# Agroindustry residues of palm heart and sewage sludge as substrate for production *of Schinus terebinthifolius* Raddi seedlings

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## Introduction

Nowadays, concern for the environment is a factor of paramount importance and for all production sectors in the country. Both the environmental field technicians, as consumers have increasingly demanded the increased recovery and recycling of materials. In the Vale do Ribeira, Sewage Treatment Plants have problems associated with disposal of sludge. The final disposal of these wastes can represent up to 60% of the final cost of the treatment. In the process of producing seedlings of forest species, the use of sewage sludge has been a viable alternative source of organic matter and nutrients, and shows satisfactory results when used as a component for organic substrates [1]. Another problem associated with the disposal of waste in the Vale do Ribeira - São Paulo - Brazil is the waste of the palm agribusiness. This activity generates large amounts of waste, for which no one has yet economical solution for environmentally friendly disposal.
The objectives of this study were to evaluate the use of organic waste produced from the palm heart agro-industries and sewage sludge as substrate for production of seedlings of Schinus terebinthifolius Raddi (Schinus-pepper).

## Material and Methods

The experiment was conducted in Seedling House at UNESP – Campus experimental de Registro- SP - Brazil (BR Campus). Seeds of schinus pepper tree (Schinus terebinthifolius Raddi), sown in tubes of 120ml. In the experiment was used (DIC following the factorial of 3 x 4, 2 compounds based on sewage sludge and waste pupunha in different proportions, 4 levels (0, 2.0, 4.0 and 6.0 g/dm3) of granulated fertilizer (N-P2O5-K2O - 9/12/15) and a commercial substrate treatment (Rendmax) fertilized with 2.7 g / L of granular fertilizer (N-P2O5-K2O - 09/15/12), totaling 13 treatments. Each treatment was evaluated with 3 repetitions, represented by ten (10) units (seedlings). The aspects considered for analysis of morphological characteristics of seedlings (shoot height, stem diameter, number of true leaves and plant height compared with stem diameter, shoot dry matter, root dry matter and IQD) were evaluated at 90 days after germination. Data were subjected to statistical analysis and means were compared by Tukey test ($P < 0.05$).

## Results

There was no significant difference between treatments for the variable number of leaves. Plant height was affected by the treatments, being that stood out the compounds formed by the lowest proportions of sewage sludge. The seedlings exhibited superior to the control treatment doses represented by 2.0, 4.0 and 6.0 g/dm3 fertilizer granules. The compounds evaluated were unable to meet their own nutritional requirements of the seedlings during the study period.

## Conclusion and perspectives

The organic compounds produced with the palm agribusiness waste and sewage sludge showed potential for use as a substrate for the production of Schinus terebinthifolius Raddi, being higher than the commercial substrate for some parameters. These results represent new perspectives for the use of such waste and reduction pollution they cause.

## References

[1] TRIGUEIRO, R.M. e GUERRINI, I.A. 2004 Physical and chemical properties of substrates composed of biosolids and rice. **R. Bras. Ci. Solo**, 28:1069-1076, 2004.

## Keywords

Sewage sludge, substrate, palm heart agroindustry residue, Schinus terebinthifolius Raddi