EFFECT OF SUPPLEMENTARY HAY FED TO NON-LACTATING COWS OFFERED TWO ALLOWANCES OF PASTURE

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ABSTRACT

In New Zealand, the system of production of the seasonal supply farms is based on grazed pasture and small quantities of conserved herbage throughout the year. The efficiency with which that conserved pasture is utilized by the animal and its effect on the sward will affect the profitability of the system. The objective of the present study was to assess the effect of hay supplementation at two different herbage allowances during the winter. Pregnant, non-lactating Friesian cows were randomly allocated to four treatments in a 2x2 factorial design. The four treatments were: Low herbage allowance with hay (LA+) or without hay (LA), and high herbage allowance with hay (HA+) or without hay (HA). Hay was fed at 5 kgDM/cow/daily, and the two pasture herbage allowances were 9.1 and 13.4 kgDM/cow/daily.

Higher herbage allowance increased the herbage dry matter (DM) intake, total DM intake, total metabolizable energy (ME) intake and residual herbage mass.

Supplementing with hay resulted in increases in total DM intake and ME intake, despite the low concentration of the hay compared with the herbage, and decreases in herbage DM intake at both herbage allowances. The decreases in herbage intake were 0.28 and 0.40 kg herbage DM eaten per kg hay DM eaten, at the lower and higher herbage allowances respectively. The corresponding values, expressed as MJME, were decreases of 0.44 and 0.65 MJME from herbage per MJME eaten as hay. The decreases in herbage intake resulted in increases in residual herbage mass at both allowances.

The final liveweight and body condition were increased by the higher herbage allowance and by Hay supplementation. However, maternal liveweight gain was higher for HA than for HA+ cows.

There were large increases in water drunk (by 2.1 and 1.5 fold) by the supplemented cows. However, supplementation did not increase the total water consumed. The 'extra' water drunk per kg hay DM eaten was higher at the low than at the high allowance.

Hay supplementation reduced the time the cows spent grazing and increased the ruminating time during the daytime.

The results of the present study emphasize the importance of hay as a supplement during the winter. It is important to consider the reported effects when planning the use of hay as a supplement for non-lactating cows.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES