6980171-3

AIRGRAM

DEPARTMENT OF STATE

UNCLASSIFIED
CLASSIFICATION

A.I.D. Reference Center Room 1656 NS

DATE REC'D.

PD-AAC-333-C1

11p

1970 JUL 27 PM 1 15

AID
C & A BR
7/22/70

3

DISTRIBUTION
ACTION
AFR
INFO.
TAB
ACONT
ACC
PRR
AAPC
SRD
OA
IS
GC
ITA
ITAD
OLAB

For each address check one ACTION | INFO

TO - AID/W TOAID A- 344 X
RABAT USAID A- 005 X

see rev 10/14/70

FROM - TUNIS

SUBJECT - Noncapital Project Paper (PROP) Revised - Mediterranean Fruit Fly Control in North Africa

REFERENCE -

Country: Regional (Tunisia and Morocco) Project No. 698-11-190-171

Submission Date: July 22, 1970 Original: 11 January 1968

Revised: 15 July 1970

Project Title: Mediterranean Fruit Fly Control in North Africa

U.S. Obligation Span: FY 1968 through FY 1973

Gross life of project financial requirements:

TUNISIAN PHASE

U.S. Dollars	$ 125,216
U.S. Owned Local Currency	38,000
AID Controlled L/C (Trust Fund)	116,665
Cooperating Country Budget Contribution	148,000
Total all sources	$ 427,881

MOROCCAN PHASE

U.S. Dollars	$ 194,500
U.S. Owned Local Currency	126,000
AID Controlled L/C (Trust Fund)	47,220
Cooperating Country Budget Contribution	89,000
Total all sources	$ 456,720

ATTACHMENTS:
Attach I "Volume and Value of Fruit Crops"
Attach II "Pilot Test Areas"

Agr State Tsy com Xmb

atts to AFR 7/28/70

PAGE 1 OF 11 PAGES

DRAFTED BY	OFFICE	PHONE NO.	DATE	APPROVED BY:
[illegible]	AGR		7/13/70	DIR:STBaron

AID AND OTHER CLEARANCES:
AGR:GLWalker
PRM:IRosenthal
MEO:GSchwab

UNCLASSIFIED
CLASSIFICATION

AID-5-30 (11-65)

(Do not type below this line)

PRINTED 6-69

A. SUMMARY DESCRIPTION

This project will provide the Tunisian and Moroccan Governments with U.S. technical assistance in developing and implementing a regional program to control the Mediterranean Fruit Fly (Ceratitis capitata) by means of Cobalt 60 gamma sterilization. Appropriate use will also be made of cultural and chemical control methods including poison baits, chemical sprays, biological and integrative control procedures. Eventually by means of Medfly control work in Algeria and strict quarantine in North Africa it is planned that eradication of the Fruit Fly from the three countries may be achieved.

The Mediterranean Fruit Fly is a major economic pest in North Africa. In Tunisia alone/an estimated $3 to $5 million worth of damage each year to citrus, apricots, and other export crops (detailed information on volume and value of Tunisia's fruit crops is provided in Attachment I). Of particular concern is the loss of potential foreign exchange caused by this damage, increased production costs due to resistance of the fly to insecticides, and labor cost to clean fruit of poisonous residues. In Tunisia, if an effective program is not developed and implemented, the problem will become increasingly serious as over 500,000 acres of new fruit tree plantings, most of which were planted under AID-supported programs, are now coming into production.

The project fits in with one of AID's principal goals for Tunisian and Moroccan development - increasing the quantity and quality of agricultural production. In particular, the project contributes significantly to AID's efforts to strengthen crop production research in Tunisia and Morocco and encourages expansion of their exports. In addition, the project will increase foreign exchange earnings by increasing the quality of citrus produce and reducing the amount of fruit unfit for export.

