

Latest Trends in Crop Sciences

Ram Vinod Naik D*

Department of Microbiology, Sri Krishnadevaraya University, Anantapur, India

Review Article

Received: 02/09/2016

Revised: 08/09/2016

Accepted: 13/09/2016

*For Correspondence

Ram Vinod Naik D, Department of Microbiology, Sri Krishnadevaraya University, Anantapur, India, Tel: 9494930305.

E-mail:

dramvinod112@gmail.com

Keywords: Agriculture, Harvest, Gramineae, Mutagenesis, Heterosis.

ABSTRACT

One of the best difficulties confronting the world group nowadays is that of nourishing our expanding populace while not all the more decimating the climate or, in various words, the maintained capacity to bolster ourselves. It's fundamental to comprehend what spurs U.S. Crop creation in Australia is then inspected, and in addition a survey of the farming area, drivers of correction, and trimming business profiles. A dream for the Australian grains business, created by the business itself, can then be outlined, and in addition taking care of new demand and showcases, furthermore the part of biotechnology. New data and advances can change U.S. to advance in ways that not regardless prominent, however we should not dismiss the fundamental important of advancing human welfare.

INTRODUCTION

Farming is that the improvement of animals, plants, life forms, and different life outlines for sustenance, fiber, biofuel, remedial and distinctive things accustomed manage and overhaul human life. Husbandry was the key headway within the climb of inert human advancement, whereby developing of subdued species created food surpluses that upheld the modification of progress. The examination of cultivating is thought as rustic science. The chronicled setting of cultivating will a reversal uncounted, and its headway has been driven and delineate by altogether different airs, social orders, and advances. In any case, all developing typically depends on upon methodology to develop and continue the landscapes that are acceptable for raising ready species. For plants, this typically obliges some form of watering framework; nevertheless there are schedules for dry space developing. Creatures are raised in a very mix of field primarily based and landless systems, in associate degree business that spreads right around thirty third of the world's ice-and while not water zone. Within the created world, gift day agriculture checking vital scale monoculture has rework into the dominating course of action of hemorrhage edge developing, nevertheless there's making backing for viable agriculture, together with permaculture and customary cultivating.

In India, around most of the general population is reliant on horticulture. This country in like manner has vital agrarian establishment that is no lower than ten thousand years of age time. The Indian cultivating rationalities are trailed by differed countries to make the yield of their rustic generation [1,2]. Inside the present era the greater part of the nations don't have adequate skillful labor particularly in rural area and it influences the extension of creating nations [3].

Crop creation can increase remembering the top objective to require consideration of the creating interest of sustenance, the new encouraging administration slants and along these lines the development from fossil essentialness toward bioenergy. This can provoke a bigger weight on the strained crisp quality. Additionally, strongly tormented by natural alteration, item yields are likewise weakened transport in regards to the rot of sustenance security round the world. Really, the expanding temperature and diminishing precipitation, can reduction item yield and extend watering framework. With of these new challenges, updating water use in harvest era is that the investigation of future periods and it will expand the need for organized data on water needs of a yield [4-9].

Among the first plants that were developed and trained, the characteristics related to easiness of transportation and reposition was quite made-up. The family Phocaea species, or a lot of all, their non-public varieties, let's say, the grains, (incorporated into this sort of plants) address the staple food in numerous elements of the planet. Their starting stage and restraining seem to be joined with the origin of the central enhancements.

Therefore, each one of the 3 basic things (rice, maize and wheat) has been related to one essential development [10-15].

To meet the doggedly rising needs of simplicity, year-around offer of premium quality abundant nourishments particularly in creating countries, era of contemporary vegetables for admission has grown up quickly in several countries round the world over the span of the newest decade [16-18]. This trade brings creators and exporters of world alongside shippers and retailers. By and huge urbanization is what is more influencing altogether on the supply of labor for developing activities [19-22].

Roots with brilliant qualities square measure critical for keeping up item yields, especially once plants square measure created in soils with insufficient water and supplements [23-25]. Understanding the headway of roots and their joint effort with the earth setting is pivotal to control the establishment attributes, and at last, the sustenance security. For instance, rice includes an important level of innate choice in root qualities [26-28].

