

Report of the  
Third Session of the Executive Committee of the  
Commission for Controlling the Desert Locust  
in the Near East

INTRODUCTION

The Director-General of the Food and Agriculture Organization of the United Nations, at the kind invitation of the Government of the Arab Republic of Egypt, convened the Third Session of the Executive Committee of the Commission for Controlling the Desert Locust in the Near East, in Cairo from 10 to 12 September 1973.

The Session was opened by Mr. Anis Jalloul, Director, Plant Protection and Quarantine, Ministry of Agriculture, Government of Lebanon, who welcomed the participants in his capacity as a Chairman of the Committee and thanked the Government of the Arab Republic of Egypt for providing various facilities for the Session. He emphasized the importance of training and field research and suggested that the Committee should, in particular, give its careful consideration to these two aspects of the Commission's programme.

Officers of the Session

Chairman: Mr. Anis Jalloul, Lebanon  
Vice-Chairman: Mr. Michel Farah, Qatar

The work of drafting the Report was entrusted to the FAO Secretariat and Mr. M.S. Hassanein of the Arab Republic of Egypt. Mr. Gurdas Singh and Mr. A. Khasawneh of the FAO Secretariat acted as Technical Secretaries.

Acknowledgments

The Committee thanked the Chairman for the most efficient way in which he had conducted the proceedings. They also thanked the Government of the Arab Republic of Egypt for their kind hospitality and the facilities provided for the Session.

PARTICIPATION IN THE SESSION

Members of the Executive Committee

Arab Republic of Egypt

Mohammed El Said Hassaneine  
Senior Research Officer  
Institute of Plant Protection Research  
Ministry of Agriculture and Agrarian Reform  
Dokki, Cairo

Mohamed Fahmi Lehota  
Senior Research Officer  
Institute of Plant Protection Research  
Ministry of Agriculture and Agrarian Reform  
Dokki, Cairo.

Jordan

Hani Haddadin  
Chief, Plant Protection Section  
Ministry of Agriculture  
Amman

Lebanon

Anis Jalloul  
Director  
Department of Plant Protection and Quarantine  
Ministry of Agriculture  
Beirut

Qatar

Michel Farah  
Officer-in-Charge  
Extension Work  
Ministry of Industry and Agriculture  
Doha

Mohamed Fouad Thabet  
Head of Plant Protection Section  
Ministry of Industry and Agriculture  
Doha

Sudan

Abdel Moneim Hassan Karar  
Head  
Locust Control Section  
Plant Protection Department  
Ministry of Agriculture  
Khartoum

FAO Staff

Gurdas Singh  
Senior Officer  
Locust Control and Emergency Operations  
Plant Production and Protection Division  
FAO, Rome, Italy

Ahmad Khasawneh  
FAO Regional Locust Officer  
FAO International Locust Centre  
P.O. Box 527  
Jeddah  
Saudi Arabia

AGENDA

1. Opening of the Session
2. Adoption of the Agenda
3. Election of the Drafting Committee
4. Accounts for 1971 and 1972, and Programme of Work and Budget for 1974.
5. Coordination of Desert Locust Research in the Region
6. Training and Fellowships
7. Election of the Chairman and Vice-Chairman of the Executive Committee for 1973/74
8. Any Other Business
9. Date and Place of Next Session
10. Adoption of the Report

SUMMARY OF DISCUSSIONS

Programme of Work and Budget for 1973-1977

1. As required by Article IV of the Agreement establishing the Commission for Controlling the Desert Locust in the Near East, the Programme of Work and Budget for 1973-77 which had been adopted by the Third Session of the Commission (Appendix 1) was submitted to the 28th Session of the Finance Committee of FAO in October 1972. As its financial aspects complied with the basic texts, the Programme of Work and Budget was duly approved without further submission to the FAO Council. The Committee did not envisage any changes in the Programme of Work and recommended to the Commission the adoption of the budget for 1974 as approved at its Third Session.

Accounts for the Year Ended 31 December 1971

2. The Third Session of the Commission approved provisional accounts for the year 1971. There had been no change in these accounts and the Committee recommended to the Commission their formal adoption (Appendix II).

