

**TITLE: MICRO-ORGANISMS WITH POTENTIAL FOR THE DEVELOPMENT OF PLANTS
PRESENT IN BIOFERTILIZERS**

AUTHORS: SILVA, J. F. DA¹; REGITANO, L. C. DE A.²; MALAGÓ JÚNIOR, W.²; GOUVEIA, G. V.³; GOUVEIA, J. J. DE S.³; YANO-MELO, A. M.³; COSTA, M. M. DA³.

INSTITUTION: ¹UNIVERSIDADE FEDERAL RURAL DE PERNAMBUCO, RECIFE, PE (RUA MANOEL DE MEDEIROS, S/N, CEP 52171-900, RECIFE - PE, BRAZIL); ²EMBRAPA PECUÁRIA SUDESTE, SÃO CARLOS, SP (RODOVIA WASHINGTON LUIZ, KM 234, FONE: +55 CEP 13560-970, SÃO CARLOS – SP, BRAZIL); ³UNIVERSIDADE FEDERAL DO VALE DO SÃO FRANCISCO, PETROLINA, PE (RODOVIA BR 407 LOTE 543/PROJETO DE IRRIGAÇÃO NILO COELHO, S/N, CEP 56300-000, PETROLINA – PE – BRAZIL)

ABSTRACT:

The biofertilizers produced from the anaerobic biodigestion of waste generated in animal production, may contain important microorganisms to improve soil quality and host plant development, with potential to replace the chemical fertilizers, which besides being expensive, overuse creates the problem of environmental pollution. Therefore, the purpose of this study was to evaluate the diversity of microorganisms present in biofertilizers with potential to benefit the growth and development of plants. For this, two biofertilizers were produced by anaerobic biodigestion with caprine waste (BC) and ovine waste (BO). Samples of the biofertilizer were submitted to the total DNA extraction and used in PCR (Polymerase Chain Reaction) containing universal primers for prokaryotes. The PCR products were purified using magnetic beads and they were submitted to a second PCR for the bond of Index adapters, and then they were purified one more time. The samples were united in a single pool, which was submitted to agarose gel electrophoresis followed by purification. The purified sample was quantified by real time PCR. Then, 10 pM of DNA was sequenced in MiSeq equipment (Illumina®). The sequences were analyzed using the Mothur software. A total of 6110 sequences of microorganisms were obtained with potential to benefit the growth and development of plants, being richer and more diverse the BO, which contained 72% of the total sequences. Studies prove that microorganisms with such potential, may belong the orders Pseudomonadales (Pseudomonadaceae family), Clostridiales (Clostridiaceae family), Rhizobiales (Rhizobiaceae and Bradyrhizobiaceae family), Bacillales (Bacillaceae and Paenibacillaceae family) and Rhodospirillales (Acetobacteraceae family), the which were present in the two biofertilizers analyzed. Thereby, it can be concluded, that the biofertilizers produced from waste generated in the production of goats and sheep has the potential to be used as substitutes the chemical fertilizers in plant production, becoming a sustainable model From the point of view Economic and environmental.

Keywords: waste, goats, sheep, bacteria, plant inoculum

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