

Application of Galactomanan from *Adenanthera pavonina* L. Seeds as Partial Substitute for Agar in Culture Medium

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INTRODUCTION: Agar is a polysaccharide extracted from algae with a large usage in culture medium. Systems formulated from polysaccharides can originate gel which has a huge biotechnological importance in the agar usage reduction. **OBJECTIVE:** This study aimed to evaluate the technical and economic viability of the galactomanan (Gm) usage from *Adenanthera pavonina* L. seeds as a partial substitute for agar in culture medium for plant tissue using *Glycine wightii* as a model. **MATERIAL AND METHODS:** The endosperm was isolated, lyophilized and crushed, then it was performed the Gm's extraction. In order to analyze the Gm's solidifying potential, it was used different kinds of treatments (Control: agar 1%; T1: Gm 1%; T2: agar 0,9% + Gm 0,1%; T3: agar 0,7% + Gm 0,3%; T4: agar 0,5% + Gm 0,5%; T5: agar 0,3% + Gm 0,7%). The medium from those treatments were analyzed using qualitative, rheological and diffusion parameters. **RESULTS AND DISCUSSION:** Mediums T2, T3 and T4 showed a good solidification, homogeneity and transparency similar to control group. Rheological analysis showed the best interaction in gel resistance happened in T2, T3 and T4 treatment. T4 showed the highest diffusion capacity when compared to T3 and control group. Either cotyledon calluses and hypocotyl calluses from *G. wightii* in T3 showed a growth pattern similar to the control group. The percentage of seeds germination, the growth speed and the size of the seedlings from *G. wightii* in mediums T3 and T4 were higher than the control group, showing that the presence of Gm in the medium can affect in a positive way the germination process. **CONCLUSION:** These data evidence that Gm from *A. pavonina* seeds can be a promising component in the partial agar substitution for tissue culture medium, providing savings up to 50%.

Keywords: *Adenanthera pavonina*; Agar substitution; Galactomanan;

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