Accounts for the Year Ended 31 December 1972

3. A statement of accounts for the year ended 31 December, 1972 (Appendix III), was considered by the Committee and recommended to the Commission for formal adoption.

Contributions Received and Outstanding

4. Noting the latest position of contributions received and outstanding (Appendix IV), the Committee requested those Member Governments in arrears to arrange for immediate payment as non-payment of funds could interrupt the implementation of the agreed programme.

Expenditure Against the Approved Budget

5. The Committee noted that the main items of expenditure in 1972, apart from training (dealt with below) were salaries and local operating costs at the International Locust Centre, Jeddah (\$18 000), costs of the Third Session of the Commission held in Amman; July/August 1972 (\$6 355), contributions to local operating costs in the People's Democratic Republic of Yemen (\$10 000) and to continuing control operations (\$4 000).

Equipment and Supplies

6. In response to a request from the Government of Qatar, supplies and equipment were ordered for the Doha base during 1972 as shown below:

	<u>US\$</u>
Insecticides	1 966
5-ton Truck and Spare Parts	7 037
Two Land Rovers and Spare Parts	8 355
	<u>17 358</u>
	=====

7. Requests have been received from the Arab Republic of Egypt for research instruments and equipment for the Dokki laboratories; from the People's Democratic Republic of Yemen for two radios, two Land Rovers and 50 roto-power dusters; and from Oman for five SSB radios to set up a reporting network. These have been ordered early in 1973.

8. Equipment was purchased using the Equipment component of the Inter-regional Desert Locust Project, for Jeddah International Locust Centre (two Toyota Land Cruisers, one Toyota Station Wagon, and small items of survey and meteorological equipment), and for Jordan (radio parts).

Programme of Work for 1974

9. While discussing the various technical aspects of the programme of work for 1974, the Committee pointed out that within the Near East Region the areas along the Red Sea and the Gulf of Aden in the southwestern Arabian Peninsula and those of Oman in the eastern part were strategically important for rapid multiplication of locust populations and recommended that the Commission might consider appropriate arrangements for keeping these areas under constant watch. In order to facilitate the above, the Committee further recommended that the FAO Regional Secretariat in Jeddah should be strengthened by providing additional transport and equipment.

10. The Committee while appreciating that the FAO Regional Officer in Jeddah was responsible for coordinating the entire locust survey and control work within the region, nevertheless suggested that it would be useful if another person could be appointed for closer coordination of work and for undertaking surveys and training in the eastern part of the Arabian Peninsula. It was pointed out by the FAO Secretariat that this could only be possible if such a post could be funded from the country IPF of one of the countries in that area. In view of the strategic importance of Oman in this part of the Arabian Peninsula, FAO would approach the Sultanate of Oman to give this matter serious consideration while preparing their country programme.

11. The Committee recommended that in future the FAO Regional Secretariat at Jeddah should supply all Member Countries of the Commission with a quarterly report on the stock position of insecticides and equipment available at the various reserves within the Region. In return the Governments concerned were requested to keep the Jeddah Centre informed about their stock position. Such information was considered vital in the event of an emergency.

12. The Committee also considered the request of the Government of Sudan for equipment to strengthen their anti-locust service and requested FAO to provide the following:

- (i) Two R/T Mobile Sets (SSB/130)
- (ii) One Micronair Set., to be fitted to a piper super cub P.18
- (iii) Six Exhaust Nozzle Sprayers to be fitted to landrovers (Standard 88) pick-ups with petrol engine.

13. In view of the substantial increase in the purchase of equipment during 1974 (paras. 9 - 12) which might exceed the provision made in the budget for that year, the Committee recommended that the amount of additional funds if needed for this purpose could be used from the unobligated balance of the Trust Fund.

#### Coordination of Field Research

14. The Committee considered in detail the research work carried out and in progress within the region and noted that the following research programme was being undertaken at the various research stations.

