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INTRODUCTION

Competitive strawberry production, concerning fruit quality and prices, is fundamental. The nutritional status of the plants is reflected both in yield and quality of the fruit being of priority importance the knowledge of the amounts of N to be applied in the crop.

Objective of the present study – establish the most adequate rates of N, aiming the minimization of environmental impact of the excessive use of fertilizers.



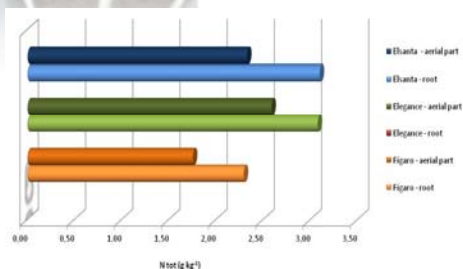
MATERIAL AND METHODS

Strawberry tray plants: cultivars 'Elsanta', 'Elegance' and 'Figaro'.
N treatments: N0 (no N), N1 (60 kg N ha⁻¹), N2 (120 kg N ha⁻¹), and N3 (180 kg N ha⁻¹).

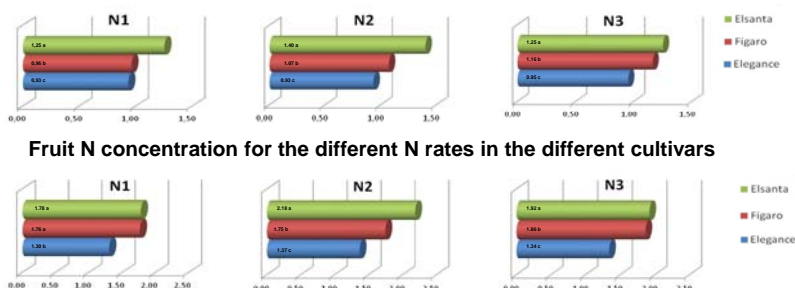
The experiment had a randomised plot design, with 6 replicates.
N fertilizer (calcium nitrate) was fractionated along the culture cycle.
Yield was evaluated and fruit samples were collected to be analysed.
Plant tissue N concentration was determined by the kjeldhal method.
Other elements concentration was determined by AAE.
Data were subjected to analysis of variance by the GLM and a LSD range test ($P < 0.05$) was applied to the significant results.



RESULTS AND DISCUSSION

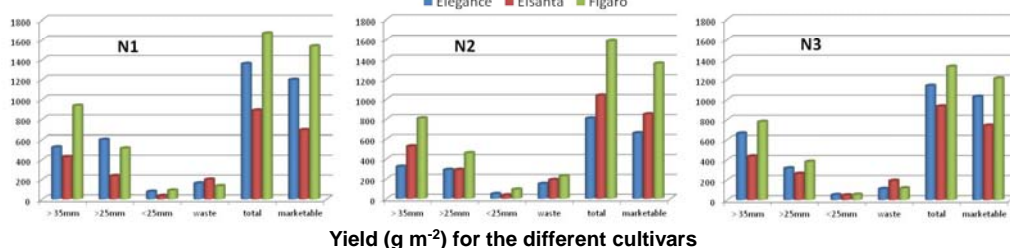


Tissue N concentration in the different cultivars, in the beginning of the experiment



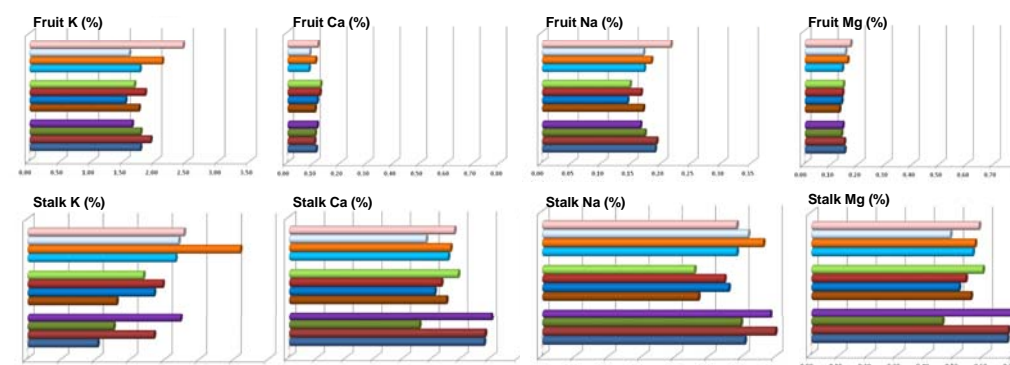
Fruit N concentration for the different N rates in the different cultivars

Mean fruit stalk N concentration (g kg⁻¹) for each strawberry cultivar in the different N rates



Yield (g m⁻²) for the different cultivars

N concentration, both in fruits and stalks, was higher in 'Elsanta' than 'Figaro', and 'Elegance'.
Higher yields were obtained in the N1 treatment for 'Elegance' and 'Figaro'.
For 'Elsanta' the higher yields were obtained in the N2 treatment.



Elements concentration on plant tissues as affected by the N rates for the different cultivars

CONCLUSIONS

For the different N rates there were no significant differences concerning the N concentration in the tissues analysed. Although, the elements concentration differed significantly among cultivars.

There was a negative correlation between yields and N rates, although not significant.
'Elsanta' was the cultivar with the lowest yield.

ACKNOWLEDGMENTS

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