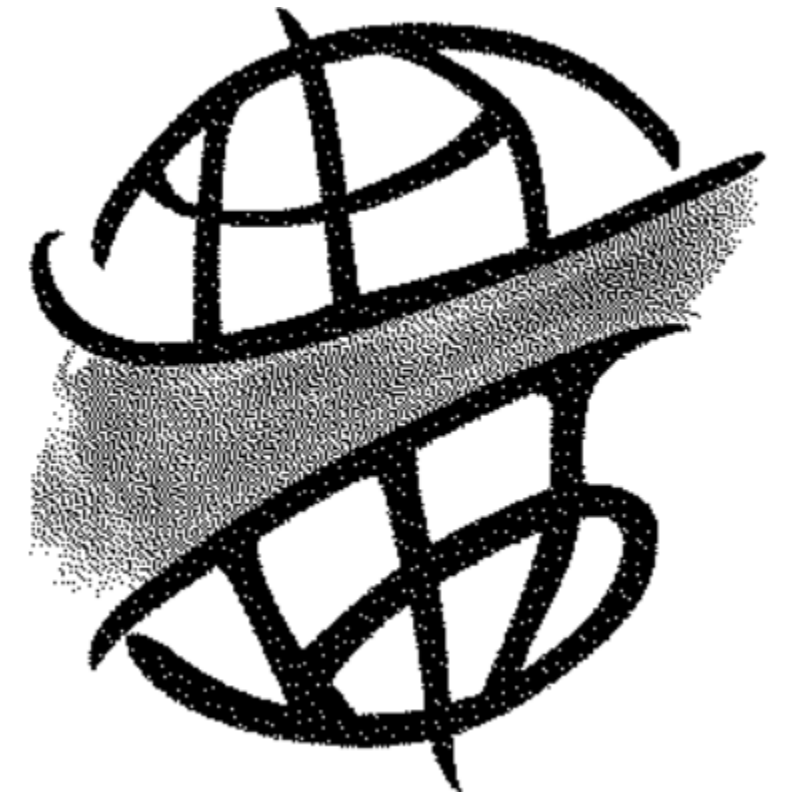


Agronomic biofortification of *Brachiaria brizantha* Stapf. cv. Marandu with selenium in urea coating



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Introduction

Selenium (Se) is a nutrient for animals and a beneficial element to plants.

Objective

To evaluate biomass production and quality as for degradability by gas production *in vitro* of *Brachiaria* fertilized with Se coated with urea.

Material and Methods

The research was carried on greenhouse and Laboratory of Animal Nutrition, CENA / USP, in Piracicaba-SP, Brazil.

The experimental design was a randomized block with four replicates. Treatments consisted in *Brachiaria* fertilization with Se doses of 0, 10, 20, 40, 80 and 160 g ha⁻¹ as sodium selenate through coating of urea along with mixing boric acid and copper sulfate in order to provide 100 kg ha⁻¹ of N. The biomass were harvested at 30 and 60 days after seeded.

Results

Se application lead no effects on dry matter production of roots and shoots. Organic matter degradability (OMD) was adjusted in a quadratic curve which peak occurred with 59.5 ha⁻¹ of Se (Figure 1).