#### Arab Republic of Egypt

#### Effect of some biologically active compounds on the development and reproduction of the Desert Locust

15. Compounds tested fell under three categories:-

- (a) Synthetic Juvenile Hormone Analogue (SJHA)
- (b) Ecdysones: of these two were tried; one was crusteodysone (beta ecdysone), the natural ecdysone extracted from Crustacea, the other was phytoecdysone which is a preparation with ecdysonal activity prepared from the young leaves of Podocarpus graciliosus.
- (c) Plant regulating substances patented as Cyoccel and Alar 85.

The chemicals were dissolved in the suitable solvents and injected in different doses per gramme of body weight in 4th instar hoppers 24 hours after ecdysis.

16. SJHA proved to have a neotenic action in S. gregaria. It prolonged the post-treatment larval development and induced in the resulting adults some changes in the dimensions of the three body parts, E, F and C to bring about an inclination in the phase ratios by a shift from gregariform towards the solitariform margin. A great deal of metathetic adultoids have resulted and at the same time the reproductive capacity of the remaining morphologically perfect adults was reduced.

17. Ecdysone, its analogue and the plant regulating substances tested tended to reduce the longevity of the treated insects and relatively accelerated ecdysis. The significant differences in longevity were found in the 5th nymphal stage. This may be due to a critical period that should be elapsed before such compounds can induce their effect. There was a reduction in the reproductive potential, and the extent of diminution of fertility and fecundity depended on whether mating was between treated males and untreated females or vice versa and also on the dose administered. Reduction was more obvious when crossing treated males with untreated females. The compounds appear to interfere with spermatogenesis. Although variations of morphometry did not involve a striking transformation, yet there occurred some decline in the gregariform characteristics.

18. As the chemicals tested generally deranged or interfered with normal development and reproduction, they would have practically an insecticidal or a chemosterilant activity against the desert locust and further critical evaluations are indeed of great interest.

#### Factors affecting Embryonic Diapause in the Desert Locust

19. The search aims at investigating arrested embryonic development in different types of soil under the influence of soil temperature and humidity. Tests are being made with different levels of soil moisture content and to determine the stage of embryonic development which is most susceptible to enter into diapause. Phase of the progenitor is also taken into consideration to assess if it reflects on the egg diapause. The viability of eggs under thresholds or below thresholds of soil moisture would be subsequently studied.

#### Chromatogenesis and chromatometry in relation to phase in the Desert Locust

20. Nymphal coloration during the different stadia is studied in relation to population densities under natural and artificial conditions with particular reference to temperature and photoperiod.

#### Effects of artificial photoperiod on the larval development of the Desert Locust

21. Illumination is provided by both mercury and infra-red lamps. The study is made under periods varying between 24 hours illumination and total permanent darkness.

22. Bionomics of the Egyptian Tree Locust, *Anaeridium aegyptium* and factors leading to upsurges in Egypt.

#### Cumulative toxicity of sub-lethal doses of some insecticides in the Desert Locust

23. Initially dieldrin and lindane were selected for this study and toxicity bio-assays on a homogeneous stock were made. Topical applications and re-applications at varying intervals with different sublethal doses are done and viability, development and reproduction studied. Progeny of survivals are similarly treated to determine whether the progeny become more susceptible or more resistant.

#### Aerial spraying with special reference to droplet size and rate of deposition in locust control

24. The trials have been carried out through the past four years in the southeastern desert of Egypt. Apart from routine procedures for estimations of droplet mean mass diameter, rate of deposition under different meteorologic, vegetative conditions and flight heights and mortality rates, evaluation is made of aerial spraying as a tool for preventive control against non-gregarious populations.

Studies on some natural compounds as feeding deterrents for the Desert Locust

25. The research was triggered by the valuable work and finding of Dr. Gill on the Neem extract and its systemic action. Trials are carried out in Egypt with an extract of the Persian lilac (Melia azederachta) which has been for a long time known to be repellent to the Desert Locust.

Studies on rates of food consumption and respiratory rates in different stages of the Desert Locust

26. Some wild and cultivated plants were selected for this research. Daily consumption and excreta are weighed and notes on development and reproduction recorded. Respiratory rates are also estimated and there are replicates of different densities.

