



## LOCUST BULLETIN No. 16



FAO - Plant Production and Protection Division (AGPM)

18 July 2012

**Situation level – Italian Locust (CIT) in Georgia, Kazakhstan, Kyrgyzstan and the Russian Federation; Moroccan Locust (DMA) in Afghanistan: THREAT**

**Situation level – Italian Locust (CIT) in Georgia: CAUTION**

**Situation level – CIT and DMA elsewhere and Migratory Locust (LMI): CALM**

### General Situation during June 2012 Forecast until mid-August 2012

The locust situation improved in June in southern Caucasus and Central Asia (CCA), where control operations were almost completed but deteriorated in the north, in particular in Kazakhstan and in the Russian Federation, where more than 3 million ha were treated during the month. Hopper development of the three locust pests was still in progress in northern CA while the life cycle of the Moroccan Locust (DMA) came to an end or was almost completed in southern CCA. More countries than in May considered that at least caution was required, mainly concerning the Italian Locust (CIT).

**Caucasus.** In Armenia, Italian Locust (CIT) hopper development was in progress and control operations was carried out against groups on 2,000 ha. Fledging of Moroccan Locust (DMA) started in Azerbaijan where 2,250 ha were treated against mixed populations of late instar hoppers and adults. In Georgia, DMA adults only were present and control focused on CIT infestations, requiring aerial spraying to cover 71% of the 8,500 ha treated. DMA populations will start disappearing after egg-laying. All remaining CIT hoppers will fledge during the next few weeks.

**Central Asia.** DMA hopper development was still in progress in Kyrgyzstan and Kazakhstan while adults only were present in Afghanistan and Uzbekistan and probably in Tajikistan and Turkmenistan.

CIT hopper development was in progress in Kazakhstan, Kyrgyzstan and the Russian Federation. LMI hopper development was in progress in Kazakhstan and the Russian Federation. More than 3,2 million ha were treated in June in Central Asia, of which 60% in Kazakhstan. During the forecast period, remaining DMA, CIT and LMI hopper populations will fledge and adults will start laying eggs.

### Weather and Ecological Conditions in June 2012

Warm weather prevailed throughout all CCA countries and rains fell at times. Vegetation was drying out or dry except in Armenia.

In Caucasus, warm weather prevailed everywhere and rains fell at times.

In Armenia, the weather remained variable with cloudy and sunny days. Rains fell at times and thunderstorms, sometimes with hail, occurred. Temperatures ranged from 11/16°C to 35/36°C in lowlands, from 10/12°C to 28/31°C at foothills and from 5/10°C to 24/29°C in mountainous areas, which represented an increase varying from 3 to 7°C as

compared to May. The natural vegetation was mostly green in all regions, with a dense cover.

In Azerbaijan, the prevailing warm weather was suitable for hopper development. The average daily temperatures were of 25-27°C (slight increase as compared to May) with peaks up to 34-36°C. Torrential rains occurred on 17/18 June and again on 27/29 June. South-easterly and north-westerly winds prevailed at a speeds ranging from 3 to 5-7 m/s with gusts up to 18-20 m/s. Natural vegetation had still a sparse cover and was dry in all traditional locust habitats. In the areas where locust surveys were carried out, agricultural crops were mainly at the stage of maturity; winter grains were ripe and harvests started.

In Georgia, the weather was hot, with temperatures ranging from 27 to 32°C, which represented an increase of 4 to 6°C as compared to May. Rains fell at times. Natural vegetation had a medium cover.

In **Central Asia**, warm weather prevailed and rains fell at times.

In Afghanistan, during May, some rains fell at times in some parts of the country. Temperatures increased gradually but remained over the normal. The coldest temperature was reported from Bamyan Province (1.4°C) and the warmest from Jalalabad Province (35°C).

