

Hildegard FAK Huchzermeyer 1929.03.02 – 2019.07.02

Hildegard Friede Auguste Käte Gräse was born in her aunt's house in Detmold, Westphalia, Germany. Her family lived in Herford, 28 km away, where she grew up and was schooled. After school, in 1950, she worked as an au pair in England for a year, during 1950. Her brother had been a prisoner of war in England and was befriended by an English family. Hildegard saw it as her duty to go to England to help build post war bridges between the two countries.

She thereafter trained as a secretary, and met her husband, Fritz Wilhelm, when she worked for his father. They married in 1953, and Hildegard joined Fritz at the Hannover Veterinary School [Tierärztliche Hochschule Hannover] where they both qualified in 1958. Studying part of their course at a different university was allowed, and they both spent one year of their training at the Ecole Veterinaire Maison-Alfort close to Paris. After qualifying, both had to first complete a thesis, before they were recognized as fully qualified veterinarians.

In 1963 Fritz was appointed as a State Veterinarian in Gweru, Zimbabwe [was then Gwelo, Rhodesia], and she and their son David [born in 1958] accompanied him. Fritz was transferred to Bulawayo, and later to the Central Veterinary Laboratory, Harare [was Salisbury]. Two daughters, Philippa and Marie were born during this time.

Hildegard spent her time raising her family, and only had temporary, part time veterinary posts, such as collecting samples from racehorses to ensure that they were drug free, during this period.

Fritz accepted a post at Onderstepoort in 1975, and Hildegard started working in the Tuberculosis Section at the Onderstepoort Veterinary Institute in 1976. Helmut Kleeberg had founded a dedicated tuberculosis laboratory during the 1950's, which merged with the Medical Research Council's Tuberculosis Unit in 1969. That unit became an institute in 1976, and when Kleeberg was appointed as the first director, he left Onderstepoort. Hildegard was appointed as the next dedicated head of the Tuberculosis Laboratory at Onderstepoort.

Her first task was to improve, standardize and validate tuberculin production. Tuberculin from human *Mycobacterium tuberculosis* had been produced at Onderstepoort since 1908. South Africa was one of the first countries to produce bovine tuberculin from *M. bovis* in 1960. The bovine product was far more specific in detecting infected cattle than the one made from a human strain. The total amount of both bovine and avian tuberculin increased yearly from when she first started, to a steady 250 – 350 litres per year, according to the demand. She started producing antigens for detecting *Brucella* in 1977, for the SAT [Serum Agglutination Titre], CFT [Complement Fixation Test] and RBT [Rose Bengal Test] as well as the antigen for the milk ring test. These reagents were also all improved, standardized and validated.

Mycoplasma mycoides [CBPP] antigen was added in 1980, and validated with serum from Senegal, and BWD [Bacillary White Diarrhoea] caused by *Salmonella Gallinarum* was added in 1981. All these antigens had to be optimally produced, and each batch had to be tested and standardized.

Her other task was diagnosing mycobacterial infections. When Kleeberg was still at Onderstepoort during the 1975/6 report year, 27 samples were received, of which 4 were positive for *Mycobacterium*. Hildegard improved the diagnostic service to such an extent, that towards the end of her time at Onderstepoort, she was regularly receiving about 300 samples per year [in 1988/9 a high of 483 samples was reached] for *Mycobacterium* [excluding Johne's disease], and the rate of positive cultures was usually over 50%.

She learned how to extract mycobactin, an essential growth factor required by *Mycobacterium paratuberculosis* [*M. johnei*], in 1979, and thereafter, *M. paratuberculosis* diagnosis was also part of her diagnostic arsenal. Annual sample numbers for Johne's were lower, varying from about 30 to 300 per year, and the percentage of positive cases was also lower, due to *M. paratuberculosis* being far more difficult to culture. She was technically assisted by B Erasmus, O L Brett, G Schiele, H Harris, M Hanisch and S Waterson; all of them very able, hard-working and knowledgeable. She was able to safely leave the laboratory in their capable hands when she accompanied Fritz to Paraguay for a year, in 1980. Fritz had accepted a year-long foreign technical exchange post in that country.

Her international connections were far more extensive than those of most Onderstepoort researchers. She combined frequent family visits to Germany with attendance at congresses and international tuberculosis meetings. She also travelled extensively together with Fritz, on his work-related trips. She had an intense interest in people and maintained contact with many other researchers that she met. These contacts were very useful in furthering her career.

Her publications reflect her interests. Some were about interesting diagnostic cases, such as *Mycobacterium fortuitum* in fish and a pet marmoset which became infected with *M. tuberculosis* originating from a family member. Many were about the spread of *M. bovis* to wildlife, especially buffalo. She embraced new technologies such as when she collaborated with molecular researchers regarding PCR tests for Johne's disease. She had a deep and broad understanding of her field and was asked to contribute chapters in various textbooks; international as well as local.

Hildegard was a warm and empathetic person. She and Fritz were endlessly hospitable, and a constant stream of visitors were welcomed and accommodated. She was a true people's person, who remembered every obscure detail of the families of all her friends. She corresponded frequently with many friends and other researchers, many from her school and student days.

She died in Johannesburg at the age of 90, after a short illness.

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