

INDIAN AGRONOMY NEWS

Published periodically by the Indian Society of Agronomy,
Division of Agronomy, Indian Agricultural Research Institute, New Delhi-110 012

Vol. 21

September and December 2008

No. 3 & 4

Reorient Agronomic Research Approaches for Addressing Agricultural Problems

-P.N. Roy Chowdhury

There is a need to adopt innovative agronomic approaches to address the growing problems in agricultural sector, opined Sh. P.N. Roy Chowdhury, Principal Secretary, Agriculture and Cooperation Department, Government of Gujarat. He was delivering the inaugural address at the National Symposium on "New Paradigms in Agronomic Research" held at Navsari during 19-21 November, 2008. Agricultural University, Navsari. Narrating the problems of declining agricultural growth in the 10th Plan Period, hike in the prices of food items, fall in profitability, widening economic disparities between rural and urban masses, complexities associated with environmental pollution, climatic changes, natural resource degradation including biodiversity, longer time gap between technology generation and its adoption, and technology fatigue, he expressed concerns about meeting the Millennium Development Goals, especially those of poverty alleviation, hunger eradication and natural rejuvenation by 2015.



Inauguration of the National Symposium on New Paradigms in Agronomic Research on November 19, 2008 at NAU, Navsari, Gujarat, (From L to R) Dr. M.S. Gill, Dr. C.R. Hazra, Sh. P.N. Roy Chowdhury, Dr. M.H. Mehta, Sh. P.K. Laheri, Dr. R.P.S. Ahlawat, Dr. M.C. Varshneya, Dr. I.P.S. Ahlawat and Dr. A.R. Sharma are seen on the dais

He highlighted the inconsistencies between the goals of agricultural research and societal development needs. Elaborating the possible ways to meet these challenges, he advocated research focus on balancing income generation and household food production requirement of small and marginal farmers, blending knowledge systems for an inclusive approach to innovation, technological solutions for emerging societal needs, and research on risk management. Appreciating the contribution of agronomists to the national agricultural development, he implored them to work further towards bringing growth, riches and prosperity in rural India.

ISA AWARDS (2005-06)

The Indian Society of Agronomy (ISA) conferred awards and honours to outstanding scientists in recognition of their significant contributions in research and education in the inaugural session of the National Symposium. The following scientists were honoured:

ISA GOLD MEDAL

Dr. T.C. Jain (2005)
Dr. H.C. Sharma (2005)
Dr. R.L. Yadav (2006)
Dr. V.S. Korikanthimath (2006)

ISA Fellow

Dr. V.C. Patil (2005)
Dr. A.K. Pathak (2005)
Dr. B. Chandrasekharan (2005)
Dr. K.A. Singh (2005)
Dr. C.L. Patel (2005)
Dr. S.V. Kaore (2005)
Dr. Shaik Mohammad (2006)
Dr. A.K. Singh (2006)
Dr. N.S. Rana (2006)
Dr. W.S. Guleria (2006)

ISA Dr P.S. Deshmukh Young Agronomist Award

Dr. S.S. Walia (2005)
Dr. Ravindra Singh (2006)
ISA Best Ph.D. Thesis Award
Dr. U.K. Shanwad (2006)

ISA Best Paper Award

Dr. R. Rajendran (2005)
Dr. A.S. Dhindwal (2006)

ISA Best Poster Presentation Award

First Prize: Dr. P. Kalaiselvam and co-workers

Second prize: Dr. M.L. Jat and co-workers

Third Prize: Dr. Y.P. Singh and co-workers

Indian Society of Agronomy Executive Council 2007-2008

President	Dr R.P.S. Ahlawat
Vice President	Dr M.S. Gill
Secretary	Dr A.R. Sharma
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APPOINTMENTS

Dr. B.S. Mahapatra joined as Director, Central Research Institute for Jute & Allied Fibres, Barrackpore, on 12th May 2008. Dr. Mahapatra is one of the distinguished agronomists of the



country. He is widely traveled in India and abroad, possesses rich experience of handling a number of research projects. He has more than 72 research papers, beside a number of popular articles, book chapters and other publications to his credit. He guided 7 Ph. D. and 10 M. Sc. Awards for their degrees. He was previously serving as Professor of Agronomy, GBPAU&T, Pantnagar before assuming this responsibility. The ISA wishes him all success in the new endeavour.

FOREIGN DEPUTATION

Dr. Yashbir Singh Shivay, Senior Scientist at Division of Agronomy, IARI, New Delhi visited Department of Plant and Environmental Sciences, Norwegian University of Life Sciences, Aas, Norway as a Visiting Scientist from 8th September 2008 to 5th October 2008, under the Research Council of Norway funding. During his visit he contributed in the field of basic research on mineralization of copper, manganese and zinc from rock mineral flour and city waste compost for potential use in organic farming.