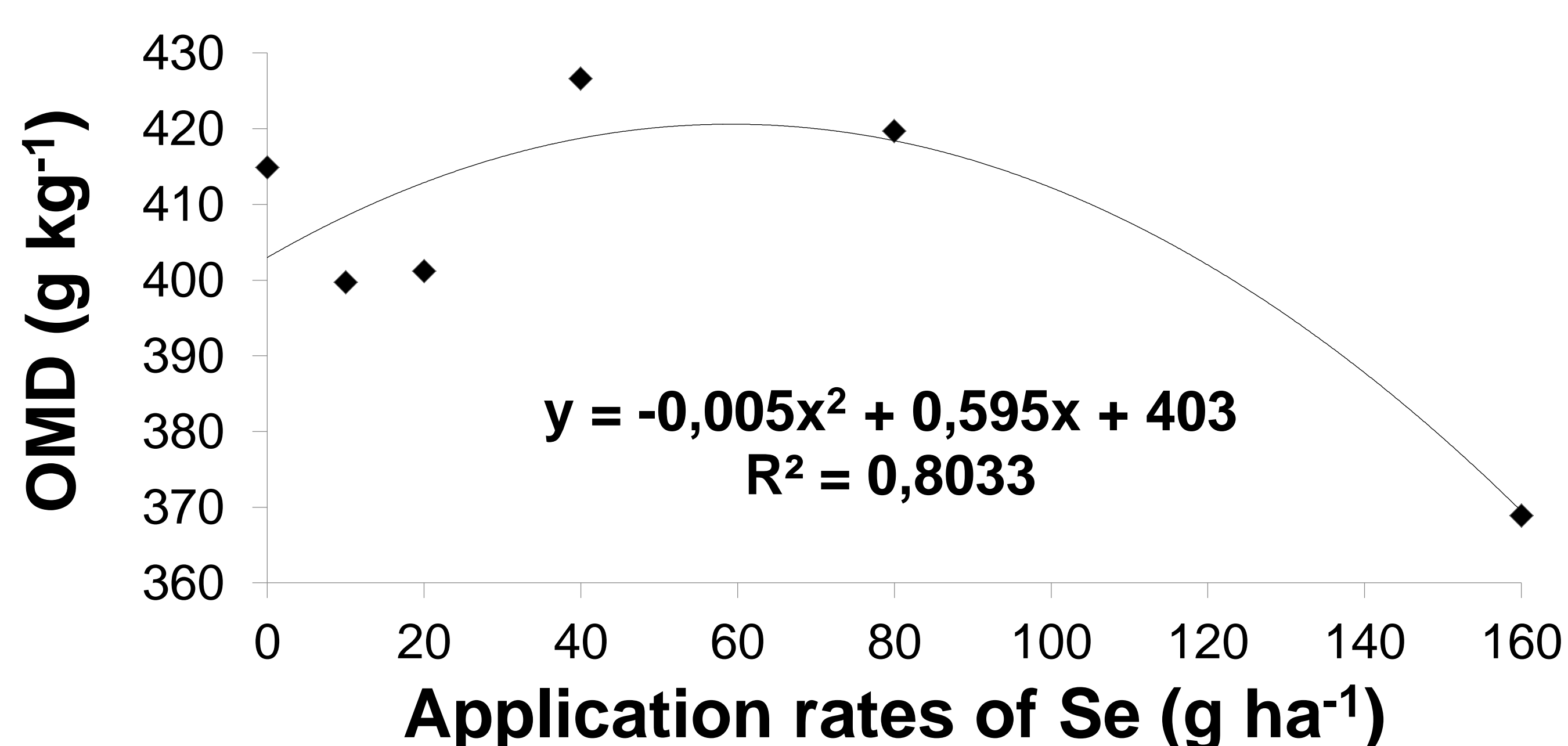


Figure 1. Organic matter degradability (OMD)

Crude Protein (CP) showed interaction of Se levels x Cuts. In the first cut there was reduction of CP at high levels of Se but opposite occurred in the second cut.

Fiber fraction as ADF, NDF, cellulose and hemicellulose were not influence by Se levels, exception of lignin, which was higher than control at 40 g ha⁻¹ of Se.

Total gas production/OMD showed effect for interaction Se levels x cuts, and it was lower with increasing Se levels at 60 days cut (Figure 2).

