

## TABLE OF CONTENTS

<b>i</b>	<b>Editorial and Table of Contents</b>	<b>i-vi</b>
<b>1</b>	<b>RNAseq: A Widely Used Technique for Genome-Wide Expression Analysis</b> Nayna Tirkey, Sudhir Kumar, Avinash Pandey and Kishor U. Tribhuvan	<b>1</b>
<b>2</b>	<b>Harvesting Innovation: The AI Revolution in agriculture</b> Kanika Pareek and Jatin	<b>4</b>
<b>3</b>	<b>IoT Enabled Intelligent Drip Irrigation System for Small-Scale Vegetable Cultivators</b> G. T. Patle	<b>7</b>
<b>4</b>	<b>Importance and Utilization in Traditional Food: Millets</b> Khwairakpam Bembem, Thingujam Bidyalakshmi, Ningthoujam Samarendra Singh and Y. Prabhabati Devi <sup>4</sup>	<b>10</b>
<b>5</b>	<b>IoT Harvest: Innovations in Sustainable Food Processing</b> Angam Raleng, Thameridus B. Marak and Sajesh Chettri	<b>14</b>
<b>6</b>	<b>Effect of Weather Variables on Pulses</b> Usha, N. And Karthik, A. N.	<b>17</b>
<b>7</b>	<b>Unlocking the Bioactive Potential of Indian Jujube: A Key Ingredient for Functional Food Innovation</b> Kanika Pawar, Ranjan Kaushik and Rakesh Gehlot	<b>20</b>
<b>8</b>	<b>Molecular Markers Technology for Genetic Improvement in Fruit Crops</b> Subaran Singh and Supriya Ambawat	<b>24</b>
<b>9</b>	<b>Exploring the Transcriptomic Landscape: Revolutionizing Plant Disease Management</b> MD Thabrez and Vineeth M	<b>27</b>
<b>10</b>	<b>Fertigation Conflict in the Production of Banana</b> S. N. Makwana, C. S. Chaudhary, D. P. Bhagora and J. R. Vala	<b>30</b>
<b>11</b>	<b>Wings of Change: Drones Revolutionizing Pollination Practices</b> Jennifer Minhaj, Pronoy Protim Sarma and Raktim Jyoti Deka	<b>32</b>
<b>12</b>	<b>Enhancing Fertilizer Use Efficiency With STCR: A Novel Approach</b> C. S. Chaudhary, S. N. Makwana, V. B. Mor and T. V. Joshi	<b>35</b>
<b>13</b>	<b>Artificial Intelligence: A Revolution in Agriculture</b> Pragti Negi	<b>38</b>
<b>14</b>	<b>Impact of Climate Change on Fruit Crops</b> Gunja Thakur and Ajay Singh	<b>40</b>
<b>15</b>	<b>Summer Fruits: The Saviour</b> MS. Rosalin sahuo and Chitrotpala Devadarshini	<b>42</b>
<b>16</b>	<b>Lac Cultivation Technology</b> G Gunasekar	<b>45</b>
<b>17</b>	<b>Earth's Symphony: Biodynamic Agriculture and the Balance of Nature</b> A. Sai Kishore, N. Charitha, Shaik Aslam and K. Naganjali	<b>48</b>