AWARDS AND HONOURS

Dr. K.S. Dadhwal, Head, Division of Soil Science and Agronomy, Central Soil & Water Conservation Research & Training Institute, Dehradun, was awarded Gold Medal by the Indian Society of Agroforestry for his outstanding services to the Society during the valedictory function of the National Symposium on "Agroforestry Knowledge for Sustainability, Climate Moderation and Challenges Ahead" at NRCAF, Jhansi on 17th December 2008.

He has also been admitted as the Fellow of the Hind Agri-horticultural Society, Muzaffarnagar, Uttar Pradesh. He was honoured on the occasion of Second Annual General Body Meeting held at Muzaffarnagar on 26 December 2008.

Ph. D. THESES

Asim Kumar Ghosh: Integrated nutrient management in summer sesame (*Sesamum indicum* L.). Institute of

Agriculture, Visva Bharati, Sriniketan (Major advisor: Dr. B. Duary and Prof. D.C. Ghosh).

Farooq Ahmad Aga: Studies on production potential of floral and corm yield of saffron (*Crocus sativus* L.) as influenced by irrigation levels and frequency at different stages of growth. SKUAST-Kashmir, Srinagar (Major Advisors: Dr. M.H. Shahand and Dr. G.A. Wani).

Ram Niwas Sepat: Effect of integrated nutrient management in wheat under different planting systems. IARI, New Delhi (Major advisor: Dr. R.K. Rai).

Dibakar Mahanta: Relative performance of single super phosphate and rock phosphate in cognizance with bio-fertilizers on rhizosphere augmentation and productivity of soybean-wheat cropping system. IARI, New Delhi (Major advisor: Dr. R.K. Rai).

Naval Kishore Sepat: Studies on direct and residual effect of organic amendments and fertility levels on productivity and soil health of rice-wheat cropping system. IARI, New Delhi (Major advisor: Dr. R.K. Rai).

Raman Jeet Singh: Effect of nitrogen management through organic and inorganic sources in sole and intercropped Bt cotton-wheat system. IARI, New Delhi (Major advisor: Dr. I.P.S. Ahlawat).

Mukesh Kumar: Integrated management of *Cyperus rotundus* L. in soybean-wheat cropping system. IARI, New Delhi (Major advisor: Dr. T.K. Das).

Chitermal Parihar: Nutritional management in pearl millet-mustard cropping system as affected by land configuration under limited irrigation. IARI, New Delhi (Major advisor: Dr. K.S. Rana).

Bapugouda M. Doddamani: Ecophysiological analysis of competition between *Chenopodium album* L. and wheat. IARI, New Delhi (Major advisor: Dr. T.K. Das).

Prashant Shankar Bodake: Evaluation of jatropha (*Jatropha curcas*) and castor (*Ricinus communis*) de-oiled cake in spring sunflower (*Helianthus annuus*) – maize (*Zea mays*) sequence, and litter fall in sunflower, maize and mungbean (*Vigna radiate*). IARI, New Delhi (Major advisor: Dr. D.S. Rana).

Harnarayan Meena: Effect of preceding short duration summer forage crops and gypsum enriched urea on productivity of aromatic rice. IARI, New Delhi (Major advisor: Dr. Y.S. Shivay).

Sushila Sepat: Comparative evaluation of biofertilizers on the effectiveness of single

superphosphate and rock phosphate in maize-wheat cropping system. IARI, New Delhi (Major advisor: Dr. R.K. Rai).

BOOK REVIEWS

Weed Science: Basics and Applications – T.K. Das, 2008, pp 901+xxxiii, price: Rs 395. Jain Brothers (New Delhi), 16/873, East Park Road, Near Dr. N.C. Joshi Hospital, Karol Bagh, New Delhi 110 005, India. [ISBN 81-8360-096-4].

This book deals with the basic principles and practical applications embracing all aspects of weed science in 5 sections and 31 chapters. The book serves to clarify the basic concepts and aspects of weed science through illustrations, facts and figures, modification / rectification of certain concepts, methodologies and approaches. This could be a consolidated and most-updated treatise on weed science having immense usefulness to undergraduate and post-graduate students as well as teachers in the discipline of Agronomy / Weed Science and Ecology in particular, and Agriculture as a whole. It has equal significance to researchers towards planning and designing weed surveys and research on traditional to advanced aspects of weed science and to farmers towards controlling weeds in their crops.

