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by Dr. Kevin D. Sinclair

Dear David,

This letter contains a very brief summary of the work we have been doing with four breeds of beef cow over tire last three years. I am currently in the middle of writing up the results from this Study, and have given myself until the end of April to complete this task.

The project seeks to determine the suitability of beef cow genotypes. which differ in their genetic potentials for growth and milk production, for hill, upland and lowland nutritiorial environments in the UK. The combinations of these characteristics represented by the four breeds selected were: relatively small size and low milk potential (Aberdeen Angus), small size and high milk potential (Welsh Black), large size and low milk potential (Charolais), and large size and high milk potential (**Simmental**). The two small breeds were fed annual levels of enenp intake designed to represent hill (28 GJ ME per year) and upland (33 GJ ME per year) feeding levels, and the two large breeds were fed annual levels of energy intake designed to represent upland and lowland (38 GJ ME per year) feeding levels.

The project started with 104 nulliparous heifers (26 per breedi in the summer of 1994 and followed these animals through their first two parities. All animals were mated in July and August of each year using a combination of oestrous synchronisation and AI, using semen from a sire from the same breed. Cows calved in May and June of each year. Records were kept of live weight, body condition score, ultrasonic measurements of back fat and muscle depth. milk yield and composition, blood metabolites, reproductive performance (interval from calving to first oestrus *post partum* and conception rates) and calf performance to weaning. To date no funding agency has been prepared to fund the work necessary to take the calves to slaughter and look at lifetime performance, saleable meat yields and eating quality.

The data generated from this study are currently being used to parameterise a computer model of the energy system of lactating and pregnant cows developed at this centre during the 1980s. This program will allow LIS to model the performance of these four breeds under a range of management systems which go well beyond the limited number we have been able to Investigate during the last two years. The program will allow us to investigate combinations of breed type, nutritional environment (hill, upland and lowland), calving date, weaning date, pattern of feeding, number of suckling calves, and winter accommodation on cow performance. This will help us to develop management strategies for profitable suckled calf production in the UK, and in particular to identify situations where a breed such as the Simmental would be best Suited.

I am not in a position at the moment to provide you with a written report, but would be prepared to make a verbal presentation to your society later on this summer, and perhaps a formal written report in the autumn.

Best regards

Yours sincerely

Dr Kevin D Sinclair