FAO 78-24

ORGANISATION DES NATIONS UNIES POUR L'ALIMENTATION ET L'AGRICULTURE

ORGANIZACION DE LAS NACIONES UNIDAS PARA LA AGRICULTURA Y LA ALIMENTACION

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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DESERT LOCUST SITUATION SUMMARY AND FORECAST

No. 2 OCTOBER - EARLY NOVEMBER 1978

SUMMARY

Intensive control operations greatly reduced the extent of escapes from the summer breeding areas of India and Pakistan during October, and by 14 November the summer breeding area of Pakistan was reported clear of locusts. Three small groups of adults were reported to have reached Mekran and some reached Oman and United Arab Emirates. In eastern Africa, swarm breeding commenced in the Somali peninsula and continued in the interior of Sudan and Eritrea. Breeding was in progress in Red Sea coastal areas.

The main threats in the continued development of the plague are of breeding in inaccessible areas in the Horn of Africa, northern Ethiopia, of breeding along the coastal plains bordering both sides of the Red Sea and of breeding in remote areas of eastern Arabia and in coastal areas and interior valleys in the Mekran of Pakistan and southeastern Iran.

In South West Asia intensive ground and air control operations greatly reduced the number of swarms in the summer breeding areas of India and Pakistan during October and by 14 November the summer breeding area of Pakistan was reported clear of locusts. Some escapes, however, did occur and some moved west into the Mekran; others reached the United Arab Emirates and Oman in late October and early November and some may reach the Gulf of Aden and Red Sea coastal areas. Breeding may commence in Mekran and southeastern Iran.

In the Near East immigration from the summer breeding areas in India and Pakistan occurred in late October early November and may continue. Breeding may start in the United Arab Emirates and Oman if rain falls, otherwise the immigrants will reach the People's Democratic Republic of Yemen, Yemen Arab Republic and possibly southwestern Saudi Arabia. Small scale breeding is already in progress in coastal areas in South West Arabia and could be augmented by immigration from India-Pakistan, Sudan, northern Ethiopia, Eritrea and even the Somali peninsula.

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In Eastern Africa gregarious breeding has already occurred in northern Somalia and is almost certainly occurring in adjacent areas of Ethiopia. Swarms must be expected to be produced in areas where no control is possible and some of these are likely to move into Northern Kenya in early January 1979 and possibly reach the central highlands of Kenya, while others may move back into the Red Sea-Gulf of Aden trench. Others may move north-west towards the Railway Area, Djibouti and northwest Somalia. Escapes from breeding in the interior of Sudan and northern Ethiopia are likely to move into coastal areas of Sudan and northern Ethiopia and augment breeding already in progress, and perhaps cross the Red Sea and augment breeding already in progress on the Tihama.

In West Africa some small swarmlets may be produced in Niger in areas of green vegetation not detected by survey teams. Further to the west there is no evidence of significant locust populations.

In North West Africa no locusts have been reported but increasing numbers of locusts can be expected in southern Algeria and Libya as adults move north from the summer breeding areas south of the Sahara.

DESERT LOCUST SITUATION OCTOBER - EARLY NOVEMBER 1978

SOUTH WEST ASIA

INDIA

Ecological conditions Widespread heavy rain was reported north of Jaisalmer on the evening of 5 October and vegetation was stated to be very green in the border desert areas. Light rain also fell in Rajasthan on 23-26 October.

Adults During the first half of October, 22 immature swarms were reported to have reached the Bhuj district of Gujarat and Jalore, Barmer, Jaisalmer, Bikaner and Ganganagar districts of Rajasthan from the west. These swarms and others already present spread east and northeast into Jodhpur, Nagaur, Sikar, Churu and Jhunjhunu districts of Rajasthan and one swarm reached Mohindargarh district of Haryana on 6 October before returning to Jhunjhunu district the next day. Altogether there were 360 reports of swarms from Rajasthan, 2 from Haryana and 3 from Gujarat. A further swarm entered Kutch from the west on 25 October. In the second half of October there were 20 reports of swarms from Jodhpur district, 11 from Jaisalmer, 3 from Nagaur, 2 each from Barmer and Sikar and 1 each from Bikaner, Churu and Tonk districts of Rajasthan and 4 from Kutch district of Gujarat. No swarms were reported after 29 October.