By January 1973, the Tunisian phase of the project should have achieved the following goals: (1) demonstrated the operational feasibility of controlling the Mediterranean Fruit Fly pest through the application of the Cobalt 60 gamma sterilization-release method, (2) assisted in training the necessary skilled Tunisian manpower to complete the Tunisian phase of the program, and (3) trained Moroccan personnel to conduct preliminary ecological studies for the Moroccan phase of the regional program.

The program has been initiated first in Tunisia since they have in recent years made basic studies on the ecology and occurrence of the fruit fly, have a nucleus of trained personnel, and have shown their determination to participate in the sterile fly project by building and operating a laboratory for rearing the Mediterranean Fruit Fly. It is expected that preliminary activities will begin in Morocco no later than the first quarter FY 1971.

The U.S. will initially provide one entomologist (PASA Leader-Coordinator) with extensive experience in the control of the Mediterranean Fruit Fly and similar species. He will work with the Institut National de Recherches Agronomiques en Tunisie (INRAT), and the Direction des Recherches Agricoles (DRA) of the Moroccan Ministry of Agriculture in coordinating the survey control and all aspects of eradication of the fly. A second entomologist will be provided to do the preliminary survey in Morocco.

The U.S. will provide $125,000 worth of commodities, including sources of Cobalt 60 gamma/radiation. A Cobalt 60 radiation source is now in operation in Tunisia. Before a decision is reached on the procurement of a second radiation source, the feasibility of shipping flies to Morocco which have been reared in Tunisia or Vienna will be explored. This step will be taken to avoid duplication of effort and encourage the countries involved to pool their resources for the common benefit of all. If a second radiation source is determined necessary, one will be purchased. The Government of Morocco will have the responsibility of providing an appropriate laboratory building to house the unit, fly rearing facilities, and office space for the personnel to implement the project.

The monetary inputs planned are as follows:

CATEGORY

	FY 70	FY 71	FY 72
TUNISIA SUPPORT			
U.S. CONTRIBUTION			
1. Dollar Funds			
Technical Assistance	20,470 a/	19,146 a/	-
Commodities	13,600 b/	21,000 c/	-
Participant Training	-	18,000	33,000
	34,070	58,146	33,000
2. U.S. Owned L/C (104 f Loan)			
Airplane services	20,000D ($38,000)	20,000D	20,000D

a/PASA #AFR(AJ) 07-70 funds are from FY 69 obligation.

b/Includes transportation cost. These commodities (in Tunisian phase) are outlined in PAF[illegible].

c/Estimate of commodity needs

GOT CONTRIBUTION

	CY 70X	CY 71	CY 72
1. Trust Fund			
Operational Travel	1,500	2,000	1,000
Post Assignment and Home Leave	1,500	-	1,500
Rental and Housing Utilities	3,000	5,000	5,000
a. U.S. technician	3,000	3,000	3,000
b. Local technicians	-	2,000	2,000
Miscellaneous contract services	2,300	2,500	1,500
Automobile	3,000	3,000	-
Representation	-	100	50
Local Transportation	100	100	100
Secretarial Assistance	-	500	500
Airplane Services	-	20,000	10,000
	TD14,400	TD38,200	TD24,650
	($27,428)	($72,761)	($46,952)
2. GOT Budget a/			
Personnel	D12,600	D15,000	D20,000
Laboratory Utilities plus Miscellaneous	10,000	10,000	10,000
	D22,600	D25,000	D30,000
Sub Total	($65,000)	($48,000)	($57,000)
TOTAL GOT CONTRIBUTION	D37,000	D63,200	D54,650
	($70,476)	($120,380)	($104,095)

a/INRAT (the sterile fly production facility).

