



Ms. Dubit Ater  
May 12, 1986

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Please arrange to have an individual authorized to bind your institution sign the original and four copies of this letter in the space provided. Kindly keep one copy for your file, and return the four remaining copies to the Office of the Science Attache, American Embassy, Tel Aviv.

Sincerely yours,



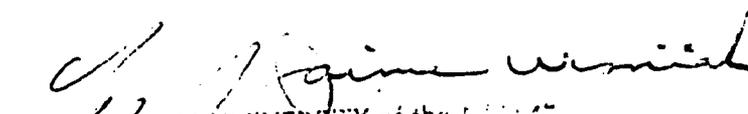
John R. Eriksson  
Director

Attachments:

1. Schedule
2. Research Proposal
3. Standard Provisions
4. Status of Funds (Report)

Accepted on behalf of the  
Ben-Gurion University of the Negev

A. Enshel



~~Ben-Gurion UNIVERSITY of the Negev~~  
Research & Development Authority  
BEER SHEVA, P. O. B. 1025, ISRAEL

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FISCAL DATA

Obligation Number: 6361132

Appropriation: 72-1161021.6

Budget Allotment Code: DDAA-86-10600-DG11  
(646-36-099-00-19-61)

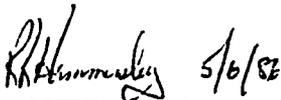
Project Title: Innovative Scientific Research  
Project

Total Obligated Amount: US\$ 148,500

Project No.: 936-5544

Funding Source: AID/W (per 86 STATE 091130)

O/FIN: Funds Availability:

  
\_\_\_\_\_  
Ronald Hammersley  
Deputy Controller

SCHEDULE

A. Purpose of Grant

The purpose of this Grant is to provide support for a research project entitled "Strain Selection of Spirulina Alga Suitable for Mass Production - A Novel Agrotechnology for Arid Lands", as more specifically described in Attachment 2.

B. Period of Grant

The effective date of this Grant is May 12, 1986. The expiration date of this Grant is December 31, 1989.

C. Amount of Grant and Payment

1. AID hereby obligates the amount of \$148,500 for purposes of this Grant.
2. Payment shall be made to the Grantee in accordance with procedures set forth in Attachment 3, Standard Provisions, Article 14 entitled "Payment".
3. All billings are to be submitted by the Principal Investigator/Ben-Gurion University of the Negev for Biological Research. The co-Principal Investigator shall submit its billings to the P.I. as a sub-grantee, and be reimbursed/provided periodic cash advances by the P.I.
4. Billings are to be mailed to the servicing AID Controller at the following address:

Controller  
USAID/Egypt  
c/o American Embassy  
5 Latin America Street  
Garden City  
Cairo, A.R. Egypt

Information copies of each billing are also to be forwarded at the same time to the Science Attache, American Embassy, Tel Aviv, Israel, to facilitate timely administrative approval of vouchers for related prompt payment.

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D. Financial Plan

The following is the Financial Plan for this Grant:

<u>Cost Element</u>	<u>Israel</u>	<u>Thailand</u>
1. Salary	37,000	28,000
2. Material and Supply	10,250	12,500
3. Equipment	-	13,500
4. Travel (Local and International)	12,500	13,500
5. Central Research Facility Cost	9,250	7,000
6. Other costs: reports and publications	<u>3,000</u>	<u>2,000</u>
Total	<u>72,000</u> =====	<u>76,500</u> =====
GRAND TOTAL	US\$ 148,500	

It is understood that per diem rates paid or reimbursement will not exceed AID per diem rates for international travel, RTG or DTEC per diem rates for local travel in Thailand by Thai research personnel, and Israeli official per diem rates for local travel in Israel by Israeli research personnel.

E. Reporting and Evaluation

1. Progress Reports: Interim progress reports are required every six months (4 copies to Office of the Science Advisor, AID, Washington D.C., one copy to the Office of Science and Technology, USAID, Bangkok, and one copy to the Science Attache, American Embassy, Tel Aviv) except for the last six month period which will be pre-empted by a final report. Interim report objectives are to keep the Project Manager and AID/SCI informed that research is proceeding in accordance with the agreement or to document changes in the research plan. Substantive scientific input should be included when there is something significant to report. The first report should reconfirm dates of the reporting schedule and to request any administrative changes that should be made in the agreement. Progress reports should be in English. For this project these reports are due within thirty days following periods ending October 31, 1986; April 30, 1987; October 31, 1987; April 30, 1988; October 30, 1988; April 30, 1989.

2. Final Report: The Principal Investigator should submit a final report in fifteen copies, if possible, no later than the completion date of the project which currently is estimated as December 31, 1989. The report should be sufficiently detailed to substantiate findings and to permit scientific evaluation of research. The Principal Investigator is encouraged to share a draft report with the AID Project Officer (Office of the Science Advisor, AID, Washington D.C.) for comment prior to formal submission.

F. Special Provision

1. This Grant is given to permit Dr. Vonshak and Dr. Jiamjit to undertake the research outlined in Attachment 2 entitled "Research Proposal". It is understood that Dr. Vonshak will be the Principal Investigator and Dr. Jiamjit will be the Co-principal Investigator, and will be given full authority by Ben-Gurion University of the Negev to carry out the research.

2. Local cost financing of wages, salary, per diem, local transportation, international travel and procurement of small value indigenous and imported shelf items is authorized.

3. Conference attendance. The Grantee shall prepare and submit a detailed proposed schedule or agenda to the Science Attache, American Embassy, Tel Aviv for approval for any conference, workshop, symposium or seminar before a trip is arranged. It is understood that attendance at conference, workshops, symposia or seminars should be relevant to the purposes of the research undertaken.

G. Authorized Geographic Code

The authorized geographic code for procurement of goods and services under this Grant is Code 935.

H. The grant officer for purposes of grant administration is located at USAID/Thailand, 37 Soi Somprasong 3, Petchburi Road, Bangkok 10400, Thailand.

## RESEARCH PROPOSAL

## DESCRIPTION:

The aim of the project is to improve the technical and economic potential of the microalga Spirulina as a source of commercially important chemicals. The proposed research will identify better strains and develop methods for outdoor mass culture on semi-arid lands using saline waters. Wild strains collected in Thailand and Kenya will be evaluated in the laboratory in terms of growth and chemical composition under a range of temperatures and salinities. Ponds will be constructed and operated in Thailand to evaluate the outdoor performance of the best strains.

Such strains may help in turning the somewhat limited technology of Spirulina into a more attractive biotechnology. Producing Spirulina biomass as a multipurpose product at a lower price, and using it for feed, food and other chemicals would increase the economic feasibility of such a technology.

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