STATUS REPORT OF COCONUT DEVELOPMENT BOARD SCHEME

1. **Project title** : Survey and identification of root (wilt) disease free palms and evolution of tolerant genotypes in coconut through selection and hybridization

2. **Sanction No. and date**: F. No. 1272/2003-Dev. (2 KAU-ORARS) dated 5-01-2004 & Uty. Order No. R7/66319/2002 dated 30-01-2004

3. **Report**
   (a) Period : 15-12-03 till date

   (b) Location : Kerala Agricultural University
   Onattukara Regional Agricultural Research Station, Kayamkulam, Kerala

4. **Date of start** : 01-05-2004

5. **Date of termination** : 30-04-2009

6. a) **Name of the Institution** Kerala Agricultural University
   Onattukara Regional Agricultural
   Research Station, Kayamkulam, Kerala

   b) **Division/Department**: Plant Breeding

   c) **Location of work** : Onattukara Regional Agricultural Research Station, Kayamkulam, Kerala

7. **Technical Programme**

   a) Objective

   Large scale production of elite seedlings and hybrid seed
   (from 10,000 seed nuts and 2,500 hybrid nuts annually)
   comparative tolerance to root (wilt)

   b) Technical

   1) Survey and identification of elite palms from hot spot areas (80% infection) with high yield (80 nuts/year), and apparent tolerance to root wilt in Kollam, Alappuzha and Pathanamthitta districts.

   2) Screening of selected palms by ELISA test

3) Nut collection from the identified elite palms and raising progeny rows

4) Screening of selected seedlings using ELISA test

5) Production of hybrids through controlled pollination of selected tall elite palms.

6) Distribution of superior seedlings produced from 10,000 seed nuts and hybrids produced from 2,500 hybrid nuts to the farmers of these districts

7) Follow up studies of selected seedling/hybrids for root wilt disease in farmers' fields. Percentage of establishment, disease incidence etc. will be investigated.

8. **A) Staff position:**

a) **Principal Investigator**

Dr. Sverup John, Project Director

b) **Co-Principal Investigator**

Dr. D. Alexander, Director of Research

c) **Associates**

Dr. T.N. Vilasini Associate Professor (Plant Pathology) ORARS, Kayamkulam	Dr. M.R. Bindu Assistant Professor (Plant Breeding) ORARS, Kayamkulam	Dr. K. Umamaheswaran Associate Professor (Plant Pathology) CoA, Vellayani

B) **Technical personnel employed:**

Name and Designation	Date of joining	Date of leaving
Plant Breeding		
1) Mrs. Seema P. Pillai	28-04-2004	16-10-2004
2) Mrs. Juliemole Thankachan	09-11-2004	Continuing
Plant Pathology		
Ms. Dhanya P. John	04-05-2004	31-12-2006

9. **Total outlay** : Rs.34.87 lakhs
(Revised outlay Rs. 36.07 lakhs)

10. Expenditure Statement

Details	1st year (Upto 31-12-2004)	2nd year (Upto 31-12-2005)
Salary	1,15,768	1,92,000
T.A.	12,606	9,880
Labour cost	-	8,080
Research materials	43,472	1,58,126
Maintenance of vehicle	9,067	12,015
Purchase of equipments	81,721	6,86,224
Total	**2,62,634**	**10,66,325**

Total expenditure from 1-1-2006 to 31-12-2006

Salaries	:	2,24,690
TA	:	6,066
Cost of labour	:	31,150
Research materials	:	1,99,950
Maintenance of vehicle	:	10,438
Total	**:**	**4,72,294**
Grand Total	**:**	**Rs.18,01,253/-**

11. Progress of Research (Current year):

A) Procurement of seed nuts from elite mother palms:

The collection of seed nuts from elite mother palms were initiated from last week of December 2005. Seed nuts were collected from the farmers @ Rs.10/nut, the climbing charge was also Rs.10/palm and handling charges @ Rs.0.50/nut. The collection was carried out in Vallikunnam, Bharanikavu, Kayamkulam, Devikulangara and Chattannoor Panchayats. The details of nuts collected are given below:

Sl.No.	Name of Panchayat	No. of seed nuts collected
1	Bharanikkavu	2687
2	Vallikunnam	4089
3	Kayamkulam	1250
4	Devikulangara	1095
5	Chattannoor	1020
	Total	**10,141**

"The nation which first subjects itself to a rational eugenical discipline is bound to inherit the earth"
Francis Galton

NEOGENICS (EUGENICS?) IN A NUT- SHELL

WHAT IS NEOGENICS?

It is human genetics applied to alleviate human sufferings and to improve the human gene pool. With this we copy nature's own reproductive plan (differential fertility).

WHAT CAN WE ACHIEVE?

(i) Neogenics bridges the genetic gap in certain superior traits existing between the elite and the average. It compensates the selective migration of superior genetic stock from the poor to the rich, from the rural to urban areas and from the underdeveloped to developed nations.