Hoppers No hoppers were reported.

Control measures During the first half of the month swarms were attacked by aircraft on 52 occasions and by ground parties on 107 occasions in Barmer, Bikaner, Churu, Ganganagar, Jaipur, Jaisalmer, Jalore, Jodhpur, Nagaur, Sikar and Kutch districts, using 12,850 kg. of BHC 10% dust, 17,435 kg. Malathion ULV and 1,150 litres of 18% dieldrin. In the second half of October swarms measuring 1-12 sq. km. in area were controlled on 26 occasions by ground and air, using 7,650 kg. of BHC 10% dust and 800 litres of dieldrin in Rajasthan and on 4 occasions in Gujarat using 3,350 kg. of BHC 10% dust.

PAKISTAN

Ecological conditions Widespread heavy rain was reported from Cholistan and Mirpur desert areas on the evening of 5 October but no other rain was reported.

Hoppers Patchy breeding over an area of about 200 sq. km. was detected in cultivations and along the foothills in Las Bela district on 2 October. About 1000 patches of first to fifth instar hoppers were present. Hoppers of all instars were also found in the Liari and Lakhra tehsils in Las Bela district in the second half of October. Further east the last hatching of the second monsoon generation occurred in Diplo on 1 October.

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Adults Between 1 and 15 October, 99 reports of swarms and 82 reports of groups (adult concentrations less than 1 sq. km. in extent) were reported from Cholistan (100 reports), Sukkur (Nara) (24 reports), Khipro (30 reports), Tharparkar (18 reports) and cultivated areas of Hyderabad district (9 reports) A swarm measuring 125 sq. km. seen north of Khipro on 8 October split into at least seven portions, two of which reached the cultivated areas of Mirpur Khas, Hyderabad and Thatta districts. The south-westerly movement evidently continued in the second half of October for there were no further reports from the Cholistan and Nara deserts but there were 19 reports of swarms and groups from Khipro, 8 from Tharparkar and 11 from Hyderabad, Thatta and Badin districts, and some adults reached Karachi.

Control measures Intensive control operations continued in the summer breeding areas and cultivated areas reached by swarms. The hopper infestations detected in Las Bela and Diplo early in the month were completely controlled and preventive spraying was undertaken against the hopper concentrations in Las Bela district in the second half of the month and an area of 200 hectares was cleared.

Six aircraft were used to spray all 19 swarms and groups reported in the second half of the month, but no details are yet available about the amount or type of insecticide used.

No reports of locusts were received from Iran or Afghanistan.

NEAR EAST

OMAN

Ecological conditions No reports of rain have been received.

Adults Many hundreds of pink adults were seen at lights in Muscat on 2 November and others seen at lights in the last week of October. Small numbers of pink adults also seen between Muscat and Sohar on 3 November. These almost certainly represent immigrants from the summer breeding area in India and Pakistan.

UNITED ARAB EMIRATES

Ecological conditions No rain was reported during October.

Adults Pink adults were present at densities of up to 5 per square metre in cultivations in the Kalba area of Fujeira on 30 October.

Control measures The adults at Kalba were sprayed with Malathion.

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PEOPLE'S DEMOCRATIC REPUBLIC OF YEMEN

Ecological conditions Light showers were reported from Dathina and Yafa during the first week of October.

Hoppers The hopper infestations encountered in Wadi Nisab in September persisted into October.

Adults Low density adults were present near the foothills west of Aden and in Wadi Nisab.

Control measures Control operations against hopper infestations in Wadi Nisab were concluded.

YEMEN ARAB REPUBLIC

Ecological conditions There were light showers on the Tihama and along the foothills, while there was heavy rain in the highlands. On the Tihama annual and perennial vegetation was green and conditions were favourable for breeding.

Hoppers Green fourth and fifth instar hoppers were present at densities of 4-10 per plant in Wadi Habl (1609N, 4252E).

