, Ian Cowie³

¹Australian Department of Agriculture & Water Resources, Australia; ²National Directorate of Quarantine & Biosecurity, Timor-Leste Ministry of Agriculture & Fisheries; ³Northern Territory Herbarium (DNA), Darwin

P-060 **IWSS**

Response of *Parthenium hysterophorus* in terms of phenological, morphological and functional traits upon exposure to variable temperature conditions

Amarpreet Kaur, Daizy R. Batish, Shalinder Kaur, Harminder Pal Singh

Panjab University, India

P-061

Yield losses caused by parthenium weed (*Parthenium hysterophorus*) in maize crop at different competition durations

Ali A Bajwa¹, Tamado Tana², Lisanework Nigatu², Bhagirath S. Chauhan¹, Steve Adkins¹

¹University of Queensland, Australia; ²Haramaya University, Ethiopia

P-062 **APWSS Student Travel Grant**

Restricting the species distribution models to regional settings may lead to wrong projections

Shahid Farooq, Huseyin Onen

Gaziosmanpaşa University, Turkey

P-063

Distribution of invasive alien species in Korean croplands

Jin-Won Kim, In-Yong Lee, Jeongran Lee

National Institute of Agricultural Sciences, Korea

P-064

Floating time and longevity for achenes of potentially water dispersed invasive *Parthenium hysterophorus* L.

Runping Mao, Steve Adkins

The University of Queensland, Australia

P-065

Adaptability of malignant invasion plants *Parthenium hysterophorus* L. in different types of soil

Xing-xiang Gao¹, Zuo-wen Sun², Mei Li¹, Feng Fang¹, Jian Li¹, Mi-ruo Zhao³, Hong Zhu³

¹Shandong Academy of Agricultural Sciences, China; ²Shandong Plant Protection Station, China; ³Southwest University, China

P-066

Comparative study on the competitive ability of different cytotypes of *Solidago canadensis* L. in a common garden

Jiliang Cheng, Beibei Yao, Xianghong Yang, Jun Li, Sheng Qiang

Nanjing Agricultural University, China

P-067

The effects of *Acacia* invasion on leaf litter and soils of coastal tropical heath forests in Brunei Darussalam

Aiman Yusoff, Kushan Tennakoon, Faizah Metali, Rahayu Sukmaria Sukri

Universiti Brunei Darussalam, Brunei Darussalam

P-068

Host invasive plant species and parasitoids of European corn borer (*Ostrinia nubilalis* (Hubner, 1796) (Lepidoptera: Crambidae) in Black Sea and Marmara Regions of Turkey

Cumali Özaslan¹, Hüseyin Önen², Kenan Kara², Shahid Farooq², Ahmet Bayram¹, Halil Bolu¹

¹Dicle University, Turkey; ²Gaziosmanpaa University, Turkey

P-069

The relationship between the composition of weed seed contaminants of imported grain and the vegetation of international trading ports.

Takeshi Nishi, Yoshiko Shimono, Tohru Tominaga

Kyoto University, Japan

P-070

Palmer amaranth (*Amaranthus palmeri* S. Watson): A new addition to the alien flora of South Eastern Anatolia

Cumali Özaslan¹, Shahid Farooq², Hüseyin Önen²

¹Dicle University, Turkey; ²Gaziosmanpaa University, Turkey

P-071

A survey of alien invasive weed species in Hubei Province, China

Ruhai Li¹, Shihai Chu^{1,2,3}

¹Hubei Academy of Agricultural Sciences, China; ²Ministry of Agriculture, China; ³Hubei Key Laboratory of Crop Diseases, Insect Pests and Weeds Control, China

P-072

Alternate of vascular bundles lignification plays a central role in the invasiveness of *Solidago canadensis* L.