18	<b>An Update on Role of Salicylic Acid Alleviating High Temperature Stress in Plants</b> Monika, Sarita Devi, Priyanka, Preeti, Gaytri Kumari and Sukham Madaan	53
19	<b>Thermopriming: A Key Strategy for Enhancing Crop Resilience in Response Heat Stress</b> Monika, Sarita Devi, Preeti, Priyanka, Pankaj and Sukham Madaan	56
20	<b>Citrus in North East India: Wonder Fruits</b> Sanjib Baruah and Madhumita Talukdar	58
21	<b>Guava: A Nutraceutical Miracle</b> Lokesh G., Tanuja Priya B., Sadarunnisa S., Madhumathi C. and Arunodayam	61
22	<b>Harnessing Synthetic Biology: The Future of Nutraceutical Production in Mangoes</b> Ningthoujam Samarendra Singh, Khwairakpam Bembem and Lourembam Sanajaoba Singh	64
23	<b>Role of Gut Microbiome in Health and Immunity with Food-Based Approaches</b> A. S. Ghorband and Suvidha P. Kulkarni	66
24	<b>Celebrating World Earth Day, 2024</b> Prof Subhash Chand	69
25	<b>Advancements in Breeding for Heat Stress Tolerance, Strategies, Challenges and Future Directions</b> Atul Pachauri and Deepak Kher	74
26	<b>Transformative Impact of Cloud Computing in Agriculture</b> Dayana David	78
27	<b>Biochar: The Black Gold of Agriculture</b> Praveen Kumar M. B. and Spoorthishankar K. S.	81
28	<b>Technological Advancement in Weed Management</b> V. Santhosh	85
29	<b>New Innovative Agricultural Technologies for Modern Sustainable Agricultural Practices</b> Mohan A J, Mounica V and Shantilal J	91
30	<b>Plant Molecular Farming- The Future of Food</b> Prasad M. Bahekar	95
31	<b>Unleashing Host-Induced Gene Silencing (HIGS) for Effective Management of Fungal Diseases in Plants</b> Gangadhara Doggalli, G. R. Vishwas Gowda, and Gireesha D	97
32	<b>Breeding Rice for Quality Grain: The Way to A Healthy Life</b> Deepak Saran, Gyanisha Nayak, Shridhar Ragi, Somsole Bharat, Arvinth S. and Harshitha Srinivas Thota	102
33	<b>Arunachali Yak and Impact of Climate Change on Its Habitat</b> Martina Pukhrambam, Anesha Chanda, Vijay Paul, Dinamani Medhi, K.Mepfhuo, Shubham Loat, Mokhtar Hussain and Mihir Sarkar	105
34	<b>Balancing Natural Resources: The Science behind Watershed Conservation</b> Dileep K. C., Hanamantappa Meti, Sindhushree T. S. and Supriya S.	108

35	<b>Valorisation of Paddy Straw into Biodegradable Packaging Film</b> Poornima K. R. and Naik Omkar Mahesh	112
36	<b>Tomatoes as a Novel Source of Vitamin D</b> Mahamed Ashiq I., Rakshesh S., Basavaraj M. Pattanashetti and Chandan A. S.	115
37	<b>Optimizing Agriculture: The Role of Precision Farming</b> Bhuvana K., Bharathwaaj G., Kiruthika G. and Kavinraj S.	118
38	<b>Transforming Agriculture with Machine Learning and AI</b> Yamuna N., Bindu H. A., Suman L. and Sai Tejashree G.	122
39	<b>Pollen Grain Storage</b> Keerthana Sethunath	125
40	<b>Advances in Agricultural Technologies with The Help of Microbiology or Microorganisms</b> Bhavneet Kour	127
41	<b>Globe Artichoke: A Fantastic Edible</b> Pragti Negi	131
42	<b>Development of Iron and Fiber Rich Food Product from Animal Fodder</b> Luxita Sharma	143
43	<b>Sustainable King Chilli Production Through Mulching in Chandel District of Manipur, India</b> K. Sonamani Singh	147
44	<b>Aquaculture in the Modern Era: Application of Artificial Intelligence in Aquaculture</b> Wangkheimayum Malemnganbi Devi, Surajkumar Irungbam, Jaya Angom and Martina Meinam	149
45	<b>Smart Farming and Agriculture Technology</b> Pooja M. E. and Madhusudhan Nayak C.	153
46	<b>Importance of Litter Management in Poultry Production</b> Ashish Yadav	156
47	<b>Utilisation of Pond dyke for King chilli Cultivation to Enhance Productivity and Income of Farmers of Northeast India</b> Surajkumar Irungbam, Wangkheimayum Malemnganbi Devi, Senjam Umananda Singh, Luckyson Maibam, Moirangthem Satyajit Singh and Priyanka Irungbam	157
48	<b>Millets: Recent Advancement in Crop Improvement</b> D.B. Prajapati	161
49	<b>Oil Palm Plants Production: Its Importance in Agriculture</b> Hemangini A. Chaudhari and Parita P. Barvaliya	165
50	<b>From Field to Fork: Nourishing Innovations with Ragi Noodles and Jowar Ladoo</b> M. Deepa and M. Yugandhar Kumar	168
51	<b>Advances in Turmeric Processing and Detect Adulteration in Turmeric</b> Nile Shubhangi Gorakhnath, Swapnaja Jadhav and Nile Hemlata Gorakhnath	173

52	<b>Recent Advances of Tissue Culture in Crop Improvement</b> D.B. Prajapati	175
53	<b>Bioremediation of Petroleum and Other Inorganic Pollutants in Soil</b> G. Aswani, S. Anu Rajan, N. Chitra and V.I. Soumya	178
54	<b>Potentiality of Underutilized Horticultural Crops of Sikkim</b> Dhamchoe Dolma Bhutia, Sajesh Chettri, Sujata Jena, Robin Subba, Radhakrishnan Kesavan and Puja Das	182
55	<b>Venture Capital: Concept and Process</b> Niyati Thakur	186
56	<b>Tilapia Parvovirus: A Potential Risk to Tilapia Culture</b> Shivani D. Gowda, Rakesh K. and Amogha K. R.	189
57	<b>Advanced Seed Invigoration Treatments for Enhancing Seed Quality</b> Vidya C. J., Bhavya K., Sowmya K. S. and Sharan Kesaratagi	191
58	<b>Impact of Heat Stress on Dairy Animals and Its Mitigation Strategies</b> Vishvas Gohil, Chirag Pruthi and Deepti Arya	195
59	<b>Information and Communication Technology (ICT) in Indian Agriculture: Revolutionizing Farming Practices and Promoting Sustainability</b> Priyanshu Pal Dutta and Mriganko Kakoti	197
60	<b>Forage Radish Cover Crop: The Cream of Cover Crop for Sustainable Vegetable Production</b> Sanchita Brahma and Lolesh Pegu	200
61	<b>Organic Dairy Farming</b> Pathak S., Roupesh G., and Yadav S. K.	203
62	<b>Procurement Portals, Market Infrastructure and Food Grain Security</b> Raj Kumar	207
63	<b>Antioxidant Rich <i>Averrhoa carambola</i>: A Recent Technology in Star Fruit Production</b> Ashtalakshmi M., S. Saraswathy and Lokesh Muthusamy	210
64	<b>Brooding of Chicks: A Management Tool for A Healthy and Profitable Poultry Farm</b> Vijay Kumar and D. Pratap	213
65	<b>Unveiling the Hidden Threat: Understanding and Tackling Salt Affected Soils</b> G. Abarnadevi and S. Pristal Augash	216
66	<b>Impact of Ocean Acidification on Marine Flora and Fauna</b> Praveen Kumar M. B. and Spoorthishankar K. S.	220
67	<b>Revolutionizing Irrigation Management: Automated Irrigation System</b> S. Pristal Augash and G. Abarnadevi	225
68	<b>Natural Resources Management in Horticulture Crops: Strategies for Sustainable Agriculture</b> Jitendra Gurjar	228

69	<b>Nanotechnology in Agriculture and Animal Husbandry</b> Prital Bhujbal and Shiwani Singh	231
70	<b>Empowering Farmers: Cultivating Medicinal Plants for Sustainable Agriculture and Economic Empowerment</b> Hamsa D.	235
71	<b>Minichromosome Technology: An Advanced Form of Genetic Improvement in Agriculture</b> Vittal Kamble and Sangeetha Priya S.	239
72	<b>Shrimp Farming in India: Navigating Growth and Key Requirements</b> Jatin Soni	243
73	<b>Fermented Foods and Their Healthful Legacy: Exploring the Richness of North-Eastern India</b> Pinku Chandra Nath, Angam Raleng, Sajesh Chettri and Thameridus B. Marak	245
74	<b>Revolutionizing Agriculture: The Crucial Role of Drones in Modern Farming</b> Seema S. Doddamani, Kavya C. Nironi, S. N. Betageri and Shweta S. Doddamani	250
75	<b>Exploring the Significance and Potential of Under-utilized Horticultural Crops: Importance and Scope</b> Jitendra Gurjar	254
76	<b>Kisan Credit Card Scheme</b> Subhash Chand	258
77	<b>Wheat: A Prominent Source of Modern Green Revolution in Agriculture</b> Kavya C. Nironi, Seema S. Doddamani, Praveen S. and Anjali C. Nironi	260
78	<b>Direct Seeded Rice (DSR) Sustainable Rice Cultivation Practice for the Madhya Pradesh State</b> Hemu Shanishre, Hemu Shanishre, Praveen Nayak, D. S. Thorat, Dushyant Singh and Manish Kumar	266
79	<b>Crop Simulation Modeling</b> Athulya S., Sreeju K. B. and Unni Ravi Sankar	271
80	<b>Exploring Human-Animal Conflict and Its Impact on Crop Damage</b> Unni Ravisankar, M. R. Bindhu, Athulya S. and Sreeju K. B.	284
81	<b>Impact of Artificial Intelligence in Transforming Indian Agriculture</b> Sreeju K. B., Athulya S. and Unni Ravi Sankar	289
82	<b>Vermicompost: An Overview</b> Ravindra Pratap Singh Jetawat	293
83	<b>Management of Fall Armyworm <i>Spodoptera frugiperda</i></b> B. V. Bhede, G. P. Sonule and A. D. Pandagale	296