

Production of *Bacillus thuringiensis* based biopesticide using a commercial lab medium and raw material rich in carbon and nitrogen

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Introduction: Fall armyworm, *Spodoptera frugiperda*, is an important maize insect pest in Brazil. Its damage can reduce production up to 34%. Control of this insect is exclusively with chemicals. *Bacillus thuringiensis* (Bt) has potential as a cheap agent to be introduced in insect pest management.

Methods: *Bt* sv *tolworthi* was used in the seed culture, cultivated in LB medium enriched with salts (FeSO₄, ZnSO₄, MnSO₄, MgSO₄ and glucose), pH adjusted pH 7.5 and inoculated in 5 different media. Medium 1- 1.0% glucose and 3.0% yeast extract, enriched with salts, medium 2- 1.0% glucose plus salts, medium 3- 1.0% sugar cane molasses and 3.0% of yeast extract plus salts, medium 4- 1.0% sugar cane molasses and medium 5- Luria Bertani (LB) plus salts. The pH was measured at regular intervals, total spore counting per mL of medium and viable spores were expressed as c.f.u/mL, cell mass produced in g/L-lyophilized.

Results: Results showed that the final pH varied from 4.08 (medium 2) to 7.42 pH (medium 5). The number of spores reached 5.19×10^8 spores/mL in medium 1, where the amount of protein is high as well as in medium 3. The same pattern was observed with the cell mass production where media 3 produced more than 13.0g/L, and medium 1 produced 8.5g/L. Mortality was high when tested in 2 day old *S. frugiperda* larvae.

Conclusions:

ORAL SUBMISSION