The book, in Sections 1-3 (Chapters 1-13), provides an overview of weeds (evolution, concept, definition, nomenclature, distribution, characteristics and ethno-botany) and exhaustive description of their biology and ecology (classification, multiplication, dissemination, dormancy, viability/longevity, phyto-sociology, demography, population, and community dynamics), nature and extent of weed competition and interference, allelopathy, and principles and practices of weed management through preventive, mechanical and manual, cultural/ecological, biological, soil solarization and integrated weed management.

The Section 4 (Chapters 14-28) represents the most-updated and modern treatise on herbicide - its history and usual perspective, classification, injury symptoms, mode and mechanism of actions, selectivity, transformation in plants, fate and persistence in soil, formulations, adjuvants, safeners, herbicide mixtures and rotation, application / delivery systems, bio-assays, GR₅₀/ED₅₀ and herbicide and mixture interaction calculations. Herbicide classifications based on use / miscellany

and organic classification particularly under acetamides, carbamates, phenoxyalkanoic acids, sulfonylureas and triazines have been added in this book. Moreover, herbicide resistance in weeds and its management and biotechnological approaches towards developing herbicide-resistant tolerant crops have also been dealt with.

The Section 5 (Chapters 29-31) embodies the applications of weed science towards management of composite weeds, parasitic, aquatic, invasive and noxious weeds in cropped and non-cropped situations through all possible methods including integrated weed management (IWM). Frontier areas and methodologies for weed research have also been appended. Appendix consists of exhaustive collection of weeds - their scientific and common names, family and characteristics, recent changes, in the name of botanical families and weed species, list of relevant families and their description. Herbicide list has been updated with common and trade names, chemical classes, first manufacturer companies, etc. The author used very simple and lucid language for better understanding to the readers/users. This may serve as a text-cum-reference book.

Farm Management and Agricultural Marketing - S.C. Panda, 2007, pp. 681
Price Rs 350, Kalyani Publishers, 1/1 Rajinder Nagar, Ludhiana 141 008, India

The book is written to serve as a text book for the students of agriculture, *veterinary*, soil conservation and field practitioners. The book fills the need for an up-to-date comprehensive text on farm management and agricultural marketing under varying situations, and covers comprehensively the aspects of farm management and agricultural marketing on field crops and farming systems in agricultural economics and agronomy offered for the students at under graduate and post-graduate level. This book will be of immense use in imparting knowledge on the basic principles of farm management on crop production and applied aspects of integrated farming systems and agricultural marketing for students, teachers, scientists, extension workers and professionals engaged in agricultural development.

Mechanization of Agriculture - S.C. Panda, 2008, pp 300, Price Rs 250,
Kalyani Publishers, 1/1 RajinderNagar, Ludhiana 141 008, India

Farm mechanization is that part of farm technology which stands for the utilization

of machinery in all farming operations right from land preparation up to marketing of produce. Mechanization of agriculture necessitates intensive farming or farming on a relatively large scale. It is, therefore, bound to have considerable bearing on future development of agriculture and agro-industries of the state.

The book is written in a scientific and systematic manner to understand the fundamentals clearly and easily. It is written in a very comprehensive manner, covering all the basic principles of agronomy, agricultural engineering and soil science towards crop production and mechanization of agriculture.

The coverage in eleven chapters brings out all aspects of mechanization of agriculture: (i) Introduction, (ii) Tillage and Tillage Operations, (iii) Farm Implements and Machinery, (iv) Farm Mechanization in Orissa, (v) Farm Mechanization in India, (vi) Types of Tillage Operations, (vii) Crop Production and Tillage, (viii) Crop and Land Management Practices, (ix) Mechanized Farming, and (x) Future Guideline and (xi) Conclusion. The book will serve as a guide to extension officials of the department of agriculture, and also the department of soil science, agriculture engineering, farm machinery and power, agronomy, and water conservation engineering.

Soil Conservation and Fertility Management - S.C. Panda, 2008, pp. 576,
Price: Rs 1595.00/ US\$ 80.00, Agrobios (India), Agro House, Behind Nasrani Cinema, Chopasani Road, Jodhpur 342 002, India.

