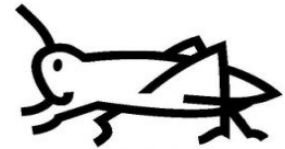




LOCUST BULLETIN No. 78



FAO - Plant Production and Protection Division (NSP)

17 September 2021

Situation level: **CAUTION** in Georgia (CIT)

Situation level: **CALM** elsewhere or for the other locust pests

General Situation during August 2021 Forecast for September 2021

Italian (CIT) and Asian Migratory (LMI) Locusts finished mating and egg-laying in most countries and started to die-off. The situation in August became *calm* for all species in most countries. A *cautious* situation with CIT still remains in Georgia. During the forecast period, CIT and LMI natural life cycles will come to an end. Control operations in August covered an area of 24 633 hectares (ha) in CCA, reaching about 1.93 million ha since the beginning of the 2021 campaign, which is similar to 2020.

Caucasus. Situation with CIT required attention in Georgia, where 10 965 ha were treated. The situation in Armenia with the CIT, as well in Azerbaijan with all three species, was *calm*. Control operations in Caucasus region have finished in August and covered 146 168 ha since the start of the campaign, out of which 75% in Georgia (115 000 ha).

Central Asia. LMI and CIT mating and egg-laying continued in Kazakhstan, Russian Federation and Uzbekistan and the locusts started to die-off gradually. Locust control operations ended in July in Afghanistan, Tajikistan, Turkmenistan and Uzbekistan and in August in Kazakhstan, Kyrgyzstan and Russian Federation. Control operations in Central Asia (CA) and Russian Federation, against locusts and grasshoppers, covered an overall area of over 1.78 million ha by the end of August.

Weather and Ecological Conditions in August 2021

In **Caucasus**, the weather conditions were hot and within the norm. Natural vegetation dried out.

In Armenia, the weather was dry and warm with average temperatures between 25-30°C.

In Azerbaijan, weather was hot until the end of the month and was close to the norm, but the precipitation was lower than the norm. Average daily temperature varied between 30°C and 35°C, reaching 39°C in some days. Southern winds prevailed with an average speed of 5 to 12 m/sec, and at maximum reaching 25 m/sec. Natural vegetation in all areas has dried up and harvest of cereal crops was completed.

In Georgia, the weather was hot and dry without any precipitation, with average monthly temperature ranging from 22°C to 38°C. Vegetation in most locust infested areas had medium density and was drying out.

In **Central Asia**, the weather was generally hot and dry, with temperatures and rainfall close to the annual norm. In some southern areas of Tajikistan and Uzbekistan, the average temperature was 1-3°C higher than the climatic norm.

In Afghanistan, the weather was dry and hot in the valleys and with some scattered precipitation in the mountainous areas.

In Kazakhstan, weather and precipitation varied among the geographic areas, but generally the weather was hot with close to the norm rains. In the South, the weather was



changeable, with mainly sunny and some cloudy days with rains close to the norm. Average temperature ranged from 15.4 to 34°C with a maximum of 43°C and a minimum of 9.3° C. Relative air humidity varied between 17 and 95%. Highest precipitation was observed in Jambyl oblast (38 mm), while in Kyzyl-Orda and Turkestan oblasts there was no precipitation at all. In the East, the weather was unstable with sunny and cloudy days and some precipitation. The average daily temperature was around 19.7°C with a maximum of 36° C and a minimum of 5°C. Relative air humidity was 62% and precipitation was up to 49 mm. In the West, the weather was hot and with rare rains. Average daily temperature ranged from 18.3°C to 35°C, with a maximum of 42.8°C and a minimum of 14.7°C. Precipitation in the form of rain felt in Aktobe oblast (6 mm), while there was none in other oblasts. Relative air humidity varied from 15 to 60%. In the North, the day and night temperature difference was quite high and gusty winds typical for this region prevailed. Average daily temperature ranged from 5.5°C to 26°C, with a maximum of 37.6°C and a minimum of 1°C. Wind speed was on average 1-3 m/sec, reaching 16 m/sec at its peaks. Precipitation was overall close to the norm in most areas, except Pavlodar oblast, where 49.2 mm of rain fell, higher than the norm.

