Locust Watch
Locusts in Caucasus and Central Asia

LOCUST BULLETIN No. 31

FAO - Plant Production and Protection Division (AGPM) *15 August 2014*

Situation level: THREAT in Georgia (Italian Locust, CIT), Kazakhstan (CIT and Asian Migratory Locust, LMI) and Russia (CIT, LMI and Moroccan Locust, DMA)

Situation level - CAUTION in Afghanistan (DMA)

Situation level: CALM elsewhere, in Armenia, Azerbaijan, Georgia (DMA), Tajikistan and Uzbekistan

General Situation during July 2014 Forecast until mid-September 2014

In July, the situation related to the Italian (CIT) and the Asian Migratory (LMI) locusts was still worrying particularly in Georgia, Kazakhstan and Russia. These two locust pests were generally at the adult stage and breeding; gregarious populations were reported in Kazakhstan. Overall, control operations were carried out on almost one million hectares (ha) in Caucasus and Central Asia (CCA) in July, an almost fivefold decrease as compared to the previous month. The control campaign ended in Afghanistan, Azerbaijan, Tajikistan and Uzbekistan. Treatments will continue in some northern Central Asian countries as well as in Georgia at least at the beginning of the forecast period.

Caucasus. Moroccan Locust (DMA) adult populations were progressively disappearing in **Azerbaijan**, where 200 ha were treated, as well as in **Georgia**, where control operations continued focusing on CIT hopper bands, treating 10 140 ha to protect crops. In **Armenia**, 1 000 ha of CIT hopper groups were treated in two farms.

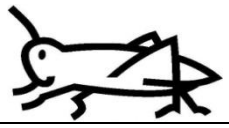
Central Asia. DMA life cycle was coming to an end in all Central Asian countries. CIT mating and egg-laying were in progress in **Kazakhstan**, **Kyrgyzstan**, **Russia**, **Tajikistan** and **Uzbekistan**. LMI fledging occurred in Kazakhstan, Russia and Uzbekistan. Almost one million ha were treated in July mainly against CIT and LMI, of which 66% in Kazakhstan and 31% in Russia.

Weather and Ecological Conditions in July 2014

Hot and dry weather prevailed throughout Caucasus and Central Asia. Rains, sometimes heavy, fell at times in Armenia, Kazakhstan and Russia. The natural vegetation was drying out or dry.

In **Caucasus**, weather was generally warm and dry except in Armenia.

In Armenia, hot weather prevailed in most areas but thunderstorms occurred repeatedly in the mountains and at foothills with hail of a diameter varying from 10 to 28 mm. The most important rainfalls (50-72 mm) were recorded in the mountainous areas; elsewhere it was 8-15 mm. The average daily air temperature was generally within the norm. Temperatures ranged from



14/17°C to 37/39°C in the lowlands, from 9/14°C to 34/38°C at foothills and from 5/10°C to 28/34°C in mountainous areas, which represented an increase of 1 to 4°C compared to June. The average relative humidity did not exceed 60% in the valleys and was of 60-80% in mountainous and foothill areas. The natural vegetation was mostly green and locally drying out, with a medium cover in valleys and at foothills. Mass fruit harvesting continued in low-lying areas.

In Azerbaijan, the weather was mostly warm and dry, suitable for locust development. Day temperatures were of 34/36°C with peaks at 40/42°C, representing an increase of 2 to 6°C compared to June. Prevailing winds were from south-east and north-west at a speed ranging from 3 to 7.5 m/s reaching 18/20 m/s in gusts. Natural vegetation was dry with a low cover; agricultural crops were mature and winter wheat was harvested.

In Georgia, the weather was hot and dry with average temperatures of 32/39°C during the day and of 20/21°C at night. The wind speed was of 1-3 m/s. Drying and dry natural vegetation had a medium to low cover.

In **Central Asia**, weather was generally warm and dry but rains fell locally, which were light in Kazakhstan and heavy in Russia.

