

Replacement of inefficient Arabica coffee plantations by macadamia nut orchards

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INTRODUCTION

The long pay back of monocrop macadamia has been the main bottleneck for the expansion of this crop. An efficient way to reduce the costs of implementation and maintenance of the orchard and get an early economic return is to use intercropping with the Arabica coffee (*Coffea arabica* L.) crop. Every year approximately 7,000 hectares of coffee plantations are eradicated in the State of São Paulo, Brazil, and it is possible that areas occupied by coffee plantations, with eradication prognosis, can offer opportunity to enabling installation of macadamia orchards.

OBJECTIVE

The aim of this work is to study ways of replacement of inefficient coffee plantations for macadamia orchards.

MATERIAL AND METHODS

Location: carried out in Galia, SP, Brazil (22º 17' 29" S, 49º 33' 10" W 561 m asl).

Design and treatments: A randomized block design with four replications and six treatments is been used: 1 - elimination of a coffee trees and planting of macadamia in its grave (D); 2 - planting macadamia between two coffee plants with pruning in the orthotropic stem at 40 cm height (R); 3 - planting macadamia between two coffee plants with pruning in the reproductive branches at 30 cm long (E); 4 - planting macadamia between two unpruned coffee plants (M); 5 - single macadamia planted in coffee eradicated area (S); and 6 - single coffee (C). The inefficient coffee crop was a spacing 4 x 1 m.



M



R



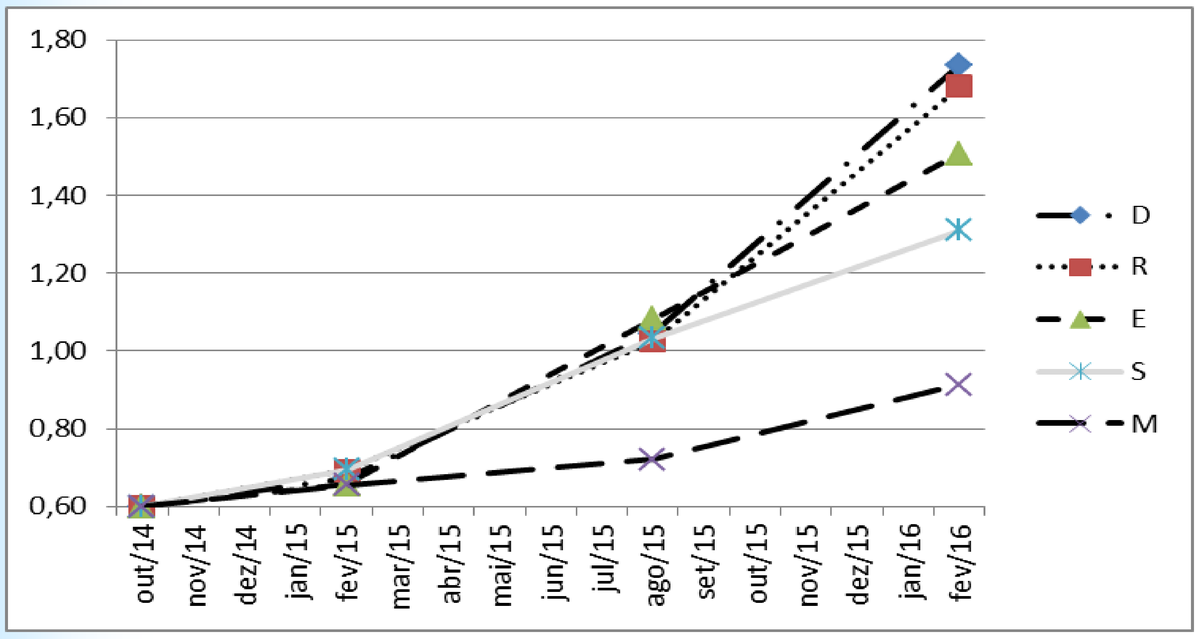
E



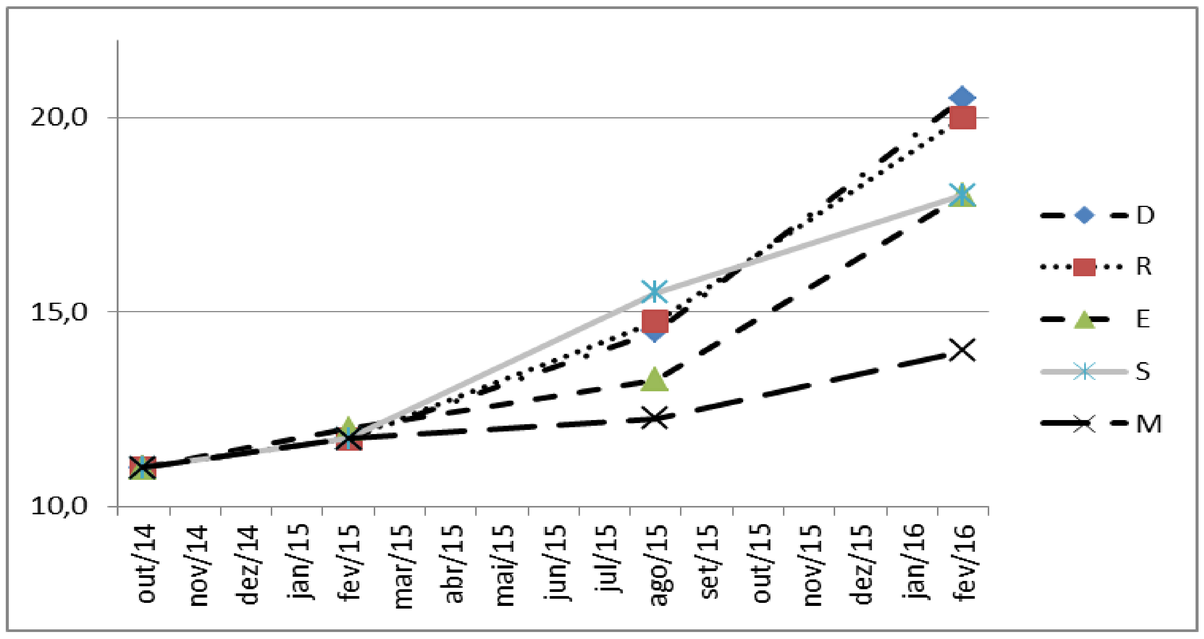
D

RESULTS

Plant height (m) of macadamia trees intercropped with the Arabica coffee



Stem diameter (mm) of macadamia trees intercropped with the Arabica coffee



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CONCLUSION

The partial shading collaborated in the early development of macadamia trees, but a dense shading, when the coffee trees have not suffered any pruning, was harmful to macadamia trees. Partial results indicate the need to eliminate coffee or unpruned for better growth of macadamia intercropped.