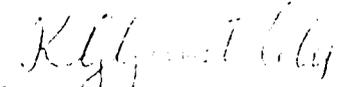


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PROGRESS REPORT

Half yearly report.

- (a) Report for the First Half of 1987
- (b) Grantees : Dr. K.G.Gunetilleke and Dr. P.M.Jayatissa, CISIR.
- (c) Grant No. BE/AID/09
- (d) Title of Project : Mass Propagation of Selected Papaya Plants by using Tissue Culture Technology
- (e) Date of Award of Grant : October 1985
- (f) Laboratory Studies
 - 1. Growing papaya shoots were incubated in different media containing various levels of auxins and cytokinins to vary the rate of proliferation or to induce rooting.

Results : Best proliferation was obtained in Murashige and Skoog medium containing 0.15 μ M indole butyric acid, and 1.5 μ M benzaldehyde. Growing shoots developed roots in M.S medium containing 15 μ M indole butyric acid.
- (g) In the work on schedule : No. This is mainly due to the delay in obtaining equipment, glassware, and chemicals.
- (h) Plan of work for the next half year (1) To establish rooted plants in soil. (2) To induce somatic embryogenesis.
- (i) Any other Remarks : Professor Richard Litz visited us and discussed our results and the plan of work. His suggestions became very useful.
- (j) Signature of Grantees

Dr. K.G. Gunetilleke Dr. P.M. Jayatissa
- (k) Comments if any of head/Department.

Signature of Director, CISIR.

2nd October 1987

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PROGRESS REPORTHALF YEARLY REPORT

- A. Report for the first half of 1987
- B. Grantees : Dr. K.G.Gunetilleke and Dr. P.M.Jayatissa
Ceylon Institute of Scientific and
Industrial Research
- C. Grant No : RG/AID/09
- D. Title of Project : Mass Propagation of Selected
Papaya Plants by Tissue
Culture
- E. Date of the Award : September 1985
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F. Results and Discussion

F.1 Proliferation rate of Papaya Shoots.

From the previous experiments it was found that the auxin indole-3- butyric acid (IBA) and cytokinin benzyladenine (BA) were more effective in shoot formation of papaya when compared with auxin Naphthalene acetic acid (NAA) and cytokinin Kinetin.

Growing Papaya shoots were incubated in different media containing various levels of IBA and BA to obtain a rapid proliferation rate.

		IBA Concentration (mg/l)		
		0.03	0.3	3.0
BA Concentration (mg/l)	0.03	M ₁	M ₄	M ₇
	0.3	M ₂	M ₅	M ₈
	3.0	M ₃	M ₆	M ₉

M₂ Medium containing 0.03 mg/l (0.15 μ m) IBA and 0.3 mg/l ((1.5 μ m) BA gave a 12 fold increase in shoots after 4 weeks of culturing and therefore, for further mass propagation this medium was selected.

F.2 - Root induction of proliferated shoots

Media with high auxin concentrations and low cytokinin concentrations were tried out.

Two media were found to be good in root initiation after 3-4 weeks of culturing.

1). Murashige & Skoog Minimal

Organics including carbon source	34 g/l
Casein hydrolyzate	500 mg/l
Coconut water	10%
BA	0.03 mg/l
IBA	10.0 mg/l
Agar	0.9%

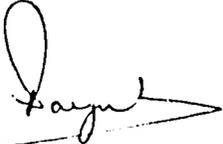
2). Murashige & skoog Minimal

Organics including carbon source	34 g/l
Casein hydrolyzate	500 mg/l
Coconut water	10%
IBA	3.0 mg/l
Agar	0.9%

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- (g) Is the work on shedule:No.. This is mainly due to the delay in obtaining equipment, glassware, and chemicals.
- (h) Plan of work for the next half year (1) To establish rooted plants in soil. (2) To induce somatic embryogenesis
- (i) Any other Remarks : Professor Richard litz visited us and discussed our results and the plan of work. His suggestions became very usefui.
- (j) Signature of Grantees


Dr. K.G.Gunetileke


Dr. P.M.Jayatissa.

- (k) Comments if any of Head/Department

Signature of Director, CISIR

26th January 1988

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