In Afghanistan, the weather was very hot with no rain. Natural vegetation was dry or drying out.

In Kazakhstan, the weather was generally warm and dry, with a slight increase of temperatures compared to June. In the South, the weather was clear with some rains. Average temperatures varied from 17°C to 33°C with minimum of 5°C and maximum up to 43°C. Relative humidity ranged from 17 to 90%. Variable winds had a speed of 1-19 m/s. In the East, variable and cloudy weather was followed by warm and sunny conditions with some rains. The average temperature was of 21.1°C with minimum of 11.3°C and maximum of 33.6°C. Relative humidity was of 59.2%. Variable winds had a speed of 0-15 m/s. In the West, the weather was clear and sunny with light rains. The average temperatures ranged from 14.2 to 34.8°C with minimum of 7.1°C and maximum of 42°C. The relative humidity varied from 18 to 80%. Variable winds had a speed of 0.4-9 m/s. In the North, the weather was clear and sunny with light rains. The average day temperatures ranged from 9°C to 29°C, with minimum of 7°C and maximum of 38°C. The relative humidity ranged from 28 to 98%. Variable winds had a speed of 0.1-22 m/s with gusts up to 43.4 m/s.

In the Russian Federation, hot weather prevailed with local thunderstorms. In southern regions of Central Federal District (FD), weather was hot and mostly dry, with temperatures ranging from 21 to 36°C. In North Caucasus and Southern FDs, the weather was characterized by high temperatures and uneven heavy rains, sometimes with hail. Temperatures ranged from 25 to 38°C. In the Volga FD, the weather was generally warm and rains of variable intensity fell locally. Temperatures were higher than normal by 1/2°C, ranging from 17 to 21°C. In Ural and Siberian FDs, the 1st half of July was characterized by normal temperatures and irregular rains and the 2nd half by exceptionally high temperatures, almost no rain and dry winds.

In Tajikistan, the temperatures were higher by 3/6°C than in July 2013 throughout the country. The minimum temperatures were of 36/42°C during the day and of 20/28°C at night, which was unexpected for that period. In the South, temperatures reached 44/48°C but dropped by 5/6°C during the last days of July when average temperatures were of 36/38°C. This warm weather contributed to an early ripening of fruits and legumes, whose harvest continued.

In Uzbekistan, temperatures were of 35/38°C during the day and 18/22°C at night.

Area Treated in July 2014

(as per information received from countries)

Afghanistan	6 108 ha
Armenia	1 000 ha
Azerbaijan	200 ha
Georgia	10 140 ha
Kazakhstan	650 000 ha
Russia	308 200 ha
Tajikistan	4 717 ha
Uzbekistan	14 246 ha

Locust Situation and Forecast

(see also the summary on page 1 and maps on last page)

CAUCASUS

Armenia

• **SITUATION**

The locust situation was calm in July. During surveys carried out on 30 000 ha, plant protection experts observed locust and grasshopper populations on almost 20 000 ha at density generally not exceeding the economical threshold. Italian Locust (CIT) hoppers were present in five oblasts at a maximum density of 6 individuals/m² except in two farms of the Ararat oblast where small groups formed at a density of 11/19 hoppers/m². As planned in June, control operations were carried out on 1 000 ha in these two farms with an efficiency of 88-89%.

• **FORECAST**

During the forecast period, CIT fledging will come to an end and adults will mature and lay eggs. Neither important and widespread infestations of CIT nor occurrence of the two other locust pests is expected unless they arrive from neighboring countries.

Azerbaijan

• **SITUATION**

Moroccan Locust (DMA) populations were mostly mature adults, copulating and laying eggs. Ground control operations continued until 22nd July in the Kuridin plain against DMA adults. A total of 200 ha were treated with an efficiency of 85-90%.

• **FORECAST**

Suitable weather conditions will speed up adult mating and egg-laying which will probably come to an end during the forecast period.

