



PROCEEDINGS

Second International Conference on Sustainable Animal Agriculture for Developing Countries (SAADC 2009)



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8 - 11 November 2009
Corus Hotel, Kuala Lumpur

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Proceedings

Second International Conference on Sustainable Animal Agriculture for Developing Countries (SAADC 2009)

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Corus Hotel, Kuala Lumpur, Malaysia.

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Ho Yin Wan
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Due to time constraint, it was not possible for the Editors to edit thoroughly all the Abstracts, particularly those which were submitted late. In view of this, the Editors are not responsible for any errors or omissions in the published Abstracts.

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The Inoculation of *Arbuscular mycorrhizal* Fungi and Phosphate Solubilizing Bacteria on Vegetative Propagation of *Stylosanthes guianensis* by Shoot Cuttings

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Introduction

Stylosanthes guianensis has potential as a forage but the development of *Stylo* is still a problem for farmer because it is very difficult to get seeds. Therefore, vegetative propagation technique by shoot cuttings will be useful. *Stylo* in vegetative planting will be combined with the addition of *Arbuscular Mycorrhizal* Fungi (AMF) and phosphate solubilizing bacteria (PSB). PSB can release bound-phosphate making it available (Karti, 2006). AMF can improve nutrient absorption, increase resistance to drought, resistance to pathogens attacking the roots, and produce regulating hormones and growth substances (Karti, 2005) to improve the growth of *Stylo*.

Materials and Methods

This experiment used a completely randomized design, with the factorial model 2 x 4 and 4 replications respectively. The first factor was sterilized soil (B1) and unsterilized soil (Bo). The second factor was microorganism potential soil such as control (Mo), Phosphate Solubilizing Bacteria (M1), *Arbuscular Mycorrhizal* Fungi (M2) and combination of PSB and AMF (M3). The observed parameters were percentage of plant mortality, vertical height of plant, trifoliolate leaf numbers, shoot dry matter, root dry matter, and percentage of root colonization (Brundrett, 1994). Data were analyzed using analysis of variance (ANOVA) and differences between treatments were determined with Duncan test.

Results and Discussion

The results showed that microorganism potential soil had significant effect ($p < 0,05$) on percentage of plant mortality, and highly significant effect ($p < 0,01$) on height of plant, trifoliolate leaf number, shoot dry matter, root dry matter, and percentage of root infection. Sterilized soil also had significant effect ($p < 0.01$) in all parameters except percentage of root colonization. The growth of plant on unsterilized soil was better than that on sterilized soil.

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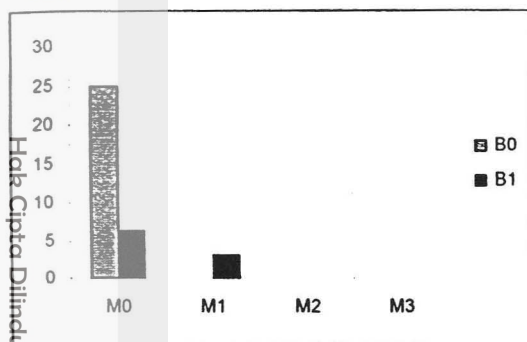


Figure 1. Plant Mortality (%)

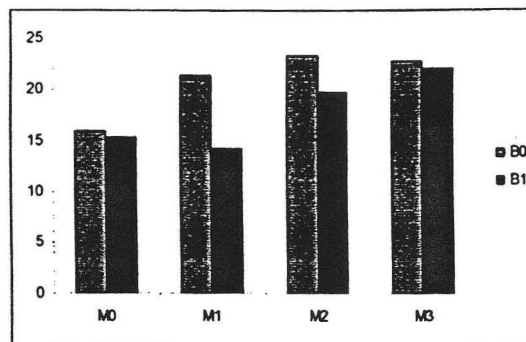


Figure 2. Vertical Height of plant (cm)

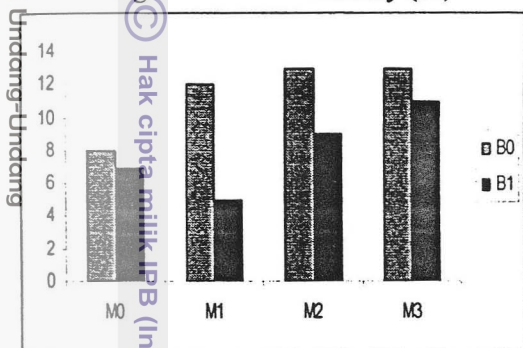


Figure 3. Trifoliolate Leaf Number

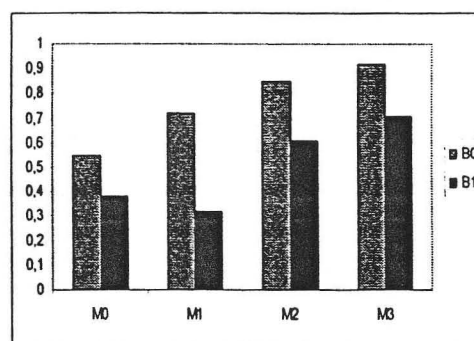


Figure 4. Shoot Dry Matter

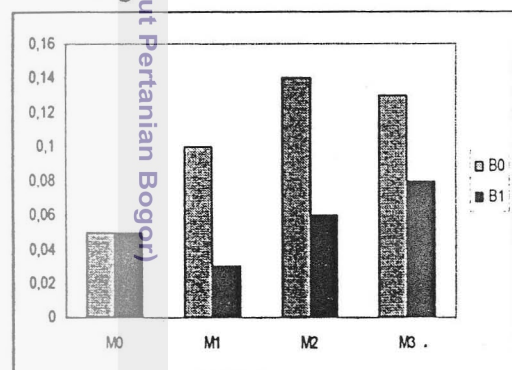


Figure 5. Root Dry Matter

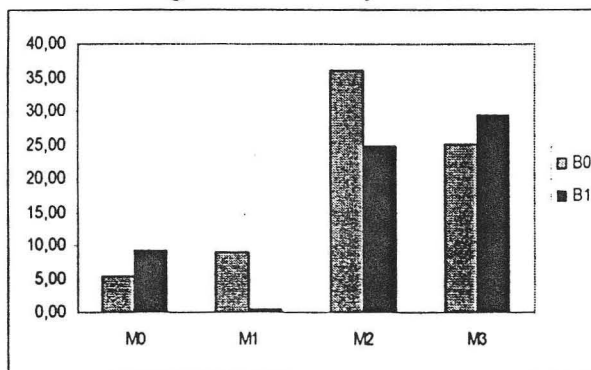


Figure 6. Root Colonization (%)

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