

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

ON THE DEATH OF PROFESSOR EMERITUS MARK ARNOLD STAHMANN

Professor Stahmann had a long and productive career as a biochemist at the University of Wisconsin. He is best known for his work on anticoagulants in cooperation with Professor K.P. Link. However, he also contributed extensively to investigations on the biochemistry of plant diseases and disease resistance, the synthesis and biological properties of amino acids, polypeptides and proteins, and the cause of farmer's lung disease. His laboratory developed a variety of biochemical methodologies including techniques for determining the nutritional value of proteins, methods for extraction of leaf protein to improve nutrition of animals and man, and the methods for commercial cultivation of shiitake mushrooms. He trained 32 Ph.D. students and about 50 visiting scientists from all over the world, and published more than 200 papers in the scientific literature.

Mark Stahmann was born May 30, 1914 in Spanish Fork, Utah. He received his B.A. degree from Brigham Young University in 1936, then came to the University of Wisconsin as a graduate student in agricultural chemistry (which later became biochemistry) at the then-prevailing stipend of \$40 per month. He joined the laboratory of Professor Karl Paul Link with the hope of applying organic chemistry to the solution of problems in agriculture. Link's group had concentrated on studies of carbohydrates, but then had become interested in anticoagulants as the result of problems encountered by farmers from the toxicity of improperly cured sweet clover. As frequently recounted by K.P. Link, a farmer whose cattle had been dying brought samples of their sweet clover feed and their non-coagulating blood to Link. Link and his colleagues in the lab isolated anticoagulants from the feed. The nature of the anticoagulants was unclear until Stahmann and Ikawa isolated crystals of the material and characterized the crystals as 3,3' methylenebis(4 hydroxycoumarin). Stahmann synthesized several grams of the crystalline compound, which was used in tests that indicated potential applications in medicine.

After completing the Ph.D. degree, Stahmann took a position in the laboratory of Max Bergman at the Rockefeller Institute for Medical Research in New York, where he acquired his lifelong interest in polypeptides and proteins. During the war years he worked on mustard gases in Bergman's lab, and after the death of Dr. Bergman he moved to MIT to work on antimalarial drugs for the army.

In 1945 Dr. Stahmann returned to Wisconsin to supervise Professor Link's lab, as Link had had a recurrence of tuberculosis and was confined to a sanatorium. Resuming his work on anticoagulants, he observed that the coumarins were highly toxic to mice. The rat poison now known as Warfarin was synthesized by Stahmann during his period in the Rockefeller laboratory. Warfarin was so toxic that Link saw no justification for obtaining a patent on it, but Stahmann took the initiative and obtained a patent on Warfarin with the aid of WARF attorneys very shortly before the legal deadline for a patent would have expired. Warfarin became the most widely used rodenticide in the world, and the income to WARF from the Warfarin patent was very substantial. Stahmann synthesized and patented a number of related compounds that have been used therapeutically in medical practice. The heart medication coumadin was one of the products of these studies, and its wide use in human medicine was a source of great pride to Stahmann.

When Link returned from the sanatorium, he invited Stahmann to leave. Stahmann accepted a position as assistant professor of biochemistry and initiated a new program of study of plant diseases. Early in his graduate studies, he had become interested in this area. Working with Link and with Professor J.C. Walker of the Department of Plant Pathology, he found a correlation between disease resistance and increased levels of enzymes called oxidases, and showed that the plant hormone ethylene induced the same increases. Eventually, Stahmann and his colleagues published 57 papers in the area of plant disease

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resistance. They also made numerous contributions in the areas of polypeptides, polyamino acids, and proteins, mustard gases, and insecticides. Stahmann's research on the crippling and sometimes fatal farmer's lung disease led to an understanding of the role of antigens in moldy hay in causing the disease.

In the latter part of his career, Stahmann became concerned with the need for inexpensive sources of protein for the world's population. He developed methods of deriving protein from green leaves as a means of increasing plant productivity. The juice was pressed from leaves and precipitated as a protein, mineral and vitamin supplement, and the residual leaves were ensiled. Stahmann also became interested in the cultivation of Shiitakee mushrooms. He developed methods for growing them on scrub oak logs and introduced the method for their commercial production in the United States.

Stahmann was active in the Church of the Latter Day Saints, and was one of those primarily responsible for the establishment and construction of the first LDS chapel in Madison. His wife, Trudy, sister of the football "great" Pat Harder, predeceased Mark. His daughter Marcia Richards resides in Milwaukee, and his daughter Caryn Lowther in Homewood, Illinois. Professor Mark A. Stahmann died August 12, 2000 at the age of 86.

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