Georgia

• **SITUATION**

High numbers of last instar hoppers and adults of CIT were present, which caused damages and important losses on a wide range of crops (sunflowers, vineyards, cereals, cucurbitaceous plants and vegetables) as well as on winter pastures, sometimes requiring several treatments of the same plots. Breeding started during the 2nd half of July and egg-laying was observed at the end of the month at density of 7-10 egg-pods/m². A total of 30 000 ha were surveyed and ground control operations concerned 10 140 ha, of which 98% in Kakheti (mainly in Signani and Dedoplistskaro) and Kvemo Kartli regions.

Results of survey and control operations are available on www.locust.kz.

• **FORECAST**

Control operations against CIT will continue in July in Kakheti to prevent more damage to crops.

CENTRAL ASIA

Afghanistan

• **SITUATION**

In July, DMA adults were mating and laying eggs. Ground control operations using pyrethroids were carried out against these DMA adult infestations on a total of 6 108 ha in hills, deserts and arable areas of

the two northern and north-western provinces, Badghis and Sar-i-Pul. In addition, treatments were undertaken against grasshoppers on 1 302 ha in the central provinces of Daykundi, Logar, Maidan and Wardak. The locust campaign, which started on 29 March, was completed at the end of July.

• **FORECAST**

DMA natural death will occur during the forecast period. No additional control operations will take place.

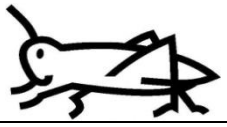
Kazakhstan

• **SITUATION**

DMA adults continued disappearing throughout the month in South Kazakhstan and Zhambyl. Monitoring of DMA mating and egg-laying was carried out on 850 660 ha until 21st July, a total of 217 749 ha were found infested at densities ranging from 5 adults/m² (50% of the infested area) to 10 adults/m² (34%) and more than 10 adults/m² (16%).

CIT situation varied throughout the country as adults only were present in southern and western regions while hopper development was still in progress in the North. In the South, mating and egg-laying started during the 2nd decade of July in Almaty and generalized during the 3rd decade of the month. In Zhambyl, fledging continued at the beginning of the month and mass egg-laying started in late July. In the western region, mating started during the 1st decade of July, migratory flights occurred during the 2nd decade and egg-laying characterized the 3rd one. In Aktobe, mating and egg-laying started during the 1st decade and mass egg-laying occurred during the 2nd and 3rd decades. The density of egg-pods varied from 5 to 200/m² and the number of eggs per pod from 14 to 42. In West-Kazakhstan, egg-laying started on 7th July, mass egg-laying by mid-month and natural disappearance of adults on 21st July. Concerning the phase status, 32% of the population was gregarious, 38% *transiens* and 30% solitary. In the northern region, CIT mass fledging occurred around mid-month in Kostanay and 73% of the population was at the adult stage while 3rd to 5th instar hoppers were still present; mating started during the 3rd decade of July. In Akmola, all instar hoppers were still present (with prevalence of 3rd instar) and adults represented up to 19% of the population on 4th July; on 25th July, hoppers counted for 5 to 45% of the whole population and adults up to 95%. Mating started around mid-July and egg-laying from 22 July. As a whole, CIT hopper monitoring was carried out on 13 563 530 ha and 5 652 099 ha were found infested at density up to 5 hoppers/m² (on 27% of the infested area), of 6-10 hoppers/m² (37%) and of more than 11 hoppers/m² (36%). A total of 4 124 085 ha were treated of which more than 0.5 million ha in July. Mating and egg-laying monitoring concerned 3 512 868 ha of which 909 795 ha were infested at density up to 5 adults/m² (34% of the infested area), of 6-10 adults/m² (34%) and of more than 11 adults/m² (32%).

