

## Establishment of Regeneration System through Callus Formation for *In Vitro* Selection of Pineapple (*Ananas comosus* L. Merr)



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Pineapple industry has always been important in Malaysia with the export value exceeding RM 80 million a year. Shortage of high quality planting materials has limit the growth and expansion of the pineapple industry. This research was conducted to establish *in vitro* selection procedures with the objectives of producing new superior pineapple varieties and providing sufficient amount of high quality planting materials for the farmers.



Fig 1: The establishment of *in vitro* plantlets or globular like structures

In order to accomplish the above objectives, the research was conducted in four stages which include 1) the establishment of *in vitro* plantlets or globular like structures (Fig. 1). 2) callus production from plantlets or globular like structures 3) shoot regeneration

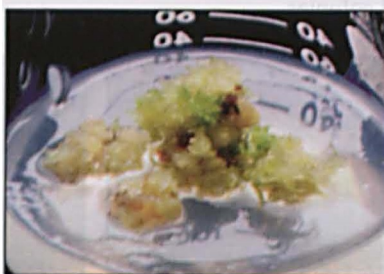


Fig 2: Shoot regeneration from callus

from callus (Fig.2), and finally 4) selection for superior genotypes through *in vitro* mutation. Establishment of plantlets and globular like structures have been achieved successfully by growing pineapple explants in the presence of cytokinins. Highest percentage of callus production was observed from *in vitro* explants cultured on media containing  $4 \text{ mgL}^{-1}$  of NAA (38.46%). Currently experiments were conducted to develop shoot regeneration system from callus (stage 3) and once the regeneration system has been accomplished future research will concentrate on the development and selection of superior genotypes.

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