CROP CHANGE WAYS

Different ways are acclimated enhance the yield creation. Cause has been used to blessing innate determination in elaborate plants for a dreadfully long though. More than 560 elaborate blends from forty-one plant animal categories are formally released from change duplicating comes. By and colossal, plants with novel qualities were recognized phenotypically from extensive, mutagenized populaces [29-35]. The entire extra as of late, DNA screening routes, as a case, development are made that let mutagenized peoples to be explored genetically, before quality expression. The blend of cause and DNA screening has sceptered the particular confirmation of novel alleles in model plants and agrarian species [36,37]. Assessments of the effects of temperature change on yield generation are done perfectly inside the created countries [38].

Genomic learning open on-line is essential to cognizance plant headway and associated attributes, for item revision. Bioinformatics implies the new handle in science that combinations, programming framework building and information development with wide applications, as an example, requesting sequencing [39-41]. Seed creation from wide mating incorporates the blend of the male and ladylike gametes, wherever the reason for the convergence venture is to trade basic traits from the wild species to the viably developed and exceptional species [42,43]. Put something aside for, in an exceedingly divide of the wide crosses, the era of breed seeds is fantastically hampered attributable to bound arrangement boundaries [44-47]. Crossovers regularly demonstrate a yield grows, enhanced yield security and expanded abiotic and natural marvel uneasiness resistance inferable from the misuse of heterosis [48]. In cutting edge development technique careless use of fertilizers, especially the gas and phosphorus, has incited calculable sullyng of soil, air and water. Over the most noteworthy usage of those chemicals applies vindictive effects on soil living being, impacts the wealth remaining of soil in addition defiles setting [49-53].

It is key these days to boost soil prosperity by giving the terribly needed regular matter, least soil get the chance to be in straitened circumstances. The enlargement and potential for reusing grouping of advantages in cultivation is vat by any benchmarks [54-56]. Agriculture misuses reusing will die Brobdingnagian favorable circumstances to business enterprise and territory organization in long haul. in addition there square measure the upsides of a cleaner house, an additional advantageous region associated an adroit usage of all open useful resources while not reproaching them as squanders [57-60].

The modification strategy has bestowed the troubles of soil contamination, microorganism and variety mishap. The time it currently, times to ascertain the connection of commercial enterprise and social progression with the confirmation of the world and diminishment of the human impact [61-64]. Ecological problems, which can have overall impacts, square measure unpredictable and systematically reticulate with cash connected variables. problems with soil contamination, pollution and corruption, loss of variety do not see political edges and stance real perils to human security, prosperity and gainfulness [65-68].

Pesticide use accepts an imperative half in ensuring decent collect yields in standard cultivating [69-70]. On the other hand, pesticides are the wellspring of changed natural issues joining stores in ground and surface waters and hurtfulness to non-target animals. Moreover, they will bless threats to residence workers encased in concoction application [71-74].

Lack of hydration out is one in everything about fundamental schedules for value augmentation of vegetables to make them open in the midst of the off-season. Dried out things have even charge request [75-77]. These days rearing comes formally out of past edges once essential returns were the natural center of reproducers [78,79]. The considered authorities has focusing on new challenges. a considerable measure of essential believed is paid to the simulated and mechanical properties, natural science characters and substance of actually element substances with cell support sway while not the addition of the new blend to be diminished [80-85].

ACKNOWLEDGMENT

This content of the article is scrutinized and approved by M. Rakesh and written by Ram Vinod Naik D.