In the South, LMI fledging was observed on 16th July and mating at the end of the month in Almaty. In the West, fledging started during the 1st decade of July and 2nd and 3rd decades were characterized by mass fledging, local mating and migratory flights. In West-Kazakhstan, fledging started on 20th June, mass fledging occurred from 26th June, mating started on 7th July and mass mating occurred from mid-July. Concerning the phase status, 55% of the population was gregarious, 6% *transiens* and 39% solitary. In Aktobe, mating occurred around mid-July, a period during which LMI flights from the neighbouring provinces of West-Kazakhstan and Kyzylorda were also present. As a whole, LMI hopper monitoring was carried out on 3 188 800 ha and 782 092 ha were found infested at a density up to 5 hoppers/m² (37% of the infested area), of 6-10 hoppers/m² (30%) and of more than 11 hoppers/m² (33%). A total area of 491 486 ha were treated during the campaign of which almost 133 000 ha in July. Mating and egg-laying monitoring concerned 378 840 ha of which 40 201 ha



were infested at density up to 500 adults/ha (53% of the infested area), up to 1 000 adults/ha (32%) and of more than 1 000 adults/ha (15%).

A total of 4 017 318 ha were treated against CIT and LMI hopper bands.

• **FORECAST**

Last DMA adults if any will eventually disappear.

CIT mating and egg-laying will continue, followed by natural death in all concerned regions.

It is expected that LMI adults will form migratory groups and mate in early August in the West and the South, followed by egg-laying and natural disappearance during the 2nd half of August. In the North and the East, LMI adults could cause damage before mating and egg-laying occur.

Kyrgyzstan

• **SITUATION**

No bulletin was received for the month of July. DMA adults have probably disappeared. CIT mating and egg-laying should be in progress in Jalal-Abad and Chui while fledging should have started in Naryn.

• **FORECAST**

Uncontrolled CIT adults will progressively disappear in Jalal-Abad and Chui and mating and egg-laying will continue in Naryn.

Russian Federation

• **SITUATION**

In July, grasshopper mating and egg-laying continued and natural disappearance started while locusts were at the adult stage, mating and laying eggs, and forming mobile groups. The average density was of 0.9 hoppers/m² and 0.6 adults/m² in the Central Federal District (FD), 19.8 hoppers/m² and 10.5 adults/m² in the Southern FD, 16.9 hoppers/m² and 14.4 adults/m² in the North Caucasus FD, 5.8 hoppers/m² and 2.2 adults/m² in the Volga FD and 18 hoppers/m² and 9.1 adults/m² in the Siberian FD. A total of 308 200 ha were treated.

• **FORECAST**

Grasshoppers will, progressively disappear and locusts will complete their development and life cycle during the forecast period.

Tajikistan

• **SITUATION**

In July, control operations continued mainly in Sughd oblast due to movements of CIT and grasshopper adult populations across the borders with Kyrgyzstan and Uzbekistan. A total of 4 717 ha were treated. During the locust campaign, which ended on 1st August, a total of 71 355 ha were treated of which 34 300 ha in Khatlon, 28 900 ha in Sughd, 7 705 ha in Region of Republican Subordination and 450 ha in Gorno-Badakhshan. An aerial survey was carried out on 80 000 ha to assess the whole situation.

In July, the results of the locust campaign, considered as satisfactory, were presented by the campaign coordinator in the media and to the Ministry of Agriculture.

• **FORECAST**

No further development is expected and CIT populations will progressively disappear. Survey to locate egg-beds will be carried out in August.

Turkmenistan

• **SITUATION**

No bulletin was received for the fifth consecutive month.

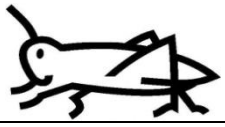
• **FORECAST**

Locusts should have disappeared.

Uzbekistan

• **SITUATION**

In July, control operations continued against CIT and LMI and 14 246 ha were treated, resulting in a total treated area of 345 118 ha since the beginning of the campaign, which came to an end.