This book is written to serve as a reference/guide book for the students of agriculture, soil conservation, and field practitioners. The book fills the need for an up-to-date comprehensive text on soil and water conservation and soil fertility management under varying situations. This will be of immense use in imparting knowledge on the basic principles and applied aspects soil and water conservation for students, teachers, scientists, extension workers and professionals engaged in agricultural development. The twenty five chapters cover the following: (i) Introduction; (ii) Soil development; (iii) Soil formation; (iv) Soil colloids and clay minerals; (v) Saline, alkaline and acid soils; (vi) Soil organic matter; (vii) Soil and water relationship; (viii) Role of water; (ix) Hydrologic cycle; (x) Environment and soil erosion;

(xi) Soil and water conservation; (xii) Soil fertility and productivity; (xiii) Soil conservation; (xiv) Moisture stress and conservation in dry lands; (xv) Soil fertility management and fertilizer use; (xvi) Management of pasture and waste lands; (xvii) Agro-forestry and social forestry; (xviii) Watershed management, (xix) Development of dry land agriculture in India; (xx) Agronomic measures in soil and water conservation; (xxi) Loss of nutrients from the soil; (xxii) Soil amendments; (xxiii) Bio-fertilizers; (xxiv) Land utilization and production pattern, and (xxv) Sustainable agriculture, with adequate references.

Post Harvest Technology and Farm Mechanization - S.C. Panda, 2008. pp 317,
Price: Rs 1200.00/ US\$ 80.00, Agrobios (India), Agro House, Behind Nasrani Cinema, Chopasani Road, Jodhpur 342 002, India.

This book is written to serve as a text/reference/guide for the students of agriculture, soil conservation, farm machinery and power, and field practitioners. The book fills the need for an up-to-date comprehensive text on mechanization of agriculture under varying situations and reducing losses by developing post-harvest technology for the students at under-graduate and post graduate levels. It will be of immense use in imparting knowledge on the basic principles and applied aspects of the post-harvest technology.

This book contains 15 chapters: include (i) introduction, (ii) post harvest operations, (iii) mechanization of agriculture, (iv) post harvest technology, (v) post harvest implements and machinery, (vi) post harvest storage of food grains at farmers level, (vii) post harvest technology for rice, (viii) hay making machines, (ix) harvesting machines, (x) mechanized farming, (xi) post harvest management, (xii) food processing, preservation and storage, (xiii) farm mechanization in Orissa, (xiv) farm mechanization in India, and (xv) future guideline and conclusion with adequate references. Each chapter is brief, comprehensive and full-fledged with respect to technical information.

RETIREMENTS

Dr. D.S. Yadav, Dean (Agriculture),
Narendra Deva University of Agriculture & Technology, Kumarganj, Faizabad, Uttar Pradesh retired from active service on 30th June 2008.

Born on 16 July 1945 in a farmer's family, Dr. Yadav started his career as Research Assistant at GBPUAT, Pantnagar and rose

to the position of Professor and Head, Department of Agronomy, and Dean, Student's Welfare at NDUAT, Kumarganj, Faizabad (U.P.).

Dr Yadav has published about 100 research papers in national and international journals, and 60 popular articles in magazines of national importance. He has guided 12 Ph.D. and 24 M.Sc. students. Besides, he also has authored one book "Pulse Crops" and contributed a number of chapters in different books. Dr Yadav developed need-based agronomic practices, which are being adopted by the farming community. Dr. Yadav was awarded by FAI best article in 1974. A distinguished agronomist, Dr. Yadav was honoured with ISA Fellow for his outstanding contributions in 1999. Dr. Yadav is presently residing at: Ujhani, Budaun, Uttar Pradesh. (09451557378, 09307546132, 09411215570).



Dr. Ranbir Singh

Principal Scientist, Division of Agronomy, IARI, New Delhi retired on 30th November 2008 after a long and distinguished service spanning over four

decades. Born on 2nd November 1946 at Gangahari village in Bulandshahr district in Uttar Pradesh, Dr. Singh, completed his B.Sc. and M.Sc. from Amar Singh College, Lakhaoti, and Ph. D. from IARI, New Delhi. He started his career in 1968 as Senior Scientific Assistant at IARI, rose to Extension Assistant in 1972, Scientist in 1976 and Senior Scientist in 1994. He was involved in extension activities for more than 15 years, and made notable contributions in National Demonstrations, Transfer of Technology, Onfield Research Programmes and Lab to Land programmes of the Institute. He worked on various aspects of agronomy of fodder and forage crops, vegetables and spices. He has also developed organic production systems for intensive vegetable-based cropping systems. Besides more than 50 research papers, he authored about 60 popular articles for the benefit of farming community. He was also a familiar figure in extension activities and delivered a large number of programmes in Krishi Darshan on Doordarshan, and Radio Talks in All India

Radio network. Dr. Singh is available at: 09810590381.

The Indian Society of Agronomy wishes Dr. Yadav and Dr. Singh a very long, healthy and happy retired life

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Members are requested to send information related to their career advancement, innovative research accomplishments and other achievements in teaching/extension activities for publication in the Indian Agronomy News. Senior and retired members may contribute thought provoking short articles which could be of benefit to the younger scientists and students for shaping their careers. Any other comments and suggestions for Improvement of Indian Agronomy News are welcome.