CAMEROUN
MOROCCO SUPPORT c/
U.S. CONTRIBUTION

	FY 70	FY 71	FY 72	FY 73
1. Dollar Funds				
Technical Assistance	-	-	28,000 a/	28,000
Commodities	7,500 b/	10,000	50,000	-
Participant Training	-	-	38,000	33,000
Total	7,500	10,000	116,000	61,000
2. Personal Services (Contract for Technical Services)	-	DH128,000 ($25,000)	DH128,000 ($25,000)	-
3. U.S. Owned L/C (Dirham loan)				
Airplane Services	-	DH97,000 ($19,000)	DH194,000 ($38,000)	DH97,000 ($19,000)

GOM CONTRIBUTION

1. Trust Fund (Dirham)				
Operational Travel	DH5,000	DH10,000	DH10,000	DH15,000
Per Diem	5,000	5,000	3,000	3,000
Post Assignment and Home Leave	-	15,000	15,000	-
Rental and Housing Utilities	-	20,000	25,000	25,000
Miscellaneous Contract Services	-	5,000	12,000	12,000
Automobile	-	15,000	5,000	5,000
Sterile Flies	-	30,000	-	-
Representation	-	100	50	50
Transportation of Items	-	500	500	500
Secretarial Assistance	-	500	1,500	1,500
	DH10,000 ($2,000)	DH101,100 ($19,980)	DH72,050 ($14,239)	DH62,050 ($12,262)

a/PASA provides $13,000 for FY 72 technical services for Moroccan phase.
b/PASA provides $ 7,500 for commodities for Moroccan phase.
c/Subject to revision.

2. GOM Budget (Dirham) a/	CY 70	CY 71	CY 72	CY 73
Personnel	63,000	70,000	80,000	80,000
Automobiles	50,000	50,000	60,000	60,000
Buildings and Utilities	37,500	50,000	37,500	37,500
Supplies	5,000	5,000	5,000	5,000
Sub Total	DH155,500 ($30,000)	DH175,000 ($34,000)	DH182,500 ($36,000)	DH182,500 ($36,000)
TOTAL GOM CONTRIBUTION	DH165,500 ($32,707)	DH276,100 ($54,565)	DH254,550 ($50,306)	DH244,350 ($48,330)

B. SETTING

This project relates to AID's overall program to assist Tunisia and Morocco to increase and upgrade their agricultural production. Optimum citrus production and exports cannot be fully achieved without the eradication of Ceratitis capitata. Without external technical and monetary assistance from the U.S. the participating countries cannot use to advantage the ecological conditions which make the method feasible. The financial input into the laboratory and equipment gives a high return because the facility as well as the method can be used to control the Mediterranean Fruit Fly and other insect pests of economic importance as needed.

In Tunisia, the pilot test study will be implemented in the Metline, Ras El Djebel, and Raf-Raf areas (see attachment II) encompassing 1500 km^2, of which 500 km^2 are planted in citrus. Later the program will be expanded to such regions as the La Soukhra and Cap Bon citrus areas. In Morocco, Bani Mallal, Marrakech and Chicaous are suitable areas for pilot tests. Final site selection in Morocco will be made later based on the outcome of ecological studies and taking into consideration the number of flies which can be shipped to Morocco on a regular basis.

C. STRATEGY

The urgency of the problem of control of Ceratitis capitata requires continued U.S. support, leadership, and coordination of the program. The new sterile fly method was pioneered in the U.S., and requires selection of a test site, which-from an ecological view point - is physically isolated. The approach requires a study of fly population fluctuations, movement, succession of hosts attacked and host geographic limits to determine the timing and methods for total population suppression. Studies to this effect have been performed in Tunisia and they now serve as the basic for the Tunisian phase of the project. While the conventional approach for insect control is to apply chemical treatment when the populations are high so as to appreciably reduce economic damage, the sterile fly technique involves the combined use of cultural, chemical, and biological control methods to eradicate or reduce wild fly populations to the lowest levels possible when the wild fly populations are at their lowest levels due to climatic adversity. Thus, the total population suppression concept is unlike conventional chemical control in application.

a/ DRA's budget.

The soundness of this approach has been demonstrated by successful programs of the USDA in the Mariana Islands. The Tunisians and Moroccans will be trained in the use of the total population suppression technique, extension work, and general entomology. Selected individuals will be sent to the University of Hawaii (where a new program in graduate study has been set up in cooperation with the International Atomic Energy Agency and the USDA Hawaiian Fruit Flies Laboratory to train entomologists in the use of the sterile fly technique). Selected individuals will be trained at other American institutions.