Adults Fledglings, immature and mature adults were present in Wadis Hayran (1616N, 4300E), She'bah (1618N, 4300E) and Habl at densities of 500 per square kilometre. Copulating and egg-laying were observed in Wadi Habl. Immature and mature adults were present at Al-Jarr (1620N, 4254E) at 400 per square kilometre, Beni Hasan (1612N, 4305E) at 300 per square kilometre and in small numbers at Az Zaydiyah (1520N, 4250E).

Control measures Control measures were applied against the hoppers in Wadi Habl, 250 kg. of BHC dust were distributed to farmers to control any further infestation.

SAUDI ARABIA

Ecological conditions Rain fell in the Hejaz mountains and the Jizan area. Conditions were favourable for breeding in parts of the Tihama south of Jeddah.

Adults A thin density mature swarm was seen flying in from the sea at Jeddah on the evening of 7 October, settled overnight over an area of about 3 square kilometres and took off next morning to the southeast and later dispersed. In the Qunfidah area adults were present at densities of up to 2000 per hectare at Shaqqah al Yamaniyah. In the Jizan area adults were present at densities of up to 50 per hectare at Samitah, Muwassam and Tuwwal, and at densities of 50-100 per hectare east of Jizan. Scattered adults were also reported from cultivated areas in the interior and in the Jeddah-Mecca area between 10 and 31 October.

Hoppers No hoppers were reported.

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Iraq was reported clear. No reports received from Bahrain, Egypt, Jordan, Kuwait, Lebanon, Qatar or Syria.

EASTERN AFRICA

SUDAN

Ecological conditions Ecological conditions were favourable for breeding on the Red Sea littoral and in certain areas in the interior.

Adults A mature swarm was seen at Dagein (1600N, 3605E) on 17 October and another measuring 4 square kilometres at Shabibeit (1658N, 3457E) on 19 October. On 29 October an immature swarm measuring 12 square miles was seen at the River Atbana at position 1722N, 3424E and a swarm of mixed maturity measuring 7 square miles was seen at Mitatib (1609N, 3603E). In the first week of October adults at high densities were found over an area of 1500 square kilometres in the Hamash-koreib (1710N, 3642E) area of Kassala Province. Scattered adults were also seen over an area of 6,900 hectares in Northern Province in the third week of October. In the Red Sea Province groups of adults were found at three localities totalling 370 hectares in the area south of Sinkat in position 1826N-1833N, 3648E-3651E, at 11 localities totalling 1680 hectares in the Tokar delta in the third week of October. In the fourth week of October scattered adults were seen at Wadi Oko (2027N, 3550E) over an area of 360 hectares.

Hoppers There was widespread breeding in Kordofan, Nile, Northern, Kassala and Red Sea provinces. In Kordofan there were late instar hopper bands at four localities totalling 220 hectares during the fourth week of October. In Nile Province first to fourth instar bands were reported from 16 localities totalling 15,268 hectares in the Hassaniyah area between 7 and 22 October. By the fourth week late instar bands were present at only three localities totalling 6,375 hectares. In Northern Province first to fourth instar hoppers were present at 12 localities over a total area of 8,900 hectares between 13 and 18 October. In Kassala Province hatching and first to third instar hopper bands were found over an area of 1500 square kilometres in the Hamashkoreib area in the first week of October. In the Red Sea Province dense hopper bands were found at three localities totalling 370 hectares south of Sinkat on 20-21 October; large dense bands of late instar hoppers were found over an area of 360 hectares at Wadi Oko (2027N, 3550E) in the fourth week of October, and scattered second to fourth instar hoppers were found in the Tokar delta between 15 and 24 October.

Control measures Control operations were in progress against all the hopper infestations but details are not yet available. In September 160,000 kg. of BHC dust was used against Desert Locust and grasshopper infestations in White Nile Province and 5,200 kg. of BHC bait and 54 litres of 57% Malathion against Desert Locust infestations in Nile Province.

