“While nutrition and management, broadly speaking, determine the actual or immediate level of production of an individual cow and herd, inherent dairy merit governs the ultimate and future level of productivity. In the long run, no dairying country, and accordingly no individual dairy farmer, can afford to stand still in the struggle for ever-increasing efficiency.” (McMeekan, 1960).

Dr. Bevin Harris has been a principal designer of the New Zealand system for genetic evaluation of dairy cattle for over fifteen years. This system is an essential tool in the ongoing struggle for ever-increasing efficiency. Bevin’s initial contributions began in the 1990s with implementation of animal models for trait evaluations of dairy cows in New Zealand, and development of a breeding objectives model that extended the empirical analysis of the efficiency McMeekan envisaged. These two developments were described at the Annual Conference of the Society in 1996. The trait evaluations established truly valid across breed comparability for the first time. A very high proportion of New Zealand dairy farmers adopted the Breeding Worth index (BW) when identifying suitable parents for generating replacement animals for their farms. Net benefits of BW selection, compared to previous methods, now approach one billion dollars.

By the end of the twentieth century, it was apparent that genetic selection for improved production had been associated with an unintended consequence for cow fertility. The antagonistic genetic relationship between production and reproduction had been less evident in New Zealand than overseas, partially due to a form of natural selection associated with local dairy farming practices that require late-calving cows to be culled and replacements to be retained almost exclusively from early calving cows. Nonetheless, there was an urgent need at the beginning of the twenty-first century to develop trait evaluations for dairy cow fertility; and to include this trait in the BW index. Net benefits of BW selection, compared to previous methods, now approach one billion dollars.

Dr. Bevin Harris has continued to engage in the challenging task of deriving useful information from the huge datasets that modern recording practices generate. His skills encompass advanced statistical methods in animal breeding and the development of efficient algorithms to utilise the increasing computing power becoming available in the twenty-first century. One of the tributes paid to “Mac”, as McMeekan was known, was that he and his team had been extraordinarily successful in sorting out the issues that really matter in dairy farming. In the sphere of cattle breeding, Bevin is carrying on that tradition.

Bill Montgomerie and Peter Brumby

REFERENCES