

Monitoring of electrical conductivity and pH in soil solution at fertigated citrus trees

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INTRODUCTION

The citrus industry is a segment of great importance to Brazil, which is the world largest producer of orange. Fertigation is a technique that is increasingly expanding in the citriculture, but this technique is usually performed using predetermined doses without monitoring the nutritional status of plant and soil. The mismanagement of fertigation can cause imbalances in soil conditions and plant nutritional status over time. Traditional techniques for monitoring the condition of the soil do not allow the provision of data quickly, wasting this great potential of fertigation.

OBJECTIVE

This research aimed to evaluate the effect of five N and K rates on the electrical conductivity and pH at soil solution, thereby observing the sensitivity of these methods.

MATERIAL AND METHODS

- Reginópolis – SP / Brazil
- ‘Hamlin’ trees, grafted on citrumelo Swingle rootstock
- Treatments → five N and K rates, applied by fertigation:



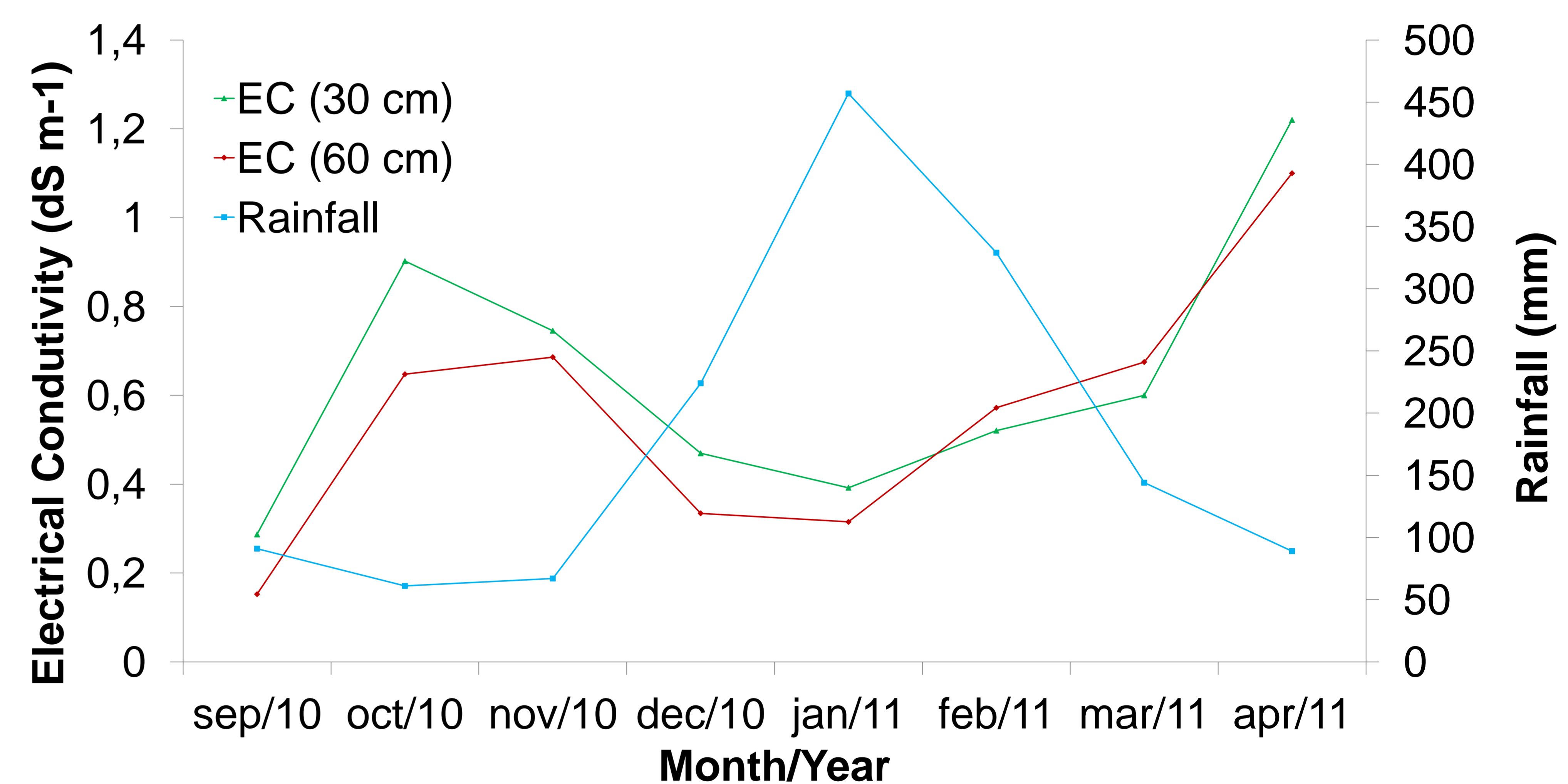
- T1 - control (no nutrient)
- T2 - 25%
- T3 - 50%
- T4 - 100%
- T5 - 200%



RESULTS

Treatment (%)	30 cm		60 cm	
	pH	EC mS cm ⁻¹	pH	EC mS cm ⁻¹
T1 (0%)	6,9	0,2	6,9	0,2
T2 (25%)	5,0	0,4	5,4	0,3
T3 (50%)	5,0	0,6	4,9	0,5
T4 (100%)	4,6	0,7	4,8	0,6
T5 (200%)	4,0	1,3	4,3	1,1
CV (%)	19,0**	12,0**	26,5**	27,3**
	Q**	L**	Q**	L**
R ²	0,83	0,97	0,86	0,97

*, ** significant at the 0.05 and 0.01 level, respectively.



CONCLUSION

- The pH and electrical conductivity values in soil solution are consistent with the application of fertilizer rates, showing that it is an effective technique.
- In the rainiest months there is higher risk of nutrients leaching.