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ETHIOPIA

Ecological conditions Moderate rain has fallen on the Red Sea coast of Eritrea and there has been widespread rain in the Ogaden. North-easterly winds predominated over Northern Ethiopia and Dankalia on most days in October but on 7 November a south-westerly wind penetrated as far as Asmara. Further south the Intertropical Convergence Zone retreated south during October and by early November there were north-easterly winds over the Ogaden on most days.

Adults Immature swarms continued to be held up in the headwaters of the Tacazze. There were 17 reports of immature swarms from the Samre, Fenaroa and Socota areas between 4 and 30 October. The area of the largest swarm was reported to be 10 x 9 kms. There was also an unconfirmed report of a swarm at Adowa on 20 October. There are also reports of swarms east of Kassala moving northeast towards the Red Sea. In eastern Ethiopia there were unconfirmed reports of swarms near Bokh (0725N, 4633E) and north of Wardere on 17 October, and of a swarm flying northwest at Dagabur on 26 October.

Hoppers There was a widespread infestation in the western lowlands of Eritrea east of the line Om Ager-Kassala. On the Red Sea coast there were hoppers of all instars at densities of 1000-3000 per hectare over areas of 2,600 hectares in the Karora-Mersa Teclai area, 2500 hectares in the Mersa Gulbub area, 6000 hectares in the Sheb-Gedged area, 4000 hectares in the Emberemi-Wachiro area and 8000 hectares in the Zula area. No reports have yet been received of breeding in the Ogaden.

Control measures 720 litres of Sumithion, 1195 litres of Malathion and 2350 litres of dieldrin were applied against the swarms in the Samre, Fenaroa and Socota areas between 18 and 30 October.

Control measures were in progress against the hopper infestations on the Red Sea coast of Eritrea using BHC dust and bait.

SOMALIA

Ecological conditions During the month the north-easterly wind became the predominant wind on most days over all but the northwest and estreme south of Somalia. Widespread heavy rain was reported in all areas.

Adults On 4 October a swarm of mixed maturity measuring 15 x 10 miles was located 80 kilometres northwest of Gardo. This swarm was tracked as it moved southwest for the next 10 days and its remnants were last reported about 40 km. north of the Ethiopian border west of Las Anod. A medium density swarm of mixed maturity measuring 4 x 2 kilometres was seen 90 kilometres northeast of Gardo on 4 October. Scattered adults were seen at Dalmadot (0958N, 5005E) on 4 October and on the same day a settled swarm was seen between Buran (1012N, 4847E) and Hadaftimo (1041N, 4905E). On 12 October a swarm 1½ miles long of mixed maturity settled at Odweina and another swarm of medium density settled over an area of 12 square kilometres at El-Midgan (0855N, 4708E). Copulation was seen and egg-fields

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were located in the area. On 18 October a mature swarm was seen flying south-west 50 kilometres west-south-west of Hargeisa and crossed the border on 19 October. On 21 October a thin density mature swarm settled at Balliano (0626N, 4620E). On 25 October a swarm measuring 2½ square kilometres settled 30 kilometres southeast of Dusa Mareb, and another swarm 3 kilometres wide was seen between Ghelinsor and Godinlave. On 26 October a mature swarm 10 kilometres wide was seen at Dababordah (0935N, 4652E); by 27 October it had moved 20 kilometres southwest and was copulating. On 28 October this or another swarm was seen 9 kilometres south of Ainabo.

Egg-fields were found at El-Midgan on 12 October, 16 kilometres south of Wud Wud (0817N, 4646E) on 15 October (measuring 500 metres x 200 metres, egg-pod density 20-25 per square foot) 18 kilometres south of El Midgan on 16 October (measuring 300 metres x 200 metres, egg-pod density 40-46 per square foot), and 10 kilometres southwest of Wud Wud on 19 October (measuring 500 metres x 300 metres).

Hoppers Between 26 and 29 October, groups of first instar hoppers were reported from several localities in the area bounded by latitudes 0810N and 0844N and longitudes 4646E and 4730E. The total size of the infested area was estimated at 2 square kilometres.

Control measures Approximately 12,000 litres of 20% BHC and 400 litres of 20% dieldrin were applied by air and ground against the large swarm tracked from north-west of Gardo to west of Las Anod between 4 and 12 October.