(ii) Biological socialism leads to economic socialism. All attempts made so far to achieve economic socialism by imposing Marxism/communism have not achieved the desired goal. Capitalist countries witnessed considerable economic progress but failed miserably in equitable distribution of wealth. *Biological socialism is the only hope to bridge the gap between the rich and the poor in a democratic way.*

(iii) Neogenics helps increase the number of good minds and to reduce crime, corruption, cruelty etc. Attempts to transform society through moral preaching have not yielded any lasting results. Genetic transformation of the society will assure lasting peace and harmony. *Repeated studies of twins have proved again and again the genetic basis of intelligence and behavior.*

(iv) Racial mingling through neogenics will put an end to violence created on racial grounds.

(v) By reducing the incidence of genetically transferable diseases (most diseases have a genetic base), great improvement in health can be achieved and thereby considerable reduction in medical expenditure.

(vi) Increasing the intelligence of the common man according to the needs of a civilized and technologically advanced society. *The benefits of ascending IQ in a population are beyond our imagination.*

(vii) Neogenics is the only method now available to correct genetic disorders in order to protect the right of the unborn. *A child has a legal right to begin life with a sound mind and a sound body.*

All these will reduce human suffering and place the human race on an evolutionary track as nature has been doing for the last several millions of years. It may be noted that we are the only species capable of directing our evolution in a manner that suits our wisdom leading to the betterment of our less fortunate fellow citizens and the species as a whole.

HOW TO ACHIEVE (ON A VOLUNTARY BASIS GIVING FULL RESPECT TO FREE WILL)?

(i) Encourage the production of more children among the healthy and the gifted couples.

(ii) Discourage the reproduction of the habitual criminals, mentally challenged and the sick.

(iii) Start sperm/egg banks for the benefit of the infertile couples (10 to 12 per cent of the population) and *for those daring couples who want to bring about improvement of the genetic stock of their future generations.*

(iv) Popularize genetic screening and genetic counseling to prevent genetically transmitted diseases

All the above steps may be needed till genetic engineering reaches a level that enables genetic transformation of a society or individual through gene therapy, cloning or other means yet to be discovered or envisaged.

COUNTRIES PRESENTLY WITH EUGENIC AGENDA: Singapore, China & Israel.

P.S. Published on behalf of the Society for Advancement of Man (SAM), Athirampuzha–686 562,Kottayam, Kerala, INDIA. Our publications: 1. Survival of the unfittest 2. Cross-current 3. Gene Drain – a pamphlet on brain drain and its genetic impact. **Please send your comments and suggestions.** Contact No. 919447909473; e-mail: annejoy48@yahoo.com

MINUTES OF THE STAFF MEETING OF ONATTUKARA REGIONAL AGRL. RESEARCH STATION, KAYAMKULAM HELD ON 9-1-2007

A meeting of all the staff members was held at 11.00 a.m. on 9-1-2007 at the chamber of Project Director, with the Project Director in the Chair. The following staff members attended the meeting.

1. Dr. T.N. Vilasini, Associate Professor
2. Dr. G. Suja, Assistant Professor
3. Dr. M.R. Bindu, Assistant Professor
4. Shri G.V. Kumar, Administrative Assistant
5. Shri G. Shanmughan, Section Officer (FC & D) Hr. Gr.
6. Shri R. Satheesan, Farm Supervisor Gr.I
7. Shri N. Vasudevan, Farm Supervisor Gr.I
8. Shri V.J. Raj mohan, Farm Supervisor Gr.II
9. Shri D. Prasannakumar, Farm Assistant Selection Grade
10. Shri K.O. Shahul Hameed, Farm Assistant, Seln. Grade
11. Shri A. Manojkumar, Senior Gr. Assistant
12. Smt. T.A. Thahira Beegom, Senior Gr. Assistant
13. Smt. Juliemole Thankachan, Senior Res. Fellow

The meeting was convened mainly to explain the visit of Chief Coconut Development Officer on 4th January 2007 and further the discussion with the Director of Research. The possibility of producing hybrid seed nuts with the available facilities, palms, labourers etc. are discussed.

In the discussion, the Project Director explained that the hybridization work started in August 2006. He also explained the difficulties encountered with the hybridization work in the farmers' fields and achieving the targeted hybrid seed nuts (2500 nuts per year). The following suggestions came:

1. 100-200 palms should be selected

2. It was decided to select 40 palms each in a location for convenience. Necessary assistance for this will be provided by S/Shri R. Satheesan, N. Vasudevan, D. Prasannakumar and K.O. Shahul Hameed

3. It is pointed out in the deliberations that pollination workers retired from CPCRI can be made use of the pollination work of the scheme. Shri V.J. Rajmohan, Farm Supervisor may make enquiries in this regard and report.

4. Action should be taken to give training (pollination work) to one or two labourers of this station.

In this context, the co-operation of all staff members are resorted to so as to proceed with the programme successfully.

