

Substitution rate and milk response to maize silage supplementation of dairy cows grazing low-mass pastures

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Introduction

When extending the grazing season into the autumn, the grazing of low-mass pastures is almost inevitable, potentially limiting pasture availability and animal performance.

Objective: To determine the effect of pasture allowance (PA) and maize silage supplementation on pasture intake when grazing low-mass pastures in autumn.



Materials and methods

Treatments: 2 × 2 factorial design

Two PA > 2.5 cm	Low PA (18 kg DM/d)		High PA (30 kg DM/d)	
	0	8	0	8
Two supplementation levels ^a (kg DM/d)				

^a 7/1 mixture of maize silage and soyabean meal

Grazing perennial ryegrass (*Lolium perenne* L.)

4 periods of 14 days (September and October 2008)

12 Holstein cows in late-lactation (18 kg FCM)

Measurements: pasture height (platemeter), pasture mass (> 2.5 cm), pasture intake (*n*-alkanes), milk production

Results

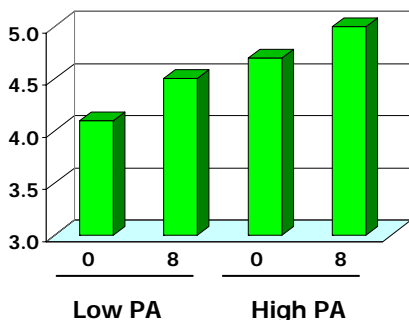
- Dry conditions before and during the experiment restricted pasture growth and reduced pasture quality.
- Post-grazing pasture height increased with both increasing PA and supplementation.
- Supplementation reduced pasture intake at both PA, the substitution rate being lower at the low than at the high PA (0.51 vs. 0.75).
- Milk production increased by 0.1 kg per kg PA, and increased by 0.67 kg per kg DM of supplement.

Pre-grazing pasture characteristics

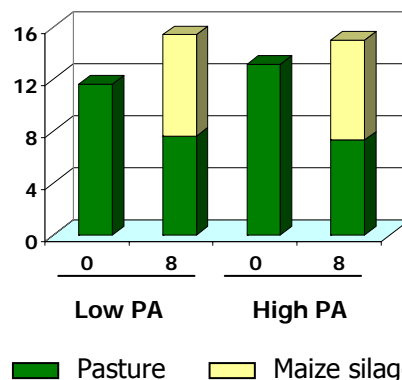
Parameters	Average
Pasture mass (kg DM/ha >2.5 cm)	1,780
Pasture height (cm)	6.3
CP (g/kg DM)	115
NDF (g/kg DM)	639
OMD	0.62



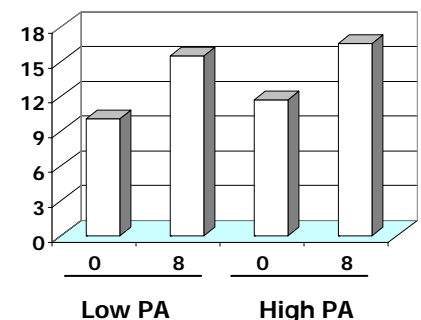
Post-grazing pasture height (cm)



DM intake (kg/d)



Milk production (kg/d)



Conclusions

- On low-mass and low quality pasture, the PA had little effect on pasture intake, forage supplementation being essential to increase total intake.
- The level of substitution was low and the milk response to supplementation was high due to the low pasture quality (low energy intake) rather than the low-mass of the pasture.