Yu Zhang, Sheng Qiang

Nanjing Agricultural University, China

Parasitic Weeds

P-073

Broomrape infestation in lentil crop and farmer knowledge on the management of parasitic weed species in Diyarbakr province, Turkey

Cumali Özaslan¹, Shahid Farooq², Hüseyin Önen²

¹Dicle University, Turkey; ²Gaziosmanpaa University, Turkey

P-074

Herbicidal management of parasitic *Dendrophthoe* in semi- temperate and temperate fruit crops of Jammu-Kashmir Himalayas

Anil Kumar, R. Punyia, B. R. Bazaya, Amit Mahajan, Lobzang Stanzen, Sunny Raina

Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, India

Herbicide Tolerant Crops

P-075

Integration of Provisia® rice into existing rice culture

Sunny Bottoms

Horizon Ag, LLC, USA

P-076

Silencing seed dormancy genes to mitigate risk of escaped transgenes in weedy rice

Xing-You Gu, Alexander Kena, Heng Ye, Luai Muhammad, Ugur Korkmaz, Jiuhuan Feng

South Dakota State University, USA

P-077

Evaluation of weed control efficacy and safety of glyphosate in herbicide tolerant transgenic maize

Huilin Yu, Hailan Cui, Xiangju Li

Chinese Academy of Agricultural Sciences, China

Weedy Rice

P-078

Ethylene and ABA mediated rapid grain filling of weedy rice to promote early maturity

Can Zhao, Lingchao Meng, Xi Chen, Wenrong Xu, Xiaoling Song, Sheng Qiang

Nanjing Agricultural University, China

P-079

Unique effect of paraquat product on weedy rice seed by direct contact of the spray droplet

Shunji Wen, Yoshihiro Arisawa, Toshio Enoyoshi, Minoru Sugiyama

Syngenta Japan K.K., Japan

Weed Problem, Constraint, and Opportunity in different countries

P-080

Rice cultivars response to weed interference period in dry seeded rice system

Manpreet Singh, Makhan Singh Bhullar

Punjab Agricultural University, India

P-081

Weeds: still the fundamental problem in rice

KeeFui Kon, Ben Wu

Syngenta Asia-Pacific Pte. Ltd., Singapore

P-082

Identification of cassava witches broom phytoplasma in some weed species.

Yurawan Anantanamane, Chanya Maneechote, Pruchaya Ekkatin, Theerawut Wongwarat, Wanlee Amonpon, Supattra Choakongjak, Nimit Wongsuwan

Ministry of Agriculture and Co-operatives, Bangkok, Thailand

P-083

Modelling rice and multiple weed competition under elevated temperatures

Yeon-Ho Park, Jong-seok Song, Ji-Hoon Im, Do-Soon Kim

Seoul National University, Korea

P-084

Weed as reservoirs of some important pests in cassava fields

Supattra Choakongjak

Ministry of Agriculture, Thailand

Non-Chemical Control

P-085

Non chemical weed management in organically grown bhendi + leaf coriander - maize + cowpea cropping system

Murali Arthanari Palanisamy, Chinnusamy Chinnagounder, Somasundaram Eagan

Tamil Nadu Agricultural University, India

P-086

Organic weed management in rice

Eagan Somasundaram, P. Gnanasoundari, D. Udhaya Nandhini

Tamil Nadu Agricultural University, India

P-087

Development of flaming machine for land cleaning on leafy vegetable fields

Li Feng, Xing-shan Tian, Chun Zhang, Ye Cui, Mao-feng Yue

Guangdong Academy of Agricultural Sciences, China

P-088

The effect of essential oil of *Rosmarinus officinalis* L. on several weed and crop species

İlhan Üremiş¹, Soner Soylu¹, Ahmet Uludağ^{2,3}, Mehmet Arslan⁴

¹Mustafa Kemal University, Turkey; ²Düzce University, Turkey; ³Çanakkale Onsekiz Mart University, Turkey; ⁴Erciyes University, Turkey

P-089

Allelopathic effect of *Piper betle* Linn on the germination and seedling growth of barnyard grass and slender amaranth

Thanatchasanha Poonpaiboonpipattana

Naresuan University, Thailand

P-090

Isolation and characterization of *Streptomyces* sp. KRA16-334 producing herbicidal metabolite from soil

