

**FOURTH Dr. M.S. SWAMINATHAN AWARD
for
Leadership in Agriculture**

A Brief Report



Prof. Rattan Lal receiving the Award from Dr. Montek S. Ahluwalia



Progress Through Science

TRUST FOR ADVANCEMENT OF AGRICULTURAL SCIENCES

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GOAL

An accelerated movement for harnessing agricultural sciences for the welfare of people.

MISSION

To promote growth and advancement of agriculture through scientific interactions and partnerships.

OBJECTIVES

- To act as think tank on key policy issues relating to agricultural research for development (ARD).
- Organizing seminars and special lectures on emerging issues and new developments in agricultural sciences in different regions of India.
- Instituting national awards for the outstanding contributions to Indian agriculture by the scientists of Indian and other origin abroad.
- Facilitating partnerships with non-resident Indian agricultural scientists visiting India on short leave.

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Dr. M.S. Swaminathan Award for Leadership in Agriculture

The Trust for Advancement of Agricultural Sciences (TAAS) has instituted an Award in honor of the renowned agricultural scientist, Dr. M.S. Swaminathan, whose pioneering contributions to Indian Agriculture, led to the Green Revolution in late 1960s, resulting in food self-sufficiency and neighboring countries.

The Award is given annually to a person for his/her outstanding leadership in agriculture, as demonstrated by significant contributions made towards overall agricultural growth in the developing world, especially India.

First Award



*Dr. Norman E. Borlaug receiving the Award from
Dr. A.P.J. Abdul Kalam*

The first Award was given to Dr. Norman E. Borlaug, the only agricultural scientist to have been honored by the Nobel Peace Prize. His work in wheat at CIMMYT, Mexico resulted in development of high yielding wheat varieties which revolutionized wheat production in India and other developing

countries suffering from food scarcity. This Award was given to him by the then President of India, Hon'ble Dr. A.P.J. Abdul Kalam on March 15, 2005 at Vigyan Bhawan.

Second Award

The Second Award was conferred upon Dr. G.S. Khush, another distinguished scientist, by the Hon'ble Prime Minister, Dr. Manmohan Singh, during the International Rice Congress, held in New Delhi on October 9, 2006 at Vigyan Bhawan. Dr. Khush working at the International Rice Research Institute, Manila was associated with the development of

more than 300 high yielding varieties of rice which gave a tremendous boost to the productivity of rice in rice growing countries. In recognition of his contributions he was awarded the World Food Prize in 1996. He has been honored with a number of awards by National and International organizations.



Dr. G.S. Khush receiving the Award from Dr. Manmohan Singh

Third Award



Dr. S.K. Vasal receiving the Award from Prof. M.G.K. Menon

The third Award was presented to Dr. S.K. Vasal, an accomplished Maize breeder, by Prof. M.G.K. Menon on May 3, 2008 at NASC Complex. The Award function was preceded by a National Symposium on "Quality Protein Maize for Human Nutritional Security and Development of

Poultry Sector in India". Dr. Vasal's work at CIMMYT on maize led to the development of Quality Protein Maize (QPM). For this work he along with his colleagues Dr. Evangelina Villegas received the World Food Prize for the year 2000. Quality Protein Maize developed by Dr. Vasal helped in improving nutritional status of millions of people depending on maize as their staple. Dr. Vasal has developed useful methodologies and released a number of inbred lines which are being used by various institutions worldwide. He has been honored by a number of institutions for his valuable contributions.

Fourth Award

The fourth Award in the series was given to Prof. Rattan Lal, an eminent soil scientist for his outstanding contributions in the field of sustainable management of natural resources. This work of his had a great impact on food production among resource-poor farmers in developing



Prof. Rattan Lal receiving the Award from Dr. Montek Singh Ahluwalia

countries. This Award was presented to Prof. Rattan Lal by Dr. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission on August 11, 2009 at IARIAuditorium.



