

Table of Contents

• Editorial Board	ii
• Organizing Committee	iii
• The Honourable Minister's Message.....	iv
• Message from the Respected Secretary Dr. Govinda Prasad Sharma.....	v
• The President/Convener Message	vi
• Editorial Note	vii
• Summary of the Completion Report of the 2 nd International Conference on Horticulture, 2023	viii

Thematic Papers

1 - 42

1. Vegetable Development in Nepal: Achievements and Future Strategy - <i>Prakash Ghimire, Padam Adhikari and Basu Dev Kaphle</i>	1
2. Fruit Crop Development in Nepal: Achievements and Future Strategy - <i>Yam Kumari Shrestha, Rajendra Koirala and Samyam Pandit</i>	9
3. Floriculture Industry in Nepal - <i>Lok Nath Gaire, Bishwamani Pokharel, Min Bahadur Tamang and Umed Kumar Pun</i>	16
4. Horticultural Biodiversity: Where We Are and What We Need to Do? - <i>Bal Krishna Joshi, Puspa Raj Poudel, Deepa Singh Shrestha, Umesh Kumar Acharya, Tek Prasad Gotame, Ram Prasad Mainali and Ram Chandra Poudel</i>	23
5. Horticulture in the Vedic Civilization : Biodiversity Conservation Perspective - <i>Basu Dev Kaphle, Madhu Maya Paudel and Padma Nath Atreya</i>	37

Country Papers

43 - 80

1. Advances in Horticulture Research and Development in Bangladesh - <i>Saleh Ahmed</i>	43
2. Horticulture Scenario in Bhutan - <i>Hema Devi Nirola</i>	53
3. Status of Horticulture Sector in Pakistan - <i>Tanveer Ahmad, Bilal Ahmad and Hafiz Zahid Mahmood</i>	57
4. Status of Horticulture in Sri Lanka - <i>Kapila Yakandawala</i>	64
5. Status of Horticulture in Nepal - <i>Ram Bahadur KC, Gopal Prasad Shrestha and Sanjay Dhimal</i>	74

Technical Papers (Biodiversity and Climate Change : Fruit / Ornamental)

81 - 122

1. Climate Change and its Impact on Fruits and Vegetable Production in Nepal - <i>Krishna Prasad Sapkota, Padma Nath Atreya and Umanath Sharma</i>	81
2. Genetic Fidelity Study of Micropropagated Plants of Kiwifruit (<i>Actinidia deliciosa</i> cv. Hayward) using SSR, ISSR and RAPD Markers - <i>Bal Kumari Oliya, Shova Sharma, Bijula Neupane, Sudha Acharya, Rajendra Koirala, Surya Prasad Baral and Mukunda Ranjit</i>	88
3. Road Accessibility to Potential Suitability Areas of Fruit Commodity in Hilly Areas of Nepal - <i>Hari Krishna Dhonju, Kerry Walsh and Phul Subedi</i>	99
4. Nutritional Diversity of Dragon Fruit <i>Hylocereus polyrhizus</i> (Weber) Britton & Rose from Different Locations of Nepal - <i>Rupak Budhathoki</i>	106

5. Assessment of Adoption of Sweet Orange (*Citrus sinensis* L. Osbeck) Orchard Management Practices in Ramechhap District, Nepal
 - *Dikshya Poudel, Soniya Bashyal and Arvind Srivastava*..... 112

Technical Papers (Biodiversity and Climate Change : Vegetables / Spices)