Cooperation with scientists and instructors at the educational institutions in Tunisia and Morocco will be developed to permit students in science to use the newly installed equipment to supplement their training through learning experiences in radiation biology. Each country then will develop a staff of scientific personnel for the program. Expertise in the sterile fly method will enable each country to solve other insect control problems.

It is planned that by demonstrating the effectiveness of the sterile fly technique (Cobalt 60 gamma sterilization) in a few key fruit growing areas, this project will provide a stimulus for extending this technique to all of Tunisia's and Morocco's fruit growing areas and subsequently for extending the control program to full scale eradication of the fly from North Africa. The latter will not become a reality without an effective quarantine program. Cooperation with the national extension services will be fostered in each participating country to mobilize public participation in such a program.

Because of its advance readiness, Tunisia will be used as the training center in North Africa for the sterile fly methods of Medfly control. It is anticipated that Tunisia's example will stimulate other North African countries to participate.

D. PLANNED TARGETS AND RESULTS

The objective of this Mediterranean Fruit Fly control project is to provide the Tunisians and Moroccans with the capability to conduct insect control operations using the sterile fly technique without U.S. assistance. The preliminary phases of the project are underway and mass sterile fly releases began in Tunisia in the third quarter of FY 1970. The preliminary phases will begin in Morocco a year later. The U.S. Mission anticipates the participants from Morocco will have the capability to operate the program by June 1973, thus justifying the termination of U.S. technical assistance for the project at that time.

a. Begin the pilot test with mass releases during the period the wild flies are at the lowest possible level following suppression by cultural and chemical control methods. The program will begin first in Tunisia and no more than a year later in Morocco.

b. Eradicate native Medfly populations in the pilot test area by early FY 71.

c. Determine whether Ceratitis capitata are found in the major citrus growing areas throughout the year or migrate in only during the most favorable period. Such information will permit the project to plan and implement the best strategy to achieve eradication.

d. Expand the pilot test program for control of the fly into a nationwide program of eradication as soon as the method is proven feasible. The latter will require a tailor-made program for each participating country as different degrees of success in accomplishing eradication may be expected. This will provide for systematic eradication of the fly from La Soukhra, Cap Bon, and all other citrus areas of Tunisia.

e. Develop a public information and quarantine program in cooperation with the extension service in each participating country.

f. Facilitate cooperation between INRAT, DRA, and the International Atomic Energy Agency in implementing the Medfly control program and using the Cobalt 60 radiation unit.

g. Train Tunisian and Moroccan entomologists and technicians in Vienna, and in the United States.

h. Hold one seminar each six months, commencing in FY 71 with Tunisian, Moroccan and, eventually, Algerian participants to demonstrate the potential of the sterile fly method. These seminars will promote the regional aspect of Medfly control in North Africa.

i. Select 2 Moroccan technicians to be trained in the use of Medfly survey and mass rearing methods at the regional Medfly center in Tunisia. Training is to commence in September 1970. Encourage the training of Algerians in the same fields.

j. Conduct a one-year ecological survey to determine Medfly life patterns in Morocco.

The success of this program in North Africa will be determined first by eradication of the fly and ultimately by the extent to which fruit damage has been reduced and the quality of fruit improved. This will result in an increase in exportable fruit of Tunisia and Morocco (see Attachment I).

E. COURSE OF ACTION

1. USAID will provide the services of a U.S. entomologist (PASA) to act as leader-coordinator of all phases of the regional project in Tunisia and Morocco. His major duties will include directing and coordinating the sterile fly pilot test in Tunisia and Morocco, instructing Tunisian and Moroccan scientists in release and distribution methods, and advising on the technical aspects of mass rearing and administration of the project.

