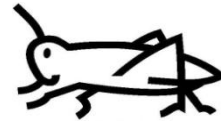




## LOCUST BULLETIN No. 28



FAO - Plant Production and Protection Division (AGPM)

15 May 2014

**Situation level: THREAT in Kazakhstan and in Kyrgyzstan**

**Situation level: CAUTION in Afghanistan (Moroccan Locust, DMA) and in Georgia (Italian Locust, CIT)**

**Situation level: CALM elsewhere**

### General Situation during April 2014 Forecast until mid-June 2014

Due to slightly delayed locust hatching in Caucasus and Central Asia (CCA), in addition to Afghanistan, only three other countries started control operations. Hence, a total of 135 000 ha were treated in April against Moroccan Locust (DMA) hopper bands in Afghanistan, Azerbaijan, Kyrgyzstan and Uzbekistan. DMA hopper development will continue in those countries and in Kazakhstan, followed by fledging before the end of the forecast period. Italian Locust (CIT) hopper development will continue in Georgia. CIT and Migratory Locust (LMI) hatching will start in May.

**Caucasus.** Following a significant increase in temperatures, hatching started in April, except in Armenia. In Azerbaijan, 30 000 ha were treated against DMA hoppers in the South, along the Iranian border. In Georgia, early CIT instar hoppers were observed and the control operations will start in early May.

**Central Asia.** DMA hopper development was in progress in Afghanistan, Kazakhstan, Kyrgyzstan and Uzbekistan, where a total of more than 105 000 ha were treated. Hopper development is also

probably in progress in Tajikistan and Turkmenistan. Italian Locust (CIT) and Asian Migratory Locust (LMI) hatching will start from the 1<sup>st</sup> half of May.

### Weather and Ecological Conditions in April 2014

After persistent low temperatures in March, the weather came back to normal, providing suitable conditions for locust hatching and hopper development in southern Caucasian and Central Asian countries. However, unusually heavy rain fell in Afghanistan.

In Caucasus, temperatures significantly increased in April.

In Armenia, the weather was unstable and mostly rainy (more than 15 days). The average temperature was mostly normal with little variations of 2/5°C. Temperatures ranged from +4/+8°C to 28/31°C in the lowlands, from 0/+2°C to 21/26°C at foothills and from -2/-3°C to 17/22°C in mountainous areas. Spring field work continued. In lowlands and foothills, fruit trees were flowering. In mountainous areas, agricultural activities started. The natural vegetation was mostly green with a dense cover in lowlands and foothills and with a medium one in mountainous areas.

In Azerbaijan, the weather was relatively warm with



average temperatures of 16/23°C and some rains, therefore suitable for hatching and hopper development. Wind speed was of 5-10 m/s. Natural vegetation was developing but had a sparse cover; cereal crops were at the sprouting stage.

In Georgia, the weather was cold during the 1<sup>st</sup> half of April with temperature as low as 0°C on 6<sup>th</sup> April and warmed later with temperatures around 25°C on 19-20 April. There were two rainy days only with rainfall of 2/3 mm. Natural vegetation was greening and had a medium cover.

In **Central Asia**, weather was variable, with heavy rains in some areas.

In Afghanistan, heavy rains fell causing floods and mudslides as well as crop losses in four northern provinces (Badghis, Faryab, Jowzjan and Sar-i-pul). Crops and natural vegetation were green.

In Kazakhstan, the weather was unstable. In the South, there were sunny days followed by precipitation of rain and snow in the mountainous areas. Average temperatures ranged from 1.5°C to 21°C with minimum of -7°C and maximum up to 30°C. Relative humidity varied from 31 to 98%. Wind speed was of 1-35 m/s. In the East, rain and snow were registered. Average temperatures ranged from -0.5°C to +14°C with minimum of -6°C and maximum of +22.4°C. Relative humidity was of 59.4%. Wind speed reached 10 m/s. In the West, the weather was characterized by variable cloudiness and precipitation of snow and rain. The average temperatures ranged from -2 to 20.7°C with minimum of -6.1°C and maximum of 23.3°C. The relative humidity varied from 17 to 92%. Prevailing winds had a speed of 1-15 m/s. In the North, the weather was variable and windy with rain, snow and hail resulting in a temperature drop. The average day temperatures ranged from -3.5°C to +16°C, with minimum of -12.3°C and maximum of +24°C. The relative humidity ranged from 35 to 96%. The wind speed was of 1-20 m/s with gusts at 43-61 m/s.

In Kyrgyzstan, the average monthly temperature of 10/12°C was normal with minimum night temperatures of 0/2°C and maximum of 27°C. The biggest temperature range was noted during the last ten days of the month. The monthly rainfall was close to normal (47-53 mm). The natural vegetation was green, with a medium cover and a height ranging from 3 to 7 cm.