Young Kwan Ko¹, Jung Sub Choi¹, Young Sook Kim¹, Jae Deok Kim¹, Surk Sik Moon²

¹Korea Research Institute of Chemical Technology, Korea; ²Kongju National University, Korea

P-091

Microwave: a novel non-chemical weed management approach in different cropping systems

Muhammad Jamal Khan, Graham Brodie, Dorin Gupta, Jim He

The University of Melbourne, Australia

Allelopathy

P-092

Administration effect of rutin on canine alopecia

Taiki Iida, Hiromi Shimasaki, Yoshiharu Fujii

Tokyo University of Agriculture and Technology, Japan

P-093

Assessment of inhibitory effects, LC50 values and herbicidal activity of Eucalyptus leaf oil on wheat and associated weeds

Sumit Chaturvedi, Ankita Arya, Vipin C Dhyani

GBPUAT, India

P-094

Evaluation of allelopathic potentials in plant species in Mekong Delta Vietnam by sandwich method and dish pack method

Nguyen Thi Hanh Hien¹, Nguyen Thi Hong Nhan², Yoshiharu Fujii¹

¹Tokyo University of Agriculture and Technology, Japan; ²Can Tho University, Vietnam

P-095

Ethnobotanical survey as a benchmark for screening for allelopathic species among medicinal plants in Ghana

Kwame Sarpong Appiah¹, Hossein Mardani¹, Sylvia Kpabitey², Christiana Adukwei Amoatey², Yosei Oikawa¹, Yoshiharu Fujii¹

¹Tokyo University of Agriculture and Technology, Japan; ²University of Ghana, Ghana

P-096

Determination of allelopathic potentiality of *Rosmarinus officinalis*

Kwame Sarpong Appiah¹, Christiana Adukwei Amoatey², Yosei Oikawa¹, Yoshiharu Fujii¹

¹Tokyo University of Agriculture and Technology, Japan; ²University of Ghana, Ghana

P-097

Isolation of the growth inhibitory substance from *Heliotropium indicum* (L.) aqueous methanol extracts

Sirinapa Chaipon¹, Arihiro Iwasaki², Kiyotake Suenaga², Hisashi Kato-Noguchi¹

¹Kagawa University, Japan; ²Keio University, Japan

P-098

Allelopathic volatile compounds from *Callistemon viminalis*: role in weed management

Daizy Rani Batish, Aditi Shreeya Bali

Panjab University, India

P-099

The effect of soil types on allelopathic activity of caffeine from Vietnamese tea (*Camellia sinensis*)

Van Thi Thanh Pham, Maryia Mishyna, Yoshiharu Fujii

Tokyo University of Agriculture and Technology, Japan

P-100

Safranal, the volatile allelochemical of Saffron (*Crocus sativus*) and its effect on biological responses of lettuce (*Lactuca sativa*) and some common weeds

Hossein Mardani Korrani, Asma Osivand, Yoshiharu Fujii

Tokyo University of Agriculture and Technology, Japan

P-101

Weed control using herbal medicine extraction residue as natural mulch

Kouki Oyama¹, Masanori Morimoto¹, Sakae Horimoto², Kazuhiko Matsuda¹

¹Kindai University, Japan; ²Kyoto Institute of Technology, Japan

P-102

Allelopathic potential of invasive *Acacia mangium* on the germination and radicle growth of selected crops

Nor Amal Nabilah Ismail, Rahayu Sukmaria Sukri, Faizah Metali

Universiti Brunei Darussalam, Brunei Darussalam

P-103

Characterization of plant growth-promoting effect of γ -terpinene and β -caryophyllene in lettuce and maize

Shohei Ebina¹, Yukari Sunohara¹, Yuina Takeuchi¹, Satoshi Iwakami², Hiroshi Matsumoto¹

