



"Plant Health for Safer and Sustainable Future"
"सुरक्षित र दिगो भविष्यको लागि स्वस्थ बिरुवा"
**International Plant Protection
Symposium - 2024**



26-27 April, 2024 (२०८१ बैशाख १४-१५)
Hyatt Place, Tahachal, Kathmandu

Day 1 (26th April, 2024)

7:30-9:00 Registration / Breakfast

9:00-11:00 Inaugural Ceremony **Event Space 1**

MC: Dr. Debraj Adhikari

Chairperson: Dr. Dilli Ram Sharma, President, PPSN and IPPS-2024 Convenor

Chief Guest: Hon'ble Minister, Jwala Kumari Sah, MoALD, Nepal

Special Guests: Secretary, MoALD, Nepal

Guests:

National and International Delegates

National Anthem

Inauguration of the Program

Releasing Abstract Book of IPPS 2024

Objective of the Program and Welcome Remarks:

Ms. Sabitri Baral, Chief PQPMC & Head, NPPO-Nepal

Felicitation to Life Time Contributors

Key Note Presentation

- Pest Management for Sustainable and Safe Food System: Challenges and Opportunities (Bharat Prasad Upadhyay) (20 mins.)
- Video Display: "Pesticide Poisoning and Casualties" Developed by Centre for Pesticide Suicide Prevention (CPSP), University of Edinburgh, UK. (15 mins.)
- Prospects and Emerging Issues in Biological Control of Insect Pests- Lesson Learnt and Success Story of India (Dr. SN Sushil) (20 mins.)

Opening Remarks

- Mr Ken Shimizu, FAOR for Nepal and Bhutan
- Dr. Rewati Raman Poudel, Secretary (MoALD, Livestock Development)
- Dr. Govinda Prasad Sharma, Secretary (MoALD, Agriculture Development)
- Chief Guest's Remarks
- Closing of Inaugural Ceremony by Chairperson

Group Photograph

Tea/Coffee Break (11:00-11:30)

A. Technical Session 11:30-12:45 Event Space 1

3 Presentations x 20 Mins. = 60 Mins + 15 Mins Discussion

Session Chair: Dr. Rangaswamy Muniappan

Rapporteur: Mr. R. P. Mainali

- Pesticide Management in Pakistan: A Comprehensive Analysis (Dr. Muhammad Tariq Khan)
- Pesticide Residue in Agrifood Commodities in Pakistan (Professor Dr. Ashiq Mohammad)
- Study on Determining Banning of Alternative Use of Pesticides and Effects on Productions: A Case Study (Dr. Dilli R. Sharma, Dr. Leah Utyasheva, and Prof. Dr. Michael Eddleston)

Lunch Break: 12:45-14:00

I. Plant Health Management (Event Space 1)

(Insect pest, diseases and weed management,)

Session Chair: Prof. Dr. Gopal Bahadur KC

Rapporteur: Dr. Kashi Nath Chiluwal/Dr. D. Adhikari

14:00-14:20 Including Discussion: Lead Paper

1. Fruit Piercing Moths and their Management Options in Nepal (Dr. Rangaswamy Muniappan)

14:20-15:00 Including Discussion : Virtual

1. The Role of Plant Doctors in Hungary (Prof. Dr. Gabor Tarcali, [Virtual](#))
2. Unveiling the Impact of Green-Synthesized Silver Nanoparticles on Tomato Growth and Early Blight Disease Resistance: Exploring Plant Physiology Insights (Jeetu Narware et al. [Virtual](#))
3. Understanding the Interaction of *OsWRKYs* with Blast-resistant Genes Using the Computational Approach (Jhumishree Meher)
4. Pesticide Regulations that Protect Health: Practical and Policy Experience from the Centre for Pesticide Suicide Prevention (Dr. Leah Utyasheva, [Virtual](#))

Oral Presentations (1-9: 15:00-16:30)

