

**B253**

## **Use of in vitro techniques for early screening of sugar cane lines against smut (*Ustilago scitaminae*) disease**

Potato (*Solanum tuberosum*) is one of the most nutritious root crop in the world. Approximately one third of the world production is coming from developing countries, which accounts for about 40% of the area harvested. Local potato production is seriously handicapped by lack of improved varieties, short supply of good quality seed potato and its increasing prices. High cost of production invariably increases the retail price, which may divert the local consumers towards imported potatoes. Thus, the current study is conducted to investigate the possibility of applying *in-vitro* techniques for the formation of micro tubers via shoot proliferation. Potato shoots could be propagated using shoot tip and nodal explants in MS basal medium supplemented with auxins and cytokinins. GA<sub>3</sub> (0.17mg/L) treatment has enhanced sprouting. The vigor of growth and rate of shoot production was higher in the combination of 2.15 mg/L kinetin and 0.17mg/L IAA with 8-10% sucrose. The rate of shoot proliferation was more than 4 times/month. After the sub-culturing of shoots, spontaneous root formation could be observed in all treatments. The formation of micro tubers could be observed after 7 weeks in 6-8% sucrose media supplemented with 9.01mg/L BA.