¹University of Tsukuba, Japan; ²Kyoto University, Japan

P-104

Allelopathic potential of mango leaves and an allelopathic substance

Masahiko Suzuki^{1,2}, Md Sirajul Islam Khan^{1,2}, Arihiro Iwasaki³, Kiyotake Suenaga³, Hisashi Kato-Noguchi^{1,2}

¹Kagawa University, Japan; ²Ehime University, Japan; ³Keio University, Japan

P-105

Allelopathic potential of a mushroom, *Cantharellus cinnabarinus*

Asma Osivand¹, Hiroshi Araya², Hossein Mardani¹, Yoshiharu Fujii¹

¹Tokyo University of Agriculture and Technology, Japan; ²Meiji University, Japan

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Screening of allelopathic ground cover plants for weed control and analysis of allelochemicals

Hiroko Maeda, Kou Okumura, Riri Nakamura, Takashi Nomura, Yoshiharu Fujii

Tokyo University of Agriculture and Technology, Japan

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Allelopathic activity of *Coccinia grandis*

Krishna Rany Das, Hisashi Kato-Noguchi

Kagawa University, Japan

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Autotoxicity may play an important role in “asparagus decline”

Hisashi Kato-Noguchi¹, Keisuke Nakamura¹, Osamu Ohno², Kiyotake Suenaga², Nobuyuki Okuda¹

¹Kagawa University, Japan; ²Keio University, Japan

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Allelopathic weed suppression through the use of *Rottboellia cochinchinensis* (Lour.) W.D.Clayton

Apirat Bundit¹, Kosumi Yamada², Tosapon Pornprom³

¹Chiang Mai University, Thailand; ²University of Tsukuba, Japan; ³Kasetsart University, Thailand

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Allelopathic activity and a growth inhibitory substance in shoots of *Echinochloa crus-galli* (L.) P. Beauv.

Kana Tanaka, Hisashi Kato-Noguchi

Kagawa University, Japan

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Study on competitive ability of hybrid and inbred rice varieties (*Oryza sativa* L.) against weeds

Thang Lam Lun¹, Mar Mar Kyu¹, Hisashi Kato-Noguchi²

¹Yezin Agricultural University, Myanmar; ²Kagawa University, Japan

Weed Management (Sustainable System)

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Effect of nitrogen fertilizer application method and dosage on weed and weed competition in rice

D. D. Witharana¹, A. S. K. Abeysekara², H. M. S. D. Kulatunga², W. M. U. B. Wikrama²

¹Postgraduate Institute of Agriculture, Sri Lanka; ²Rice Research and Development Institute, Sri Lanka

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A *Zoysia* grass net-planting technique for rural levees

Akihide Fushimi¹, Kazuo Naganuma²

¹NARO, Japan; ²Zoysian Japan Co., Ltd., Japan

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Productivity low land rice on different land preparation and weed control

Dedi Widayat, Yayan Sumekar, Uum Umiyati, Denny Kurniadie

Padjadjaran University, Indonesia

P-115 **APWSS Student Travel Grant**

The influence of different amounts of nitrogen and weed interference on yield and yield components of corn in two irrigation systems

Rouzbeh Zangouejad¹, Seyed Abdolreza Kazemeini², Mohammad Taghi Alebrahim¹

¹University of Mohaghegh Ardabili, Iran; ²Shiraz University, Iran

Weed Management (Integrated Weed Management)

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Efficacy of the canopy height-to-row spacing ratio as an onsite index to determine the termination time of *Ipomoea coccinea* control using the soybean mini-core collection

Shunji Kurokawa¹, Akito Kaga¹, Mai Tsuda², Daisuke Sekine¹, Tomoko Shibuya¹

¹NARO, Japan; ²University of Tsukuba, Japan

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Weed infestation, yield losses and control methods in maize crop

Khawar Jabran¹, Ahmet Uludag^{1,2}, Bhagirath Singh Chauhan³

¹Düzce University, Turkey; ²Canakkale Onsekiz Mart University, Turkey; ³The University of Queensland, Australia

