Food and Agriculture Organization of the United Nations

Locust Watch
Locusts in Caucasus and Central Asia

LOCUST BULLETIN No. 68

FAO - Plant Production and Protection Division (AGP) 11 May 2020

Situation level: CAUTION in Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan (DMA)

Situation level: CALM elsewhere or for the other locust pests

General Situation during April 2020 Forecast for May 2020

Moroccan Locust (DMA) hopper development was in progress in Central Asia (CA) and in Azerbaijan. In Uzbekistan, dense hopper bands formed in the south. Italian Locust (CIT) hatching started in Uzbekistan. During the forecast period, DMA hatching will start in Russian Federation and fledging and mating will occur in the southern CA countries. CIT hatching will start in Georgia, Kazakhstan, Russian Federation and probably in Armenia. Migratory Locust (LMI) hatching may start in Uzbekistan, Kazakhstan and Russia at the end of the forecast period. In total, almost 163 000 ha were treated in CCA countries since the beginning of the campaign, which is 33% more than in April 2019.

Caucasus. DMA hatching started in mid- to late April in Azerbaijan where pesticide treatments started late in the month.

Central Asia. DMA hopper development was in progress in **Afghanistan, Kazakhstan, Tajikistan, Turkmenistan and Uzbekistan**. CIT hatching started in Uzbekistan. In April, 149 167 ha were treated, mostly against DMA, which is about 30% higher than in 2019.

Weather and Ecological Conditions in April 2020

The weather was unstable with close to normal temperatures and above-normal precipitations in almost all CA countries, resulting in good natural vegetation cover and some delays in DMA development. In Caucasus, the temperatures and precipitations were close to normal.

In **Caucasus**, the weather conditions were generally close to multiannual norm. In Azerbaijan, the temperatures were generally within the norm while the precipitations were slightly below the norm. The natural vegetation cover remained sparse and dry. Average monthly temperatures in the Central-Aran zone were 14□18ºC (7-12ºC at night, 18-23ºC at day, up to 26-31ºC in the third decade), which is close to or slightly above the climatic norm. Rainfall was slightly below the norm, which is 30-49 mm. In Ganja-Kazakh zone, average monthly temperatures were also close to or slightly above the norm, 13-17ºC (6-11ºC at night, 18-23ºC at day, up to 25-29ºC in the third decade). Precipitations were close to the monthly norm or slightly lower (31-54 mm).

In Armenia, the weather was cool and wet with temperatures between 10 and 18 ºC in valleys, 2 and 12 ºC in foothills, with abundant rains.

In Georgia, the weather was close to average.

In **Central Asia**, the weather was highly variable throughout the region, with temperatures close to the norm and above-normal precipitations. warm weather and above-normal precipitations contributed to establishment of green and dense natural vegetation cover in DMA habitats.

In Kazakhstan, the weather was highly variable. In the South, the weather was unstable, with clear and cloudy days, and abundant precipitations above the monthly norm (from 29 mm in Qzyl-Orda to 135 mm in Almaty oblasts). The average daily temperature ranged from 2 to 26°C with minimum of -4°C (at night) and maximum of 33°C. In the East, the weather was unstable with cloudy days and sharp temperature fluctuations. The average daily temperature ranged from 0 to 22.5 °C with minimum of -7°C and

maximum of 30°C. Precipitations (16 mm, below the monthly norm) fell in the form of rain and snow. In the West, the weather was variable with sunny, cloudy and windy days and light rains below the monthly norm (from 9 mm in Mangystau to 46 mm in Aktobe oblasts). The average daily temperature ranged from 0°C to 15.5°C, with minimum of -5°C and maximum of 20°C. In the North, the weather was very unstable with gusty winds and heavy rains (up to 41 mm). The average daily temperature ranged from -1°C to 23°C, with minimum as low as -10°C and maximum of 29°C.