REFERENCES

1. Beyrouthy El and Azzi El. Water Footprint, New Insight for a More Sustainable Crop Production. *Adv Crop Sci Tech.* 2014;2:113.
2. Sumitha Thankachana and Dr.S.Kirubakaran. An Intelligence Based Alert System for Farmers. *Ijirce.* 2014;3:150-158.
3. Gholap Dipak et al. Robotic Agriculture Machine. *Ijirset.* 2014;3:454-462.
4. Chauhan A and Mittu B. Soil Health - An Issue of Concern for Environment and Agriculture. *J Bioremed Biodeg.* 2015;6:286.
5. Lovgren D. Cover Crops, More than Just a Weed. *Adv Crop Sci Tech.* 2015;3:157.
6. Siebach S, et al. Toxicity of Chelated Iron (Fe-DTPA) in American Cranberry. *J Horticulture.* 2015;2:129.
7. Gbanguba AU, et al. Performance of Rice Grown after Cassava/Legume Intercrops at Badeggi in the Southern Guinea Savanna Ecological Zone of Nigeria. *J Rice Res.* 2015;3:129.
8. Sticklen M. Plantipharma Technology: Production of Antibodies, Anti-HIV, Anti-Ebola Virus, Anti-End-Stage Metastatic Melanoma and Other Recombinant Biotech Drugs in Crops. *Adv Crop Sci Tech.* 2014;2:120.
9. Wilson CR. Robustness of Industrial Crops in High Production Cost Agricultural Systems – Dealing with Market Flux. *Med Aromat Plants.* 2014;3:150.
10. Alvarez JB and Guzmán C. Spanish Ancient Wheat: A Genetic Resource for Wheat Quality Breeding. *Adv Crop Sci Tech.* 2013;1:101.
11. Jelali N, et al. Effects of Fe Deficiency on Organic Acid Metabolism in *Pisum sativum* Roots. *Adv Crop Sci Tech.* 2013;1:102.
12. Andary J, et al. Phenolic Compounds from Diluted Acid Hydrolysates of Olive Stones: Effect of Overliming. *Adv Crop Sci Tech.* 2013;1:103.
13. Zhang Q, et al. Advances in Understanding Cold Sensing and the Cold-Responsive Network in Rice. *Adv Crop Sci Tech.* 2013; 1:104.
14. Nguyen TX and Sticklen M. Barley HVA1 Gene Confers Drought and Salt Tolerance in Transgenic Maize (*Zea Mays* L.). *Adv Crop Sci Tech.* 2013;1:105.
15. Sharma V and Alam A. Current Trends and Emerging Challenges in Horticulture. *J Horticulture.* 1:101.
16. Darmawan R, et al. Isolation and Evaluation of PAH Degrading Bacteria. *J Bioremed Biodeg.* 2015;6:283.
17. Prakash V, et al. Treatment of Oil Sludge Contamination by Composting. *J Bioremed Biodeg.* 2015;6:284.
18. Yeh TY. Biostimulator and Biodegradable Chelator to Pytoextract not Very Toxic Cu and Zn. *Hydrol Current Res.* 2015;6:190.
19. Tamang D, et al. Effect of Herbicide Application on Weed Management in Green Gram [*Vigna radiata* (L.) Wilczek]. *Adv Crop Sci Tech.* 2015;3:163.
20. Siebach S, et al. Toxicity of Chelated Iron (Fe-DTPA) in American Cranberry. *J Horticulture.* 2015;2:129.
21. Govindaraj M. Is Fortification or Bio Fortification of Staple Food Crops will Offer a Simple Solution to Complex Nutritional Disorder in Developing Countries? *J Nutr Food Sci.* 2015;5:351.
22. Chauhan A and Mittu B. Soil Health - An Issue of Concern for Environment and Agriculture. *J Bioremed Biodeg.* 2015;6:286.
23. Selvaraj MG, et al. Root Phenomics-New Windows to Understand Plant Performance and Increase Crop Productivity. *J Plant Biochem Physiol.* 2013;1:116.
24. Luxon N and Pius C. Climate Change Risk and Vulnerability Mapping and Profiling at Local Level Using the Household Economy Approach (HEA). *J Earth Sci Climate Change.* 2012;3:123.
25. Saeed H, et al. Hydraulic Redistribution from Wet to Drying Roots of Potatoes (*Solanum tuberosum* L.) During Partial Rootzone Drying. *Adv Crop Sci Tech.* 2015;3:162.
26. Shahin SI and El-Orabey WM. Relationship between Partial Resistance and Inheritance of Adult Plant Resistance Gene Lr 46 of Leaf Rust in Six Bread Wheat Varieties. *Adv Crop Sci Tech.* 2015; 3:161.
27. Nikkhah A. Nutrient Assimilation Circadian Physiology: A Novel SciTech in Integrative Crop Production. *Adv Crop Sci Tech.* 2015;3:121.
28. Leo Daniel AE, et al. In vitro Characterization of *Trichoderma viride* for Abiotic Stress Tolerance and Field Evaluation against Root Rot Disease in *Vigna mungo* L. *J Biofertil Biopestici.* 2011;3:111.

