



POTASSIUM EFFECT ON PASTURE YIELD AND ITS COMPOSITION IN MANAGEMENT OF AN OLD PERMANENT PASTURE



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Introduction

Potassium (K) is supposed to be one of the essential elements, which has a weaker effect on increasing pasture productivity than nitrogen. However, K has a specific physiological role in plants. Legumes have been shown to be more susceptible to K deficiency than grasses, and therefore potassium is very important for the legume growth and sustainability in mixed pasture swards.

The focus of this study was to estimate DM yield stability and botanical composition of the pasture in relation to the different long-term potassium fertilising.

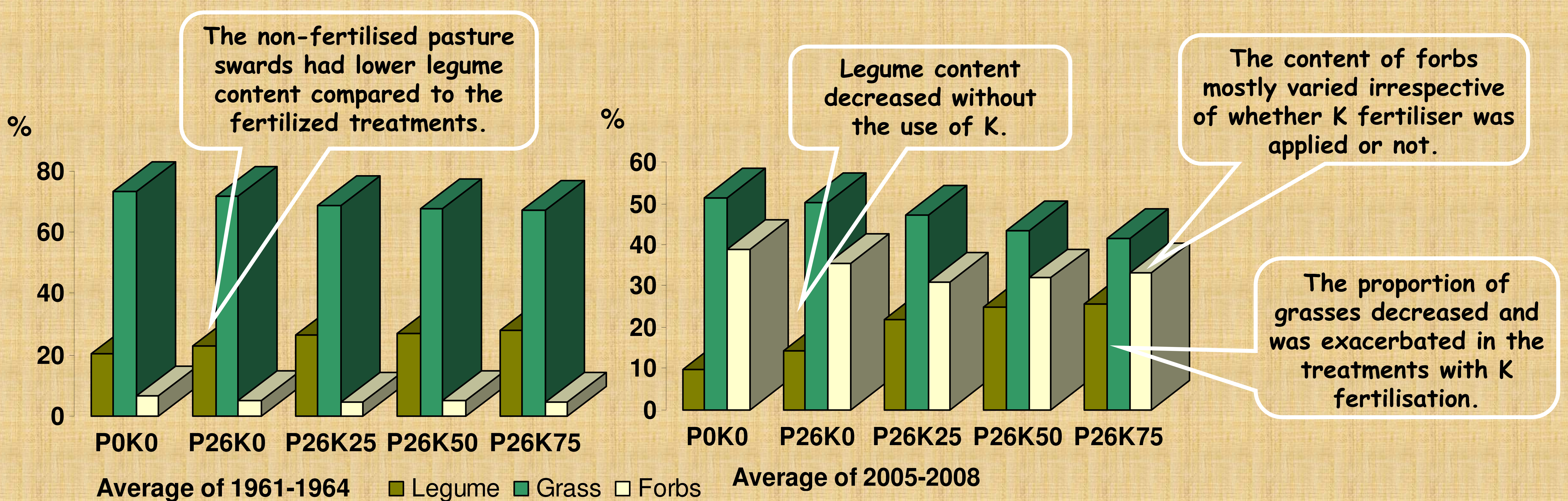
Materials and Methods

The data presented in this presentation cover two experimental periods: 1961-1964 and 2005-2008. The soil is loam-textured. Soil K and P concentrations ranged from 83-100 and 22-31 mg kg⁻¹, during the first period of the experiment, respectively. During the second period, soil K and P concentrations ranged from 76-112 and 77-98 mg kg⁻¹, respectively.

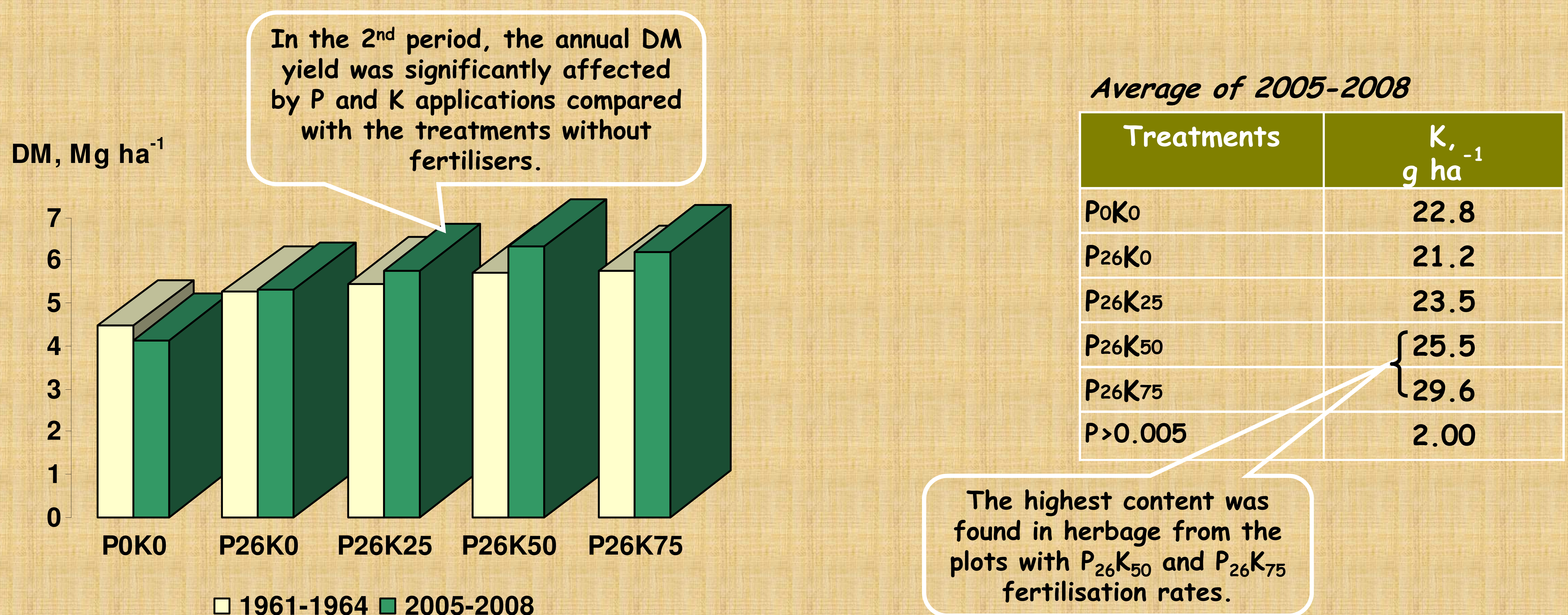


The grazing season started in the middle of May and lasted until the beginning of October. Grazing intensity was 2-2.5 cows ha⁻¹ yr⁻¹, and duration of the grazing season 150 days, 4 times per season.

Results and Discussion



The influence of P and K fertilisation on botanical composition in herbage dry matter of the pasture



The influence of P and K fertilisation on dry matter yield and K concentration in herbage dry matter of the pasture

Conclusion

With a regular application of PK in a long-term pasture sward it is possible to maintain a good sward with a sufficient amount of legumes and a rather stable DM yield. In an older sward, the higher potassium rate (K₅₀) exhibited a significant advantage over the smaller rates.