In Kyrgyzstan, the weather was warm with temperatures 1 to 1.5 ºC above the climatic norm and average precipitations. In the south, average daily temperatures ranged from 13° to 15°C in the plains and from 11°C to 13°C at foothills. More specifically, temperatures ranged from 3/8°C to 9/14°C at night and from 13-18°C to 23-28°C during the day in the plains and from 1-6°C to 7-12°C (sometimes down to -2 ºC) at night and 11-16°C to 18-23°C during the day at foothills. Natural vegetation (grasses and *Artemisia* spp. mixed with ephemerals) was green with a 3-5 cm height and a medium cover.

In the Russian Federation, the weather was variable but generally favorable for overwintering egg-pods. In the Central Federal District (FD), the average monthly temperatures ranged from 3° to 6°C and rainfall ranged from 15 to 30 mm, which is below the norm. Topsoil (upper 10 cm) warmed up to 7-10 ºC in the southern half of the Central FD. In the South FD, average temperatures ranged from 7° to 11.5°C dropping down to -6 ºC at some nights. Precipitations fell significantly below the norm ranging from 9 to 25 mm. In North Caucasus FD, average temperatures ranged from 7° to 9°C and rain ranged from 13 to 63 mm, slightly below the norm. In Volga FD, average temperatures ranged from 3° to 7°C and rain ranged from 36 to 72 mm, slightly above the norm. In the Ural FD, average temperatures ranged from 4.5° to 6.5°C and rainfall ranged from 22 to 86 mm, slightly above the norm. In the Siberian FD, the weather was much warmer than usual, average temperatures ranged from -1.5° to 8°C and rainfall ranged from 5 to 30 mm, which is below the norm. Warm temperatures contributed to intensive melting of snow and warming of the topsoil. In the Far East FD, average temperatures ranged from 3° to 5°C and rainfall ranged from 26 to 47 mm, which is close to the norm. Snow melted out, topsoil started to warm up.

In Tajikistan, in the beginning of April the average temperature ranged from 11°C at night to 22°C during the day; in the remainder of the month the temperatures ranged from 15 to 22°C. Sporadic rain showers occurred throughout the month. Natural vegetation in DMA breeding areas in foothills of Khatlon was green and became dense at the end of the month.

In Uzbekistan, weather was variable, with large temperature fluctuations. Average temperatures ranged from 14 to 19°C, with maximum of 36 ºC in the middle of the month. Precipitations fell in the form of rain and even snow at the end of the first decade; heavy rains occurred in the end of the month and were accompanied by temperature drop.

Area treated in April 2020

Afghanistan	27 162 ha
Azerbaijan	285 ha
Kazakhstan	29 800 ha
Russia	500 ha
Tajikistan	36 086 ha
Uzbekistan	56 119 ha
TOTAL	149 952 ha

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

• SITUATION

Because of cool and wet weather, hatching of the Italian Locust (CIT) has not started yet.

• FORECAST

Italian Locust (CIT) hatching is expected in mid-May on small areas in Ararat, Armavir and Artashat districts.

Azerbaijan

• SITUATION

DMA hatching started in the middle of April in Kudiri plains. It started in the third decade in Agdam and Tartar districts near the border with Armenia. In Djeyranchel steppe and Samukhi district no hatching was spotted. In total, locust surveys were conducted on 21 747 ha out of which 3 120 ha were infested with DMA early instar hoppers. Treatments were scheduled to start in the beginning of the third decade but because of abundant rain showers, they started only on 28 April in Kudiri steppe where 285 ha were treated with a ULV formulation of a

pyrethroid mixture (permethrin and esbiothrin). In total, eight vehicle-mounted ULV and six tractor sprayers are prepared for treatments in Kudiri plains.

• **FORECAST**

Warm weather (according to the forecast, maximum daily temperatures in May are expected between 30° and 34°C) will contribute to mass DMA hatching and hopper development in Kudiri plains. In Djeyranchel steppe, DMA hatching is expected in the middle of May.