29. Jiang P, et al. Optimization of EMS Mutagenesis on *Petunia* for Tilling, Ethiopia. *Adv Crop Sci Tech.* 2014;2:141.
30. Woldeab G, et al. Virulence Spectrum of *Puccinia hordei* of Barley in Western and Central Highlands of Ethiopia. *Adv Crop Sci Tech.* 2015;3:164.
31. Dixit A, et al. Eco-friendly Alternatives for the Removal of Heavy Metal Using Dry Biomass of Weeds and Study the Mechanism Involved. *J Bioremed Biodeg.* 2015;6:290.
32. Gan SS. Leaf Senescence as an Important Target for Improving Crop Production. *Adv Crop Sci Tech.* 2014;2:116.
33. Abiram P, et al. Pollutant Abatement Of Dye Industry Effluent Using Aquatic Macrophytes. *Journal of Industrial Pollution Control.* 2005;21:343- 347.
34. Siebach S, et al. Toxicity of Chelated Iron (Fe-DTPA) in American Cranberry. *J Horticulture.* 2015;2:129.
35. Leo Daniel AE, et al. In vitro Characterization of *Trichoderma viride* for Abiotic Stress Tolerance and Field Evaluation against Root Rot Disease in *Vigna mungo* L. *J Biofertil Biopestici.* 2011;3:111.
36. Teshome Z, et al. Effect of Nitrogen and Phosphorus on Yield Components, Yield and Sugarcane Juice Quality parameters of Soybean-Sugarcane Intercropping at Tendaho Sugar Factory. *Biochem Physiol.* 2015;4:151.
37. Katam K, et al. Advances in Proteomics and Bioinformatics in Agriculture Research and Crop Improvement. *J Proteomics Bioinform.* 2015;8:39-48.
38. Simba FM, et al. Climate Change Scenarios, Perceptions and Crop Production: A Case Study of Semi-Arid Masvingo Province in Zimbabwe. *J Earth Sci Climate Change.* 2012;3:124.
39. Okii D, et al. Application of Bioinformatics in Crop Improvement: Annotating the Putative Soybean Rust resistance gene *Rpp3* for Enhancing Marker Assisted Selection. *J Proteomics Bioinform.* 2014;7:1-9.
40. Khraiwesh B. RNA-Mediated Crop Improvement. *J Biotechnol Biomaterial.* 2011;1:107.
41. Katam K, et al. Advances in Proteomics and Bioinformatics in Agriculture Research and Crop Improvement. *J Proteomics Bioinform.* 2015;8:39-48.
42. Kharkongar HP, et al. Wide Hybridization and Embryo-Rescue for Crop Improvement in *Solanum*. *Agrotechnol.* 2012;11:4.
43. Hafeez A. Arsenic Distribution in Green Bean Yield Irrigated by Waste Water. *Adv Crop Sci Tech.* 2015;3:165.
44. Pawar RM. The Effect of Soil pH on Bioremediation of Polycyclic Aromatic Hydrocarbons (PAHS). *J Bioremed Biodeg.* 2015;6:291.
45. Devarinti SR. Pollen Allergy: Common Weeds in Telangana and Their Management Measures. *J Biofertil Biopestici.* 2015;6:152.
46. Suma R and Savitha CM. Integrated Sugarcane Trash Management: A Novel Technology for Sustaining Soil Health and Sugarcane Yield. *Adv Crop Sci Tech.* 2015;3:160.
47. Teshome Z and Kibret K. Characterization of Soil Management Groups of Metahara Sugar Estate in Terms of their Physical and Hydraulic Properties. *Adv Crop Sci Tech.* 2015;3:159.
48. Gils M, et al. Quantitative Assessment of Wheat Pollen Shed by Digital Image Analysis of Trapped Airborne Pollen Grains. *Adv Crop Sci Tech.* 2013;2:119.
49. Gupta G, et al. Plant Growth Promoting Rhizobacteria (PGPR): Current and Future Prospects for Development of Sustainable Agriculture. *J Microb Biochem Technol.* 2015;7:96-102.
50. Chauhan A and Mittu B. Soil Health - An Issue of Concern for Environment and Agriculture. *J Bioremed Biodeg.* 2015;6:286.
51. Hailu E and Woldeab G. Survey of Rust and Septoria Leaf Blotch Diseases of Wheat in Central Ethiopia and Virulence Diversity of Stem Rust *Puccinia graminis* f. sp. *tritici*. *Adv Crop Sci Tech.* 2015;3:166.
52. Singh A and Sengar RS. DNA Fingerprinting Based Decoding of Indica Rice (*Oryza sativa* L) Via Molecular Marker (SSR, ISSR, & RAPD) in Aerobic Condition. *Adv Crop Sci Tech.* 2015;3:167.
53. Mao X, et al. Coupled Electro-kinetic Remediation and Phytoremediation of Metal(loid) Contaminated Soils. *J Bioremed Biodeg.* 2015;6:163.
54. Abebe B and Workayehu T. Effect of Method of Sowing and Time of Di-Ammonium Phosphate (DAP) Fertilizer Application, on Yield and Yield Components of Tef (*Eragrostic tef*) Trotter) At Shebedino, Southern Ethiopia. *Adv Crop Sci Tech.* 2015;3:168.
55. Górska EB, et al. Degradation and Colonization of Cellulose by Diazotrophic Strains of *Paenibacillus polymyxa* Isolated from Soil. *J Bioremed Biodeg.* 2015;6:271.

