

**MEMORIAL RESOLUTION OF THE FACULTY
OF THE UNIVERSITY OF WISCONSIN-MADISON**

ON THE DEATH OF PROFESSOR EMERITUS DEANE C. ARNY

Deane Cedric Arny was born into an academic family on May 22, 1917 at St. Paul, Minnesota. His father was professor of agronomy at the University of Minnesota, and his brother became a medical doctor. Not surprisingly, Deane was destined for a life of scholarly inquiry. As a youth, he became an avid outdoor explorer and Eagle Scout, a harbinger of the expert naturalist in later life. Indeed he lived consistently with the scouting philosophy of love of nature, loyalty, service to others, and of 'being prepared': Deane always carried a Swiss army knife, a bandaid in his wallet, and a can of oatmeal cookies when he travelled – later to be shared with students on field trips.

Arny followed his father's footsteps into agronomy. He graduated in 1939 from the University of Minnesota with a BS in agronomy and plant pathology, and immediately took a bus to Madison to begin graduate studies. He completed a PhD program jointly in agronomy and plant pathology in 1943 under the supervision of H.L. Shands (Agronomy) and J.G. Dickson (Plant Pathology). Following graduation, Arny took up a joint faculty appointment in the departments of Plant Pathology and Agronomy (in 1964 the appointment was changed to 100% Plant Pathology). He retired in 1984.

As a field crops pathologist, Deane did both basic and applied research primarily on the etiology and control of diseases of corn, small grains, and alfalfa. Among his many accomplishments was advancing the understanding of the genetic basis of disease resistance in oats and corn to economically important pathogens. Furthermore, he fostered and embraced collaboration with fellow faculty in CALS and other land-grant institutions to solve complex disease problems faced by growers in Wisconsin and beyond its borders. Perhaps his seminal contribution was as a member of a team including Christen Upper, Steven Lindow and later, Susan Hirano, that determined how certain microbial populations on corn leaves act to increase frost sensitivity. Early season frost injury is a recurring problem to crops in Wisconsin and results in millions of dollars of damage annually in temperate and subtropical regions worldwide. Until the work by Arny and collaborators, frost damage had been interpreted as a purely physical or physiological phenomenon. In the absence of bacteria, water supercools and does not freeze until about -6°C. However, in the presence of certain bacteria, which they identified, water freezes, disrupting and killing plant cells at relatively warm temperatures of -2° to -4°C. Although bacteria had previously been implicated as being among ice nucleators in the atmosphere, the role of naturally occurring bacteria on plant surfaces in promoting frost damage had not been recognized. Their work not only explained the basic mechanism of frost injury to plants but provided an avenue for controlling the bacteria responsible, thus avoiding the injury. It was Arny's keen insight gained through years of observations and field experiments on corn that provided the clue to unraveling the mystery. In 1987, Arny, Lindow, and Upper received the prestigious Ruth Allen Award of the American Phytopathological Society (APS) in recognition of their breakthrough.

Arny made noteworthy service contributions to academia and in agriculture overseas. With respect to the former, he engaged his interest as a historian and archivist by serving on the relevant APS committee and also as president and later, historian, of the Wisconsin Chapter, Gamma Sigma Delta. Deane devoted countless hours over many decades meticulously updating the archival records of the plant pathology department. These proved to be pivotal in compiling the two historical volumes that recognize our 75th and 100th anniversaries. With respect to foreign agriculture, Arny mentored several international students and from 1966-1968 was head of the newly formed plant science department at the University of Ife, Nigeria as part of the decade-long, USAID-funded project through the University of Wisconsin College of Agricultural and Life Sciences in collaboration with that country. Following this mission, he spent six months doing research at the Agricultural University, Wageningen, The Netherlands. In 1975, he was a

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member of the U.S. study team formed to assess the status of food crops in Kenya and later served as a consultant to Andalas University in Padang, Indonesia.

During his long career, Deane taught in various capacities but will be remembered most by students for his role in what became known as the 'summer field course.' Shortly after its formation in 1970, Arny became the organizer and lead instructor of "Plant Pathology 559: Diseases of Economic Plants" until his retirement. Its hallmark was the one day each week spent on the road observing crops and diseases throughout Wisconsin. Although the class focused on diseases of plants, Deane used the opportunity for teachable moments on human and geologic history of Wisconsin. He was an excellent plant taxonomist, and students came away from the course with a wealth of information about the natural world. For many years, the enrollment was so large that Deane drove the students in an old school bus, which came to be known affectionately as the 'White Whale.' And a large can of oatmeal cookies always came along for everyone. In tribute to him, the students organized annually for many years "Deane Arny Day," which took the form of talks by various speakers and a departmental picnic.

In retirement, Arny expanded his volunteer work and service to charitable organizations. He contributed his time generously to the University Arboretum, where his skills as a naturalist were in demand. For over 40 years, Deane, Edith and their family devoted much time to the restoration of a 'worn out' farm they had purchased in the driftless region of Wisconsin. In 2003, the restored land was registered as a conservation easement, and in 2008 became the Valley Ridge Preserve under the trusteeship of the nonprofit Leonardo Academy.

When Arny died at Madison on January 30, 2013, he had been affiliated with the plant pathology department for some 73 of his 95 years. He is survived by his wife of 66 years, Edith; by their five children; five grandchildren; and one great-grandchild. Deane Arny will be fondly remembered by his colleagues and generations of students. He emulated the well-balanced professor – a man of science who exhibited grace and civility, and the enduring human values of kindness, integrity, generosity and humility.

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