The egg-fields found near Wud Wud and El-Midgan on 15-16 October were sprayed with 20% dieldrin and the same insecticide was applied against the hopper infestations found between 26 and 29 October.

No reports were received from Djibouti; Kenya, Tanzania and Uganda remained clear.

WEST AFRICA

NIGER Situation up to 20 October

Hoppers Concentrations of second to fifth instar hoppers and fledglings at densities of 3-15 per square metre were found over an area of 1,400 hectares between 1851N, 0550E and 1847N, 0540E.

Adults Copulating adults were found at densities of 2,500 per hectare over 70 hectares at Akokan (1845N, 0736E).

Control measures 1000 hectares were treated in the area between 1851N, 0550E and 1847N, 0540E.

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MALI

No concentrations were seen up to 20 October.

No reports were received from Chad, Cameroun, Mauritania or Senegal.

NORTH WEST AFRICA

No reports were received from Algeria, Libya, Morocco or Tunisia.

FORECAST FOR LATE NOVEMBER/DECEMBER 1978 - JANUARY 1979

In South West Asia it appears, based on information received since the Summary was written, that all swarms have left the summer breeding area of Rajasthan and adjacent areas of Pakistan. Some of the swarms in the Mekran will continue to move west and will enter southeastern Iran, some are likely to remain in the Mekran of Pakistan, others will probably reach Oman and the United Arab Emirates and some may reach eastern Saudi Arabia, the People's Democratic Republic of Yemen, Yemen Arab Republic, southwestern Saudi Arabia and northern Somalia. Breeding may commence in the Mekran towards the end of the forecast period.

In the Near East breeding will continue along the Tihamas of Saudi Arabia and the Yemen Arab Republic and commence in coastal areas of the People's Democratic Republic of Yemen. It will almost certainly lead to the formation of hopper bands and some swarms unless control operations are mounted in all the infested areas. Further immigration on to the Tihama from summer breeding areas in Sudan and northern Ethiopia, India and Pakistan is possible. Breeding could also commence towards the end of the present period by any locusts which remain in Oman and United Arab Emirates.

In Eastern Africa mature swarms will continue to lay as they move southwest across the Somali peninsula and laying may occur as far west as the Juba. Although the infestation is unlikely to be heavy by plague standards, breeding could be very widespread and swarms will be produced in late December and early January in areas where control is not possible. The more southerly of these swarms are likely to move southwest into northern Kenya in early January and some may reach the central highland area towards the end of the forecast period. The swarms in northern Kenya are likely to reach the Rift Valley and start to move north towards southern Ethiopia. The more northerly swarms produced in the "Short Rains" breeding area are likely to move north-west towards the Railway Area, Djibouti and coastal areas of north-west Somalia.

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Breeding will continue on the Red Sea coasts of Sudan and Eritrea and hopper bands and swarms are likely to be produced in areas where no control is possible. The swarms in the highland area of northern Ethiopia will move on to the Red Sea coastal plains of Eritrea and Sudan and start to breed. Some could cross the Red Sea and breed in the Tihamas of Saudi Arabia and the Yemen Arab Republic.

In West Africa breeding will end in Tamesna of Niger but some swarmlets could be produced in green areas which may have escaped detection by survey teams.