A view of the audience



Dr. R.S. Paroda addressing the audience



**TRUST FOR ADVANCEMENT OF AGRICULTURAL SCIENCES
(TAAS)**

IARI, New Delhi, India

**Dr.M.S. SWAMINATHAN AWARD
for
LEADERSHIP IN AGRICULTURE**

**Presented to
Dr Norman E Borlaug**

Citation

Dr Norman E Borlaug, an epitome of agricultural research and development, dedicated to the alleviation of world hunger and poverty, was born in Cresco, Iowa on March 25, 1914. He received B.S. degree in forestry and the M.S. and Ph.D. in plant pathology from the University of Minnesota, USA.

In 1944, he was appointed geneticist and plant pathologist assigned to organize and direct a Cooperative Wheat Research and Production Programme in Mexico. Due to his dedicated efforts, the programme became an outstanding success. It eventually made Mexico self-sufficient in wheat production by 1956 and laid the foundation for wheat improvement and increased production in other parts of the world.

In 1963, Dr Borlaug became the leader of the Wheat Programme of newly established International Maize and Wheat Improvement Centre (CIMMYT). In this position, he directed his efforts to wheat research and production problems in Asia. The high yielding, fertilizer-responsive, disease resistant and widely adapted dwarf wheat varieties developed by him laid the foundation for the 'Green Revolution' in various parts of the world, especially in India. He has been visiting India regularly since 1963 and has been a source of great inspiration to all Indian agricultural scientists and scholars.

Dr Borlaug, Fellow of Science Academies of 15 countries, including the Indian National Science Academy and National Academy of Agricultural Sciences, India, has been conferred honorary doctorates by 51 Universities from all over the world. He is a recipient of numerous academic, scientific and civic awards. He is the only agricultural scientist in the world who received Nobel Peace Prize on 1970.

Dr Borlaug currently divides his time as a Senior Consultant to CIMMYT, as a Distinguished Professor of International Agriculture, Department of Soil and Crop Sciences, at Texas A&M University and as President of Senokawa Africa Association. He also serves as ex-officio consultant on wheat research and production problems to many governments in Latin America, Africa, and Asia. Since 1980, he has been working hard to bring about a Green Revolution in Africa.

In appreciation of his monumental contributions to Indian agriculture and for being a great motivating force of proper agricultural research for world food security, the Trust for Advancement of Agricultural Sciences, New Delhi, India has great pleasure in honouring Dr Norman E Borlaug with the 'First Dr MS Swaminathan Award for Leadership in Agriculture' on this Fifteenth day of March, 2005



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(TAAS)**

IARI, New Delhi, India

**Dr M.S. SWAMINATHAN AWARD
for
LEADERSHIP IN AGRICULTURE**

**Presented to
Dr Gurdev Singh Khush**

Citation

Dr Gurdev Singh Khush, a world renowned plant breeder, has made enormous contributions to the development of more than 300 high yielding rice varieties that played significant role towards achieving 'Green Revolution'. A worthy son of a farmer, Dr. Khush graduated from the Punjab Agricultural University, Ludhiana in 1955 and received Ph. D. degree from the University of California, Davis, in 1960. He joined the International Rice Research Institute (IRRI), Manila, in 1967 as plant breeder and was appointed Head, Department of Plant Breeding in 1972. In 1986, he was promoted as Principal Plant Breeder and Head, Division of Plant Breeding, Genetics and Biochemistry. He provided excellent leadership for the global rice improvement program benefiting millions of resource poor rice growers in the world. A semi-dwarf rice variety IR36, developed by him was one of the most widely grown rice varieties in the world during 1980s. IR64 developed during 1980s is the most widely planted rice variety in the world.

Dr. Khush is one of the most decorated agricultural scientists in the world. He received honorary Doctorate degrees from nine universities, including University of Cambridge, England. He is one of the five Indian scientists who have been elected to the membership of the Royal Society as well as US National Academy of Sciences. For his monumental contributions to rice improvement he received Japan Prize (1987), the World Food Prize (1996), the Wolf Prize from Israel (2000) and the China International Scientific and Technological Cooperation Award (2001). He was honoured by the Government of India with the prestigious "Padma Shri" Award in 2000.

In India, Dr. Khush has been actively involved in the development of plant breeding and agricultural biotechnology. He has been a member of the Scientific Advisory Committee (Overseas), of the Department of Biotechnology, Government of India, for over a decade. He worked closely with the Indian Council of Agricultural Research (ICAR) for enhancing human resource development for improving rice productivity in India. He retired from IRRI in 2002 and joined the University of California, Davis, as Adjunct Professor.