1. Management of Mealybug (*Planococcus citri*) of Japanese Pear (*Pyrus pyrifolia*) in Field and Laboratory Condition (Punam Khadka et al.)
2. Application of Balanced Fertilizers Reduces the Incidence of Fall Armyworm in Maize Crop (Kashinath Chiluwal et al.)
3. Life Cycle of *Liriomyza huidobrensis* (Blanchard, 1926) (Diptera: Agromyzidae) on Potato in Nepal (Binu Bhat & Ajaya Shree Ratna Bajracharya)
4. Laboratory Study on the Settlement Response of Fall Armyworm, *Spodoptera frugiperda* (J.E. Smith) on a Range of Potential Host Crops (Shila Devi Sharma et al.)
5. Distribution and Management of Root-Knot Nematodes (*Meloidogyne* Spp.) in Kiwifruit Orchards of Dolakha, Nepal (Nabin Poudel et al.)
6. Farmers' Education – An Effective Tool for Plant Protection (Pankaj Raj Dhital & Pratishta. Adhikari)
7. Field Screening of Potato Genotypes for Red Ant (*Dorylus orientalis* Westwood) Infestation (Bishnu Prasad Neupane et al.)
8. New Pathogens for Dragon Fruit: Way Forward for Their Management in Nepal (Ram B. Khadka et al.)
9. Evaluation of Low-Cost Carbon Sources in Anaerobic Soil Disinfestation in Suppression of Rhizoctonia Root Rot in Bean (Ram B. Khadka et al.)

Tea/Coffee Break: 16:30-16:50

Session Chair: Dr. Hira Kaji Manandhar

Rapporteur: Dr. Kashi Nath Chiluwal/ Mr. Kapil Kafle

Oral Presentations (10-18; 16:50-18:20)

10. Agroecological Interventions for the Sustainable Management of Fall Armyworm, *Spodoptera frugiperda* (J.E Smith): A Systematic Review (Sundar Tiwari)
11. Efficacy of Chemical Insecticides on *Nilaparvata lugens* (Stål) and Their Impact in *Lycosa pseudoannulata* in Laboratory (Naresh Dangi et al.)
12. Integrated Management of Rice Insect Pests in Nepal (Resham B. Thapa & Dilli R. Sharma)
13. Efficacy of Essential Oils against Rice Weevil (*Sitophilus oryzae*) (Coleoptera: Curculionidae) in Stored Wheat (Amrit Sharm et al.)
14. Management of Root-Knot Nematodes with Chemical and Non-Chemical Pesticides for Sustainable Production of Tomato under Protected Cultivation (Prakash Ghimire et al.)
15. Fruit Fly Species (Diptera: Tephritidae: Dacinae: Dacini) Diversity in Field Infested Fruits/flowers of Cucurbits during Summer-rainy and Autumn-winter Seasons in Nepal (Rekha Sapkota et al.)
16. Area-Wide Control Program of Chinese Citrus Fly, *Bactrocera minax* (Enderlein, 1920) (Diptera: Tephritidae) in Nepal (Debraj Adhikari)
17. Plant Clinic as Agro-Advisory Service in Nepal: Assessment of Tomato Pest Management (Purnima Chhetri et al.)
18. The First Report of an Entomopathogenic Fungus, *Metarhizium rileyi* (Farlow) Samson in the Maize Fields of Chitwan, Nepal (Nisha Subedi)

End of Day 1

II. SPS and Pesticide Management (Event Space 2)

(Invasive and trans-boundary pests, SPS, quarantine issues, pesticide, toxicology, biological pesticides)

Session Chair: Ganesh Kumar KC

Rapporteur: Dr. Naresh Dangi/ Mr. Kapil Paudel

14:00-14:20 including discussion Lead Paper

1. Pest Risk Analysis of Mango Seed Borer, *Deanolis albizonalis* (Hampson, 1903) (Lepidoptera: Pyralidae) in Mango Commodity in Nepal (Dr. S L Joshi)

Oral Presentations (1-9: 14:20-15:50)

