

## **Assessment of different inoculation methods for early screening of irradiated Kolikuttu banana for Fusarium Wilt**

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Fusarium wilt caused by *Fusarium oxysporum* f.sp. *cubense* (Foc) is a major threat for commercial cultivation of kolikuttu (AAB; silk) banana. Banana plants can be screened to identify resistant/less susceptible plants for this disease using different screening methods. These include *in-vitro* methods, early screening using double pot technique, field screening in ‘hot spots’ and sick plot screening. The present experiment was conducted to increase the efficiency of early screening for Fusarium wilt in double pot technique under protected house conditions. Four to six weeks old tissue cultured plants derived from gamma ray treated shoot tips of kolikuttu variety Agra were subjected to screen using 3 different inoculation methods. The inoculum was freshly prepared and confirmed by PCR using race 1 specific set of primers (Macrogen). In the first treatment, the roots of plantlets were wounded and dipped in spore suspension prepared approximately with  $1.0 \times 10^6$  spores/ml for 2 hours and established in the pots filled with washed river sand. In the second treatment, the potting medium was inoculated with precolonized maize kernels at a concentration of spores approximately  $1.0 \times 10^6$  spores/kg of sand. Two to three weeks after planting in pots, the plants were needle injected with 2ml of same concentrated spore suspension and added 3 ml to the potting medium in the third treatment. Number of infected plants was counted at weekly interval and results showed that the development of visual symptoms was comparatively rapid in the combined method and within 14 weeks 90% of the plants exhibited the symptoms. The symptomless plants were further screened under sick plot conditions.

**Keywords:** *Double pot technique, Fusarium wilt, inoculation, silk banana*

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