• **FORECAST**

Untreated CIT populations will progressively disappear while LMI development will continue.

Announcements

Locust warning levels. A color-coded scheme indicates the seriousness of the current situation for each of the three main locust pests: green for calm, yellow for caution, orange for threat and red for danger. The scheme is applied to the Locust Watch web page dedicated to the current locust situation ("Locust situation now!") and to the regional monthly bulletin header. The levels indicate the perceived risk or threat of current locust infestations to crops and appropriate actions are suggested for each level.

Locust reporting. During calm (green) periods, countries should report at least once/month and send standardized information using the national monthly bulletin template. During caution (yellow), threat (orange) and danger (red) periods, often associated with locust outbreaks and upsurges, updates should be sent at least once/week. Affected countries are also encouraged to prepare decadal bulletins summarizing the situation. All information should be sent by e-mail to CCA-Bulletins@fao.org. Monthly information received by the 5th of each month will be included in the CCA Locust Bulletin to be issued by mid-month; otherwise, it will not appear until the next bulletin. Reports should be sent even if no locusts were found or if no surveys were conducted.

July 2014 events and activities.

- **Joint survey**: A joint survey involving six plant protection/locust specialists from Afghanistan and Tajikistan (three per country) was carried out in Khatlon Province, Tajikistan, on 7-11 July.
- **Locust insecticides' residues**: In order to measure the decline rate of the residues on pasture for various insecticides used in locust control as well as establishing appropriate re-entry periods for livestock, a study on the "Fate of insecticides used for locust control on pasture in Kyrgyzstan" will be prepared by Ms A. Gorbunova, Toxicologist, together with Mr A. Alakunov, Chief specialist, Division of Plant Protection and Pesticide Registration. The study started with the visit of Ms A. Gorbunova to Kyrgyzstan on 2-11 July. Sampling material was supplied to the country.
- **Pesticides and empty container management:** To improve management practices of pesticides used for locust control as well as of empty containers (storage, disposal, etc.) Mr R. Denny, Pesticide Risk Reduction Expert, carried out a mission in Kyrgyzstan on 20-30 July to develop a plan in collaboration with the Chemicals and Plant Protection Department, Ministry of Agriculture.

Forthcoming events and activities in August 2014.

- **Locust monitoring:** A training on locust monitoring and information management will be carried out by Mr A. Latchininsky, Locust Expert to 13 national plant protection/locust specialists in Nukus, Karakalpakstan, Uzbekistan, on 11-15 August 2014.
- **Locust assessment:** A locust survey will be carried out on 16-22 August by Mr Latchininsky, Locust Expert, Mr F. Gapparov, Head, Laboratory for Locust Research, Uzbek Research Institute for Plant Protection, and Mr J. Allanazar, Head of Locust Control Service of Karakalpakstan, to assess the Asian Migratory Locust situation in the Aral Sea Delta.


