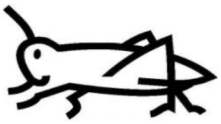
Food and Agriculture Organization of the United Nations

Locust Watch
Locusts in Caucasus and Central Asia

LOCUST BULLETIN No. 48



FAO - Plant Production and Protection Division (AGP) *15 May 2017*

Situation level: CAUTION in Kazakhstan, Kyrgyzstan and Tajikistan (for DMA only)

Situation level: CALM elsewhere for the three locust pests

General Situation during April 2017 Forecast until mid-June 2017

Due to poor weather conditions for locusts, hatching of the three locust pests was delayed everywhere as compared to 2016 and therefore the situation is still relatively calm. Nevertheless, Moroccan Locust (DMA) hopper development was in progress in Azerbaijan and in all Central Asian (CA) countries. During the forecast period, DMA hopper development will continue and fledging will start in the southern CA countries. Hatching of the Italian (CIT) and Migratory (LMI) locusts (CIT) is expected in May. So far, a bit more than 224 000 ha have been treated in five CA countries against DMA hopper bands.

Caucasus. DMA hatching was reported in Azerbaijan only and is not expected to start before mid- May in Georgia. CIT hatching should not start before mid-May. No control operations were carried out in the region.

Central Asia. DMA hatching started in three additional countries, **Kazakhstan**, **Kyrgyzstan** and **Russia**; as a consequence, hopper development was in progress throughout the region with hopper bands reported in all countries. A total area of 223 846 ha was treated in Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Turkmenistan, which represents almost the same surface than in April 2016. CIT and LMI hatching should start from the 1st and the 3rd decade of May respectively.

Weather and Ecological Conditions in April 2017

In Caucasus, the weather was still cool. In Central Asia (CA), temperatures started increasing and rains fell locally at times. Overall, conditions continued to be not very suitable to locusts.

In **Caucasus**, the weather was still cool and not yet suitable for locust hatching.

In Armenia, daily temperatures ranged from 10 to +20°C in lowlands and from 5 to 15°C at foothills, where rains and snow fell at times. The conditions were still unsuitable for locust hatching as it was the case in 2016.

In Azerbaijan, the weather was mostly cool in April and not suitable for egg development and hatching. The average monthly temperature was of 10/12°C and wind speed was of 2-4 m/s. The natural vegetation cover was still low with green sprouts. Crops were at tillering and full development stage.

In Georgia, average temperature was of 10.1°C, ranging from 0.1° to 23.3°C, and rain amounted 23 mm; both were less than in 2016. Consequently, as compared to 2016, locust hatching will start a bit later and percentage of eggs damaged by fungus be lower. Natural vegetation was green with a medium to high cover; crops started growing.

In **Central Asia**, the weather was still unstable and locally rainy, nevertheless becoming progressively suitable for locust hatching and hopper development.

In Kazakhstan, the variable weather persisted and temperatures started increasing later than in 2016. In the South, the weather was variable with sunny days and some precipitation fell in the form of rain (at foothills) and snow (in mountainous areas), whose amount ranged from 10.0 to 216.0 mm. The average daily temperature ranged from -1.4 to +22°C with minimum of -6°C (at night) and maximum of +30°C. Relative humidity varied from 32 to 96%. South-easterly and north-westerly winds prevailed at a speed of 1- 12 m/s. In the East, the weather was unstable with some rain and snow (32.2 mm). Temperatures increased from 0 to 10°C during the 1st decade and continued increasing later on. The average daily temperature was of 5.1°C with minimum of -9°C (at night) and maximum of 25°C. Relative humidity was of 64.8%. North-westerly and south-easterly winds prevailed at a speed of 3.6 m/s and up 15 m/s in gusts. In the West, the weather was variable with rain and snow (from 5.8 to 38 mm). The temperature started to exceed 0°C from 6 April, i.e. later than in 2016. The average daily temperature ranged from -7.2°C to 21°C, with minimum of -13.3°C and maximum of 25.0°C. Relative humidity varied from 20 to 91%. South- westerly, southerly and north-westerly winds prevailed at a speed of 1.3-9 m/s and up 15 m/s in gusts. In the North, the weather was variable with precipitation in the form of rain and snow, ranging from 0.15 to 103 mm in Akmola. The temperature started to exceed 0°C from 10-11 April, i.e. 13 days later than in 2016.The average daily temperature ranged from -9 to 16.5°C with minimum of -13°C and maximum of 25°C. Relative humidity ranged from 35 to 100%. South-westerly and easterly winds prevailed at a speed of 1-10 m/s and up to 20 m/s in gusts.