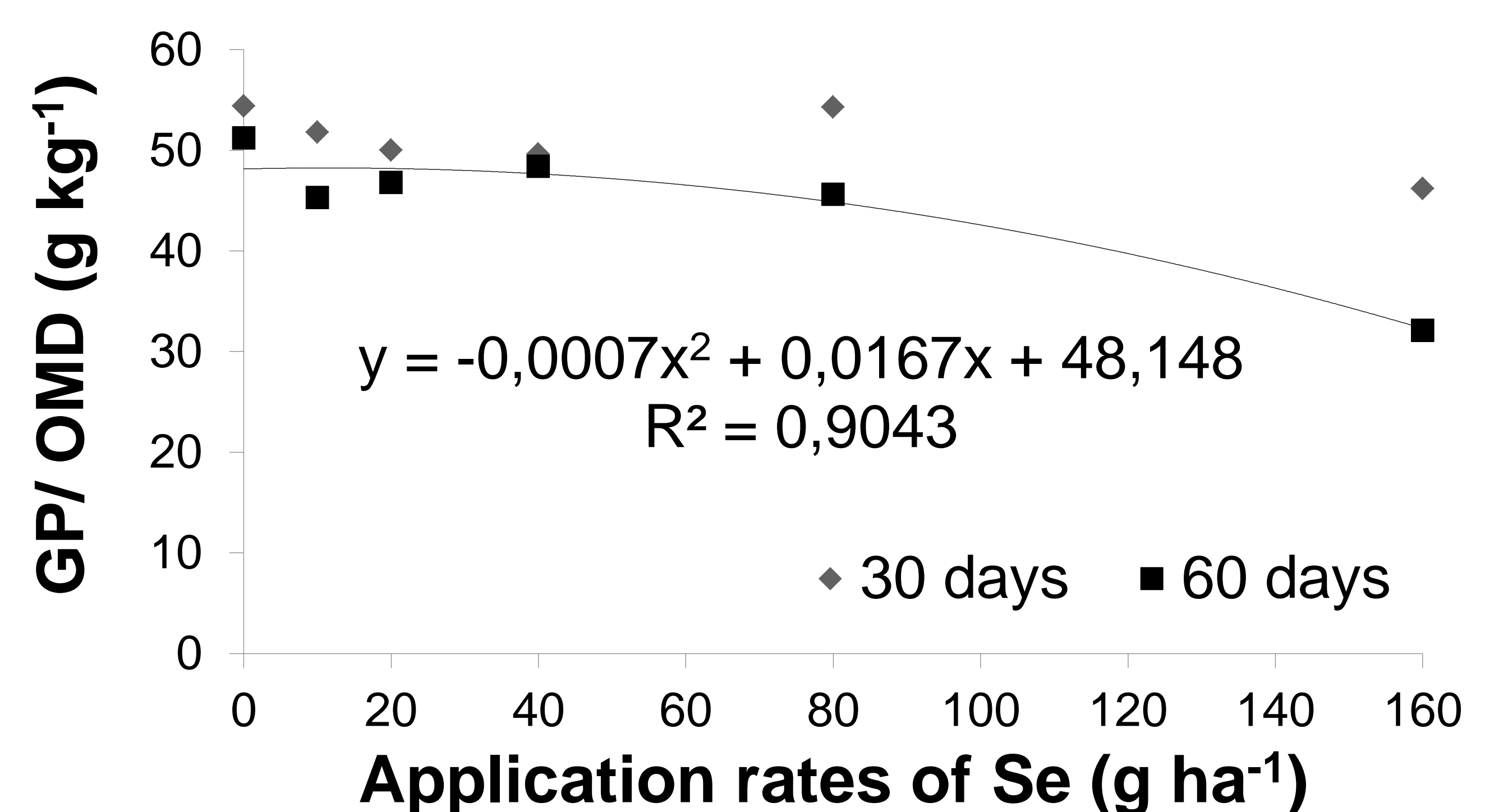


Figure 2. Gas Production/ OMD (GP/OMD)

In vitro methane production and NDF degradation had no influence of treatments. Ammonia-N in ruminal liquid was adjusted in a quadratic curve with decreasing values at highest Se levels.

Conclusion

Se levels up to 40 g ha⁻¹ were favorable for biomass production and quality of forage considering the quantitative and qualitative parameters for animal feeding.

Acknowledgments