Locust presence in Caucasus and Russia - July 2014
RUSSIAN FEDERATION
GEORGIA
10,140
TBILISSI
Black Sea
Caspian Sea
ARMENIA
1,000
YEREVAN
200
AZERBAIJAN
BAKU
LMI
DMA
CIT
1,000
Ha treated
Sources: National monthly bulletins provided by CCA countries
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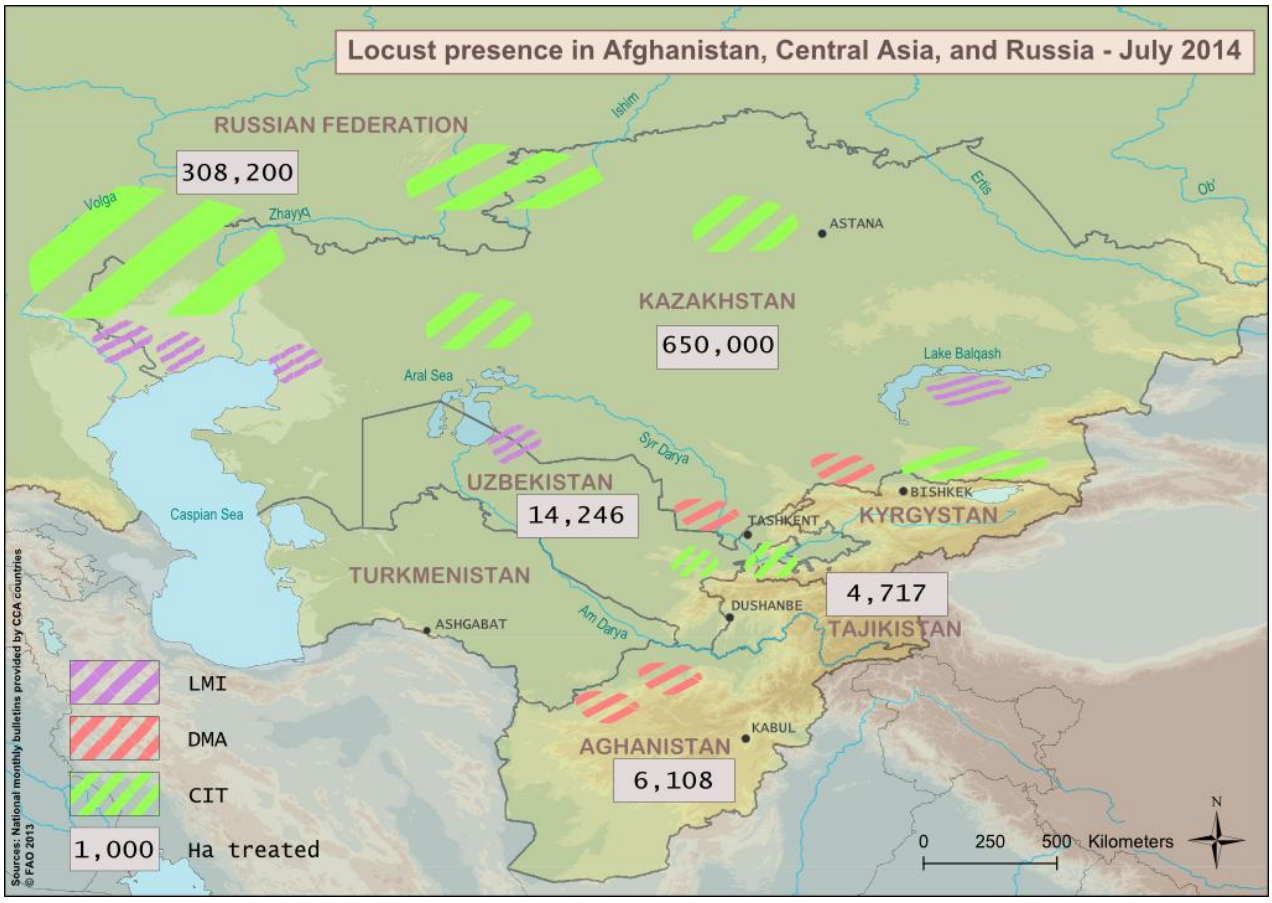
Locust presence in Afghanistan, Central Asia, and Russia - July 2014
RUSSIAN FEDERATION
308,200
Volga
Zhayyq
Ishim
Erlis
Ob'
ASTANA
KAZAKHSTAN
650,000
Lake Balqash
Aral Sea
Syr Darya
UZBEKISTAN
14,246
Caspian Sea
TASHKENT
BISHKEK
KYRGYSTAN
TURKMENISTAN
ASHGABAT
Amu Darya
DUSHANBE
4,717
TAJIKISTAN
KABUL
AGHANISTAN
6,108
LMI
DMA
CIT
1,000
Ha treated
Sources: National monthly bulletins provided by CCA countries
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