In the Russian Federation, weather was variable in most of the Federal Districts (FD) and unusually warm in Siberian FD. In southern regions of Central FD, the weather was cool and rainy during the 1<sup>st</sup> half of April and deteriorated later. Temperatures ranged from 1 to 26°C. In North Caucasus and Southern FD, the weather was patchy with temperatures ranging from 2-4°C in some areas and reaching up to 27°C in others. In the Volga FD, the temperatures were normal to cold, ranging from -1°C in the North to +2/3°C in the South. In Siberian FD, the 1<sup>st</sup> half of April was characterized by unusually warm weather, some days with frost, rain and moderate to strong winds, sometimes with dust storms. The temperature ranged between 6.5 and 24°C.

In Uzbekistan, temperatures were of 36°C during the day and 16°C at night.

### Area Treated in March 2014

Afghanistan	52 715 ha (2-30 April 2014).
Azerbaijan	30 000 ha
Kyrgyzstan	9 600 ha
Uzbekistan	43 154 ha (up to 6 <sup>th</sup> May)

## Locust Situation and Forecast

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

### CAUCASUS

#### Armenia

##### • SITUATION

The locust situation was calm and no hatching was observed as weather conditions were still unsuitable for locusts.

##### • FORECAST

*Hatching of Italian Locust (CIT) is expected from mid-May onwards. It is anticipated that control operations will start in early June. The development of the two other locusts is not expected unless they arrive from neighboring countries.*

#### Azerbaijan

##### • SITUATION

During survey operations carried out in the South, in Bilasuvar district along the Iranian border, first hatching of Moroccan Locust (DMA) was observed in mid-April. Chemical control operations started in the 3rd decade of April using pyrethroids applied by hand-held and tractor-mounted sprayers. A total of 30 000 hectares was treated.

##### • FORECAST

*Increase of temperatures will favor and speed up DMA hatching and hopper development in May. Control operations against hoppers will continue during the forecast period.*

#### Georgia

##### • SITUATION

DMA hatching and hopper development were probably affected by low temperatures during the 1<sup>st</sup> half of April as no hopper bands were observed.

CIT hatching as well as hopper infestations of 1<sup>st</sup> and 2<sup>nd</sup> instars were observed on half of the 100 ha surveyed on 28 April in Kakheti, close to the Azeri



border. Control operations will start during the 1<sup>st</sup> decade of May.

##### • FORECAST

*CIT hopper development will continue during the forecast period.*

### CENTRAL ASIA

#### Afghanistan

##### • SITUATION

DMA hopper bands were observed during surveys carried out in pastures and arable land in six northern and north-eastern provinces; hoppers were of 3<sup>rd</sup> and 4<sup>th</sup> instars in Baghlan, Balkh, Kunduz, Samangan and Takhar, and of 2<sup>nd</sup> and 3<sup>rd</sup> instars in Badakhstan, where hatching was delayed by cold weather. A total of 52 715 ha were treated by ground in these six provinces, mainly in Baghlan, Kunduz and Samangan (almost 12 000 ha in each), using Insect Growth Regulator and pyrethroids in ULV formulation.

##### • FORECAST

*DMA fledging is expected during the 2<sup>nd</sup> half of May in the six provinces and will probably be followed by back and forth movements across the borders with the neighboring countries. Locust control operations will continue during the forecast period.*

#### Kazakhstan

##### • SITUATION

DMA spring egg-pod surveys were completed in the South (South-Kazakhstan and Zhambyl oblasts). Out of 29 650 ha surveyed, egg-pods were present on 6 370 ha. Number of eggs per pod was 20 to 37. From 1.3 to 10% of the egg-pods were found infested by parasites or affected by disease. In South-Kazakhstan, out of 338 400 ha surveyed, 70 400 ha were infested by 1<sup>st</sup> to 3<sup>rd</sup> instar hopper bands (1<sup>st</sup> instar prevailing with 85% of the hopper population), of which 34 400 ha exceeding the economic threshold.



CIT spring surveys were carried out on 146 800 ha and egg-pods were found on 43 100 ha. Number of eggs per pod varied from 12 to 47; parasitism and diseases concerned 1 to 40% of the egg-pods. In South-Kazakhstan, hopper surveys started on 4 400 ha but no infestation was found.

LMI spring surveys were carried out on 30 700 ha and egg-pods were found on 5 300 ha. The egg-pod density ranged from 1 to 10/m<sup>2</sup> and the number of eggs per pod from 34 to 92. Parasitism and diseases concerned 1.2 to 40% of the egg-pods, the maximum being reached in West Kazakhstan.