In Kyrgyzstan, the weather was cooler than usual (below normal), with average monthly temperature of 7- 9°C. Temperatures ranged from -3 to +3°C at night and from +5°C to 22°C during the day. The monthly amount of precipitation was above the normal (ranging from 86 mm to 108 mm). The natural vegetation was green with a medium cover and a height of 5-8 cm.

In the Russian Federation, the temperatures were within the norm but lower than usual rain fell. In southern regions of the Central Federal District (FD), the temperature ranged from 0 to 20°C during the 1st decade of April, which was within the long-term average. Average amount of rain was of 4 mm representing 12.9% of the norm. In North Caucasus and South FDs, the weather was variable. Average daily temperatures ranged from 10 to 25°C. Rains and strong winds prevailed in almost all districts. In Volga FD, average temperatures ranged from -1 to 22°C and little rain fell. In the Siberian FD, the weather conditions were within the norm, with low amount of rain and weak to moderate winds. The average daily temperature was of 1.6°C.

In Tajikistan, temperatures ranged from 13 to 19°C at night and 14 to 26°C during the day in the 1st decade of April and from 15 to 20°C at night and 22 to 35°C during the day in the remaining part of the month, except for three days (26-28 April) when heavy rains fell. These temperatures were a bit higher than expected. As per forecast from the National Meteorological Centre, temperatures in May should range from 13 to 20°C at night and 20 to 35°C during the day.

In Turkmenistan, the weather changed over the month and was very hot during the 1st week of April. The

average temperature was of 19°C, with minimum of 13°C and maximum of 30°C.

Area treated in April 2017

Kazakhstan	153 630 ha
Kyrgyzstan	19 800 ha
Russia	500 ha
Tajikistan	23 193 ha
Turkmenistan	26 723 ha

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

• **SITUATION**

No surveys were carried out as the weather conditions were still unsuitable for locust hatching.

• **FORECAST**

Italian Locust (CIT) hatching is not expected before mid-May and surveys are scheduled during the 3rd decade of that month. As per monitoring results from 2016, CIT infestations could occur in Ararat and Artashat regions.

Azerbaijan

• **SITUATION**

Hatching started from 23rd April in Kudirin plains, in the South-east. No control operations were carried out. Local population was informed about the need to report on hatching to Plant Protection Service.

• **FORECAST**

Warming and persistence of suitable weather conditions will foster hatching and hopper development, which will occur in May. Control operations could start from the beginning of May.

Georgia

• **SITUATION**

No Moroccan Locust (DMA) hatching was observed in April as it was delayed by cool temperatures. Consequently the anti-locust campaign will start laterthan anticipated and than in 2016. Relatively dry winter should have limited damage to eggs due to fungus.

• **FORECAST**

With temperature increase in May, DMA hatching is expected during the 1st half of May while Italian Locust (CIT) hatching should start by the end of the month.

CENTRAL ASIA

Afghanistan

• **SITUATION**

No report was received. DMA mass hatching followed by band formation should have occurred in the low-lying areas.

• **FORECAST**

DMA fledging will start during the forecast period.

Kazakhstan

• **SITUATION**

Spring surveys continued both for DMA and CIT. As far as DMA is concerned, 35 600 ha were surveyed in the South (Zhambyl and South-Kazakhstan) and egg- pods were found on 23 790 ha (66 %); from 1 to 38% of egg-pods were damaged and the average number of eggs per pod ranged from 12 to 41. In South- Kazakhstan, DMA hatching started from 11 April; at the end of the month, more than 1 million ha had been surveyed of which 268 670 ha were infested by 1st to 3rd instar hoppers, including 174 210 ha above the economic threshold (ET). In Zhambyl, DMA hatching started from 25 April and 1 260 ha were surveyed up to 30 April; the DMA hopper density exceeded the ET on the 300 ha found infested. A total of 153 630 ha were treated against DMA hoppers in South-Kazakhstan.

