

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

ON THE DEATH OF PROFESSOR EMERITUS BENJAMIN BRUCE MARSH

Bruce Marsh, professor emeritus of meat and animal science and longtime director of the Meat Science and Muscle Biology Laboratory, died peacefully on May 10, 2009. Bruce Marsh was born in Petone, New Zealand in 1926. His parents were Spencer and Thomasine Marsh. After attending public schools in Petone and Lower Hutt, he graduated with a BS degree in chemistry from Victoria College, University of New Zealand at Wellington, in 1946 and received an MS degree with honors in 1947.

He joined the Fats Research Laboratory in Wellington, but soon thereafter moved to the Low Temperature Research Station in Cambridge, England, where he pursued the PhD degree in biochemistry at the University of Cambridge under the direction of Dr. Kenneth Bailey. He studied the biochemistry and bacteriology of whale muscle while on a whaling ship in the Antarctic and how whale meat could be better transformed into human food. One of his findings while on the whaling expedition was pursued after his return to Cambridge and resulted in the discovery of the “relaxing factor,” or as others termed it, the “Marsh relaxing factor.”

This component, which occurs in the muscles of all mammalian species, is now known to consist of fragments of the sarcoplasmic reticulum. These membranes control the free calcium level of the tissue, thereby largely determining the muscle’s state of contraction and relaxation in life, the onset of rigor mortis in death, and the potent toughening processes of thaw rigor and cold shortening in the early-postmortem period. This carefully planned, accurately observed and completely documented research first established Bruce as an “international meat scientist of distinction.”

After receiving his PhD in 1951, Bruce returned to the New Zealand Meat Industry Research Institute, studying rigor mortis, thaw rigor, and cold shortening and their influence on tenderness in lamb and beef. Because of the introduction of faster and earlier-postmortem cooling, New Zealand lamb acquired an excessive toughness that greatly influenced the profitability of New Zealand’s export lamb industry. His studies of early-postmortem carcass electrical stimulation, initiated in New Zealand and continued later in Wisconsin, led to the international introduction of this process for both beef and lamb.

In 1969 Bruce served as the keynote speaker at the second symposium “Biochemistry of Muscle as a Food” at the University of Wisconsin-Madison and continued his stay temporarily as a visiting scientist. In 1971 he returned permanently to Wisconsin as the appointed director of the Meat Science and Muscle Biology Laboratory, where he spent the remainder of his professional career studying, writing and teaching about the biochemical and eating-quality properties of muscle during its transformation to meat, and how these properties can be modified by appropriate early-postmortem treatment.

These scientific contributions were of unquestionably high standard and have served as significant benchmarks of thoroughness and importance to the knowledge of the use of muscle as food. Bruce’s research has clearly demonstrated an expertise as well as an extended effort over time in meat science and muscle biology, establishing him as one of the premier international meat scientists of the twentieth century.

Bruce Marsh also contributed significantly to the educational programs at the University of Wisconsin-Madison. In addition to providing lectures to several undergraduate and graduate courses, he served as advisor to a number of highly successful graduate students. As a result of his presence, many undergraduates, graduate students, post-doctorate fellows, and visiting scientists at the University of Wisconsin as well as many other academic and industry personnel throughout the nation and internationally, have greatly profited from his knowledge, research accomplishments, teaching and counsel.

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Among the honors bestowed on Bruce were the Distinguished Research Award and Signal Service Award from the American Meat Science Association, the Meat Research Award from the American Society for Animal Sciences, and election to the Wisconsin Meat Industry Hall of Fame.

During his retirement, Bruce continued to provide annual lectures to University of Wisconsin meat science classes on his whaling adventures. He enjoyed gardening and bird watching. He found great joy in using the computer to trace his genealogy. His mastery of the English language led to the creation of numerous poems which were enjoyed by all. Bruce lived in Madison with his wife Doris, and they are the parents of two sons, Richard and David, and grandparents of Sam.

If there ever was a man who perfectly fit the phrase “a gentleman and a scholar,” Bruce was that man. He will be greatly missed by his family, students, and university colleagues.

MEMORIAL COMMITTEE

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