



Michael F. Walter

December 5, 1945 – November 5, 2021

Mike Walter was born into a DeKalb, Illinois farming family in 1945. For his entire life he embraced family, farming, the Midwest, and fun. On March 15, 1973, Mike was an Agricultural Engineering Ph.D. candidate at the University of Wisconsin-Madison and was sitting at his department chair's dinner table. All the graduate students had been invited for dinner, but Mike was the only one with a transistor radio in his pocket and an earphone in his ear listening to Cornell play the University of Wisconsin in the NCAA men's ice hockey semifinals. Mike's wife, Dianne, was mortified. He was delighted when Wisconsin beat Cornell 6-5 in overtime. Two years later, in 1975, he joined the Agricultural Engineering department at Cornell University and immediately bought season tickets for Big Red men's ice hockey in Lynah Rink and got a red and white stocking hat and scarf. He made no apologies to his beloved Midwest.

Mike jokingly told one of his brothers (Jim) that he would have stayed on the farm except for the overwhelming evidence that farming was actively trying to kill him. He was a sickly infant. His sisters (Mary Lu and Janet) had to tape splints to his arms to keep

him from scratching his eczema. He could not drink cow's milk, so he was fed some sort of soybean mush instead. He was also allergic to eggs and had terrible hay fever. But, according to Mary Lu, he was irresistible because his smile was infectious; a trait that would serve him well throughout his life. He and his brothers spent endless unsmiling days "walking" the soybeans to weed out the "smartweed" and "velvets." It literally took all morning to walk from one end of the field and back; Mike had to wear a mask, so nobody knows if he was smiling. Of course, with all the farm tasks there was no time for organized sports. A fan of nearby Sycamore High School basketball was pleased that Mike did not play for DeKalb because "Mike was a very talented basketball player." Mike loved both farming and basketball throughout his life. His mother, Lucile, always said she knew when Mike was home because she could hear the dribbling in the driveway. He shot endless baskets with his daughters, Robin and Heather, every night at his home in Lansing, New York. But he also loved farming and he once told his wife during his graduate student years that he longed to get out of the office and just pick one weed. I do not know if his wife doubted this longing for weeding, but she did doubt his egg allergy and, long-story-short, after eating a brownie containing an egg it was clear he was still allergic.

Somehow, Mike wove his way through allergies and faculty *faux pas* to an agricultural engineering position at Cornell University. Mike came to Cornell on the heels of hurricane Agnes, which devastated much of the region. One of his early graduate students (P. Robillard) actively researched ways to reduce flood risks in the aftermath of Agnes and noted that Mike looked for novel, non-brick-and-mortar solutions. He was instrumental in formally establishing the Soil and Water Lab (SWL) and endorsed luminary researchers like Tammo Steenhuis and Jean-Yves Parlange as well as outstanding extension faculty like Larry Geohring. During his career, the SWL produced more than 1000 peer-reviewed research papers and at least 10 times that many through its legacy of SWL students. The SWL played pivotal roles in securing the water quality of the New York City watersheds and explaining the physics for pesticide risks to the Long Island aquifer. Dr. Parlange identified

over a dozen specific areas of basic research upon which he, Tammo, and Mike collaborated that underpinned these seminal water quality protection accomplishments. The enormous impacts of the SWL on basic and applied environmental are internationally recognized and the lab continues to be highly productive and influential.

From the early 1980s through the early 1990s, Mike's focus turned to international water resources, especially irrigation. He deployed graduate students across the world from the Philippines to Niger to Honduras to Nepal and beyond. For several years he was with the USAID in India and surrounding countries, working on irrigation with agricultural scientists and engineers from the Indian Council for Agricultural Research, especially in Haryana at the Central Soil and Water Conservation Research and with the Training Institute and the Central Soil Salinity Research Institute. His family relocated to New Delhi, India for two years. The experience inspired his daughter's (Tanya's) family to pursue their own overseas opportunities in Asia and South America. Mike and Dianne also adopted a daughter, Mahima, from Mother Theresa's orphanage. Several of Mike's graduate students specifically mentioned their appreciation that he would take substantial time to visit them, their families (sometimes in very remote locations), spend time with their in-country collaborators (mostly farmers), and simply be present with them for a little while. I think Mike's enthusiasm for listening to others was perhaps his most formidable skill. One of his former graduate students called it Mike's "human angle," asking questions about people's immediate life and how they made decisions and, mostly, listening to their answers.

In 1994, Mike was appointed the department chair of Agricultural and Biological Engineering, formerly Agricultural Engineering. He would continue encouraging the department's evolution to Biological and Environmental Engineering (BEE). Mike embraced the emphasis on biology, a fundamental underpinning science. In particular, he was intimately aware of the enormous power of biosensors because his mother regularly used Coony, the family pet racoon, to find him and his brother (Bill) when they were hiding in

the barn. Mike built a formidable faculty that would be unrecognizable to any Agricultural Engineering departments of previous decades and helped lead the transformation of this discipline into the 21st century. Under his leadership biomolecular engineers collaborated with environmental engineers to, for example, trace septic system drainage using synthetic DNA tracers. Mike continued to be the BEE department chair for most of the rest of his career, expanding the discipline to encompass exemplary leadership, expertise, and synergies ranging from molecular biology to climate change. He also expanded the diversity of faculty of the department and was known as a generous and enthusiastic mentor for young professors, providing encouragement to both men and women from diverse backgrounds. During and following Mike's chairmanship, the BEE department was consistently ranked among the top five departments of its kind in the U.S. and one of the highest-ranked engineering departments at Cornell.

Mike was successful and made numerous tangible positive impacts in environmental and biological engineering, especially in water resources. But he is also memorable as a person beyond his professional achievements. I Googled "what makes a person memorable" and the most recurring attributes were: "Natural Giver," "Good Sense of Humor and Laughing at Yourself," "Passion," and "Kindness." For those who knew Mike personally, they know that he encompassed these attributes "in-spades." But kindness, in particular, stands-out. In the 2016, nomination letter for the CALS Outstanding Service Award the writers state "Mike's greatest strength is his humanity ... kindness, charity, compassion, sympathy, mercy, [and] benevolence." He formally received this award – as well as too many others to enumerate here. He valued everybody from janitors to luminaries. Mike knew every custodian's, staff person's, and student's name. For goodness sakes, he also knew the names of the dogs on the farms where he worked. Several of Mike's former students noted that, while balancing all his obligations, he was always grounded in his mission to teach, inspire and support students, mostly notably, within the context of their own specific challenges and aspirations. Indeed, many students shared a proverbial Pearl of Wisdom that Mike gave them and no two were

the same. Again, it was his “human angle” for which he is most remembered. Essentially everybody I contacted for their thoughts about Mike and his legacy specifically noted his kindness and many observed the infectious smile that his sisters saw when he was an infant. In short, Mike’s was a life well-lived. Of course, Mike would ask, “what the Sam Hill does that even mean?”

Written by Todd Walter and John March