Concerning CIT, egg-bed surveys were carried out on 93 015 ha and egg-pods were found on 33 503 ha at a density up to 2 egg-pods/m² on 21 006 ha, from 2 to

5 egg-pods/m² on 5 423 ha, from 5 to 10 egg-pods/m² on 3 900 ha and of more than 10 egg-pods/m² on 3 174 ha. Up to 31% of egg-pods were damaged (maximum found in Almaty and Pavlodar) and the average number of eggs per pod ranged from 9 to 46. No CIT hatching was observed.

LMI egg-bed surveys started and concerned 23 830 ha; egg-pods were found on 7 105 ha at a density up to 2 egg-pods/m² on 5 809 ha, from 2 to 5 egg-pods/m² on 846 ha, from 5 to 10 egg-pods/m² on 255 ha and of more than 10 egg-pods/m² on 195 ha. From 2 to 23% of egg-pods were damaged (maximum found in Almaty) and the average number of eggs per pod ranged from 37 to 89. No LMI hatching was observed.

• **FORECAST**

In May, DMA hopper development will continue and fledging will occur in Zhambyl and South-Kazakhstan. CIT hatching is expected to start from the end of the 1st decade of May in the South, during the 2nd and 3rd decades of May in the West and North and during the 3rd decade in the East. LMI hatching is expected during the 3rd decade of May in the South and West and not before the 1st decade of June in the North.

Kyrgyzstan

• **SITUATION**

DMA surveys were carried out in Jalal-Abad oblast only, on 27 512 ha, of which 22 600 ha were found infested by large hopper groups (from 0.5 to 1 ha) at a density of 12-16 hoppers/m². A total of 19 800 ha were treated by ground using pyrethroids in 3 Jalal-Abad districts.

• **FORECAST**

DMA hopper development will continue in Jalal-Abad and fledging will take place before the end of the forecast period while hatching is expected to occur at least until mid-May in Osh and Batken. CIT hatching should start during the 3rd decade of May in Chui, Naryn and Tala.

Russian Federation

• **SITUATION**

Spring egg-pod surveys continued in the South-West. Locust egg-beds were identified on 53 900 ha at a density ranging from 0.3 to 28 egg-pods/m² while grasshopper egg-beds were identified on 25 600 ha at a density ranging from 0.5 to 20 egg-pods/m². DMA hatching started in late April in the South-West (Kalmykia and Dagestan republics and Stavropol krai). An area of 500 ha was treated.

• **FORECAST**

Egg-pod surveys will continue in May. Hatching of all locust species is expected during the forecast period.

Tajikistan

• **SITUATION**

DMA hatching started from 6 April in 8 additional districts of Khatlon (i.e. hopper development was in progress in 17 out of 24 districts), from 12 April in Region of Republican Subordination (in 4 out of 13 districts of RRS) and from 21 April in Sughd (in 5 out of 14 districts). At the end of the month, hoppers had reached the 3rd instar and hopper bands that formed were of medium size, at a density of 150 to 260 hoppers/m². Control operations started from early April against DMA hopper bands of 1st and 2nd instar and were in progress. As of 2nd May, 23 193 ha had been treated out an infested area of 33 511 ha using a total of 6 585 litres of pyrethroid (63%) and Chlorpyrifos (37%).

• **FORECAST**

DMA hopper development will continue and fledging should occur by the end of the forecast period. It is expected that control against DMA hopper bands will be completed by the end of May. CIT hatching should not start before mid-May in Sughd.

Turkmenistan

• SITUATION

In April, surveys were carried out on 70 902 ha and 26 723 ha were treated mainly against DMA and in the East, in Lebap province, bordering Uzbekistan. So far, 17 ULV sprayers were used, treating up to 1 200 ha per day.

• FORECAST

Locust infestations should appear in the central part of the country, in Ahal and Daşoguz provinces, during the forecast period.

Uzbekistan

• SITUATION

No report was received for April. DMA hatching should have extended to most areas, including the less warm, and hopper bands should have formed, at least in the South.

• FORECAST

During the forecast period, DMA fledging will start, CIT hopper development will take place and LMI hatching will begin.

