

In memoriam Prof. Dr. Karl-Herrmann Neumann (1936–2009)

B. Arnholdt-Schmitt · A. Kumar · R. Imani ·
L. Bender

Published online: 18 December 2009
© Springer Science+Business Media B.V. 2009

Prof. Dr. Karl-Herrmann Neumann passed away on October 13, 2009. He was born on a farm in Morgendorf near Leitmeritz, now part of the Czech Republic. In 1945, his family moved to Bernburg in Saxony-Anhalt, which later became part of the German Democratic Republic (GDR). Following some problems he encountered with the communist administration, he moved to the Federal Republic of Germany in 1956 where he finished his schooling and entered Justus-Liebig-University Giessen to study agriculture. This included a 1-year mobility program in Copenhagen, Denmark majoring in agricultural chemistry.

He graduated from the Faculty of Agriculture of the Justus-Liebig-University Giessen in 1960. That same year, he received a 1-year-scholarship from Cornell University in Ithaca, New York, USA where he enrolled in their graduate program for 1 year majoring in botany and with minors in biochemistry and physical chemistry. At Cornell, he worked under the supervision of Prof. F.C. Steward focusing on the roles of micronutrients on growth and metabolism of carrot tissue cultures, and was highly inspired by Steward's ideas and findings on totipotency of plant cells. Later, he returned back to Giessen and completed his PhD under the



Prof. Dr. Karl-Herrmann Neumann

B. Arnholdt-Schmitt
University of Evora, Evora, Portugal

A. Kumar
Faculty of Biology, University of Rajasthan, Jaipur, India

R. Imani
Faculty of Agriculture, Justus-Liebig-University Giessen,
Giessen, Germany

L. Bender (✉)
Faculty of Agricultural Sciences and Landscape Architecture,
University of Applied Sciences, Osnabrück, Germany
e-mail: bender@osnnet.de

supervision of Prof. H. Linser, Institute of Plant Nutrition, Faculty of Agriculture in 1962. While working with both Prof. Steward and Prof. Linser, he became proficient in systemic thinking and engaged in multidisciplinary research approaches that subsequently greatly influenced his own scientific career. While pursuing his postdoctoral work with Prof. Linser, he completed his habilitation studies in 1968. During these years, he established one of the first plant cell and tissue culture laboratories in Germany. Among the first critical areas he dealt with was the development of an artificial nutrient medium of defined chemical composition as a replacement for White's Basal Medium with coconut milk. In 1972, he became a Professor of Biochemistry and

Cell Biology of Plants at the Faculty of Nutrition of the Justus-Liebig-University. Among his major research thrusts were photosynthesis, somatic embryogenesis, phytohormone action, nucleic acid metabolism, and genetic transformation in cultured carrot tissues. These studies contributed a great deal to our fundamental understanding of development and differentiation in plant cells and tissue cultures, and also resulted in the generation of carrot cell lines expressing the small hepatitis B surface protein. Another major field of his research interests focused on assessing the effects of irrigation, using the Rhine river water, on soil, crop growth, and ground water. For this, a dedicated experimental farm was established south of Frankfurt. This line of work was later extended to studies on cultivation and biological remediation on saline fields in Egypt and India. Prof. Neumann's special interests in fundamental and applied research was probably best

highlighted in a small publication entitled "From Soil to Cell—a Broad Approach to Plant Life", written by his former scientific colleagues and dedicated to him at his retirement.

During his career, Prof. Neumann served as Dean of the Faculty of Agricultural Sciences, Nutritional Sciences, and Environmental Management, and also served as Director of the Institute of Plant Nutrition for several terms, until his retirement in 2001. His lifetime research yielded a total of about 150 publications and three text books. Prof. Neumann was truly an international scientist with a global vision. He cared enough to think beyond national boundaries, and mentored many students, research associates, and fellows from all over the world. All those individuals that have had the privilege and honor of working with him and learning from him will continue to remember him for his generous personality, scientific acumen, and lifetime achievements.