

Gerhard Rakow

Dr. Keith Downey's citation, "Eminent Scientist Award", Prague, June 6, 2011

Mr. President, President Elect, Honoured Guests, ladies and gentlemen. It is my honour and pleasure to present to you Dr. Gerhard Rakow, scientist, teacher, editor and plant breeder extraordinaire to receive GCIRC's highest honour, the Eminent Scientist Award.

Gerhard was born in Germany in 1940, received his university education at the Univ. of Göttingen, with a Ph.D. in 1972 under Dr Röbbelen. This was followed by a year's Postdoctoral at the Agriculture and Agra-Food Canada Research Centre in Saskatoon, following which he returned to Germany as the Rapeseed Breeder for NPZ where he remained until 1982. However, the urge to do basic research was too great and in 1982 he elected to join the Saskatoon Agriculture and Agra-Food Canada Research Centre as a research scientist for *Brassica* oilseed and condiment crops where he is now Senior Research Scientist and for many years was head of the oilseed section.

Dr. Rakow's breeding career has had a major impact on the rapeseed/canola industry starting with his Doctoral thesis. He was the first to show that the proportions of the unsaturated 18 carbon fatty acids in rapeseed oil could be genetically manipulate to reduce linolenic to less than 3% of the total fatty acids in canola oil, combined with high levels of either oleic or linoleic acid. His research has resulted in the high oleic, low linolenic canola oil that is now produced on about 10% of Canada's 16 million acres (6 million ha). With NPZ he produced the world's first low erucic acid and canola quality forage rape varieties as well as Europe's first canola quality winter oilseed rape variety, Ledos which was followed by the successful varieties Rubin and Ceres.

In Canada he produced three important *B. napus* canola quality varieties as well as Canada's 1st *cms* synthetic hybrid. But most significantly he led the team that produced the world's first GM herbicide tolerant varieties in 1995, Innovator and Independence.

Of special interest to the industry are Gerhard's heterotic, pure breeding yellow seeded lines that yield very high oil and low fibre. These were developed from interspecific crosses between *B. napus*, *B. juncea* and *B. carinata*. Further interspecific crossing also produced the world's first canola quality *B. juncea* varieties Arid and Amulet.

Dr. Rakow has also contributed greatly to the betterment of the condiment mustard industry. His varieties, with superior yield and quality, have helped maintain Canada's position as the world's largest producer and exporter of condiment mustard, Oriental, Brown (*B. juncea*) and yellow (*Sinapis alba*).

As a prolific author, with 68 peer reviewed papers and 3 book chapters, his research has been well communicated. I also think he holds the record for the largest number of contributions to the GCIRC proceedings at 76. He has also been sought after as a teacher and supervisor.

His research has been recognized in several ways receiving Agriculture and Agri-Food Canada's AgCellence award in 1997 and was named Canada's 2003 Plant breeder of the year by the Canadian Seed Trade Assoc. The Univ. also appointed him as an Adjunct Professor and for many years he has served as Editor or assistant editor of both the Plant Breeding Journal and the Can. J. Plant Sci. In addition he has been called on numerous times to chair or organize GCIRC Congresses and Technical meetings.

In summary, Dr. Rakow is a remarkable individual. His research and leadership has greatly enhanced both the quality and agronomics of the world's third most important oilseed crop. His research has had and will continue to have a major impact on the future world-wide development and expansion of *Brassica* oilseed crops.

There can be no doubt that Dr. Rakow is very worthy recipient of the GCIRC's highest honour, the Eminent Scientist Award.

Gerhard would you please come forward to receive your award from GCIRC President elect, Dr. Wilf Keller.

Education:

1964 - 1968 Diploma in Agriculture, University of Göttingen, Germany

1968 - 1972 Ph.D. in plant breeding, University of Göttingen, Germany

Thesis Title: Selection for linoleic and linolenic acid in summer rape after mutagenic seed treatment.

Employment:

1972 - 1973 Post-doctorate Fellow at Agriculture & Agri-Food Canada, Saskatoon, Canada

1973 - 1981 Plant breeder, Norddeutsche Pflanzenzucht, Hohenlieth, Germany, with responsibilities for breeding of rapeseed, grasses and legumes.

1982 - present Research Scientist, Agriculture & Agri-Food Canada, Saskatoon Research Centre with responsibilities for the development and implementation of a breeding program in *Brassica* oilseeds.

July 12, 1993 Appointed Head of the Crop Breeding and Diversification Section, Agriculture & Agri-Food Canada, Saskatoon Research Centre.

Dr. Rakow's research has placed Canadian canola as the world quality leader. The quality breeding developed by Dr. Rakow it is his most significant contribution to oilseed rape. During last years the most important goal is the development of yellow- seeded oilseed rape cultivars.

Dr. Rakow transformed heat and drought tolerant mustards *Brassica juncea*, *Brassica carinata* and *Sinapis alba* into canola type. *Brassica juncea* and *Sinapis alba* new varieties have been introduced into practice.

Dr. Rakow significantly contributed in the development of oilseed rape throughout the world. He's done work with the International Development Research Centre that helps communities in developing countries through research. He was the consultant in China and India and advised there on oilseed improvement.

Dr. Rakow published research publications as well as scientific papers.

Dr. Rakow contributed a lot in all activities of GCIRC, he organized the scientific sessions during GCIRC Technical Meetings as well as during International Congresses.