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NONTOX-SILICA™ AND RESISTANCE AGAINST WATER STRESS

CROP: **Rough lemon seedlings planted in seedling trays with cavities of 100ml each.**

GROWTH MEDIUM: **Composted pine bark.**

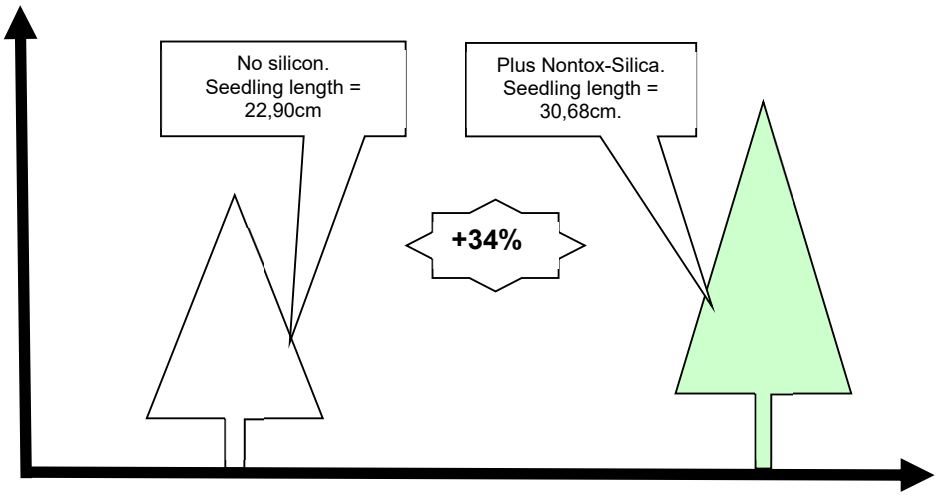
TREATMENTS

1. Seedlings is irrigated twice per day with 50ml of a complete nutrient solution per seedling/cavity. One irrigation is at 06:00 and again when the top young leaves of the seedlings show signs of water stress. After 4 weeks the first signs of water stress usually appear at 13:00. 20 seedlings, uniform in length and stem diameter were selected for this treatment (Control, -Si).
2. As for treatment 1 above, but the seedlings received 50ml of a solution containing 20ppm Nontox-Silica once per week. 20 Seedlings received this treatment (+Si).

OBSERVATIONS

Plants not receiving silicon, usually show signs of water stress before those plants which received Si. Gradually the plants receiving Nontox-Silica outgrow those without Si. No other differences apart from taller seedling were observed.

RESULTS



CONCLUSION

Stress induced by a mild water deficit can be alleviated by the application of 20mg Nontox-Silica per litre water, once per week. Silicon enforces xylem tissue to sustain transpiration and hence photosynthesis for longer periods during water stress, resulting in more vegetative growth (Hodson & Sangster, 2002).
These results confirm that silicon reduces the negative impact of water stress during transplanting, heat waves, cold spells and other unfavourable climatic conditions.

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