Some Ecological factors affecting polymorphism in the Desert Locust

27. Density - Temperature - Type and amount of diet - Stunning of some sensory organs.

28. Effect of land reclamation on the population cycles of local Acridiodae.

Jeddah (Saudi-Arabia)

29. There was only field observation on the hatching of egg pods of Desert Locusts and about the phenomenon which says that hatching occurred at or around dawn. It seemed possible that light, temperature or soil moisture could act as a "trigger" for dawn hatching. After a series of experiments a strong indication was obtained that of those three, temperature was the only significant factor. The exact mechanism by which temperature "triggers" hatching is not at all clear. Just before dawn is usually the coldest time of the 24-hour period and minimum temperature to which they have become conditioned when fully developed. However, egg pods incubated in metal tubes, i.e. with less insulation from air temperature, and consequently in conditions of greater diurnal variation of temperature did not tend to hatch at dawn, but throughout the night with a peak at 2.30 a.m. This suggested that it was a set full of temperature rather than a minimum temperature which triggered hatching. Subsequent experiments have failed to elucidate which of the "triggers" is paramount, as yet no satisfactory theory to fit all the experimental observations has been found.

30. Further observations were made on the mechanisms associated with synchronisation of hatching of all eggs in pod. It appears that although temperature triggers the first eggs to hatch, mechanical movement by the young hoppers then stimulates others. Again there are problems however, as there is evidence that the eggs at the top of the pod may be physiologically programmed to hatch first. Further work is required on the problems posed.

Sudan (Khartoum)

31. No research work was yet started, but arrangements were under way for future work.

Exchange of Research Workers

32. The Committee considered that in order to facilitate better understanding between field and laboratory research, it would be useful if research workers doing basic research in the laboratory could visit the field to undertake certain aspects of research work in order to confirm their observations taken in the laboratory and vice-versa.

Research and Training Grants

33. Mr. Ghaffer Karrar of Sudan and Mr. Saeed Ba'ankoud of the People's Democratic Republic of Yemen began their fellowships in the Autumn of 1972 in the United Kingdom and Sudan respectively. Mr. Sammir I. Hamman (ARE) continued his long-term fellowship in locust toxicology in the U.K., Mr. Shawkat Bashmaf (Jordan) was appointed to a long-term fellowship and had commenced his studies in the U.K. from August 1973. Details of costs are given in Appendix V.

34. Short-term fellowships were requested by the People's Democratic Republic of Yemen for candidates to study locust control techniques at Dokki, Cairo. A consultant visit was arranged to Oman to provide practical training in local survey and control.

35. The Committee considered the names of the various candidates nominated by the Member Governments for advanced training and approved the name of Mr. Salameh Falah Al-Hamad of Jordan for a fellowship award for 1974/75.

The Executive Committee

36. In view of the joining of the two new members of the Commission, the Committee considered that it would be desirable to revise its membership as elected at the time of the First Session of the Commission and decided that this question should be referred to the Commission at its forthcoming Session where all the members would be present.

DATE AND PLACE OF NEXT SESSION

37. The Fourth Session of the Executive Committee might be held just before the Fifth Session of the Commission and at the same place.



COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

TRUST FUND No. 9409

Budget for the Five-Year Period 1973-1977 expressed according to FAO Expenditure Codes

<u>Code</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Total</u>
10 <u>Personal Services</u>						
Short-term experts, local staff, interpreters and assistance	25,000	25,000	25,000	25,000	25,000	125,000
20 <u>Travel</u>						
Delegates, teams, FAO staff to Sessions, regional co-ordination, consultants	10,000	10,000	10,000	10,000	10,000	50,000
30 <u>Contractual services</u>						
Printing, processing reports	5,000	5,000	5,000	5,000	5,000	25,000
40 <u>General operating expenses</u>						
Miscellaneous, rent, communications, hospitality	10,000	10,000	10,000	10,000	10,000	50,000
55 <u>Supplies and materials</u>						
For field surveys, POL, vehicle maintenance	30,000	30,000	30,000	30,000	30,000	150,000
67 <u>Equipment</u>						
For field projects	20,000	20,000	20,000	20,000	20,000	100,000
80 <u>Fellowships and grants</u>						
Individual and group training	25,000 125,000	25,000 125,000	25,000 125,000	25,000 125,000	25,000 125,000	125,000 625,000

