Variation of Herbage Intake (HI) from Upland Pasture, as Influenced by the Grazing Initiation Date (GID)

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ID # 07-08

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Abstract

Studies were conducted on an experimental pasture belonging to the *Arrhenatherethum medioeur.* and *Lolio-Cynosureth.* assoc. with D. glomerata, L. perenne and T. repens as main species, at an altitude of 680 m. Four equally sized paddocks (0.3 ha) were grazed by 10 Charolais heifers. The differences in total herbage dry matter intake (HDMI) between the four paddocks with different grazing initiation dates (GID) were significant ($P<0.05$). The results of this experiment show that in order to achieve a higher HDMI and better herbage utilization an earlier initiation of grazing is recommended. That is, grazing should commence when the sward height is about 15 cm.

Keywords: Herbage intake, grazing initiation, *Arrhenatherethum medioeur.* assoc., *Lolio-Cynosur.* assoc.

Introduction

Grazing initiation in spring is a management tool that is used together with other grazing management tools to achieve certain objectives or benefits, taking into account both animal and plant needs. Grazing management is a fine-tuning mechanism and can be simply

summed up as "where and when to move the grazing animals" (Sheath and Clark, 1996). The objective of this research was to study the effect of the spring grazing initiation date on herbage intake from upland pasture grazed by heifers.

Material and Methods

The pasture belongs to the *Arrhenatherethum medioeur.* and *Lolio-Cynosur.* assoc. (Hulina, 1983), with D. glomerata, L. perenne and T. repens as main species . The GID for the first paddock was May 8th, when the average sward height was 15 cm. The GIDs for paddocks 2, 3 and 4 were set at intervals of 5 days thereafter. The heifers were moved to a new sward when its average sward height reached 15 cm, without allowing the average sward height of current paddock to go below 5 cm. Herbage intake for a grazing period was calculated using the equation: $I = (H_{OP}-H_O)+(H_I-H_{OP})$, where I= intake; H_I=herbage mass (HM) inside the cage at the end of the grazing period; H_O= HM outside the cage at the end of the sampling interval and H_{OP}=HM outside the cage at the start of the grazing period (Davies *et al*., 1991).

Results and Discussion

Herbage dry matter production of obtained during the entire grazing season was as follows: 4115 kg ha^{-1} (3rd GID), 4008 kg ha^{-1} (1st GID), 3944 kg ha^{-1} (4th GID) and 3928 kg ha^{-1} (2nd GID), showing no significant differences between each paddock ($P>0.05$). However, the differences in total HDMI between the paddocks were significant ($P<0.05$). The highest HDMI percentage (89 %) was achieved when using the earliest GID, May 8th. Paddocks with the later GIDs gave HDMI percentages as follows: May 13th – 88 %, May 18th – 72 % and the lowest rate on May 23rd – 70 % (Table 1). To achieve a higher herbage intake and to encourage even grazing resulting in uniformity of pasture, an earlier spring grazing initiation

date is recommended. That is, grazing should commence when the sward height is about 15 cm.

References

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Table 1 - Herbage dry matter intake (HDMI) in % as affected by grazing initiation date

Rotation	Grazing initiation date			
	May 8	May 13	May 18	May 23
	----------HDMI (%)----------			
1	87	84	67	63
2	89	85	68	58
3	92	92	77	74
4	90	89	76	75
5	89	87	74	80
6	89	89		
Average	89	88	72	70