56. Wolde Z, et al. Phosphorus Sorption Characteristics and External Phosphorus Requirement of Bulle and Wonago Woreda, Southern Ethiopia. *Adv Crop Sci Tech.* 2015;3:169.
57. Gambhir G, et al. Induces High Frequency Shoot Regeneration in Leaf and Petiole Explants of Cabbage (*Brassica Oleracea L. Var. Capitata*). *J Biotechnol Biomater.*2015;5:172.
58. Siebach S, et al. Toxicity of Chelated Iron (Fe-DTPA) in American Cranberry. *J Horticulture.* 2015;2:129.
59. Rehman HU. In vitro Propagation of Kainth (*Pyrus pashia*) Using Explants from Forced Cutting. *J Horticulture.* 2015;2:127.
60. Singh S and Bainsla NK. Analysis of Climate Change Impacts and their Mitigation Strategies on Vegetable Sector in Tropical Islands of Andaman and Nicobar Islands, India. *J Horticulture.* 2015;2:126.
61. Chauhan A and Mittu B. Soil Health - An Issue of Concern for Environment and Agriculture. *J Bioremed Biodeg.*2015;6:286.
62. Janaranjani KG and Kanthaswamy V. Correlation Studies and Path Analysis in Bottle Gourd. *J Horticulture.* 2015;2:125.
63. Shekhar SK, et al. Growth Potential Assessment of Actinomycetes Isolated from Petroleum Contaminated Soil. *J Bioremed Biodeg.* 2014;5:259.
64. Srivastava R et al. Post-Harvest Life of Cut Chrysanthemum Cultivars in Relation to Chemicals, Wrapping Material and Storage Conditions. *J Horticulture.*2015;2:123.
65. Jiang P, et al. Optimization of EMS Mutagenesis on Petunia for TILLING. *J Horticulture.* 2015;2:122.
66. McMoran D and Gauthier J. Experimenting with Growing Ulluco as a Niche Crop for Fun and Profit. *J Horticulture.* 2015;2:120.
67. Swamy NG, et al. Evaluation of Certain Varieties and Hybrids of Capsicum for Quality Attributes under Shade Net. *J Horticulture.* 2015;2:124.
68. Pratiwi SUT, et al. Antimicrobial effects of Indonesian Medicinal Plants Extracts on Planktonic and Biofilm Growth of *Pseudomonas aeruginosa* and *Staphylococcus aureus*. *J Horticulture.* 2015;2:119.
69. Odokuma LO and Ubogu M. Phragmites australis Growth and Tolerance to Crude Oil Contamination in Mangrove Swamp Soil. *J Bioremed Biodeg.* 2014;5:256.
70. Chang L, et al. Transcriptome Analysis of the Chinese Cabbage (*Brassica rapa Ssp. Pekinensis*) Petal Using RNA-Seq. *J Horticulture.* 2014;1:114.
71. Hashida SN et al. Influence of Nitrogen Limitation and Long-Term Use of Rockwool on Nitrous Oxide Emissions in Hydroponic Systems. *J Horticulture.*2014;1:113.