The U.S. will provide a second entomologist or equivalent technician to direct, under the guidance of the leader-coordinator, a Medfly ecology survey in conjunction with the Moroccan phase of the Medfly control program.

2. Tunisian and Moroccan scientists will receive training in the United States, and Vienna, Austria involving short-term (less than one year) and post graduate degree training.

Trainees will receive intensive laboratory and field training in the rearing of flies, survey trapping, population sampling techniques, release methods, and the theory and practice of the sterile fly technique. During the training period, outstanding individuals capable of higher academic achievement will be identified and sent to the U.S. for advanced degree training.

3. Country self-help: The Tunisian Government has shown its determination to participate by the construction of a modern physical plant capable of producing 20 million sterile Med Flies per week. The Cobalt 60 radiation source has been installed and is operating. They have a nucleus of trained personnel who are actively engaged in carrying out the preliminary phases of the program. The Government of Morocco will appropriately provide laboratory space and personnel for the Moroccan phase of the project.

4. The organization, planning and execution of the project shall be carried out by the Institut National de Recherches Agronomiques en Tunisie (INRAT) and the Agricultural Research Division (DRA) in Morocco in close coordination with USAID Tunis and Rabat.

F. PROGRESS TOWARD ACHIEVEMENT OF ACTIVITY TARGETS a/

Activities of the Project have been underway in Tunisia since 1968. Mediterranean Fruit Fly traps in the pilot area were set out to determine wild fly distribution in preparation for mass releases of sterile flies which began in December 1969. The construction and personnel needs of the program are gradually being fulfilled. Arrangements have been made for airplane services to drop poison bait treatment and release sterile flies in the pilot area.

a/ Further comments are contained in Regional MEO. Fruit Fly Control Project Quarterly Report, Jan.-Mar. 1970.

BEST AVAILABLE COPY

REFERENCES

The following is a list of documents which should be reviewed in conjunction with a review of this PROP:

1) MED FRUIT FLY / PROP, 12/24/69
2) PIO/T No. 698-171-2-6190101
3) PASA No. AFR (AJ) 07-70
4) MED FRUIT FLY / PIP a/
5) Regional Med. Fruit Fly Control Project, Quarterly Report, Jan.-Mar. 1970
6) Harris/Leake Letter, June 22, 1970

a/ PIP is being submitted July 1970.

CALHOUN

BEST AVAILABLE COPY

ATTACHMENT I

Volume and Value of Fruit Crops, 1967-1972

Products	1967		1968		Economic Budget 1969		Adjusted a/ 1969		Economic Budget 1970		Plan Projections b/ 1970		Plan Projections b/ 1972	
	Tons 000	$ 000	Tons 000	$ 000	Tons 000	$ 000	Tons 000	$ 000	Tons 000	$ 000	Tons 000	$ 000	Tons 000	$ 000
CITRUS	110.2	6,327	90.0	4,947	100.0	6,233	122.9	7,050	110.0	6,310	108.7	6,200	127.0	7,575
TABLE GRAPES	13.3	1,017	20.1	1,334	23.0	1,047	18.0	1,181	20.1	1,319	24.5	1,[illegible]47	27.7	1,[illegible]15
WINE GRAPES	137.0	3,300	123.0	3,100	137.0	3,450	126.0	2,668	137.0	2,900	137.0	2,900	137.0	2,900
DATES	39.3	1,440	47.6	1,741	39.3	1,440	31.4	1,148	47.0	1,718	39.3	1,440	39.3	1,440
APRICOTS	15.7	1,245	15.9	1,195	14.0	1,057	17.3	1,206	17.0	1,185	15.8	1,220	19.3	1,990
Totals	315.5	13,359	296.6	12,317	313.3	13,227	315.6	13,253	331.1	13,422	325.3	13,007	350.3	15,[illegible]

a/ These figures were adjusted 5/70

b/ $ figures are [illegible]/T's estimates

Source: Secretariat d'Etat au Plan (Tunisia)

UNCLASSIFIED

BEST AVAILABLE COPY