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 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.

April 2017 events and activities

- **Practical Guidelines on locust pests in CCA:** draft now also available in English.
- **Practical Guidelines on risk reduction related to locust control**: draft preparation (English) started.
- **Training-of-trainers on locust management:**
  - National session on the Automated System for Data Collection (ASDC) use to the benefit of 18 Kyrgyz Locust Experts delivered by the Kyrgyz Master-Trainers on 3-6 April in Osh, Kyrgyzstan;
  - One-day briefing sessions on locust spraying and risk reduction delivered to the benefit of 14 staff and local manpower in Kyrgyzstan (Jalal-Abad) on 28 April and to the benefit of 45 staff and local manpower in Tajikistan on 8 and 9 April in Khatlon (Qurghonteppa and Danghara areas) and on 21 April in RRS (Shahrinaw).
- **Sub-regional workshop on locust monitoring and information management, including use of ASDC and Caucasus and Central Asia Locust Management (CCALM) GIS** delivered to the benefit of 12 Locust Experts from Armenia (two), Azerbaijan (two), Georgia (three) and the Russian Federation (five) by Mr A. Latchininsky, Senior Locust Expert, Ms N. Muratova, Geographical Information System (GIS) Expert, and Mr D. Govorov, Deputy Director, Federal State

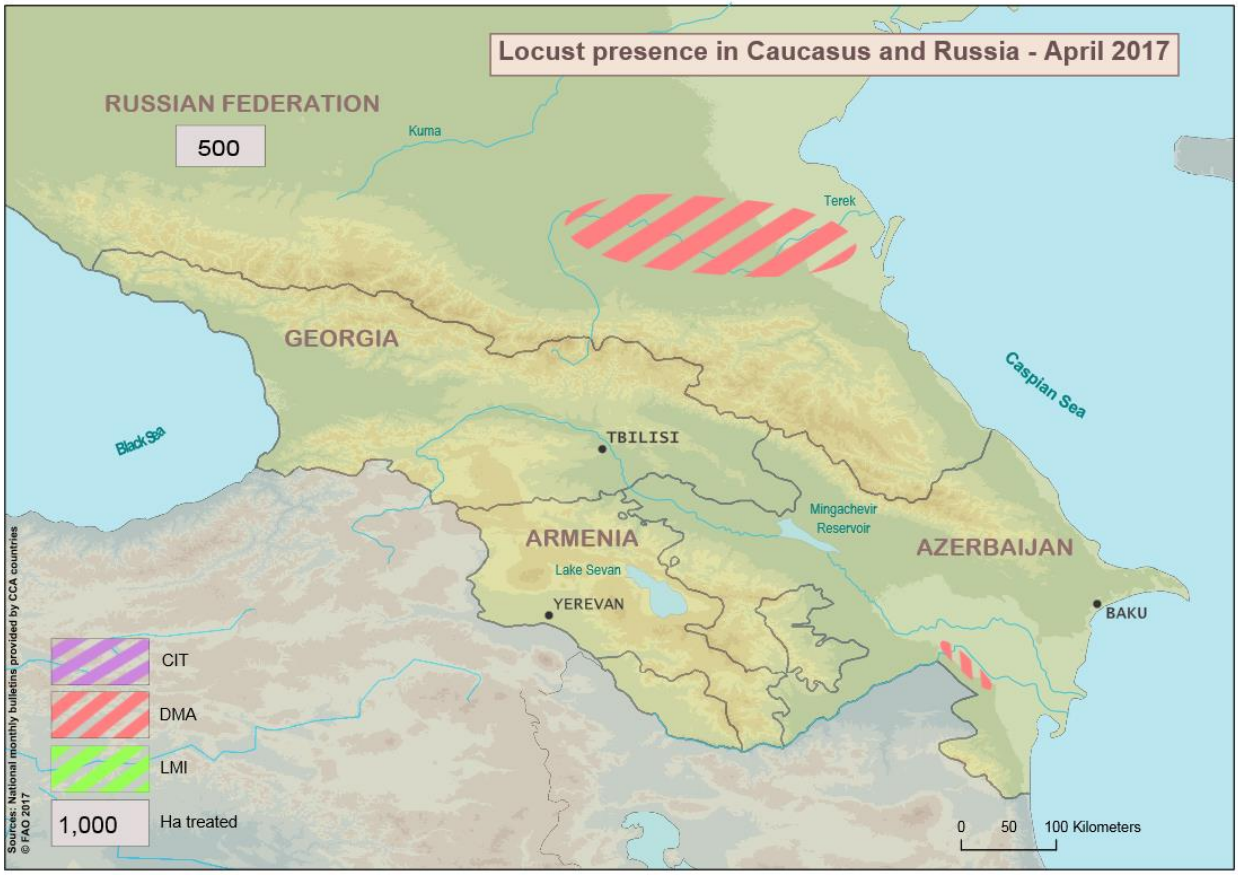
Institution "Russian Agricultural Center", Ministry of Agriculture, on 7-14 April in Stavropol, Russian Federation (joint funding by FAO and the Russian Federation).

