

## In memorial—Professor Dr. agr. Fritz Schönbeck, 1926–2006

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Published online: 10 November 2007

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Professor Dr. Fritz Schönbeck was the former director of the Institute of Plant Diseases and Plant Protection of the Leibniz University of Hannover. During his career, Fritz Schönbeck made significant and wide-ranging scientific contributions to the field of mycorrhiza in relation to plant pathology and plant protection.

After basic training in agriculture, followed by a degree as agriculturist at the technical college in Hildesheim, he studied agricultural science and biology at the universities in Kiel, Bonn, and Cologne and was awarded a Ph.D. from the University of Bonn for his work on “Investigations on the importance of inhibitors in cereal straw in crop rotations.” After working for a short period of time in a pharmaceutical company on plant-based antimicrobial products, he returned to Bonn University in 1961 to join the Institute of Plant Diseases. There, he initiated a broad phytopathological research program on fruit diseases with particular emphasis on infections during flowering. He became professor at Bonn University in 1966 where he worked extensively on plant interactions with arbuscular mycorrhizal fungi and soil-borne diseases. In 1975, he was appointed professor and director of the Institute of Plant Diseases and Plant Protection at Hannover University where he worked until retirement in 1994.

Fritz Schönbeck influenced the development of phytomedicine as an interdisciplinary research subject, but his career was dominated by a need to understand host–parasite and host–symbiont relationships as pertaining to practical plant pathology and protection. This is reflected in the multifaceted research topics that he developed and coordinated during his lifetime. His perspective, constructive criticism, and professionalism in science were highly respected within the scientific community. He was an

enthusiastic university teacher and scientist and an unyielding supporter of plant science. His passion for the field of plant diseases and plant protection never diminished.

Fritz Schönbeck pioneered research on induced resistance and the importance of arbuscular mycorrhiza for plant health and introduced these concepts into practical plant production. His team of scientists and graduate students were the first to identify the mycorrhiza-based mechanisms that increased plant resistance to soil-borne diseases and nematodes. This unique mycorrhiza-driven, plant-health-promoting activity was later shown to also protect plants against salt and drought stress. Fritz Schönbeck demonstrated that arbuscular mycorrhiza can uncouple the relationship between disease severity and yield loss. His research had a major impact on the design of modern phytomedicine as an interdisciplinary field of science and stimulated alternative strategies for plant protection.

With regards to practical agriculture, he demonstrated that mycorrhizal fungi colonize field crops even under intensive modern-day production systems. He recognized early the need for simple and dependable techniques in the development of practical and acceptable methods of mycorrhiza inoculum production. The selection of suitable isolates of arbuscular mycorrhizal fungi for practical agriculture and the question “do ideal organisms exist” were always in his mind. The issue of the practical importance of “generalists versus specialists” is even today an important topic among scientists working with mycorrhizal fungi.

In 1994, he was awarded the “Anton-de-Bary-Medaille” from the German Phytomedical Society for his outstanding contributions in the field of induced resistance in plants to fungal diseases. After retirement, Fritz Schönbeck retained his interest in promoting research in phytomedicine and was convinced of the need and importance of a comprehensive phytomedicine in human society.

Colleagues and friends remember him with all respect and thankfulness.

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