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Influence of weed management measure on glyphosate resistance and endophyte infection in naturalized Italian ryegrass (*Lolium multiflorum*)

Valentina Dwi Suci Handayani¹, Yuki Tanno¹, Masayuki Yamashita¹, Hiroyuki Tobina¹, Minoru Ichihara², Yoshiki Ishida², Hitosi Sawada¹

¹Shizuoka University, Japan; ²Shizuoka Prefectural Research Institute of Agriculture and Forest, Japan

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Efficacy of weeding machine composed of steel tines in terms of growth stage of weeds in soybean

Hiroyuki Kobayashi¹, Nozomi Ihara¹, Hiroyuki Kondo²

¹NARO, Japan; ²QFO Inc., Japan

Weed Biology and Ecology

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Morphological variations, genetics and geographic background of *Echinochloa crus-galli* in China

Yongliang Lu¹, Manyu Zou², Liping Yin³, Shuiliang Guo²

¹China National Rice Research Institute, China; ²Shanghai Normal University, China; ³Shanghai Entry-Exit Inspection and Quarantine Bureau, China

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Seed Germination, seedling emergence and response to herbicides of triquetrous *Murdannia* (*Murdannia triquetra*) in rice

Wei Tang¹, Jie Chen², Jing Yuan², Jianping Zhang¹, Yongliang Lu¹

¹China National Rice Research Institute, China; ²Zhejiang A&F University, China

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Identifying early germination characters that leads to the weediness of a plant: Border regulatory perspectives

W. J. Nimanthika^{1,2}, S. M. W. Ranwala², H. S. Kathriarachchi²

¹National Plant Quarantine Service, Sri Lanka; ²University of Colombo, Sri Lanka

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Seed germination of *Xyris complanata*, a monocot pioneer plant in burnt tropical peatlands, can be stimulated by a soil *Penicillium* sp.

Yasuyuki Hashidoko¹, Masataka Hane¹, Ryosuke Tamura¹, Yanetri A. Nyon², Hanny C. Wijaya³

¹Hokkaido University, Japan; ²University of Palangka Raya, Indonesia; ³Bogor Agricultural University, Indonesia

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Population dynamics of *Ipomoea hederacea* Jacq. var. *integriuscula* A. Gray (morning glory) in paddy field levee – relationship between emergence time and fruiting –

Nozomi Ihara, Hiroyuki Kobayashi

NARO, Japan

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Changes of weed flora in wheat fields in the Southeast Anatolia Region of Turkey

Zübeyde Filiz Arslan¹, Ahmet Uludağ^{1,2}, Ayşin Bilgili³, Ayçin Aksu Altun³

¹Düzce University, Turkey; ²Çanakkale Onsekiz Mart University, Turkey; ³GAP Agricultural Research Institute, Turkey

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Barnyardgrass (*Echinochloa crus-galli*) genome analysis provides insight into its adaptation and invasiveness as a weed

Jie Qiu, Chuyu Ye, Longjiang Fan

Zhejiang University, China

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Response of Se stress on the accumulation of Se and the absorption of mineral elements in alfalfa

Hui-ping Dai¹, Hua Zhao², Shuhe Wei¹

¹Shaanxi University of Technology, China; ²Hainan University, China

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A novel gene of seed vernalization in *Conyza canadensis*, which regulates life histories of facultative winter annuals

Yoshihiro Kobayashi, Kohei Kiriya, Nozomi Aoyama, Satoko Takahashi, Katsuhiro Shiono,

Toshihito Yoshioka

Fukui Prefectural University, Japan

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High-throughput sequencing reveals bacterial community composition in the rhizosphere of the invasive plant *Flaveria bidentis*

Zhen Song, Weidong Fu, Guoliang Zhang

Chinese Academy of Agricultural Sciences, China

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Effects of *Solanum rostratum* invasion on soil properties in different soil types

Weidong Fu, Guoliang Zhang, Zhen Song

Chinese Academy of Agricultural Sciences, China

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iTRAQ protein profile differential analysis of dormant and germinated grassbur twin seeds reveals ribosomal synthesis and carbohydrate metabolism promote germination possibly through the PI3K pathway

Guoliang Zhang, Weidong Fu, Zhen Song

Chinese Academy of Agricultural Sciences, China

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Biology and Distribution of Chickenweed purslane (*Portulaca quadrifida* L.)