ANNEX I (continued)

<u>Code</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>Total</u>
92 <u>Project Ser-</u> <u>vice Cost</u> <sup>†</sup>	<u>13,000</u>	<u>13,000</u>	<u>13,000</u>	<u>13,000</u>	<u>13,000</u>	<u>65,000</u>
	138,000	138,000	138,000	138,000	138,000	690,000
Unallocated	<u>1,600</u>	<u>1,600</u>	<u>1,600</u>	<u>1,600</u>	<u>1,600</u>	<u>8,000</u>
	139,600	139,600	139,600	139,600	139,600	698,000

+ 5% on Codes 55 and 67, 14% on other components

To the extent that pledged contributions from member countries are not paid, it may be necessary to scale down expenditure allocations proportionately

Subject to the total commitments at any given time not exceeding the total contribution pledged and received at that time, the Director General shall have discretionary powers to vary the allocations between one expenditure heading and another as may be necessary to meet the changing locust situation. All such variations shall be reported and justified when submitting annual accounts to the Commission.

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

TRUST FUND No. 9409

Final statement of account as at 31 December 1971  
(expressed in US dollar equivalents)

Receipts:

Balance brought forward from 1970	115 597
Contributions received in 1971	91 181
Transfer from TF-1, Desert Locust Control in the Arabian Peninsula	10 363
Interests accrued 1971	<u>5 742</u>
	222 883

Cash expenditure:

Personal services	16 643
Supplies	1 004
Equipment	-
Travel	3 337
Contractual services	4 045
Grants and subsidies (fellowships)	<u>-</u>
	25 029

Project Servicing Costs  
(5% on Supplies and Equipment  
14% on the rest of items)

3 414

28 443

Provisional Balance as at 31 December 1971

194 440

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

TRUST FUND No. 9409

Statement of Accounts as at 31 December 1972 (Final)

(expressed in US dollar equivalents)

Receipts

Balance as at 1 January 1972	194 440 56
Sums received from various donors	157 089 00
Interest credited	<u>7 896 10</u>
	359 425 66

Deduct:

Cash expenditure 1972

Personal services	267 58 46
Official Duty Travel	5 409 51
Contractual Services	1 672 00
General Operating Expenses	8 228 84
Supplies and Materials	144 39
Furniture and Equipment	574 70
Acquisition and Improvement of Premises	-
Fellowships, Grants and Contributions	<u>3 782 75</u>
	46 570 65

Project Servicing Costs:

5% on Suppl. and Equipment	}	<u>6 455 16</u>	<u>53 925 81</u>
14% on other items			

Balance as at 31 December 1972

306 399 85

COMMISSION FOR CONTROLLING THE DESERT LOCUST IN THE NEAR EAST

TRUST FUND No. 9409

Statements of contributions from participating Governments  
as at 31 May 1973

Country	Agreed Contribution	Contribution paid for the period:			
		1969/70	1970/71	1971/72	1972/73
Arab Rep. of Egypt	26 032	26 032	26 032	26 032	-
Bahrain	4 784	4 784	4 784	4 784	4 784
Iraq	16 464	16 464	16 464	16 464	16 464
Jordan	11 486	11 486	11 486	11 486	11 486
Kuwait	12 796	12 796	12 796	12 796	12 796
Lebanon	8 970	8 970	8 970	8 970	258
Oman	5 506 <sup>+</sup>	-	-	-	-
Qatar	5 506	5 506	5 506	5 506	5 506
Saudi Arabia	16 154	-	-	-	16 154 <sup>++</sup>
Sudan	14 934	14 934	14 934	14 934	14 934
Syrian Arab Rep.	13 350	5 616 <sup>++</sup>	5 616 <sup>++</sup>	13 350	-
Yemen Arab Rep.	4 224	-	-	-	-
Yemen; PDR of	4 360	360 <sup>++++</sup>	360 <sup>++++</sup>	360 <sup>++++</sup>	-
League of Arab States	-	4 600	-	2 300	-
	139 060	111 548	106 948	116 982	82 382

