

Mineral content in herbage over the grazing season

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Agroscope, 1725 Posieux, Switzerland

Introduction

Grazing is the principal and often the only forage available for dairy cows during the grazing season in Switzerland. Regarding mineral nutrition, the mineral content of pastures and especially its seasonal variability is not well documented.

The objective of this survey was to verify if mineral contents in herbage was influenced by time over the grazing period in intensively managed pastures with rotation paddocks for Holstein dairy cows.

Material and Method

Research farms: Agroscope in Posieux (650 m a. s. l.) and Ferme de l'Abbaye in Sorens (820 m a. s. l.)

Pastures: Rotation paddocks for dairy cows on intensively used pastures.

Sample collection: Grazing seasons 2008 to 2010. N = 73. Samples taken before entering the paddocks.

Data: Analysis of variance including effects of grazing month (Month), botanical composition, development stage with *Dactylis glomerata* as reference and the year as covariable.

Results

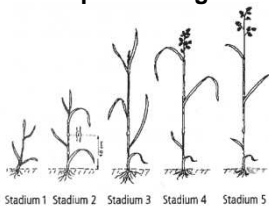
Botanical composition:

Prop. Graminea: 63.9% (on both farms)

Prop. legumes: 13.3% (Sorens)

19.3% (Posieux)

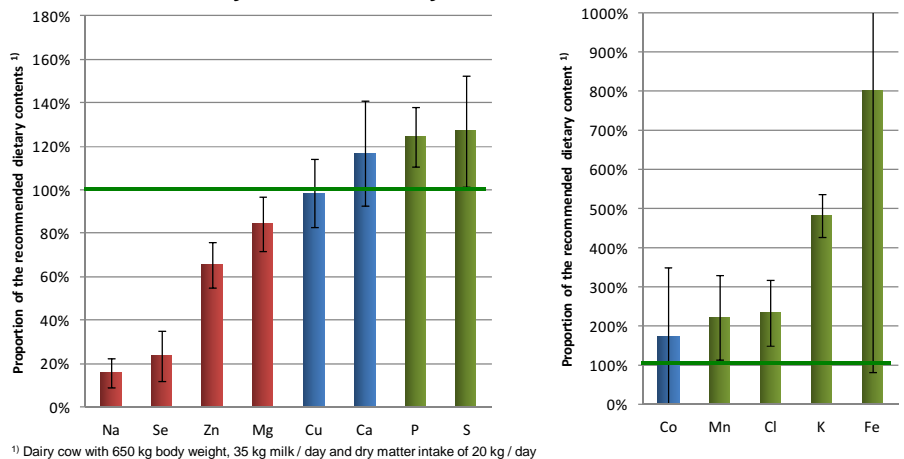
Development stage: $\bar{x} \pm s$ 1.6 \pm 0.6



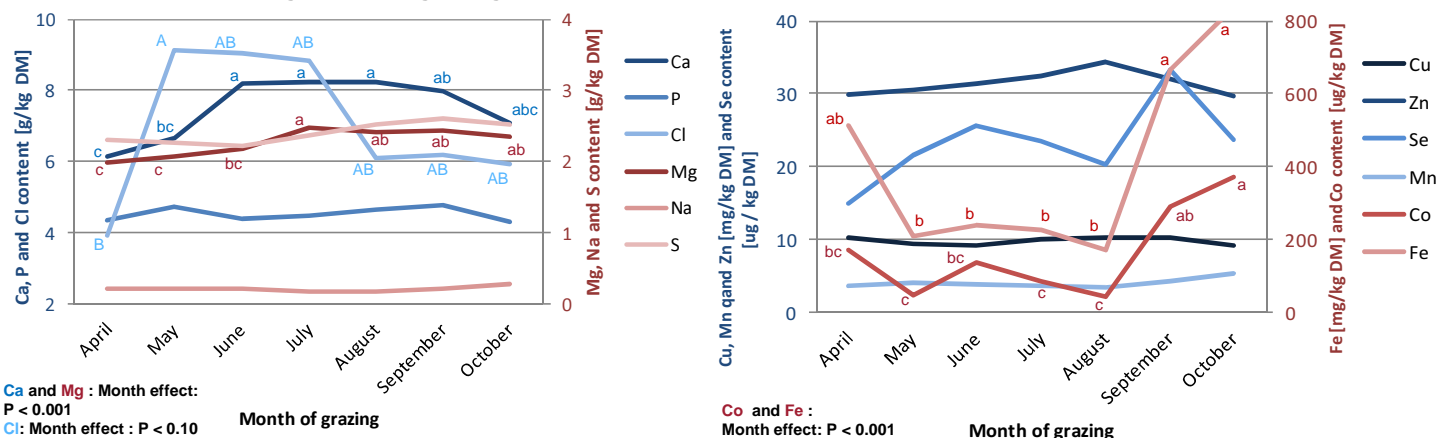
Days between grazing cycles within a paddock (from 2nd cycle): $\bar{x} \pm s$ 25 d \pm 9;

18 d (April – June); 31 d (august – October)

Mineral content of grazed herbage, expressed in proportion of the recommended dietary content for dairy cows ¹⁾



Mineral content of herbage over the grazing season



Conclusions

- 1) The month of grazing explained part of the variability for Ca, Mg, Cl, Co and Fe contents.
- 2) In dairy cow systems with full grazing, only Mg, Na, Zn and Se supplementation is required on the two research farms. Calcium supplementation is additionally required in spring and Co during spring - summer.