Georgia

• **SITUATION**

No locust-related activities were implemented in April. Based on last year data and reports from Azerbaijan, DMA hatching could have started in Eastern Georgia on small areas.

• **Forecast**

DMA mass hatching followed by hopper development will occur in May. CIT hatching is expected at the end of the forecast period.

CENTRAL ASIA

Afghanistan

• **SITUATION**

DMA hopper development continued throughout April, by the end of which most populations were in second, third and beginning of fourth instars. Control campaign started on 7 April in seven provinces, namely Badghiz, Baghlan, Balkh, Herat, Kunduz, Samangan and Takhar, which are located in the Northern, Northeastern and Western parts of the country. By the end of the month 27 162 ha were treated, including in Kunduz 13 854 ha, Baghlan 8 896 ha, Balkh 1 400 ha, Takhar 1 010 ha, Badghiz 900 ha, Samangan 690 ha and Herat 412 ha. Ground treatments were done with vehicle-mounted and backpack sprayers applying Diflubenzuron (to early instars), Deltamethrin and Lambda-Cyhalothrin, in both ULV and EC formulations.

• **Forecast**

DMA fledging will start in May in most of the infested provinces followed by mating.

Kazakhstan

• **SITUATION**

DMA egg-pod surveys were finished in April on a total area of 32 000 ha in Turkestan and Zhambyl oblasts out of which 3 800 ha were infested including 700 ha with densities over 10 egg-pods/m^2. Up to 66% of egg-pods were found damaged by parasites and microorganisms, which is a sign of depression of DMA populations. Egg-pod surveys were followed by surveys of hoppers at hatching. They were conducted in the same two oblasts on 799 500 ha out of which 71 800 ha were infested by DMA hoppers from first to fourth instars. Densities above the Economic Threshold (ET) were registered on 31 600 ha out of which 29 800 ha were treated with pesticides.

CIT egg-pod surveys were conducted on 127 800 ha out of which 20 700 ha were found infested, including 1 200 ha with densities over 10 egg-pods/m^2. Number of eggs in egg-pod ranged from 9 to 45 and the percentage of egg-pods damaged by parasites and microorganisms ranged from 1 to 50%.

LMI egg-pod surveys were conducted on 31 200 ha out of which 2 800 ha were found infested, including 100 ha with densities from 5.1 to 10 egg-pods/m^2. The number of eggs in egg-pod ranged from 40 to 105 and the percentage of egg-pods damaged by parasites and microorganisms ranged from 7 to 30%.

• **FORECAST**

DMA hopper development will continue and fledging will occur in May. CIT hopper development will continue in Jambyl oblast and hatching will start in other oblasts in the middle of May. LMI hatching will start in third decade of May.

Kyrgyzstan

• **SITUATION**

DMA hatching started on 7 April in Jalal-Abad oblast, on 20 April in Batken oblast (near the border with Tajikistan) and on 25 April in Osh oblast. In total, 5 460 ha were surveyed out of which 3 500 ha were infested, including 1 900 ha in Batken oblast, 1 550 ha in Osh oblast and 50 ha in Jalal-Abad oblast. Hopper densities ranged from 5 to 42 individuals/m^2. No chemical treatments were implemented in April.

• **Forecast**

DMA mass hatching will continue in the first and second decades of May. CIT hatching is expected in the third decade of May in Tchuy and Talass oblasts.

Russian Federation

- **SITUATION**

Spring egg-pod surveys were conducted on 370 330 ha out of which 57 440 ha were infested. Also, nymphal surveys were conducted on 3 940 ha but no hatchlings were detected in April. In the South FD, egg-pod survey was conducted on 178 100 ha out of which 6 030 ha were infested. The highest egg-pod densities over 15/m^2 were registered in Volgograd oblast. In North Caucasus FD, egg-pod survey covered 173 280 ha out of which 49 220 ha were found infested. The highest egg-pod density over 12/m^2 was registered in Stavropol region. In the Volga FD, egg-pod survey was conducted on 17 670 ha out of which 2 200 ha were found infested. The highest egg-pod density of 2/m^2 was registered in the Republic of Bashkortostan. In other FDs, surveys concerned mostly non-swarming grasshopper species.