The Trust for Advancement of Agricultural Sciences salutes this great son of India and takes pride in honouring Dr. Khush with the prestigious Dr. M.S. Swaminathan Award for Leadership in Agriculture, on this ninth day of October, 2006



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DR. M. S. SWAMINATHAN AWARD

for
LEADERSHIP IN AGRICULTURE

Presented to

Dr. Surinder K. Vasal

Citation

Dr. Surinder K. Vasal is an accomplished Plant Breeder and Geneticist whose work on maize led to the development of high quality protein maize (QPM). He, along with his colleagues, Dr. Evangelina Villegas shared the 2000 World Food Prize for their valuable contributions.

Dr. Vasal was born in Amritsar, India. He took Ph.D. in Genetics and Plant Breeding from the Indian Agricultural Research Institute, New Delhi. Dr. Vasal began his career as a researcher in the Department of Agriculture, Himachal Pradesh and later worked as Maize Breeder at the Himachal Agriculture College.

In 1967, Dr. Vasal took up an assignment with the Rockefeller Foundation in Thailand to conduct research on maize in close collaboration with the National Corn and Sorghum Research Center of Kasetsart University. From there, he moved to the International Maize and Wheat Improvement Center (CIMMYT), Mexico in 1970 and supervised the high lysine maize program. He also held positions of Germplasm Coordinator, Head of Maize Research and Coordinator of Asian Regional Maize Programme. Dr. Vasal was honored to be the first distinguished scientist at CIMMYT.

With the development of Quality Protein Maize, the amino acid content in the diets of several millions has improved since 1990s. Quality Protein Maize Germplasm, developed by Dr. Vasal, is now being used worldwide for developing QPM cultivars. Dr. Vasal has developed important concepts and methodologies and released a large number of promising inbred lines for use by the maize researchers worldwide.

In 1997, Dr. Vasal took up a new role, leading CIMMYT's Asian Regional Maize Program in Thailand. He strengthened regional hybrid research activities and coordinated the Tropical Asian Maize Network (TAMNET). He specifically played an important role in human resource development by training hundreds of young scientists from the developing countries.

Dr. Vasal is a member of the American Society of Agronomy, the Crop Science Society of America (whose Presidential Award he won in 2000), and India's National Academy of Agricultural Sciences. He has received the 1996 International Service in Crop Science Award and the 1999 International Agronomy Award, in addition to accolades from the Government/Institutions in Honduras, Peru, Panama, India, Vietnam, Bangladesh and a few other countries. He is also the recipient of Chinese Friendship Award of 2001.

The Trust for Advancement of Agricultural Sciences takes pride in honouring Dr. Vasal with the Third Dr. M.S. Swaminathan Award for Leadership in Agriculture on this day, the 3rd May, 2008.

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Dr. M.S. SWAMINATHAN AWARD

for

LEADERSHIP IN AGRICULTURE

Presented to

Professor Rattan Lal

Citation

Professor Rattan Lal is an eminent soil scientist. His scientific contributions have made profound impact on sustainable management of natural resources and world food production among resource-poor farmers in the developing countries. He has conducted classical studies on watershed management and linked them to C-sequestration and climate change. He has liberally shared his research findings with other scientists, thus promoting effective soil management practices globally. His work has been recognized worldwide. Professor Rattan Lal has received numerous prestigious Awards including the 2007 Nobel Peace Prize Certificate and 2005 Norman Borlaug Award. He has held several important positions of a number of professional societies. He was elected President of the prestigious Soil Science Society of America in 2005-2007. Professor Rattan Lal has authored 1375 research papers, including 13 books, which have received great admiration of the scientific community and comprise principal reference materials in soil science.

Born on 5th September 1944 in Karnal, Punjab and educated at PAU and IARI. Professor Rattan Lal earned his Ph.D. from the Ohio State University in 1968. After working at IITA, Ibadan, Nigeria for 18 years, he joined OSU in 1987 as Professor of Soil Science. Since 2000, he holds the position of Director, Carbon Management and Sequestration Center, The Ohio State University, USA.