- + Oman: became member of the Commission 1 October 1972
- ++ Saudi Arabia: became member of the Commission on 10 August 1972
- +++ Syrian Arab Rep.: reduced contribution up to 1970/71
- ++++ People's Democratic Republic of Yemen: reduced contribution as agreed at 1st Session of the Commission

## ANNEX V

## DETAILS OF FELLOWSHIPS AWARDED UNDER TRUST FUND No. 9409

Name	Country	Country of study	Subject of Study	Date of start	Expenditure 1972	Balance committed	TOTAL
<u>Long-term high-level fellowships</u>							
Ghaffar Karrar	Sudan	U.K.	Locust Research	1972 (3 years)	1 723	19 522	21 245
Saeed Ba'ankoud	PDR Yemen	Sudan	Locust Control & Plant Protection	1972 (2 years)	2 060	10 545	12 605
Samir Ismail Hamman	A.R.E.	U.K.	Locust Toxicology	1972 (2 years)	+	14 840	14 840
Shawkat Qasem Bashnaf	Jordan	U.K.	Plant Protection	1973 (2 years)	-	12 840	12 840
					3 783	57 747	61 530

+- financed from TF 9161 during 1972 -

APPENDIX III

ANTI-LOCUST SURVEY AND CONTROL POTENTIALS AVAILABLE IN THE COUNTRIES OF THE NEAR EAST

	PERSONNEL		EQUIPMENT		VEHICLES		INSECTICIDES		AIR-RAFT		ANNUAL BUDGET Curr. x 1000
	Tech- nical staff	Gen- eral staff	Power dusters	Hand dusters & sprayers	Ex- haust spray- ers	Light truck	Med- ium trucks	Hea- vy trucks	Eng- ine No.	M.T. No.	
Bahrain	3	19	8	9	2	5	5	2	1	-	BD 50
Iraq	105	-	-	150	10	40	40	5	85	100	16(1)
Jordan	82	35	5	35	2	15	15	6	60	100	JD 47
Kuwait	33	10	17	31	13	10	10	8	60	-	KD not 1 mt
Lebanon	15	37	5	16	-	3	3	1	20	-	..
Oman	-	2	2	2	2	2	2	-	50	-	SR -
Qatar	1	3	-	-	-	-	3	3	8	25	1
Saudi Arabia	16	97	56	234	45	343	-	146	800	2000	SR 3000
PDR Yemen	18	16	3	-	16	6	-	2	70	200	US\$ 9.7
Sudan (a)	174	763	-	250+++	25	15	10	10	720	1000	SP. 50
Sudan (b)	-	40	150	70	17	17	-	-	370	-	..
Syrian A.R.	120	40	150	70	6	90	400	20	600	300	..
Arab Republic of Egypt	218	86	27	7	13	45	545	79	137	673	3 che- tered an- nually
Yemen	32	-	2	4	12	9	6	6	50	40	YR 54
Total	817	1108	275	1124	613	600	60	288	5047	2132	4438 37

+ Resources for plant protection and locust control  
 ++ For locust control only excluding personnel and allowances.

+++ For both dusting and spraying  
 (a) Material unit  
 (b) Diesel unit

(1) 4 pipers, 4 Pawnees, 2 Helicopters, 6 Pzchnosi.  
 (2) 1 piper Cub, 1 Helicopter  
 (3) 4 Pipers Super Cub, 2 Pawnees  
 (4) 2 Cessna 180, 1 Cessna 206A, 2 Pawnees, 3 Piper Super Cub

List of Working Papers

AGP:DL/NE/EC/73/1	Accounts for 1971 and 1972 and programme of work and budget for 1974.
AGP:DL/NE/EC/73/2	Coordination of the Desert Locust Research in the Region.
AGP:DL/NE/EC/73/3	Training and Fellowship
AGP:DL/NE/73/1	The Desert Locust Situation during 1972/73
AGP:LCC/73/9	Emergency action undertaken in the Red Sea coastal plains and the Gulf of Aden area
AGP:DL/NE/73/2	Report of the Executive Committee
AGP:DL/NE/73/3	Assistance to the PDR of Yemen and other countries.



