

PD-AAW-697
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AGENCY FOR INTERNATIONAL DEVELOPMENT
WASHINGTON, D.C. 20523

DATE: _____

8/18/87

MEMORANDUM

TO: AID/PPC/CDIE/DI, room 209 SA-18
FROM: AID/SCI, Victoria Ose *VO*
SUBJECT: Transmittal of AID/SCI Progress Report(s)

Attached for permanent retention/proper disposition is the following:

AID/SCI Progress Report No. _____

4. 345

Attachment

2 copy

4 345

Half Yearly Report

- a. Report for the first half 1987.
- b. Grantee : S.M.Karunaratne
- c. Grant No. RG/AID/04
- d. Title of project ; In vitro culture of coconut leaf tissues.
- e. Date of award of the grant by the NARESA : 16th Oct 1984.
- f. Description of the work done during the half year :

Laboratory studies:

Experiment : Effect of different auxin / cytokinin ratios on growth of cultured leaf tissues (details given in the previous report). The ratios tested had no significant effect on organogenesis.

Experiment : To study the effect of different cytokinins on growth/ differentiation of leaf explants (details in the previous report). No significant developments were observed in the treatments.

Experiment : Effect of incorporating auxins in pairs into the culture medium instead of the normal 6-combination (details given in the previous report). 2,4-D was observed to be absolutely essential for organogenesis in cultured leaf explants.

Experiment : Studies on incorporating chemically undefined substances into the culture medium (experimental details in the previous report). Organogenesis sporadic and delayed.

Experiment : Heat pretreatment of experimental materials prior to culture (details in the previous report). Heat treatment did not enhance the process of organogenesis.

Experiment : Cold treatment of experimental material prior to culture. Leaf material did not show significant developments.

Experiment : Preconditioning of leaf materials prior to culture (details given in the previous report). The material did not undergo differentiation at all.

Experiment : Effect of 2,4-D in the total absence of other auxins. Concentrations upto 30 μm have been tested. Nodular callusing and/or rhizogenesis occurred in about 50% of cultures at concentrations 16-24 μm .

Most of the experiments reported previously have been repeated using the above medium containing 2,4-D as the only source of auxins. These experiments are in progress and too premature to report results.

In addition, few more experiments with individual growth factors eliminated from this have also been set up.

Investigations on germination of nodular embryoid like structures: The callus tissue and the nodular structures were cultured in a number of media containing different concentrations of organic/inorganic nitrogen, low auxin and auxinless media, half MS and 1/4th MS and low inositol and sucrose. These experiments are in progress.

g. Work programme is on schedule.

h. Plan for the next half year :

1. Elimination type experiments using nodular callus to initiate shoot development.

2. Equal increment dose response experiments with constituents of the nodular callus regenerating medium, either singly or in combination.

3. Extraction of internal factors from tender coconut tissues and endosperm to incorporate into the culture medium.

i. Any other remarks : nil

j. Signature of grantee :

Skarunorathne 2/7/87.

k. Signature of Head of the Institute.

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