In Kyrgyzstan, the weather in general was hot and close to the climatic norm, including in Naryn and Talas oblasts where locust control operations took place in August. In Naryn oblast, average temperature was 16-18°C, with day temperature ranging from 20 to 29°C and at night from 2 to 13°C. Precipitation was close to the annual norm (13-28 mm). In Talas oblast, average temperature was 18-20° C, with day temperature ranging from 20 to 35°C and at night from 8 to 14°C. Precipitation was close to the annual norm (6-12 mm). Natural vegetation in the locust infested areas was of medium density and dried out.

In the Russian Federation, the temperature and precipitation were close to the climatic norm in most of the Federal Districts (FD). In the Central FD, the temperature was on average 20.2-23°C, up to 34.3°C. Rainfall ranged from 20 to 50 mm. In the South FD, the weather was warm with a temperature ranging from 18.4 to 27.2°C, reaching 39°C in some hot days. Rainfall ranged from 70 to 150 mm, which significantly exceeds the norm. In North Caucasus FD, average monthly temperature was 24-27°C, with a maximum of 38°C, and precipitation ranged from 15 to 90 mm. In Volga FD, the average daily temperature varied from 19° to 25°C with a maximum of 37°C and rain ranged from 20 to 70 mm. In the Ural FD, the weather was warm and the average daily

temperature was 19-20°C reaching 35.6°C, with rainfall varying from 20 to 79 mm. In the Siberian FD, the temperature varied from 16 to 18°C, with a maximum 30°C and rainfall ranged from 20 to 100 mm. In the Far East FD, average temperatures ranged from 16° to 20°C, with a maximum of 30°C, and precipitation ranged from 30 to 200 mm.

In Tajikistan, the weather was hot and dry and average temperature was 2°C higher than the climatic norm. Average daily temperature was 26-28°C, with a maximum of 43°C in the southern part of Khatlon oblast. Precipitation fell only in foothills and some northern areas.

In Turkmenistan, the weather was hot and dry, without precipitation. The temperature during the daytime reached 36-42°C in many areas.

In Uzbekistan, the weather was hot and dry, with air temperature exceeding the climatic norm by 1-2°C in some areas. Average day temperature in the Autonomous Republic of Karakalpakstan, Khorezm and northern part of Navoi oblasts ranged from 30 to 40°C, while at nights it was 15 to 25°C. In Tashkent, Syrdarya, Jizzakh, Samarkand, Bukhara and southern part of Navoi oblasts, temperature varied from 35°C to 40°C at daytime and 15°C to 25°C at night. Temperature in Kashkadarya and Surkhandarya oblasts varied from 31 to 41°C at daytime and from 18 to 25 °C at night. In Fergana valley, temperature varied from 33 to 38°C at daytime and from 17 to 22°C at night. Very low precipitation (5 mm), typical for this time of the year, was recorded.

Area treated in August and since the beginning of the 2021 campaign

Afghanistan	0 / 78 983 ha
Armenia	0 / 1 398 ha
Azerbaijan	1990.5 / 29 770 ha
Georgia	10 965 / 115 000 ha
Kazakhstan	200 / 626 100 ha
Kyrgyzstan	6 117 / 49 025 ha
Russian Federation	4 000 / 343 530 ha
Tajikistan	1 361 / 131 864 ha
Turkmenistan	0 / 53 987 ha
Uzbekistan	0 / 503 876 ha
Total	24 633.5 / 1 933 533 ha

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

• SITUATION

Around 80 000 ha were surveyed in 10 regions of the country since the start of campaign till the end of August. No control operations took place in August. In total, 1 398 ha were treated against CIT during the 2021 campaign, which is slightly higher (12%) than in 2020. For the chemical treatments, pesticide with an a.i.: cypermethrin was used.