In Kyrgyzstan, the average temperature was of 19/23°C in the valleys and of 12/15°C in the mountains. Except from some areas, temperatures continued to be below the normal from 1 to 3°C in June. The highest day temperatures (23 to 26°C) were reported in Aravan, Aksy and Kadamjai areas (in Osh, Jalal-Abad and Batken oblasts respectively) during the 1<sup>st</sup> and 2<sup>nd</sup> decades, and in the Chui Valley (22/24°C) in late June; the lowest night one (3.7°C) in Naryn by mid-June. The maximum soil temperatures ranged from 47 to 65°C at the surface and from 19 to 26°C at a depth of 10 cm. The amount of rains received during the month varied from 50 to 95 mm. The humidity



ranged from 50 to 65%. The vegetation was dry with a height varying from 5 to 12 cm and its cover was medium.

In the Russian Federation, the weather was unstable with showers of variable intensity in the southern areas of the Central Federal District (FD) with daily temperature ranging from 25 to 30°C (an increase of 5°C as compared to May). The weather was dry and hot with local rainfall in the North Caucasus and Southern FDs with average daily temperature of 30-36°C. In the Volga FD, it rained at times and the temperatures ranged from 21-30°C (almost the double as compared to May), reaching up to 37-40°C. In the Siberian FD, the weather was unstable with variable temperatures and irregular rainfalls; the maximum temperatures were of 25-30°C.

In Uzbekistan, the average day temperature was of 34°C (a slight increase as compared to May). Erratic rains fell at night. It was reported that the total amount of rain was important as compared to 2011. The vegetation dried out in the pasture.

### Area Treated in June 2012

Afghanistan	1,374 ha (June)
Armenia	2,000 ha
Azerbaijan	2,250 ha
Georgia	8,470 ha
Kazakhstan	1,970,390 ha (up to 20 June)
Kyrgyzstan	8,869 ha
Russia	1,109,800 ha
Uzbekistan	108,841 ha

## Locust Situation and Forecast

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



### **CAUCASUS**

#### **Armenia**

##### **• SITUATION**

CIT hopper development continued in June, where 2<sup>nd</sup> to 4<sup>th</sup> hopper instars were observed during surveys carried out on 15,000 ha. Hoppers groups were reported from Ararat Province only. Hopper density varied from 8 to 30 individuals/m<sup>2</sup>. A total of 2,000 ha was treated by ground (hand-held sprayers and tractors) in June, of which 620 ha in Ararat Province, 300 ha in Shirak, 610 ha in Syunik and 200 ha in Vayots Dzor.

##### **• FORECAST**

*CIT will fledge in July. It is expected that local infestations only will be present without spread out. Limited control operations will take place as needed.*

#### **Azerbaijan**

##### **• SITUATION**

DMA hopper development continued and fledging started in the north-west (Djeiranchel, Eldar steppes), near the border with Georgia, in the east (Garas, Padar plain) and in the south (Haramin plain), where hoppers of 4<sup>th</sup> and 5<sup>th</sup> instars as well as young winged adults were observed. Ground control operations continued during June in the north-west and in the east against late instar hoppers and young adults. A total of 2,250 ha was treated in June, using pyrethroids sprayed by hand-held, back-packed and tractor-mounted sprayers. The effectiveness of the control operations varied from 85 to 90%. Public awareness continued to be done on locust control operations (directly or through local TV spots).

##### **• FORECAST**

*DMA hoppers escaping the control operations will fledge during the 1<sup>st</sup> half of July. Mating and egg-laying will start by mid-July. Limited control operations will continue during the forecast period.*

#### **Georgia**

##### **• SITUATION**

DMA adults only were present during the month. Survey and control operations focused on CIT. CIT hoppers from 3<sup>rd</sup> to 5<sup>th</sup> instars, including bands at a density ranging from 500 to 1,000 hoppers/m<sup>2</sup>, were located in Kakheti, Kvemo Kartli and Shida Kartli regions. At the end of June, fledging had started and 5<sup>th</sup> instar hoppers represented 10 to 15% only of the CIT population. A total of 8,470 ha was sprayed by ground and air (71% of the treated area) in the main infested areas, Kakheti (7,185 ha), Kvemo Kartli (785 ha) and Shida Kartli (500 ha) regions using organophosphates, pyrethroids and IGRs.