- **National workshop on locust monitoring and information management**, including ASDC and CCALM use delivered to the benefit of 20 Azeri Locust Experts by Mr A. Latchininsky, Senior Locust Expert, and Ms N. Muratova, Geographical Information System (GIS) Expert, on 17-22 April in Baku, Azerbaijan.
- **Tablets for ASDC use** delivered to Armenia (two) and Azerbaijan (20) and under procurement/delivery to Afghanistan (36) and Georgia (15).
- **CCALM**: database for data analysis and forecast (advanced functions) deployed for testing during the 2017 locust campaigns (ongoing development) and presented by the GIS Expert to Armenia, Azerbaijan, Georgia and Russian (during the sub- regional Workshop) as well as in FAO- headquarter, including to the Information Technology (IT) Division.
- **Joint or cross-border surveys:**
  - Joint survey involving Armenia, Azerbaijan, Georgia and Russian Federation held in Stavropol, Russian Federation, on 11-13 April (during the sub-regional Workshop);
  - Cross-border survey between Tajikistan (Khatlon) and Uzbekistan (Surkhandarya) involving ten Locust Experts (five per country) and the FAO Agronomist (Plant Protection/Locusts) held on 11-18 April;
  - Joint survey between Afghanistan and Tajikistan initially scheduled in Khatlon, Tajikistan, on 24-30 April postponed to May 2017 due to visa issue.
- **Human Health and Environmental issues:** Action Plans prepared by the Human Health and Environmental Monitoring Teams, in Kyrgyzstan and Tajikistan.
- **Procurement of locust survey and control equipment**: ongoing process and delivery in the framework of project GCP/INT/238/JPN to the benefit of Afghanistan, Kyrgyzstan and Tajikistan.

Forthcoming events and activities in May 2017

- **Practical Guidelines on locust pests in CCA:** draft under review process.
- **Practical Guidelines on risk reduction related to locust control:** draft available in English.
- **Training-of-trainers on locust management:** one-day briefing sessions on locust spraying and risk reduction to the benefit of approx. 15 national Locust Experts per session scheduled in Kyrgyzstan and Tajikistan (at least one session per country in May).
- **Tablets for ASDC use** under procurement/delivery to Afghanistan (36) and Georgia (15).
- **ASDC**: to be operationally used in as much CCA countries as possible, using either tablets, smartphones or web-operator application on computers.
- **CCALM:** database for data analysis and forecast (advanced functions) under test during the 2017 locust campaigns.
- **Joint or cross-border surveys**:
  - Cross-border survey between Kyrgyzstan (Batken) and Tajikistan (Sughd) scheduled on 3-8 May;
  - Joint survey between Afghanistan and Tajikistan scheduled in Khatlon, Tajikistan, in mid-May (depending on visa obtaining).
- **Human Health and Environmental issues**: monitoring field missions to be carried out by the Human Health and Environmental Monitoring Teams in Kyrgyzstan and Tajikistan (at least one mission each in May) with technical and operational support provided by FAO.

- **Procurement of locust survey and control equipment**: ongoing process in the framework of project GCP/INT/238/JPN to the benefit of Afghanistan, Kyrgyzstan and Tajikistan.



Last updated in May 2017

For more information, visit: www.fao.org/locusts-cca/