Honoring Dr. George E. Seidel, Jr.

George E. Seidel, Jr. died in the early morning hours of September 4, 2021, with his family by his side.



George was many things to many people. He was well-known for his scientific contributions and for being a kind friend and colleague who always had an open door. He was a cattle rancher and boss with an unrelenting work ethic for all aspects of that operation (except perhaps the accounting, which he dutifully left to his wife Sarah), which continued until very shortly before his death. He was a husband of 50+ years to Sarah, father to son Andrew and wife Yuan, and grandfather to Gregory. He was most proud of being a dairyman, which influenced his approach to life and set the stage for many of his most highly regarded scientific contributions.

George grew up on a dairy farm in Womelsdorf, Pennsylvania. He was the oldest of four children and attended a one-room school that had one teacher for eight grades. He learned the value of hard work at an early age, and that, along with a curiosity and passion for science, carried him through his accomplished career. From that school room, he went on to earn a BS at Penn State University in dairy science in 1965 and an MS and PhD from Cornell University in 1968 and 1970, respectively, focusing on reproductive physiology in cattle. Following his PhD, he completed a post-doc at Harvard Medical School, where he studied electron microscopy of rabbit oocytes. In 1971, George took a faculty position at Colorado State University, where he rose through the ranks from assistant professor to university distinguished professor in 1993. During this time, he took sabbaticals at Yale University and the Whitehead Institute at MIT. Even though he transitioned to emeritus status at Colorado State University in 2011, George

continued to collaborate on research projects, write papers, give lectures, and attend meetings until the time of his death.

George's research and professional interests in reproductive physiology were wide-ranging. From his early days studying bull semen at Penn State to his work on improving *in vitro* embryo production, he was highly competent in all aspects of reproductive physiology. He was often noted for his early work in embryo transfer in cattle and the establishment of the Bovine Embryo Transfer Laboratory at CSU. That laboratory conducted much of the early research on superovulation, nonsurgical embryo transfer, and embryo freezing, which transformed the cattle industry. He later became known for his work in developing methods for sexing semen and applied research for its use in animal agriculture. That line of research resulted in many patents and the establishment of a company called XY, Inc.; the royalties from that work, which George could have claimed for his personal benefit, were generously given back to the university and have supported many students and researchers across the years.

Throughout his career, George received many awards and accolades. They are too numerous to list here, but it is worth mentioning a few. In 1992, he was elected to the National Academy of Sciences, where he served in the animal, nutritional, and microbial sciences section. George also received the Distinguished Service Award (2001) and the Pioneer Award (2008) from the International Embryo Transfer Society, a society that he helped establish nearly 50 years ago. In 2014, he was elected to the National Academy of Inventors. His list of publications is long and still growing. He graduated 18 PhD students, 38 MS students, mentored more than 30 postdocs, and influenced many more.

While it is clear that the scientific community regarded George as one of their most valuable and impactful members, many of us will remember him as being much more than the number of papers he wrote or students he graduated. He had a warm personality and was a truly kind person. He was frugal by nature and loved to show off his ranch. Many visiting scientists and students have had the pleasure of seeing this aspect of his life and experiencing his driving "skills," especially in the Plymouth Barracuda. He couldn't resist a lost cause, as was clear from the many colorful stories reported in the annual Seidel family year-end letter. He was a prolific reader and someone who seemed to know something about nearly anything you could ask him. It was hard not to wonder just how much information he was sifting through in his mind as he closed his eyes to think before speaking when you asked him a question. And his office…it was a clear argument for the concept of organized chaos. For all these things and more, we loved George Seidel.

In an interview conducted at the end of 2020, when asked to look back at his career, George said, "For the most part, I just consider myself lucky—having been at the right place in the right time. I have had good colleagues, students, and mentors. I cannot minimize my wife's input as well. I think, for the most part, I get more credit than I deserve—sometimes less than I should, sometimes more—so it evens out."

George was a humble, kind, and genuine man. I think we can all agree that those who had the privilege of knowing and working with him were the lucky ones.

There will be a virtual remembrance. Details will be forthcoming and distributed widely. In the meantime, condolences can be sent to Sarah and family at ercrlllp@gmail.com or gseidel@colostate.edu.

Written with gratitude and respect by:

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