INTRODUCTION

The Triennial Lactation Symposium, “Lactation Biology Training for the Next Generation – A tribute to Dr. H. Allen Tucker,” was held preceding the joint annual meeting of the American Society of Animal Science and the American Dairy Science Association in New Orleans, LA on July 10, 2011. The objective of the symposium was to celebrate the career of Dr. Tucker, with an emphasis on the lasting legacy of student training in the broad area of lactation biology. Dr. Tucker was widely recognized for the excellence of his research, but held that his greatest contribution was the training of future scientists that would continue to seek understanding of mammary gland function and physiology. Thus, the planning committee for the Symposium developed the session along the broad theme of reproductive and lactation physiology, with an emphasis on the contributions of students of trainees from Dr. Tucker’s program. The intent was to highlight the persistent effects of Tuck’s influence on the discipline of mammary gland biology through training of students.

Dr. H. Allen Tucker grew up on a dairy and vegetable farm in Massachusetts, and he received a B.S. in Animal Science from the University of Massachusetts in 1958. “Tuck” completed his M.S. and Ph.D. under the guidance of Dr. Ralph Reece at Rutgers University, and was appointed Assistant Professor of Dairy Science at Michigan State University in 1963, where he retired as Distinguished Professor of Animal Science in 2000. Throughout his career, Tuck was well known for adopting cutting edge technologies to answer questions related to mammary gland biology in an effort to improve the efficiency of milk production. Tuck published over 350 refereed papers, book chapters, and other scientific articles during his career. However, as productive as his program was, he was always proudest of his success in training graduate students and post-doctoral scholars and enjoyed seeing them develop their own successful programs. Tuck’s students served as the foundation of his research and teaching program, and he used a well-designed approach to get the most out of every trainee with which he worked. Components of that approach are clearly articulated in his comments published in the Journal of Animal Science upon receiving the Casida Award for graduate training from ASAS in 1987 (Tucker, 1988).

As any undergraduate Animal Science student learns in genetics, the true value of a sire is reflected in the ability to transmit superior traits to the next generation and to have those traits persist in future generations. Thus, given Tuck’s emphasis on graduate education, it seemed only fitting to develop a program that emphasized the persistency of his training excellence as expressed in his students’ trainees. In developing the program elements, the Triennial Lactation Symposium committee decided to specifically invite speakers that had trained with Dr. Tucker’s students, rather than Tuck’s own students (i.e., the F2 or beyond vs. F1 generation of trainees). Figure 1 illustrates the relationship of the speakers to Dr. Tucker and his trainees, and a more complete “family tree” of trainees is available in the supplementary materials to this publication.

In the first presentation of the symposium, Dr. Steve Ellis (Ellis et al., 2012) detailed recent investigations of the interaction of myoepithelial and mammary epithelial cell development. After an overview of mammary parenchymal development during the prepubertal period, Ellis et al. (2012) described the