J. Pinsupa, S. Zungsontiporn

Plant Protection Research and Development Office, Thailand

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Population dynamics of black-grass (*Alopecurus myosuroides*) in winter wheat fields and its effect on wheat yield

Mei Li, Feng Fang, Xingxiang Gao, Jian Li, Ligui Zhu

Shandong Academy of Agricultural Sciences, China

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Evidence of adaptation of *Setaria viridis* to intensive salt splash from typhoon in sandy seashore

Matsuo Itoh¹, Yoshitaka Nakashima², Yoko Oki²

¹Shikoku Gakuin University, Japan; ²Okayama University, Japan

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Heavy metal tolerance of Japanese knotweed (*Reynoutria japonica* Houtt.) growing on mine site and effects of the endophytic fungi

Yuki Hojo, Keiko Yamaji

University of Tsukuba, Japan

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Germination and seedling growth of *Sagittaria pygmaea*

Yumiko Hori, Yoshiko Shimono, Tohru Tominaga

Kyoto University, Japan

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Dramatic shift of flowering phenology of intraspecific hybrids in *Imperata cylindrica* makes an F1-dominated hybrid zone

Yasuyuki Nomura¹, Yoshiko Shimono¹, Nobuyuki Mizuno¹, Kazuhiro Sato², Tohru Tominaga¹

¹Kyoto University, Japan; ²Okayama University, Japan

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Comparisons of morphological and genetic variations between native and alien *Artemisia indica* populations used for revegetation in Japan

Satoshi Wagatsuma¹, Yoshiko Shimono¹, Junichi Imanishi¹, Yoshihisa Suyama², Chika Mitsuyuki², Yoshihiro Tsunamoto², Tohru Tominaga¹

¹Kyoto University, Japan; ²Tohoku University, Japan

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***Echinochloa* response to osmotic stress induced by PEG and salt.**

Hyejin Yu, Minjung Yook, Do-Soon Kim

Seoul National University, Korea

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Emergence behavior and seasonal variation in emergence of seedlings in carolina dayflower (*Commelina caroliniana* Walter)

Mitsuhiro Matsuo¹, Taira Sakai¹, Shuji Kurihisa¹, Yoshiki Kawano²

¹University of Miyazaki, Japan; ²Oita Prefectural Agriculture, Forestry and Fisheries Research Center, Japan

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Comparisons of germination characteristics and seedling growth of *Bromus* species between widespread and non-widespread aliens

Emi Kawamata, Yoshiko Shimono, Tohru Tominaga

Kyoto University, Japan

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Does *Penicillium rolfsii*, a fungus that stimulated germination of *Xyris complanata* seeds, stimulate germination of dormant seeds in a soil seed bank?

Masataka Hane¹, Ryosuke Tamura¹, Yanetri A Nyon², Hanny C Wijaya³, Yasuyuki Hashidoko¹

¹Hokkaido University, Japan; ²University of Palangka Raya, Indonesia; ³Bogor Agricultural University, Indonesia

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Plant communities around *Spiranthes sinensis* in urban green spaces

Satoru Tanaka, Kou Inoue

Tokyo University of Agriculture, Japan

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Relationships of leaf age and plant height in *Panicum dichotomiflorum* and in *Eragrostis pilosa* had become the problem weeds at dry-seeded rice in Tohoku, Japan

Maiko Akasaka, Soichi Nakayama

NARO, Japan

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Aquatic weed community dynamics of Dal Lake in temperate valley of Kashmir Himalayas