123 - 148

1. Akabare Chili Amplifies the Household Income of Farmers in the Mid-hills of Nepal
 - *Damodar Poudyal, Bal Krishna Joshi, Shanta Man Shakya, Kanhaiya Prasad Singh and Kishor Chandra Dahal*..... 123
2. A Low-cost Medium for Potato Micro Propagation
 - *Anuja Rijal, Neela Paudel, Bihani Thapa, Kabita Kisi, Prakash Bhattarai and Giridhari Subedi*..... 134
3. Promotion of Community Based Seed Potato Production Technologies in the High-Hills/Mountains of Nepal for Food Security Improvement and Import Substitution
 - *Giridhari Subedi, Prakash Bhattarai, Janaki Devi Neupane, Neela Paudel, Bihani Thapa, Birendra Bahadur Rana, Anuja Rijal, Raj Kumar Giri, Janardan Gautam, Chandrakant Timalsina and Samid Ahamad* 139

Technical Papers (Production Issues and Cross Cutting : Fruits / Vegetables)

149 - 182

1. Mandarin Yield Loss and Pupal Density Assessment of Chinese Fruit Fly at Citrus Pockets of Gandaki Province, Nepal
 - *Kashinath Chiluwal, Roshani Ghimire, Salina Magar, Sambriddhi Ghimire and Lalit Shah* 149
2. Emerging Pest Threats in Citrus Fruit and their Management in Nepal
 - *Debraj Adhikari, Umesh Kumar Acharya and Yam Kumari Shrestha* 158
3. Monitoring of Chinese Citrus fly, *Bactrocera minax* (Enderlein) Pupae in Sweet Orange (*Citrus sinensis* (L.) Obseck) Orchards as a Pest Management Decision Tool in Nepal
 - *Sushmita Sharma, Sundar Tiwari, Debraj Adhikari and Bhola Gautam* 170
4. Promising Top Ten Underutilized Wild Edible Fruits of Nepal
 - *Hari Krishna Saiju*..... 175

Technical Papers (Horticulture Biodiversity : Fruits / Vegetables)

183 - 218

1. Wild Edible Food Plants Diversity and their Utilization Trends in Nepal
 - *Pradip Thapa, Ram Prasad Mainali, Mukunda Bhattarai, Ajaya Karkee, Krishna Hari Ghimire and Bal Krishna Joshi* 183
2. Agro Morphological Diversity of Locally Adaptability French Bean in Sankhuwasabha District of Nepal
 - *Mahima Gotame, Santosh BK and Abhishek Shrestha* 202
3. Species Richness and Use Values of Wild and Non-cultivated Vegetables in Nepal
 - *Ram Bahadur KC, Bal Krishna Joshi, Krishna Hari Ghimire and Hem Raj Paudel* 211

Technical Papers (Marketing and Post-harvest : Fruits / Vegetables)

219 - 312

1. Citrus Industry Value Chain Development in Nepal
 - *Khem Raj Joshi, Sandip Subedi, Phul Prasad Subedi and Rajendra Prasad Adhikari* 219
2. Understanding Bud Fruitfulness and Importance of Gibberellic Acid (GA3) Application(s) in Successful Grapevine Cultivation
 - *Anil Kumar Acharya, Shanti Acharya, Abiral Kushwaha and Kishor Chandra Dahal* 226
3. Digital Soil Maps: Its Use for Managing Horticultural Crops
 - *Shree Prasad Vista and Nabin Rawal*..... 236
4. Evaluation of Different Sweet Potato Genotypes in Mid-Hill Environment of Khumaltar, Lalitpur
 - *Prakash Bhattarai and Giridhari Subedi*..... 242

