



EFFECTS OF SELECTED BIOREGULATORS IN MANGO IN NURSERY

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INTRODUCTION

- Fruit crop transplant growers aim at reducing the time in nursery after grafting rootstocks. Reduction of said time period is desirable because it opens the opportunity to use the nursery space for other operations, and/or it may reduce the need for production inputs and the use of labor in a transplant production season.
- Growing mango transplants may be accelerated with the use of bioregulators. There is scarce documentation on the effect of bioregulators in the production of mango transplants. The objective of this research was to determine the effect of two biostimulants (a seaweed extract and an amino acid mixture) on the in-nursery growth of grafted 'Kent' mango (*Mangifera indica*).

MATERIALS AND METHODS

- Nursery research was conducted in 2008 in Mayagüez, Puerto Rico. A commercial extract of the marine brown alga *Ascophyllum nodosum* (Stimplex™) and a commercial amino acid blend (Macro-Sorb Radicular™) were drench-applied (150 ml/plant/application) at the rates of 0 (control), 0.5, 1.0, 1.5, and 2 ml per 1 L of water. A RCBD with 10 replications was used.
- Transplants were managed following local practice, except for bioregulator treatment. Bioregulator applications started 2 weeks after grafting and were repeated every 14 days until the plants reached the adequate transplanting stage (ATS), when the scion shoot had increased 50 cm in length.
- Leaf number, leaf area, scion length, and scion diameter were determined every 14 days. Regression analysis (5% level) was conducted on the data.

RESULTS

- Control plants attained ATS later than plants treated with the bioregulators (Figure 1).
- Scion diameter and number of fully expanded leaves were greater in bioregulator-treated plants than in untreated plants (data not shown).
- Response to both bioregulators was comparable (up to 20% time reduction to ATS) and followed a linear trend of reduction of time to ATS as bioregulator rate increased (Figure 1).

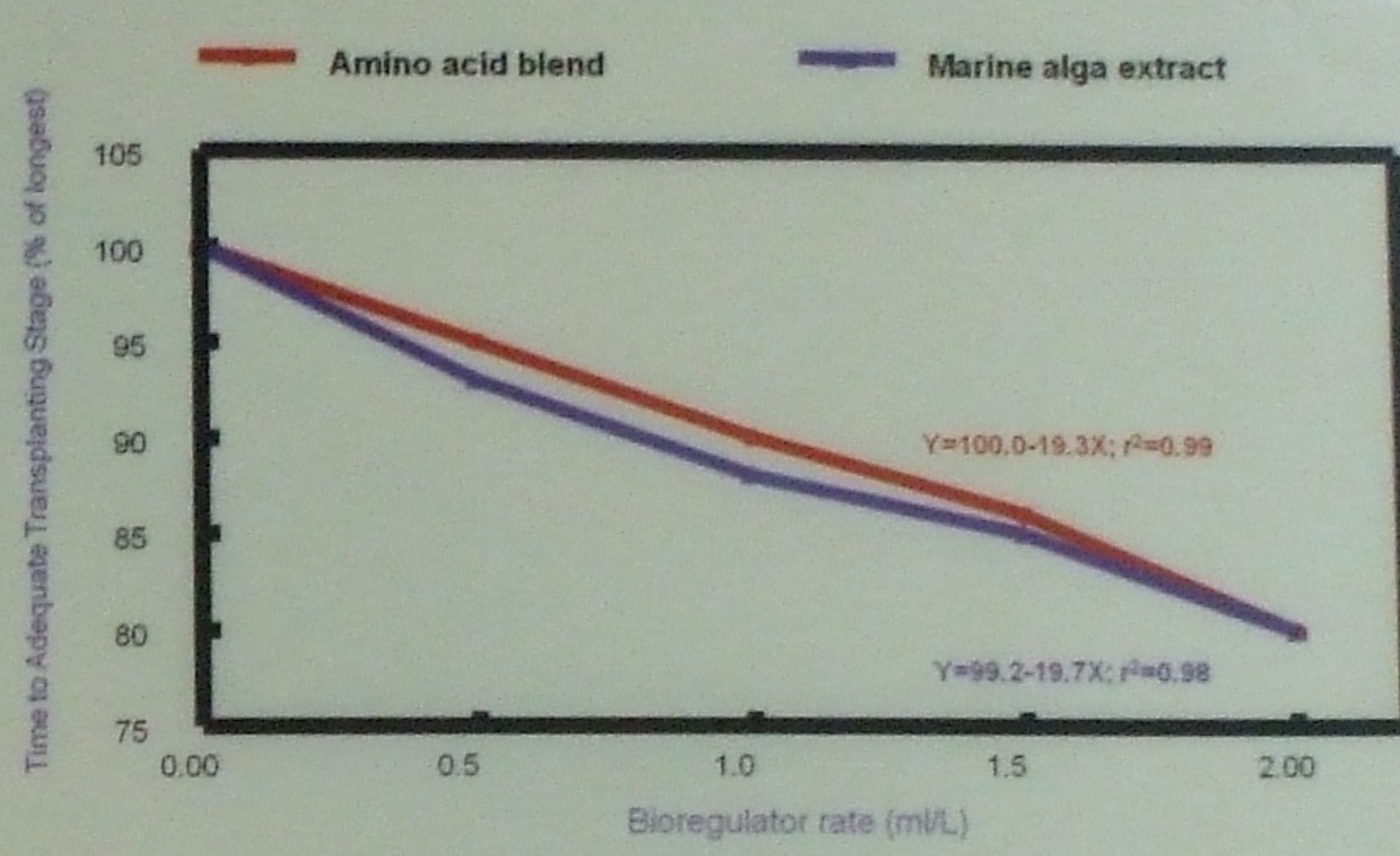


Figure 1. Effect of two bioregulators on the growth of 'Kent' mango in Mayagüez, PR, 2008.

Preliminary conclusions and future work

- Both bioregulators may be useful for acceleration of in-nursery growth of mango transplants.
- Similar studies should be conducted with other mango cultivars and other bioregulators.
- Economic analyses should be conducted to determine if the time reduction to achieve ATS and its associate benefits justify the cost of using bioregulators.



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