Anil Kumar¹, P. Puniya¹, Ashu Sharma¹, Neetu Sharma¹, Quazi Tassaduq Mueen²

¹Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu, India; ²Department of Horticulture, Rajbagh Srinagar, India

Utilization of Weeds and Uses as Bio-Resources

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Zinc tolerance in four *Medicago sativa*

Hui-ping Dai¹, Shuhe Wei^{1,2}

¹Shaanxi University of Technology, China; ²Institute of Applied Ecology, Chinese Academy of Sciences, China

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The utility evaluation of aerial high resolution images taken from a low latitude with a small drone in the detection of *S. angulatus* community

Osamu Watanabe

Shinshu University, Japan

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A labor saving method for raising *Zoysia japonica* vegetation on paddy field levees using plug shoot, growth retardant and herbicide

Tetsuro Muraoka, Jin-ichi Hashimoto, Akiu Tsuruya, Akihiko Matsuo

Japan Association for Advancement of Phyto-Regulators (JAPR), Japan

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Labor-saving applications of rice herbicide with throw-in type jumbo formulation (granule pack) containing pyraclonil from levees in 1 ha scale paddy rice fields in Japan

Seok Weon Seo, Ryoichi Nishihara, Masashi Hamaya, Hitohisa Takahashi, Yoshiharu Ikeda, Satoru Andou

Kyoyu Agri Co.,Ltd., Japan

Others

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A review of the herbarium of Institute of Plant Science and Resources, Okayama University

Jun Yamashita

Okayama University, Japan

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Soil- and weed-related problems following farmland decontamination post the Fukushima Daiichi nuclear power plant accident

Namiko Yoshino, Motoaki Asai, Hiroyuki Kobayashi

NARO, Japan

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Effect of orthosulfamuron on sugarcane ripening

Kyosuke Miyamoto¹, Angelo Stasievski², Tiago Oliveira², Shuji Kumata¹

¹Nihon Nohyaku CO., LTD., Japan; ²Nichino do Brasil AGROQUÍMICOS LTDA, Brazil

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Seed characteristics related to weedy risk of hybrids between GM soybean and wild soybean

Minjung Yook, Hae-Rim Park, Jung Hyo Kim, Do-soon Kim

Seoul National University, Korea

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Bioherbicidal potential of *Typha angustifolia* L. extract

Srisom Suwanwong, Udomsap Chanthanet, Ornusa Khamsuk

Kasetsart University, Thailand

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Growth response of poplar (*Populus deltoides*) entire transplants to weed interference

Navneet Kaur, H. Kaur, R. I. S. Gill, M. S. Bhullar

Punjab Agricultural University, India

P-156 [Herbicide Usage 2]

Effectiveness of several selective herbicides in controlling general weeds in *Cassia cobanensis*, *Antigonon leptopus*, *Turnera subulata* and *Euphorbia heterophylla* beneficial plants establishment in oil palm plantation

Meor Badli Shah Ahmad Rafie, Samsudin Amit

Sime Darby Research Sdn Bhd, Malaysia

P-157 [Herbicide Resistance (Status)]

Herbicide use and herbicide resistance in *Cyperus difformis* L. in Sri Lanka

H. M. S. Herath¹, R. F. Hafeel¹, R. S. K. Keerthisena², A. P. Bentota², A. M. Baltazar³, V. Kumar⁴, D. E. Johnson⁴

¹Rice Research Station, Sri Lanka; ²Rice Research and Development Institute, Sri Lanka; ³University of the Philippines Los Baños, Philippines; ⁴International Rice Research Institute, Philippines

P-158 [Weedy Rice]

Weedy rice: An expanding problem in direct seeded rice production in the Philippines

Leylani M. Juliano¹, Edwin C. Martin¹, Dindo King M. Donayre¹, Jesusa C. Beltran¹, Roberto Busi²

¹Philippine Rice Research Institute, Philippines; ²University of Western Australia, Australia

P-159 [Weed Management (Sustainable System)]

Performance of upland rice (*Oryza sativa*. L) as affected by weed control treatments, poultry manure and stand density

O. Danmaigoro¹, D. B. Ishaya², J. A. Y. Shabayan²

¹Federal University Dutse, Nigeria; ²Ahmadu Bello University, Nigeria

P-160 [Non-Chemical Control]

Smart Biofumigation as a new and innovative technology for aggressive weed control under Organic and Global GAP Standards

Mohamed Fathy Salem

University of Sadat City, Egypt.