• FORECAST

Annual life cycle of CIT will come to an end.

Azerbaijan

• SITUATION

Natural lifecycle of all species came to an end and control operations against all species were completed in August. Treatments against DMA covered 40 ha in August, reaching 16 976 ha since the start of campaign. Treatments against CIT covered 1950.5 ha in August and 12 530.5 ha from the start of campaign. Treatments against LMI were carried out on 263.5 ha. In total, control operations were carried out on the 29 770 ha since the start of the campaign, which is 9% lower than in the same period of 2020.

• FORECAST

Preparations are ongoing for starting autumn surveys, based on which forecast and planning for 2022 will be made.



Georgia

• SITUATION

CIT mating and egg-laying continued through August. The anti-locust campaign ended on 24 August, with 10 965 ha treated this month.

In total, 320 000 ha have been surveyed since the start of campaign. Control operations covered a total of 115 000 ha, which is 37% higher than in 2020,. Treatments were carried out with ULV sprayers Micronair AU8115, using insecticide with a.i.: chlorpyrifos.

• FORECAST

CIT natural development will come to an end. During the end of September and beginning of October autumn surveys of egg-laying sites will start.

CENTRAL ASIA

Afghanistan

• SITUATION

No locust or anti-locust activities took place in August. Despite the political situation in the country, the responsible expert timely provided the last monthly national locust bulletin for 2021. According to the report, locust control operations had been finished in all provinces in July. The total treated area since the start of the campaign was 78 983 ha, which is about 15% lower than in 2020. No summer surveys were conducted due to insecurity reasons.

• FORECAST

DMA populations will remain in the soil in the egg stage till next spring. Implementation of all planned and routine activities in the country depends on the political stability and security situation. However, from the available information of 2021 campaign, it is forecasted that around 90 000 ha may become infested next year.

Kazakhstan

• SITUATION

Control operations against locusts were finished during August covering a total area of 626 100 ha or for 18% higher than in 2020, including 89 700 ha against DMA, 404 600 ha against CIT and 131 800 ha against LMI.

DMA adult survey during mating and egg-laying continued

in August, covering a total area of 1 526 600 ha, out of which 124 800 ha were infested, including 105 000 ha in Turkestan oblast and 19 800 ha in Jambyl oblast. Adult survey of CIT covered a total area of 12 688 600 ha by the end of August, out of which 1 075 000 ha were infested. More than 60% of the infested areas were in the following three oblasts: Kostanay (289 300 ha), Aktobe (262 400 ha) and Jambyl (119 100 ha).

LMI summer surveys covered a total area of 2 743 600 ha, out of which 252 100 ha were infested in 9 oblast, including 46 200 ha in Kyzylorda and 40 200 ha in Almaty oblasts.

- **FORECAST**

CIT and LMI die-off will continue in northern oblasts, while their annual cycles have ended in other parts of the country.

Kyrgyzstan

- **SITUATION**

DMA natural lifecycle came to an end and no activities were undertaken in August concerning this species. CIT adult surveys were conducted only in Talas oblast during August, covering 5 420 ha, out of which 4 950 ha were found infested with an average density from 4 to 17 individuals per m². CIT natural die-off continued in most oblasts.

Control operations, which ended in August, were conducted against CIT in Talas (4 950 ha) and Naryn (1 167 ha) oblasts, using three ULV vehicle-mounted sprayers AU8115M and applying insecticides with the a.i. alpha-cypermethrin and lambda-cyhalothrin. Overall, control operations covered 49 025 ha during the 2021 campaign (58% lower than 2020), out of which 29 200 ha against DMA and 19 825 ha against CIT.

- **FORECAST**

CIT natural die-off will finish in most infested areas.

Russian Federation

- **SITUATION**

Surveys of locust and grasshoppers have been conducted on 1 605 850 ha in August, and a total area of 8 821 150 ha since the start of the campaign, out of which 1 283 720 ha were found infested. Locust survey concerned 6 030 670 ha, out of which 437 820 ha were found infested with hoppers of various instars and 118 300 ha with adults. Control operations against locusts and grasshoppers have been carried out on a total area of 343 530 ha from the start of campaign (about 40% lower than last year), using 511 sprayers, including 480 ground sprayers and 31 small aircraft. Main part of the treated areas was in the



North-Caucasus FD, where 186 490 ha were treated.