1. Leaf-dip Bioassay of Insecticides for the Fall Armyworm, *Spodoptera frugiperda* J. E. Smith Larva Management in Laboratory Condition, Chitwan, Nepal (C. Adhikari et al.)
2. Tomato Varietal and Insecticidal Screening against Whitefly (*Bemisia tabbaci* Genn) Under Polyhouse Condition (SK Upadhyay et al.)
3. Suitability of Plant Species in Tailored Flower Strips for Development of Pest Insect, Alternative Hosts and Natural Enemies (R. Poudel & R. Meyhöfer)
4. Pesticide Use and Development of Pesticide Resistance in Nepal (P. Adhikari)
5. Management of Root Rot (*Rhizoctonia solani* Kühn.) of Common Bean Using Host-Resistance, Consortia of Chemicals and Biocontrol Agents in Nepal (P. Parajuli et al.)
6. Chemical Pesticides Management in Nepal: Pesticide Quality Control (CB Budha et al.)
7. Virus Testing in Seed Potato Certification in Nepal: Where We are and What Can We Do? (RB Khadka)
8. Evaluation of Biorational Products in Management of *Cucumber Mosaic Virus* in Tomato (RB Khadka et al.)
9. *In vitro* Antagonistic Activity of *Trichoderma* species against Agriculturally Important Plant Pathogenic Fungi (S. BK et al.)

Tea/Coffee Break: 15:50-16:10

Session Chair: Dr. Hari Bahadur KC

Rapporteur: Dr. Naresh Dangi/Ms. Binu Bhat

Oral Presentations (10-18; 16:10-17:30)

10. Study on Inoculum Doses of *Corcyra cephalonica* (Stainton, 1866) Eggs for its Efficient Mass Production in Laboratory (ASR Bajracharya & B. Bhat)
11. Exploring Insect Parasitoids of Fall Armyworm (*Spodoptera frugiperda* J.E. Smith) in Nepal (LP Sah et al.)
12. Parasitising efficiency and biological traits of *Telenomus remus* on single and multi-layered eggs of fall armyworm, *Spodoptera frugiperda* (L. Chaudhary et al.)
13. Identification of Invasive Pest, *Thrips Parvispinus* Karny, 1922 (Thysanoptera: Thripidae) in Nepal (SL Joshi et al.)
14. Sublethal Effects of Flonicamid on Stage Structure and Growth of *Myzus Persicae* (Suzler) Population (Hemiptera: Aphididae) (S. Baral et al.)
15. Efficacy of Botanical Extracts, Microbial and Chemical Insecticides against Cowpea Aphid, *Aphis craccivora* Koch of Cowpea under Protected Cultivation (S. Khanal & RB Thapa)
16. Impact of National Ban of Highly Hazardous Pesticides on Mortality from Suicide by Pesticide in Nepal (R. Ghimire et al.)
17. Pesticide Residue Analysis of Vegetables Collected from Collection Centre of Different Districts in Nepal and its Correlation with Post-Harvest Parameters (P. Adhikari et al.)

End of Day 1

Day 2 (27th April, 2024)

Session Chair: Dr. Buddhi Ratna Khadge

Rapporteur: Dr. Kashi Nath Chiluwal/Mr. Lalit Sah

Oral Presentations (19-28; 9:00-10:50)

19. Curbing greenhouse gas (GHG) emissions through biodiversity-driven crop protection: bright prospects for the Asia-Pacific (YD GC et al.)
20. Determinants of Farmers' Adoption of Sustainable Management Practices of Citrus Fruit Fly in Myagdi District, Nepal (Bhawana Aryal et al.)
21. Assessment of Damage and Abundance of Banana Leaf and Fruit Scarring Beetle (*Basilepta subcostatum*) in Chitwan (Susma Shrestha¹ & Min R. Pokhrel)
22. Bunch Covering for Management of Banana Leaf and Fruit Scarring Beetle (Pushpa Roka & Min R. Pokhrel)
23. Screening of Rice Genotypes for Resistance to Leaf Blast (*Pyricularia Oryzae*) Disease under Field Conditions at Khajura, Banke, Nepal (Basistha Acharya et al.)
24. Citrus Decline Management Tools: Agricultural Technician's Preference in Nepal (Umesh K. Acharya et al.)
25. Field Evaluation of Soybean Genotypes against Soybean Yellow Mosaic Disease (Laxman Aryal et al.)
26. Habitat Management: An Agro-Ecology Based Innovative Option to Enhance Natural Enemies of Crop Pests in Agriculture (Ram P. Mainali et al.)
27. Black Pit of Banana: An Emerging Challenge and Its Potential Management (Ram B. Khadka et al.)
28. Population Dynamics and Sex Expression of Fruit Fly Species in Cucurbits from Sindhuli and Mahottari Districts (Bijay Sapkota et al.)
29. Effect of Indigenous Plant Materials on Control of Rice Weevil (*Sitophilus oryzae* L.) in Stored Wheat Grains (Rajendra Yadav et al.)