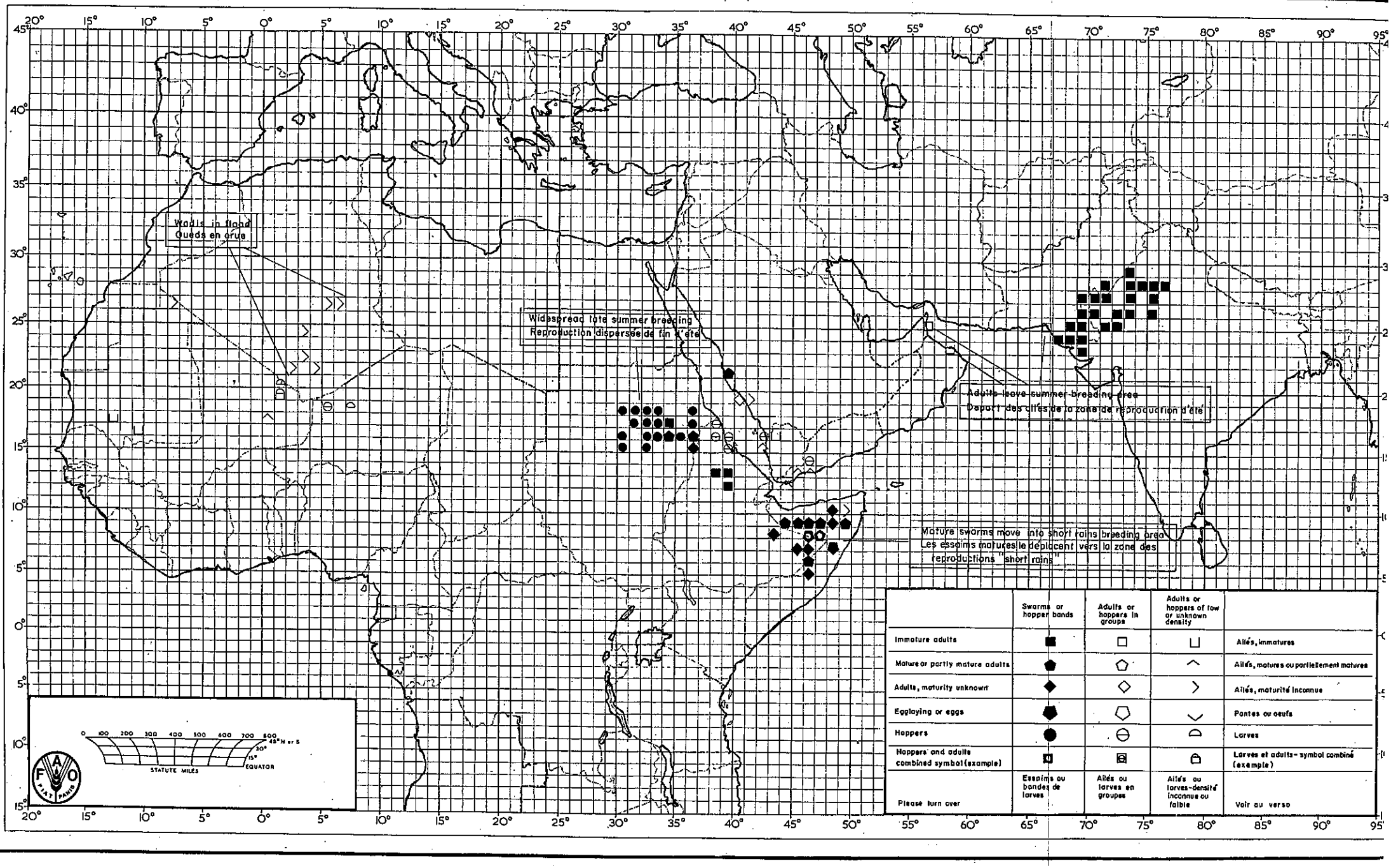
In North West Africa numbers of adults are likely to increase in southern Algeria and Libya as they migrate northwards from the breeding areas south of the Sahara.

It is again regretted that the map which should accompany this Summary could not be prepared.

Rome
14 November 1978

Desert Locust Situation Summary No. 2

OCTOBER / OCTOBRE 1978



	Swarms or hopper bands	Adults or hoppers in groups	Adults or hoppers of low or unknown density	
Immature adults	■	□	⊔	Ailés, immatures
Mature or partly mature adults	⬟	⬠	^	Ailés, matures ou partiellement matures
Adults, maturity unknown	◆	◇	>	Ailés, maturité inconnue
Egglaying or eggs	⬢	⬡	∨	Pontes ou oeufs
Hoppers	●	⊖	∩	Larves
Hoppers and adults combined symbol (example)	◘	◙	⌂	Larves et adults - symbol combiné (exemple)
	Essaims ou bandes de larves	Ailés ou larves en groupes	Ailés ou larves-densité inconnue ou faible	