• **FORECAST**

*In South Kazakhstan, DMA penultimate moult and fledging are expected in mid-May and during the 3rd decade of the month respectively. In Zhambyl, hatching should start during the 1st decade of May and be followed by mass hatching during the 2nd half of the month.*

*In the South, CIT hatching should start during the 1st decade of May and be followed by mass hatching during the 2nd and 3rd decades. In the West, hatching should start during the 2nd decade of May and mass hatching should occur during the 3rd one. In the North and East, hatching is expected from the end of the 2nd decade of May and during the 3rd one respectively.*

*In the South and the West, LMI hatching is expected during the 3rd decade of May if the weather conditions are suitable. In the North, LMI hatching should start in early June. In flooded areas of West Kazakhstan, hatching will start later*

**Kyrgyzstan**

• **SITUATION**

DMA hatching started on 11 April in Jalal-Abad oblast and hoppers up to 3rd instar were observed before the end of April. Out of 19 732 ha surveyed in that oblast and in Batken, hoppers were found on 14 474 ha at an average density of 9-17/m<sup>2</sup>. So far, 9 600 ha were treated by ground in Jalal-Abad using

organophosphates, phenyl-pyrazole and pyrethroids in ULV and EC formulations.

• **FORECAST**

*DMA mass hatching is expected before mid-May in Batken, Jalal-Abad and Osh oblasts. CIT mass hatching should occur from mid-May in Chui, Naryn and Talas oblasts. The anticipated quick temperature increase will result in the fast drying out of the natural vegetation and the subsequent move of locust populations to the nearby crops.*

**Russian Federation**

• **SITUATION**

Egg-pod surveys continued in five Federal Districts (FD). The average density of egg-pods was of 0.49/m<sup>2</sup> in the Central FD, 1.4/m<sup>2</sup> in the North Caucasus FD, 2.7/m<sup>2</sup> in the Southern FD, 4/m<sup>2</sup> in the Volga FD and 0.3/m<sup>2</sup> in the Siberian FD. According to preliminary results, very few egg-pods were infested by parasites or affected by disease. Grasshopper hatching started on 4 April in Chechnya, from 20 April in Astrakhan and from 24 April in Kabardino-Balkaria.

Several meetings were held with the Kazakh specialists to coordinate locust activities.

• **FORECAST**

*Grasshoppers and locusts will hatch in the southern regions of the Russian Federation during the forecast period.*

**Tajikistan**

• **SITUATION**

No bulletin was received for April. DMA hopper development should be in progress in southern, central and northern parts of the country and control operations should have started against hopper bands.

• **FORECAST**

*DMA fledging will probably occur during the forecast period. CIT hatching followed by hopper development*

is likely to take place in the North (Sughd).

## Turkmenistan

### • SITUATION

No bulletin was received for the second consecutive month.

### • FORECAST

*DMA hopper development will continue through the forecast period.*

## Uzbekistan

### • SITUATION

DMA hopper bands of 3<sup>rd</sup> to 4<sup>th</sup> instars were present in the South while 2<sup>nd</sup> instar hopper bands were observed in the North. As of 6<sup>th</sup> May, 43 154 ha had been treated by ground against DMA hopper infestations at a daily rate of 4 700 ha in Jizzah, Kashkadarya, Surkhandarya and Tashkent oblasts. Control operations against CIT have not yet started.

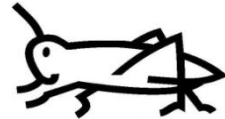
### • FORECAST

*DMA fledging will occur during the forecast period, when the vegetation will dry out, which will probably result in an extension of the areas infested by the pest. CIT and LMI hatching is expected to start during the second half of May.*

## 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](mailto:CCA-Bulletins@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.

### **April 2014 events and activities.**

- **Locust Geographic Information System (GIS):** The FAO Consultant, GIS Expert, Ms Muratova, visited the Russian Federation on 18-23 April, Georgia on 23-29 April and Kazakhstan on 30 April-7 May in the framework of the work carried out to develop the GIS at national and regional levels and to collect field data. She also delivered a regional training on automated system of data collection (ASDC) to the benefit of a total of 13 specialists from Armenia (three), Azerbaijan (three), Georgia (four) and the Russian Federation (three) on 26-28 April in Georgia (Gurjaani, Kakheti).
- **Cross-border activity:** A cross-border survey between Kyrgyzstan and Uzbekistan involving a total of 11 plant protection officers/locust specialists was carried out in the Fergana Valley on 26 April-4 May 2014.

### **Forthcoming events and activities in May 2014.**

- **Locust Geographic Information System (GIS):** A training session on ASDC, completed by field data collection, will be delivered to the benefit of seven national plant protection officers and locust

experts by the FAO Consultant, GIS Expert, Ms Muratova, on 21-23 May in Karshi, Uzbekistan.

- **Ground ULV Spraying Techniques:** A training session will be delivered to the benefit of 12 national plant protection/locust specialists by Mr T. Sander, Micron Technical Manager, on 19–23 May 2014 in Schuchinsk, Kazakhstan.