Tea/Coffee Break (10:50-11:10)

Session Chair: Dr. Ajaya Shree Ratna Bajracharya

Rapporteur: Dr. Kashi Nath Chiluwal/ Ms. Subeksha Shrestha

Oral Presentations (29-37; 11:10-12:40)

30. An Overview of Store Grain Pests of Cereal Crops in Nepal (Kapil Kafle)
31. First Report of Chilli Thrips, *Scirtothrips dorsalis* Hood, 1919 (Thysanoptera: Thripidae) on Strawberry, *Fragaria x ananassa* in Nepal (Shashan Devkota & Bandana Shrestha)
32. Field Evaluation of Fingermillet Genotypes for Blast Resistance Caused by *Pyricularia grisea* in Mid-hill of Nepal (Subash Subedi et al.)
33. Post-Harvest Storage Technology for Mandarin Fruit (Madhav P. Lamsal)
34. Evaluation of Sweet Corn Genotypes for Northern Leaf Blight Resistance in Field Condition at NMRP, Rampur (Suk Bahadur Gurung et al.)
35. Toxicity of the *Acorus calamus* (Acorales: Acoraceae) from High Hills of Nepal to *Sitophilus zeamais* (Coleoptera: Curculionidae) (Sunil Aryal et al.)
36. Effectiveness of *Zanthoxylum armatum* (Sapindales: Rutaceae) Essential Oil on Mortality and Repellency of *Sitophilus zeamais* (Coleoptera: Curculionidae) (Sunil Aryal et al.)
37. Detection of UG99 (TTKTT) Pathotype of Stem Rust Pathogen (*Puccinia graminis* f. sp. *tritici*) of Wheat in Nepal (S. Baidya et al.)

Day 2 (27th April, 2024)

III. Industrial Entomology and Mushroom Farming

(Apiculture, Sericulture, Lac culture and Mushroom cultivation, Insect as food and feed, pollinators)

Session Chair: Mr. Bhoj Raj Shapkota

Rapporteur: Dr. Sunita Pandey

9:00-9:20 including discussion Lead Paper

1. Improving Livelihood of Rural People through Beneficial Insects and Mushroom Farming in Nepal (Prof. Dr. R. B. Thapa)

Oral Presentations (1-7; 9:20-10:30)

1. Perception of Non-beekeepers towards Bee Forage (Mustard field) for *Apis mellifera* Linnaeus, 1758: A Case of Khairahani Municipality, Chitwan (S. Amgai & P. Chhetri)
2. An Overview of Bee Keeping in Rupandehi district, Nepal over Seven Years (D. Khanal et al.)
3. Diversity and Abundance of Insect Pollinators of Kiwifruit in Dolakha District, Nepal (RC Gouli & BP Neupane)
4. Propolis: Its Sources and Uses (P. Neupane Jaisi et al.)
5. Effect of Queen Cell Cup Types on Graft Acceptance and Queen Bee Emergence in *Apis mellifera* L. (A. Poudel et al.)
6. Pollination Methods for Watermelon, *Citrullus lanatus* (Thunb.) Fruit Setting and Yield (K. Dumre & RB Thapa)
7. Harnessing the Benefits of Bee Colony Migration for Honey Production in Nepal (SP Rijal & RB Thapa)

Tea/Coffee Break (10:40-11:00)

IV. Digital Tools in Plant Health Management System

Session Chair: Dr. Vinod Pandit

Rapporteur: Mr. Kiran Bamanu

11:00-11:20 including discussion Lead Paper

1. Strategy and vision for integrating Digital tools for farmer advisory (Dr. M. Chaudhary)

Oral Presentations (1-7; 11:20-12:30)