As decided earlier, the next (III) Zonal Workshop (ZREAC) will be conducted during March 2007. Dr. T.N. Vilasini, Associate Professor will be the Co-ordinator for the organization of the workshop.

Regarding the use of office vehicle, indent should be maintained by vehicle i/c. (Action: Vehicle i/c.)

A meeting to discuss the cropping scheme for the ensuing summer season will be conducted on 11-1-2007.

The meeting came to a close at 12.15 p.m.

PROJECT DIRECTOR & HEAD

Proceedings of the review meeting of TMOC project held on 4-1-2007 at Onattukara Regional Agricultural Research Station, Kayamkulam

The Review Meeting of the TMOC project " Survey and Identification of root (wilt) disease free palms in coconut and evolution of tolerant genotypes through selection and hybridization" assisted by the Coconut Development Board to Kerala Agricultural University was held at 10.30 AM on 4-1-2007 at Onattukara Regional Agricultural Research Station, Kaymkulam. The meeting was chaired by Dr. M. Thomas Mathew, Chief Coconut Development Officer, Coconut Board, Kochi. Dr. Sverup John, Principal Investigator of the project, Dr. T.N. Vilasini, Associate Professor, Dr. M.R. Bindu, Assistant Professor and Smt. Juliemole Thankachan, Senior Research Fellow of the project also participated.

The main objective of the project is the large-scale production of elite coconut seedlings @ 10,000 elite seed nuts and 2500 hybrid seed nuts per annum. The progress of the implementation was assessed based on activity chart. During the first year, the survey and identification of 573 elite palms in 21 Panchayaths in the districts of Alappuzha, Kollam and Pathanamthitta were done. A total of 5807 seed nuts were procured from 393 palms and were sown in the nursery. Besides, the following equipments were procured for setting up the serological laboratory.

1.	ELISA reader and washer	Rs. 290000.
2.	Centrifuge	Rs. 161355.
3.	Cryocans	Rs. 29863.
4.	Refrigerator	Rs. 19690.
5.	Two wheeler	Rs. 43956.
6.	Rabbit cage	Rs. 17000.
7.	Incubator	Rs. 15825.
8.	Air conditioner	Rs. 34048.
9.	Tissue homogenizer	Rs. 87322.
10.	Single & Multichannel pipettes	Rs. 40591.

During the first year, ELISA test to confirm the presence of the root wilt mother palm was not carried out for want of necessary facilities. The facility available at the CPCRI was not adequate to undertake ELISA test of the mother palms during the first year. However, the expertise available at College of Agricultue, Vellayani was utilized to setting up the Lab. and standardize the protocol, which could be completed only during the second year and hence caused the delay. Subsequently the ELISA testing of the 116 mother palms were completed out of which 65 No. of palms were identified as disease free.

The seed nuts collected were sown as progeny rows and hence could easily be identified based on the palms. Hence the research station is maintaining separate farmer-wise records of the selected seedlings distributed and will be watching the performance of the progeny. Since the project area is a traditionally coconut growing belt, the mother palms identified are extremely tall in stature. The average height being 75 feet. The tall structure of the trees is a hindrance for the smooth conduct of both ELISA testing of palms. The reasons of the shortfall in collecting the targeted seed nuts during the first year is due to time taken for preliminary activities such as engagement of labour,

conducting surveys and setting up of laboratory. However, the technical staff engaged for the project was utilized for quality status of the nuts characteristics and subsequently the seedling characters with further applied utilization in crop breeding.

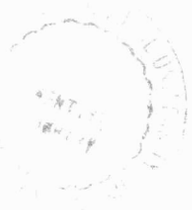
During the second year 10141 seed nuts could be collected from 460 elite palms. In this year 342 palms were retained (among which 65 palms are ELIZA negative), 51 palms were culled (based on ELISA positive) from previous year and 118 additional palms based on updated physical screening.

In view of the difficulties expressed by the principal Investigator in producing disease resistant hybrid seed nuts by doing inter se cross between the extremely talls, the possibility of producing D X T hybrid seed nuts with the cross between GD and WCT (Elite mother palms identified in the hot spot area) may be sent to the Board for approval. One of the suggestions which could be considered is to produce DXT hybrids (CDG X WCT combination) at KAU, Vellanikkara where adequate number of CGD mother palms are available in the Demonstration- cum- seed production farm established by the Coconut Development Board for which pollen may be taken from Elite palms (identified palms in the hot spot area). 4330 seedlings from the seed nuts of the preceding year were distributed to farmers from since 2006 May.

Necessary actions may be initiated for the completion of the ELISA testing of the remaining mother palms during the current financial year itself. As on date the total available mother palms are 460. During the current year so far as on 20-12-2006, 816 seed nuts were procured and the collection programme is in progress.

The meeting came to a close at 12.30 PM

(Chief Coconut Development Officer)



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