



## In Memoriam, Norman Borlaug

Jorge Isaac Sarquís-Ramírez\*

Facultad de Ciencias Biológicas y Agropecuarias, Universidad Veracruzana, México

### Article History

Manuscript No. 7

Received 11<sup>th</sup> April, 2010

Received in revised form 27<sup>th</sup> April, 2010

Accepted in final form 6<sup>th</sup> May, 2010

### Correspondence to

\*E-mail: jsarquis@uv.mx

### Keywords

Norman Borlaug, CIMMYT, dwarf wheat, green revolution

### Abstract

The article briefly highlights the profile of great Norman Ernest Borlaug (1914-2009) who received Nobel Peace Prize in 1970 for his outstanding contribution in world food production. A Norwegian in origin NE Borlaug was born in Iowa and served the country of Mexico for around 40 years. A PhD in plant pathology and genetics, Borlaug was Director of International Wheat Improvement Program at International Maize and Wheat Improvement Center (CIMMYT) in Mexico. Though criticized and opposed for his work several times, Borlaug was also reckoned as Father of Green Revolution who started a new era of agriculture—the modern agriculture. Dr Borlaug established the World Food Prize in 1986—an award in recognition of people for their contribution to world food production. This prize in food and agriculture has acquired a high prestige similar to that of the Nobel Prize. ‘Aim at the stars’, he advised his students, ‘knowing that you will never get one, but some stardust may fall upon you’. The author had a rare privilege to meet such a great personality who spent his entire life battling with hunger.

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*The future belongs to those who believe in the beauty of their dreams-* Eleanor Roosevelt

Aged 95, on September 12, 2009, Norman Borlaug passed away. I wish to render here my own humble overdue tribute to this man who loved mankind so much, he spent most of his life restlessly struggling against hunger around the world. He never strived to win a Nobel Prize, which he did in 1970, for his contribution to the development of high yielding dwarf wheat varieties which possessed resistance to disease, particularly rusts. India, Pakistan, China and Turkey, among others are some of the most populated countries which immediately benefited from the amazing success of his team's endeavors. I chose these words to deliberately emphasize something the scientist himself often brought up: this was not one man's achievement; there were many men and women, colleagues, technicians, field workers, hard working scientists whom he led at the International Maize and Wheat Improvement Center in Mexico and around the world. This alone earned him a worldwide reputation as the father of the Green Revolution, as it became known.

Although one can find abundant information on Dr. Borlaug's prolific life, even in a nutshell it is a must recalling some of the highlights here. Of Norwegian descent, Borlaug was born in Saude, a small community near Cresco, Iowa on March 25, 1914, only four months before the outbreak of World War I. The eldest of four children, Borlaug worked in his grandparents' farm as a boy and was encouraged by his grandfather to pursue an education. He never new easy, he lived through the Depression era many times putting his

studies on hold to get a job in order to support himself. He started working with the poor and hungry very early on in his life, an experience which molded his lifetime commitment to helping the needy. He received his BS in Forestry in 1937, his MS in 1940 and his PhD in plant pathology and genetics in 1942, under the guidance of Elvin C. Stakman, who inspired him to take up plant pathology for a degree program at the University of Minnesota

From 1942 through 1944 he worked for DuPont in military projects in support of the US war effort in the Pacific during World War II. Then in July 1944, after rejecting DuPont's offer to double his salary, he left the firm and joined the newly established Cooperative Wheat Research and Production Program in Mexico, a joint project by the Rockefeller Foundation and the Mexican government. In 1964 Borlaug was appointed Director of the International Wheat Improvement Program at the newly established International Maize and Wheat Improvement Center (CIMMYT) at El Batán, Texcoco, Mexico; an autonomous international institute for research and training with funding jointly undertaken by the Ford and the Rockefeller Foundations and the Mexican government. He officially retired from the position in 1979 but remained a senior consultant at CIMMYT. From then on to the end of his days he kept busier than he had to, sharing his time between CIMMYT and Texas A&M University, where he began teaching in 1984. In 1986 he established a program in support of agriculture in Africa together with ex-President of the United States Jimmy Carter, and a Japanese Foundation headed by Ryoichi Sasakawa. Over 20 years, this program, named Sasakawa-Global 2000,



has collaborated with 15 African countries in agricultural technology transfer onto millions of small farmers in that continent.