P-161 [Invasive Alien Species]

Evidence for rapid evolution in *Parthenium hysterophorus* L.

Asad Shabbir¹, Sadaf Rafiq¹, Sana Amin¹, Steve Adkins²

¹University of the Punjab, Pakistan; ²The University of Queensland, Australia

P-162 [Herbicide Usage 1]

Does phylogenetic similarity among upland weed species influence susceptibility to pre-emergence herbicides, pendimethalin, trifluralin, and flumioxazin?

Naomi Hosaka, Tetsuro Muraoka, Hirokazu Takahashi

Japan Association for Advancement of Phyto-Regulators, Japan

P-163 [Herbicide Resistance (Management)]

Bispyribac sodium-resistant sedges in rice fields of Sri Lanka

R. M. U. S. Bandara¹, B. Marambe², A. P. Bentota¹, R. S. K. Keerthisena¹, A. S. K. Abeysekara¹, H. M. S. Herath¹, V. R. Kumar³, H. M. M. K. K. H. Dissanayaka¹, Y. M. S. H. I. U. De Silva¹, D. M. C. B. Dissanayake¹

¹Rice Research and Development Institute, Sri Lanka; ²University of Peradeniya, Sri Lanka; ³International Rice Research Institute, Philippines

P-164 [Weed Biology and Ecology]

Occurrence characteristics of weed flora in arable fields of Korea

In-Yong Lee¹, Young-Ju Oh², Sun-Hee Hong², Su-Jeoung Heo³, Chae-Young Lee⁴, Kee-Woong Park⁵, Seng-Hyun Cho⁶, Oh-Do Kwon⁷, Il-Bin Im⁸, Sang-Kuk Kim⁹, Deok-Gyeong Seong¹⁰, Young-Jae Chung¹¹, Chang-Seog Kim¹², Jeongran Lee¹, and Hyun-A Seo¹

¹National Institute of Agricultural Sciences, Korea; ²Institute for Future Environmental Ecology, Korea; ³Gangwon-do Agricultural Research & Extension Services, Korea; ⁴Chungcheongbuk-do Agricultural Research & Extension Services, Korea; ⁵Chungnam National University, Korea; ⁶Jeollabuk-do Agricultural Research & Extension Services, Korea; ⁷Jeollanam-do Agricultural Research & Extension Services, Korea; ⁸Bio-Plant Environment Research Center, Korea; ⁹Gyeongsangbuk-do Agricultural Research & Extension Services, Korea; ¹⁰Gyeongsangnam-do Agricultural Research & Extension Services, Korea; ¹¹Shingyeong University, Korea; ¹²National Institute of Crop Science, RDA, Korea

P-165 [Herbicide Usage 3]

The effect of herbicides on physiological and biochemical responses in oil palm roots correlate with *Ganoderma* disease incidence.

Mohd Hefni Rusli, Idris Abu Seman

Malaysian Palm Oil Board. No.6, Persiaran Inst

P-166 [Non-Chemical Control]

Herbicidal characteristics of crude extracts from soil bacteria *Streptomyces* sp. G0299

Choi Jung Sub¹, Young Sook Kim¹, Jae Deok Kim¹, Young Kwan Ko¹, Kee Woong Park²

¹Korea Research Institute of Chemical Technology, Korea; ²Chungnam National University, Korea

P-167 [Weed Management (Sustainable System)]

Effect of rice establishment methods on weed shifts

V. Pratap Singh, Arunima Paliwal, S.P. Singh, Tej Pratap and A. Kumar

Govind Ballabh Pant University of Agriculture & Technology, India