##### **• FORECAST**

*CIT maturation will occur in July followed by mating and egg-laying. It is planned that the National Food Agency (NFA) specialists will undertake other survey and control operations, including for identifying egg-beds.*

### **CENTRAL ASIA**

#### **Afghanistan**

##### **• SITUATION**

DMA adults only were present in June. Ground control operations (with hand-held and vehicle-mounted sprayers) were carried out from 4<sup>th</sup> to 27<sup>th</sup> June on a total of 1,374 ha using pyrethroids in Baghlan (930 ha), Takhar (296 ha) and Badakhshan (148 ha). At the end of the month, control operations were still in progress and the situation was still considered as worrying. More than 190,000 ha have been treated so far during the current campaign, including against DMA swarms in the three main infested above-mentioned provinces. It was reported that DMA swarms had damaged at least two hectares of cotton crop.

#### • FORECAST

*DMA life cycle will be completed during the forecast period. No further development is expected this year.*

*Egg-bed surveys will be carried out to locate the potentially infested areas in view of the 2013 campaign. The Plant Protection and Quarantine Directorate (PPQD) also plans to organize an end-of-campaign meeting to identify strengths and weaknesses and be better prepared for the next campaign.*

### **Kazakhstan**

#### • SITUATION

A total of 1,970,390 ha were treated up to 20<sup>th</sup> June against hopper infestations of CIT (1,696,030 ha, i.e. 86% of the whole treated area), DMA (132,010 ha) and LMI (142,350 ha).

#### • FORECAST

*DMA egg-laying will probably occur in July in the southern part of the country and adults will eventually disappear. CIT hopper populations will progressively fledge from early July in the northern provinces, followed by mating and egg-laying during the 2<sup>nd</sup> half of July. During the forecast period, LMI hopper development will take place in the North while fledging followed by maturation, mating and egg-laying may occur in the western and eastern regions.*

### **Kyrgyzstan**

#### • SITUATION

In June, surveys were carried out on 19,450 ha in Naryn, Jalal-Abad and Chui provinces. A total of 14,453 ha were infested mainly in Naryn (more than 88%) and by CIT (93%). CIT hatching started on 4 June in Naryn and continued throughout the month; 1<sup>st</sup> to 4<sup>th</sup> instar hoppers were observed at densities ranging from 7 to 35 individuals/m<sup>2</sup> and forming groups, whose size varied from 2 to 10 m<sup>2</sup>. In Chui, close to the Kazakh border, 4<sup>th</sup> to 5<sup>th</sup> instar hoppers prevailed at mid-month at a density of 5-18 individuals/m<sup>2</sup>; hoppers formed groups, which moved



towards foot hills. In Jalal-Abad, groups of 4<sup>th</sup> to 5<sup>th</sup> instar DMA hoppers were observed moving to foot hills during the 2<sup>nd</sup> decade of June at densities of 10-18 hoppers/m<sup>2</sup>. A total area of 8,869 ha was treated by ground of which 7,219 ha and 650 ha in Naryn and Chui respectively against CIT, and 1,000 ha in Jalal-Abad against DMA.

A joint cross-border survey was carried out on 21-22 June by regional and district specialists from Talas Province, Kyrgyzstan, and Zhambyl Province, Kazakhstan. A DMA population, at a density of 0.1 to 0.6 individuals/m<sup>2</sup>, was found on 840 ha.

#### • FORECAST

*CIT will fledge during the first half of July. It is expected that control operations against CIT will be completed in the Naryn Province by the end of the 2<sup>nd</sup> decade of July.*

### **Russian Federation**

#### • SITUATION

The results of hopper surveys carried out in June in 5 Federal Districts (FD) were the following: average of 7 hopper/m<sup>2</sup> on 38,9% of the surveyed area in the Central FD; average of 23,4 hoppers/m<sup>2</sup> on 40,9% of the surveyed area and of 3 adults/m<sup>2</sup> on 26,9% of the surveyed area in the Southern FD; average of 12,4 hoppers/m<sup>2</sup> on 79,5% of the surveyed area and of 3,5 adults/m<sup>2</sup> on 80,4% of the surveyed area in the North Caucasian FD; average of 10,5 hoppers /m<sup>2</sup> on 45% of the surveyed area and of 1 adult/m<sup>2</sup> on 8,5% of the surveyed area in the Volga FD; and average of 7,5 hoppers/m<sup>2</sup> on 44,3% of the surveyed area and of 3,9 adults/m<sup>2</sup> on 42,3% of the surveyed area in the Siberian FD. This concerned mainly CIT.