- **FORECAST**

Locust hatching will occur in most areas in May, starting from the southern FDs.

Tajikistan

- **SITUATION**

DMA hopper development continued in Khatlon and Districts of Republican Subordination (DRS) and hatching started in Sughd. In total, 64 740 ha were found infested. At the end of the month most populations were in mid- to late-instars with densities between 150 and 300 individuals per m^2 in hopper bands. Anti-locust treatments in April covered 36 086 ha in Khatlon, Sughd and DRS. The insecticides used were pyrethroids Alpha-Cypermethrin and Lambda-Cyhalothrin.

- **FORECAST**

DMA fledging followed by mating will occur in the south while hopper development will continue in the north. CIT hatching will start in early May.

Turkmenistan

- **SITUATION**

No report was received. In view of the situation in the neighbouring countries, DMA hatching and hopper development should have occurred.

- **FORECAST**

DMA fledging followed by mating should occur in May.

Uzbekistan

- **SITUATION**

DMA hopper development continued in April by the end of which populations reached 3rd instar in the south and 2nd instar elsewhere. Hopper bands formed with densities from 400 to 1 200 individuals/m^2. CIT hatching started on 20 April in Karakalpakstan and in late April in Tashkent oblast. LMI hatching has not been registered yet. Anti-locust campaign continued with 56 119 ha treated in April with locally-manufactured pesticides Lambda-Cyhalothrin and Imidacloprid. In March and April, the largest area of 22 006 ha was treated in Kashkadarya oblast followed by 17 825 ha in Surkhandarya oblast, 9 779 ha in Jizzak oblast, 5 451 ha in Samarkand oblast and 2 761 ha in Navoyi oblast (all against DMA). Treatments against CIT took place on 2 969 ha in Tashkent oblast.

FORECAST

DMA fledging followed by mating and egg-laying will take place in May, starting from the southern oblasts. CIT hopper development will continue in Karakalpakstan and Tashkent oblast. LMI hatching may occur in the end of the month in Karakalpakstan.

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 1st 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.

Events and activities in April 2020

- **Report of the 2019 Technical Workshop on Locusts in CCA** (13-15 November 2019, Tashkent, Uzbekistan), including results of the Regional Workshop on Locusts Data Analysis, Forecast and Reporting in CCA (11-12 November 2019, Tashkent), shared with participants for comments and finalized.
- **Automated System for Data Collection (ASDC):** version 1.9 available online.
- **Human Health and Environmental Monitoring Teams:** Action Plan for the 2020 campaign received from Azerbaijan and Georgia and comments sent back to the Teams.
- **Emergency project (TCP/KYR/3801) for Kyrgyzstan** developed upon official request for assistance for the 2020 locust campaign, to be funded by the FAO Technical Cooperation Programme (USD 250 000).

Forthcoming events and activities in May 2020

- **Practical Guidelines on the three locust pests in CCA** to be completed and finalized in order to be submitted in the FAO internal approval system of publications.
- **Human Health and Environmental Monitoring Teams:** Action Plan for the 2020 campaign to be implemented with FAO technical and operational support in Azerbaijan and Georgia.
- **Update of technical specifications of main locust survey and control equipment** based on lessons learnt from previous purchases in the region specifically as well as elsewhere to contribute to preparedness.
- **Project TCP/KYR/3801 - Kyrgyzstan:** to be operationally started as soon as approved.
- **New project GCP/INT/384/JCA - Central Asia**: date of official signature of exchanges of notes and Grant Agreement between Japan International Cooperation Agency (JICA) and FAO to be fixed.

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