1. Current Scenario and Important Stakeholders: Digital Intervention in Nepal- Agriculture Sector (M. Manjari et al.)
2. PlantVillage Application: Empowering Farmers Worldwide with AI-driven Agricultural Solutions (P. McCloskey, P. KC et al.)
3. AgLearn: An Online Learning Platform for Empowering Agro Advisory Service Providers (K. Bamanu & PK Dangi)
4. Perception of Smallholder Farmers on Digital Agriculture Services in Nepal (R. Khadka Adhikari et al.)
5. PPMS Software: An Approach for Plant Disease and Pests Management in Karnali Province, Nepal (M. Jaiswal & P. Rawat)
6. AI-powered Tomato Disease Diagnosis and Treatment Assistant (YR Pandeya et al.)
7. Tele Plant Doctor: Contributing towards the Digital Village Initiative (Arun GC)

CABI Digital Tools Demonstration:

CABI BPP exercise, Crop Sprayer App, PW+KB exercise, CABI Academy, Validation, Promotion and User Survey

C. Poster Session (12:30-13:00)

Theme-1

1. Empirical Evidence of *Zeugodacus tau* Dominance in Cucurbit Cropping System (K. Chiluwal et al.)
2. Assessing the Emerging Havoc of Snails and Slugs in the Rupandehi and Nawalparasi Districts of Nepal: Occurrence, Management Practices and Economic Impact (M. Pandey et al.)
3. Assessment of Citrus Greening Disease and Monitoring of Asian Citrus Psyllid (*Diaphorina citri* Kuwayama) in Sweet Orange Orchards of Sindhuli, Nepal (A. Neupane et al.)
4. Plant Clinic and Its Impact in Agricultural Production in Three Districts of Bagmati Province (SK Giri et al.)
5. IPM Adoption and its Economic Benefits for Tomato Growers in Kathmandu and Bhaktapur District (P. Sijapati et al.)
6. Ethyl Formate Fumigation against Life Stages of Potato Tuber Moth Infesting Stored Potato Tubers (DR Katuwal et al.)
7. Monitoring of Adult Coffee White Stem Borer (*Xylotrechus quadripes*) Flight Period through Cross Vane Trap at Coffee Research Program, Gulmi (S. Basnet et al.)
8. Morphometrics and Management of Chinese Citrus Fly, *Bactrocera minax* (Enderlein) (Diptera: Tephritidae) in Kathmandu (B. Basnet et al.)
9. Evaluation of Different Weed Management Strategies in Spring Maize in Gauradaha, Jhapa (S. Baral et al.)
10. Weeds Affect the Productivity and Sustainability of Dry Direct Seeded Rice (Ghaiya Dhan) in Hilly Districts of Nepal (RK Bhattarai et al.)
11. Biology of Cowpea Aphid *Aphis Craccivora* (Koch) Under Protected Condition (S. Khanal & RB Thapa)
12. Efficacy of Different Treatments against Fruit Fly (*Zeugodacus cucurbitae* Coquillett) on Summer Squash in Rampur, Chitwan, Nepal (NK Singh et al.)

Theme 2

13. Screening of Suitable Chemical Insecticide for the Management of Red Pumpkin Beetle on Laboratory Assay (K. Lawati et al.)
14. Study on the Effect of Household Washing Agents on Pesticide Residue on Spiked Vegetable Commodity (A. Khanal et al.)
15. Comparative Extraction of Insecticidal Plant Essential Oils Using Thermal Heating and Hydro-Distillation Methods (RP Baral et al.)

Theme-3

16. Major Pests of Oyster Mushrooms in Nepal and Their Management Practices (B. Uprety et al.)
17. Status, Prospects and Importance of Hornet Farming in Nepal (B. Bhusal et al.)
18. Evaluating the Efficacy of Organic Essential Oils as Alternative Varroa Mite Control Agents in Sustainable Beekeeping (S. Aryal & P. Neupane)

Lunch Break: 13:00-14:00

Award Ceremony: 14:00-14:30

D. Closing Session and Vote of Thanks (14:30-15:00)

Report Writers

Ms. Shrinkhala Manandhar, Mr. Kapil Kafle, ((Event Space 1)

Mr. Ram P. Mainali, Mr. Madav Bhatta ((Event Space 2)

Editors:

Dr. Hira Kaji Manandhar & Dr. Samudra Lal Joshi

Thank you!