

## Design, Development and Application of a Green Manure Fertilizer Based on *Mucuna Pruriens* (L.) in Pelletized Presentation

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**Abstract :** Green manure fertilizers have special importance in the development of organic and sustainable agriculture as a substitute or complement to chemical fertilization. They have many advantages, but they have application limitations in greenhouse crops and in open field crops that have low growing size. On the other hand, the logistics of sowing, harvesting and applying have been difficult for producers to adopt. For this reason, a pelletized presentation was designed in conjunction with *Trichoderma harzianum*. The biopellet was applied in pineapple as the first experience, managing to improve carbon levels in the soil and some nutrients. Then it was applied to tomatoes where it was proven that, nutritionally, it is possible to nourish the crop up to day 60 only with the biopellet, improve carbon levels in soil and control the fungus *Fusarium oxysporum*. Subsequently, it was applied to coffee seedlings with an organo-mineral formulation. Here, the improvement in the growth and nutrition of the plants was notable, as well as the increase in the microbial activity of the soil. *M. pruriens* biopellets allow crops to be nourished, allow biocontrollers to be added, improve soil conditions to promote greater microbial activity, reincorporate carbon and CO<sub>2</sub> into the soil, are easily applicable, allow dosing and have a favorable shelf-life. They can be applied to all types of crops, both in the greenhouse and in the field.

**Keywords :** *Mucuna pruriens*, pellets, carbon, *Trichoderma*, *Fusarium*

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