A total area of 1,109,800 ha was treated using 1,192 ground sprayers and 57 aircraft. This represents almost 2.5 times the area treated in June 2011. The situation continued to be considered as very serious.

• **FORECAST**

*During the forecast period, the hopper development of the three locust species will come to an end, fledging will occur and adults will mate and lay eggs.*

**Tajikistan**

• **SITUATION**

No bulletin was received for June.

• **FORECAST**

*DMA populations will progressively disappear during the forecast period. CIT adults will mate and lay eggs.*

**Turkmenistan**

• **SITUATION**

No bulletin was received for June.

• **FORECAST**

*DMA populations will progressively disappear during the forecast period.*

**Uzbekistan**

• **SITUATION**

DMA life cycle came to an end after mass breeding. Its main infestations were found at altitudes varying from 2,200 to 2,800 m. CIT did not represent a real threat this year, even in Karakalpakstan where it was the major pest last year. However, it was observed that CIT numbers were increasing in cotton-growing areas, near the cotton field and along the irrigation ditches, mainly in Jizzah, Syrdarya and Tashkent provinces. Concerning LMI, more than 93% of the infested area around the Aral Sea was treated. In June, control operations against the three species were carried out on 108,841 ha. So far, 280,841 ha have been treated during the current campaign, of which almost 70% against DMA, 16% against LMI and 14% against CIT.

• **FORECAST**

*During the forecast period, DMA and CIT will progressively disappear. Late control operations will probably be necessary against LMI adult populations around the Aral Sea as the area was still flooded in June.*



## Announcements

**Locust warning levels.** A colour-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 [Annie.Monard@fao.org](mailto:Annie.Monard@fao.org). Monthly information received by the 5<sup>th</sup> 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.

**June events and activities.** The following activities were ongoing or occurred:

- From December 2011, preparation of the monographs on the three CCA locust pests.
- National FAO Technical Cooperation Project (TCP) for Tajikistan approved.
- Technical assistance and training workshop on locust monitoring provided to **Afghanistan** and **Tajikistan** on 30 May-3 June (S. Ghaout).

- Joint survey between **Afghanistan** and **Tajikistan** in Tajikistan (Khatlon Region) on 5-9 June.
- Internship for a Plant Protection Specialist from **Kazakhstan** organized in the National Locust Control Center (CNLAA), Morocco, on 10-29 June.
- Shootings for the preparation of a video tutorial on ULV spraying against Moroccan Locust made in Morocco.
- National reports/studies on remote sensing and Geographic Information Systems (GIS) applications used for locust monitoring and management received from many national consultants.
- E-Committee on background documentation on locusts in CCA started its work.

*Note: the above activities were implemented thanks to funding from FAO Regular Programme, FAO Technical Cooperation Programme and USAID.*

**July events and activities.** *The following activities are scheduled:*

- Joint cross-border survey between **Uzbekistan** and **Turkmenistan** may be organized in July.
- Last national reports/studies on remote sensing and Geographic Information Systems (GIS) applications used for locust monitoring and management to be received from national consultants.
- A GIS specialist will start preparing a study, at the regional level, on remote sensing and Geographic Information Systems (GIS) applications used for locust monitoring and management in CCA countries. In-depth collection of information includes visits to GIS specialists in Russia and in the UK in July, as well as liaison with the above-mentioned national consultants.
- E-Committee on pesticides registration for locust control in CCA should start its work.



Advance information:

The next annual Technical Workshop in CCA should be held on 12-16 November, Bishkek, Kyrgyzstan.

