

Development of a revised UK energy metabolism system

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One of the cornerstones in the development of a new feed rationing system for dairy cows must involve a reappraisal of both the concepts and 'numbers' adopted in defining the energy requirements for dairy cows. This is particularly important where increasingly high levels of animal output are being achieved from very different animal genotypes from those used in UK dairying 20-30 years ago. The review of the metabolisable energy (ME) system undertaken within the "Feed into Milk" programme has suggested that the total ME requirements (maintenance + milk production) for present dairy cows, and using present diets, are well above those recommended by ARC (1980) and AFRC (1990). This evidence in the literature is fully supported by the recent published calorimetric data from ARINI and CEDAR. Both these data sets are in agreement for a cow yielding 28 litres milk/day, in terms of total ME requirements, and approximately 13% above those of AFRC (1990). The two centres have therefore come together to provide an agreed new set of energy feeding standards. A total of 642 individual cow records have been collated and verified from across the UK. Innovative response relationships to describe energy utilization by the dairy cow have been developed. As a result of this research programme a new energy feeding system for dairy cows will be adopted across the United Kingdom.

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