5.	Post-harvest Treatment of Different Concentrations of Gibberellic Acid on the Physiochemical Characteristics and Shelf Life of Mango (<i>Mangifera indica</i> L. cv. Malda)	252
	- <i>Bidhya Poudel Chhetri and Sudip Ghimire</i>	
6.	Effect of Different Plant Extracts and KMnO ₄ in the Shelf Life and Quality of Banana cv. Malbhog	262
	- <i>Gayatri Majhi, Laxmi Dhamala and Nirajan Bhandari</i>	
7.	Post-harvest Losses of Plum Fruits cv. 'Methley' of Different Harvesting Stages in Two Storage Conditions	272
	- <i>Kalika Prasad Upadhyay, Shyam Prasad Poudel, Chandrakanta Timilsina and Resham Bahadur Basnet</i>	
8.	Year Round Production of Vegetables under Naturally Ventilated Poly House in Mid Hill Region of Kaski, Nepal	
	- <i>Santosh Lohani, Lok Nath Aryal, Saroj Adhikari, Yubraj Bhusal, Manahar Kadariya and Sunil Aryal</i>	281
9.	Postharvest Loss Assessment of Potato Genotypes under Ordinary Storage Condition in Dhading and Tanahun District of Nepal	
	- <i>Neela Paudel, Kalika Prasad Upadhyay, Giridhari Subedi, Resona Simkhada, Sunil Aryal, Anuja Rijal and Bihani Thapa</i>	291
10.	Value Chain Analysis of Fruit and Vegetable Sub-sector to Enhance their Competitiveness along the Corridor of Ratna Highway	
	- <i>Pradeep Raj Rokaya</i>	300

Oral Presentation Abstracts

313 - 322

1.	Horticulture Research in Nepal: Achievement and Future Strategy	
	- <i>Tek Prasad Gotame, Surendra Lal Shrestha, Arjun Kumar Shrestha and Puspa Raj Poudel</i>	313
2.	Insight into Undergraduate Courses of Horticulture in Higher Agriculture Education Institutions of Nepal	
	- <i>Kishor Chandra Dahal, Puspa Raj Poudel and Arjun Kumar Shrestha</i>	314
3.	Impacts of Climate Change on Agricultural Sector in Nepal	
	- <i>Rijan Bhakta Kayastha</i>	315
4.	Diversity Assessment and Elite Line Selection of Brinjal Accessions Collected from Different Districts of Nepal	
	- <i>Ram Prasad Mainali, Pradip Thapa, Ajaya Karki, Mukunda Bhattarai, Krishna Hari Ghimire and Bal Krishna Joshi</i>	316
5.	Status of Guava Mealybug Infestations on Different Guava Genotype	
	- <i>Bikash Bhusal, Suprabha Pandey, Sunil Aryal, Shuvechchha Khanal and Surendra Lal Shrestha</i>	317
6.	Experiences of Asian Citrus Psyllid Biological Control in California	
	- <i>Raju Raj Pandey</i>	318
7.	Conservation of Horticultural Genetic Resources: A Case Study of Nepal Genebank	
	- <i>Ram Prasad Mainali, Pradip Thapa, Ajaya Karki, Mukunda Bhattarai, Deepa Singh Shrestha, Krishna Hari Ghimire and Bal Krishna Joshi</i>	319
8.	Comparison Between Red and Yellow Sweet Pepper (<i>Capsicum annuum</i> L.) Cultivar in Extended Storage at Sub-Optimal Temperature	
	- <i>Kumar Lama and Elazar Fallik</i>	320
9.	Performance and Post-Harvest Evaluation of Sweet Pepper Genotypes	
	- <i>Ranjana Rawal, Sujata Poudel, Bikash Bhusal, Ishwori Prasad Gautam and Surendra Lal Shrestha</i>	321

Poster Presentation Abstracts

323 - 338

1.	Effects of Fermented Banana Pseudo-Stem Sap <i>Musa acuminata</i> L. on the Growth and Yield Attributing Characters of Marigold Var. Karma 555 - Orange in Chitwan, Nepal	
	- <i>Aman Mehta, Rijwan Sai, Navina Yadav and Sneha Khanal</i>	323

