Management of *Hypsipyla grandella* in *Swietenia macrophylla* King plantations in Pará and São Paulo States, Brazil

ABSTRACT

Mahogany, *Swietenia macrophylla* King is one of the most valuable tropical timber species in the world. In the Brazilian Amazon, particularly in the state of Para, it has been logged in a disorderly manner in natural forests, so that it was considered as endangered species and therefore included in CITES Appendix II. Thus, mahogany reforestation is an alternative to reduce logging pressure on natural forests. For that reason, several mahogany reforestation projects were implemented in Latin America, but they were unsuccessful due to the attack by mahogany shoot borer *Hypsipyla grandella*.

Therefore, this project aims at selecting *Hypsipyla grandella* management/control systems to stimulate mahogany reforestation in the states of Pará and São Paulo in Brazil. Several research activities were developed, whose main results were as follows: 1) two mahogany shoot borer management systems in the state of Para - mahogany plantation intercropped with *Toona ciliata* + Colacid application and plantantion system mahogany intercropped with *T. ciliata* + fertilization with calcium and boron + Colacid application, because they were the most efficient on *Hypsipyla grandella* control, with efficiencies of up to 94.02% and 100%, respectively; 2) a shoot borer management system in the state of São Paulo- mahogany plantation intercropped with *T. ciliata* + Colacid application presenting 99.4% control of the borer; 3) Selecting a Colacid spray formulation that was used in the experiments in Aurora do Pará and São José do Rio Preto, because of the practicality of its application, and due to an efficiency presented similar to Colacid solution in drops application; 4) Building of lifting platforms and a pantograph type platform has facilitated silvicultural practices (pruning and application of treatments) of mahogany with 3m to 9m of height.

With the results achieved in this research, mahogany plantation owners will have more trust and confidence in the success of its mahogany reforestation projects, and this will be an incentive for future reforestation projects in this sector.