Professor Rattan Lal continues to do excellent work in Soil Science. His main areas of interest are: Soils and Climate Change, Carbon Sequestration in Soils, Sustainable Management of Soils in the Tropics, Global Food Security, Soil Degradation and Management, and making agriculture as a component of solutions to environmental issues.

The Trust for Advancement of Agricultural Sciences takes pride in honouring Professor Rattan Lal with the fourth Dr. M.S. Swaminathan Award for Leadership in Agriculture on this day the 11th August, 2009.

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List of TAAS Publications

Following publications/reports have been brought out based on various activities organized by TAAS:

1. Regulatory Measures for Utilizing Biotechnological Developments in Different Countries - First Foundation Day Lecture, delivered by Dr. Manju Sharma, Secretary, Department of Biotechnology, Government of India, October 17, 2003.
2. Enabling Regulatory Mechanisms for Release of Transgenic Crops - Brainstorming Session, October 18, 2003.
3. Challenges in Developing Nutritionally Enhanced Stress Tolerant Germplasm- Special Lecture, delivered by Dr. S.K. Vasal, Distinguished Scientist, CIMMYT, Mexico, January 15, 2004.
4. Role of Science and Society Towards Plant Genetic Resources Management - Emerging Issues - Brainstorming Session, January 7 - 8, 2005, Highlights and Recommendations.
5. Role of Information Communication Technology in Taking Scientific Knowledge/Technologies to the End Users - National Workshop, January 10 - 11, 2005, Recommendations.
6. Public-Private Partnership in Agricultural Biotechnology - Second Foundation Day Lecture, delivered by Dr. Gurdev S. Khush, Adjunct Professor, University of California, Davis, USA, October 17, 2005.
7. First Dr. M.S. Swaminathan Award for Leadership in Agriculture, March 15, 2005 – Highlights.
8. Farmer-Led Innovations for Increased Productivity, Value Addition and Income Generation - Brainstorming Session, October 17, 2005 - Highlights & Recommendations.
9. Strategy for Increasing Productivity Growth Rate in Agriculture” - Strategy Paper by Dr. R.S. Paroda, August, 2006.
10. The Second Dr. M.S. Swaminathan Award for Leadership in Agriculture, October 9, 2006 - A brief report.
11. Farmer-Led Innovations Towards Plant Variety Improvement, Conservation and Protecting Farmers’ Rights”, November 12 - 13, 2006, National Dialogue Highlights & Recommendations.
12. Brainstorming Session on “Models of Public-Private Partnership in Agricultural Biotechnology“, April 7, 2007 - Highlights & Recommendations.
13. Symposium on “Farmer-Led Innovations for Sustainable Agriculture”, December 14-15, 2007 – Proceedings.
14. National Symposium on Quality Protein Maize for Human Nutritional Security and Development of Poultry Sector in India and Presentation of the Third Dr. M.S. Swaminathan Award for Leadership in Agriculture, May 3, 2008 – Proceedings and Highlights.
15. Overcoming the World Food and Agriculture Crisis through Policy Change, Institutional Innovation and Science– Fourth Foundation Day Lecture, delivered by Dr. Joachim von Braun, Director General, International Food Policy Research Institute, Washington, March 6, 2009.
16. Brainstorming Workshop on “Emerging Challenges before Indian Agriculture - The Way Forward”, March 6, 2009 - Proceedings & Recommendations.
17. Brainstorming Workshop on ‘Strategy for Conservation of Farm Animal Genetic Resources’ 10th – 12th April, 2009 – Ranchi Declaration.
18. Millions Fed: Proven Successes in Agricultural Development, January 19, 2010 (Translation in Hindi jointly published by IFPRI, APAARI and TAAS).
19. Brainstorming Workshop on “Climate Change, Soil Quality and Food Security”, August 11, 2009 – Proceedings & Recommendations. (English and Hindi).
20. National Seminar on “Quality Seed for Food Security through Public-Private Partnership”, April 13-14, 2010 – Proceedings & Recommendations.
21. NSAI Foundation Day Lecture on “Revitalizing Indian Seed Sector for Accelerated Agricultural Growth”, October 30, 2010.