2.	Graded Level of Nitrogen and Mulching on Growth and Yield Parameters of Tomato (<i>Solanum lycopersicum</i> L.) in Agrakhanchi, Nepal - <i>Aakriti Kafle, Sushil Khatri and Tej Narayan Bhusal</i>	324
3.	Economic Analysis of Using Subsidized Organic Fertilizer in Vegetables - <i>Shree Prasad Vista, Niraj KC and Luna Kesari Kansakar</i>	325
4.	Performance of Lettuce (<i>Lactuca sativa</i> L.) Genotypes Under Poly House and Open Field Condition in Nuwakot District - <i>Sarjit Pandey, Kanhaiya Prasad Singh, Rukmagat Pathak, Nirajan Bhandari, Rashmi Aryal and Lalit BC</i>	326
5.	Performance of Potato (<i>Solanum tuberosum</i> L.) Under Different Mulching Conditions and Zinc Levels at Rolpa, Nepal - <i>Muna Aryal, Suman Dhakal, Krishna Raj Pandey, Sanjeev Tumbapo and Yagya Raj Joshi</i>	327
6.	Efficacy of Different Concentration of Calcium Chloride on Post-harvest Quality of Tomato (<i>Solanum Lycopersicum</i> L) - <i>Sabnam Subedi and Shiva Shankar Bhattarai</i>	328
7.	Choice Test of Lady Bird Beetle Against Three Different Species of Aphids - <i>Kedipananda Lawati, Bikash Bhusal and Surendra Lal Shrestha</i>	329
8.	Effect of Organic Manures and Inorganic Fertilizers on Growth and Flower Yield of Marigold (<i>Tagetes erecta</i> L.) var. Goldsmith - <i>Krishna Dahal, Smriti Limbu, Prashmasa Kafle and Prama Tamang</i>	330
9.	Effect of Pinching on Plant Growth, Yield and Quality of Different Varieties of Okra (<i>Abelmoschus esculentus</i> , L. Moench) - <i>Dipak Kattel, Bikash Khanal, Kedar Gajurel, Subash Thapa, Varun Panthi, Namrata Thokar and Sabnam Subedi</i>	331
10.	Evaluation of Soil Fertility Status of Large Cardamom's (<i>Amomum subulatum</i> Roxb.) Field Under Different Shades Trees at Bhojpur, Nepal - <i>Samiksha Upreti, Sristi Thapa, Priyanka Gautam and Januka Dahal</i>	332
11.	Assessment of Potato Farmers Perception and Practices on Management of Red Ant (<i>Dorylus Orientalis</i> Westwood) in Dailekh District - <i>Priyanka Gautam, Pragati Dahal, Sristi Thapa, Samiksha Upreti and Surya Dhungana</i>	333
12.	Economic Analysis of Potato Production in Panchthar District, Nepal - <i>Sristi Thapa, Samiksha Upreti, Priyanka Gautam and Prashna Budhathoki</i>	334
13.	Storability of Potato Varieties under Different Storage Conditions in Bhaktapur, Nepal - <i>Pragati Dahal, Priyanka Gautam, Arjun Kumar Shrestha, Tikaram Sharma and Shiv Sundar Ghimire</i>	335
14.	Efficacy Testing of 'Soft' Pesticides for the Management of Cabbage Butterfly (<i>Pieris brassicae nepalensis</i> Doubleday) in Salyan, Nepal - <i>Biju Adhikari, Santosh Khadka and Saroj Sapkota</i>	336
15.	Establishment of an Efficient Mass-Scale Propagation Protocol for three different Apple Rootstocks Cultivars - <i>Malus prunifolia</i> , <i>Malus sylvestris</i> and M9. - <i>Bal Kumari Oliya, Sudha Acharya, Shova Sharma and Bijula Neupane</i>	337
16.	Prevalence of Land Snails and Farmers' Practice towards the Management of Giant African Snail, <i>Achatina Fulica</i> Bowdich at Kitchen Garden in Kapilvastu, Nepal - <i>Sita Jaishi, Resham Bahadur Thapa, Kapil Kafle, Navraj Upadhyaya and Dipak Khanal</i>	338

NHS Resolution	339 - 342
Resolution of the 2 nd International Conference on Horticulture	339

Annexure	343 - 347
• Conference Programme Schedule	343