72. Hasan H, et al. Impacts of Treated Wastewater Reuse on Some Soil Properties and Production of *Gladiolus communis*. *J Horticulture.* 2014;1:111.
73. Tsegaye B. Impact of Sun Drying Methods and Layer Thickness on the Quality of Highland Arabica Coffee Varieties at Limmu, Southwestern Ethiopia. *J Horticulture.* 2014;1:117.
74. Sekhar C, et al. Garlic Trading - A Potential Agribusiness Venture in India. *J Horticulture.* 2014;1:118.
75. Chattopadhyay A. Effect of Vermiwash and Vermicompost on an Ornamental Flower, *Zinnia sp.* *J Horticulture.* 2014;1:112.
76. Vimala B and Pratap M. Effect of Different Priming Methods on Seed Quality, Biochemical Changes and Storability of China Aster (*Callistephus Chinensis L. Nees*). *J Horticulture.* 2014;1:115.
77. Amutha D. An Analysis of Sapota Fruit Cultivation in Tuticorin District. *Int J Econ and Manage Sci.* 2014;3:203.
78. Leo Daniel AE, et al. In vitro Characterization of *Trichoderma viride* for Abiotic Stress Tolerance and Field Evaluation against Root Rot Disease in *Vigna mungo L.* *J Biofertil Biopestici.* 2011;3:111.
79. Leo Daniel AE, et al. In vitro Characterization of *Trichoderma viride* for Abiotic Stress Tolerance and Field Evaluation against Root Rot Disease in *Vigna mungo L.* *J Biofertil Biopestici.* 2011;3:111.
80. Ntuli TM. The Role - Activity and/or Processing - Of (Re) Active Oxygen Species in Desiccation Sensitivity and/or Tolerance, Development, Dormancy and/or Germination in Seeds. *J Horticulture.* 2014;1:110.
81. Masheva S. Recent Trends of the Breeding Programs in Main Vegetables and Potatoes in Bulgaria. *J Horticulture.* 2014;1:102.
82. Agrawal S and Pathak RK. Response of Phosphate Solubilizing Microorganism on Quality of Wheat (*Triticum Aestivum L.*) Plant Grown Conventionally in Temperate Climate. *J Biofertil Biopestici.* 2010;3:110.
83. Devasigamani S. Influence on Certain Herbicides for the Control of Water Hyacinth (*Eichhornia Crassipes (Mart.) Solms*) and its Impact on Fish Mortality. *J Biofertil Biopestici.* 2013;4:138.

84. Nikkhah A. Empowering World Economy through Fostering International Education in Agricultural Sciences. *Adv Crop Sci Tech.* 2015;3:122.
85. Tamang D, et al. Effect of Herbicide Application on Weed Management in Green Gram [*Vigna radiata* (L.) Wilczek]. *Adv Crop Sci Tech.* 2015;3:163.