- **FORECAST**

In September, natural die-off of all species will continue and come to an end.

Tajikistan

- **SITUATION**

Since the start of the campaign and by the end of August, a total area of 154 749 ha was surveyed, out of which 104 124 ha were found infested. Control operations were completed in all areas, and according to the revised data 131 864 ha were treated in 2021, which is 14% higher than previous campaign. In overall, 106 333 ha against DMA, 15 841 ha against CIT and 9 690 ha against grasshoppers were treated in 2021.

- **FORECAST**

Surveys in egg-laying sites and data analyses will continue in September.

Turkmenistan

- **SITUATION**

During this campaign, surveyed area reached a total of 225 498 ha. According to final information, control operations, which ended in July, concerned a total of 53 987 ha, about 39% lower than in 2020. A significant part of the treatments in 2021 were done in Ahal region (22 770 ha).

- **FORECAST**

DMA populations will remain in the soil in the egg stage till next spring. Egg-pod surveys will continue in all regions during coming months.

Uzbekistan

- **SITUATION**

Natural life cycle of DMA, CIT and LMI came to an end in all regions. Locust control campaign was finished in July and a total area of 503 876 ha were treated in 2021, which is slightly (about 5%) lower than in the previous year.

- **FORECAST**

Eggs of all three locust species will stay in the soil until hatching next spring.

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 August 2021

- **Annual Technical workshop on locusts in CCA, 23-25 November 2021** (online): invitation letters issued.
- **Practical Guidelines (PG):**
 - PG on three Locusts Pests in CCA: Georgian version finalized;
 - PG on pesticide risk reduction for locust control in CCA: Georgian version finalized; Translation into Turkmen started.
- **Two posters on Italian and Moroccan Locusts** (biology, ecology, monitoring): Turkmen versions published.
- **Human Health and Environmental Monitoring Teams:**
 - Georgia: third and last monitoring mission carried out in Kakheti, Mtskheta-Mtianeti and Kvemo-Kartli on 6-16 August.
- **Procurement:** Personal Protective Equipment (PPE) delivered to Georgia (TCP/GEO/3801) and Uzbekistan (GCP/INT/384/JCA); procurement in progress for entomological kits and binoculars, motorbikes, vehicles for survey/control, tractors, Ultra-Low Volume (ULV) and



Emulsifiable Concentrate (EC) sprayers, water tank lorries, minibus, camping equipment, PPE and test-mate kits.

- **New USAID-funded project “Reducing risks of locust disasters in Caucasus and Central Asia (CCA)”**, focusing on prevention and disaster risk reduction in Caucasus (Component 1) and on use of up-to-date control methods and operational research on biopesticides in CCA (Component 2), USD 1.8 million (2021-2024): under approval and signature.

Forthcoming events and activities in September 2021:

- **Establishment of a permanent body for long-term regional cooperation on locusts in CCA:** bilateral advocacy high-level meetings (online) scheduled for the second half of September with most CCA countries.
- **Annual Technical workshop on locusts in CCA, 23-25 November 2021** (online): list of participants expected from countries.
- **Practical Guidelines (PG):**
 - PG on three Locusts Pests in CCA: Georgian and Azeri versions to be published; Kyrgyz and Tajik versions under finalization;
 - PG on pesticide risk reduction for locust control in CCA: Georgian and Azeri versions to be published; Uzbek versions under finalization; Translation ongoing into Turkmen.
- **Two posters on Italian and Moroccan Locusts (biology, ecology, monitoring):** to be published in Georgian and Uzbek.
- **Procurement:** ongoing, with expected delivery of tractors to Kyrgyzstan and tablets to Turkmenistan (GCP/INT/384/JCA).