Dr. Borlaug felt particularly proud of his participation in the establishment of the World Food Prize in 1986; an award in recognition of people for their contribution to world food production. This prize in the field of food and agriculture has acquired a high prestige, similar to the Nobel Prize. To this day, nearly 25 men and women have been distinguished as recipients for their contribution to an exceptional increase in volume, quality and availability of world food supply. The World Food Prize Foundation, based in Des Moines, Iowa, United States, has created excellent educational programs to motivate the young in embracing the cause of world food production.

Over 63 years of professional career Dr. Borlaug was appointed honorary member of agricultural science academies in 11 countries, he received 60 Doctorate Degrees *honoris causa* and was honored by civic associations and producer organizations in 28 countries around the world. The Government of India, where he is known as the Father of India's Green Revolution, conferred the *Padma Vibhushan*, its second highest civilian award on him in 2006. Dr. Borlaug also received the National Medal of Science, the United States' highest scientific honor, from U.S. President George W. Bush on February 13, 2006. He was awarded the Danforth Award for Plant Science by the Donald Danforth Plant Science Center, St Louis, Missouri in recognition of his life-long commitment to increasing global agricultural production through plant science. As any other great man, Borlaug had many critics, perhaps even some of them not entirely without reason; Throughout his years of research, Borlaug's programs often faced opposition by people who consider genetic crossbreeding to be unnatural or to have negative effects. Borlaug's work has been criticized for bringing large-scale monoculture, input-intensive farming techniques to countries that had previously relied on subsistence farming. These farming techniques reap large profits for US agribusiness and agrochemical corporations such as Monsanto Company and have been criticized for widening social inequality in the countries owing to uneven food distribution while forcing a capitalist agenda of U.S. corporations onto countries that had undergone land reform. Be that as it may, nobody should pass an oversimplifying judgment on his work without first coming to grips with one true above all facts: his work initiated a new era in agriculture; what he pushed forward was modern agriculture. Wheat yield alone skyrocketed from 500 to over 2,500 kg/ton with the introduction of the new varieties he helped develop.

I had the privilege of working at CIMMYT for three years from 1982 through 1984. Among other reasons, what made it so undeserved a privilege is that I met Dr. Borlaug there. My boss, the Head of the Experimental Station Program -a fine Scot man by the name of John Stewart- introduced me to him one day during the summer of 1983, as we walked the station under my command in Tlaltizapan, Morelos. You know a great man when you stand before one, no disrespect to anyone. Norman seemed to me a gentle character, smiling and amiable all over. When I saw him first I was too shy to approach him so

my boss had to literally push me forward from behind and there I was walking by his side. Our first exchange was anything but memorable, I really can't recall what was said on either part, but surely that is because overwhelmed as I was my mind went blank; I have always hoped I did not say anything too silly. Years later, in 1988, I was very happy to see Norman again, this time honored to be in his class on international agriculture at Texas A&M. During that spring I often stopped by his office and spent time talking about CIMMYT, about Mexico, agriculture, science and whatever. He was a man of principles; most patient and understanding, but not soft, he was actually quite tough, particularly with indolence, apathy or sluggishness. He prided in helping the hardworking.

His humanitarian efforts carried on to the last breath. Inspired perhaps by his absolute conviction that he was not worthy of the Nobel Peace Prize awarded to him he committed the rest of his life to earn it. "Aim at the stars", he advised his students, "know that you will never get one, but some stardust may fall upon you". It must have been Norman's breed that inspired Maurice Barrés to write: "The secret of the strong is to obligate themselves without rest".

To him I owe reaching the decision to return to Mexico after I concluded my degree program at A&M. As I neared the goal I received an offer to stay in the US at Nevada State University. He made me feel guilty as he reminded me my country needed me more. He lived in Mexico for forty years and knew the country well; indeed I witnessed his great love for Mexico. And there he was, reminding a Mexican national of his priorities. I have never regretted listening to him.

### Further Study

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