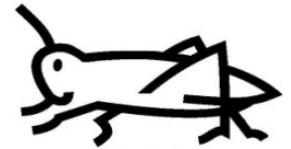




LOCUST BULLETIN No. 74



FAO - Plant Production and Protection Division (NSP)

13 May 2021

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

Situation level: CALM elsewhere or for the other locust pests

General Situation during April 2021 Forecast for May 2021

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 Turkmenistan and Uzbekistan. During the forecast period, DMA hatching will start in Georgia, Armenia and the 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 Kazakhstan, Russia, Turkmenistan and Uzbekistan at the end of the forecast period. In total, almost 185 000 ha were treated in CCA countries since the beginning of the campaign.

Caucasus. DMA hatching started during the third decade of 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 Turkmenistan and Uzbekistan. According to received reports 184 526 ha were treated in April, in all five countries, mostly against DMA, which is about 20% higher than in 2020.

Weather and Ecological Conditions in April 2021

In Caucasus, the temperatures were variable and precipitations were close to the norm in Armenia and Azerbaijan while they were higher than the norm in Georgia. The weather was generally warm with close to norm precipitations during April in almost all CA countries.

In Caucasus, the weather conditions were generally close to multiannual norm.

In Armenia, the weather was mainly warm and sunny with average temperature ranging from 12 to 27°C and close to the norm precipitations.

In Azerbaijan, the weather was unstable and the temperature was generally lower than the norm while precipitations were in the norm. The natural vegetation cover remained sparse and dry. Average monthly temperatures in the Central-Aran zone were 9-11°C (6-8°C at night, 11-16°C at day, in some days up to 18-23°C), which is close to the climatic norm. Rainfall in these districts was within the norm, which is 24-45 mm. In Ganja-Kazakh zone, average monthly temperatures were also close to the norm, 8-11°C (5-7°C at night, 17-22°C at day, up to 18-23°C in warmer days). Precipitations were close to the monthly norm (19-48 mm).

In Georgia, the weather was relatively cooler than normal with high precipitations and some hail in Kakheti region.



In **Central Asia**, the weather was highly variable, with temperatures and rainfall close to the norm.

In Afghanistan, the weather was variable the first half of April but then became hot as the temperatures reached 38°C in some provinces. Rainfall was lower than in March. Vegetation in locust infested areas was still green but with temperature rising and precipitation deficit in May, the plant cover will dry out in the foothills, which will bring a risk of locusts starting to move down to agricultural crops in valleys.

In Kazakhstan, the weather was highly variable in April. In the South, the weather was unstable, with both sunny and cloudy days. The average daily temperature ranged from 1 to 22°C with maximum of 27°C and minimum of -3°C (at night). Precipitation in the form of snow and rain ranged from 0,1 to 9,1 mm. In the East, the weather was unstable with cloudy, cool days and temperature fluctuations. The average daily temperature was around 4,3°C with minimum of -8°C and maximum of 18°C. Precipitations (13,8 mm) fell in the form of rain and snow. In the West, the weather was variable with sunny and cloudy days. The average daily temperature ranged from 1,2°C to 18,5°C, with minimum of -4,2°C and maximum of 26°C. Precipitations in the form of rain were from 5 to 13,8 mm. In the North, the weather was very unstable with gusty winds and rains (up to 10,2 mm). The average daily temperature ranged from -1°C to 12°C, with minimum as low as -10°C and maximum of 21°C.

In Kyrgyzstan, the temperature varied from 3-8°C to 9-14°C at nights and from 13-18°C to 24-29°C during the days. During some nights, the temperature dropped down to -4°C in the foothills. Monthly precipitations were close to the norm: 71-73 mm in the plains and 113-157 mm in the foothills. Average monthly temperature in Jalal-Abad was of 1 to 1.5 °C above the climatic norm and it was 14-16°C in valleys and 11-13°C in foothills. Natural vegetation (grasses and *Artemisia* spp. mixed with ephemerals) was green with a 2-4 cm height and a medium cover.

In the Russian Federation, the weather in April was variable but generally favourable for overwintering egg-pods and locust development in all Federal Districts (FD). In the Central FD, the average monthly temperatures ranged from 6° to 8°C and rainfall ranged from 50 to 65 mm. Topsoil (upper 10 cm) warmed up to 8-12 °C in the southern half of the Central FD. In the South FD, the weather was unstable, with cold and warm days. The average monthly temperature was 10-15 °C; during cold nights, it dropped down to -4 °C and in the warmest days reached 27°C. Precipitations fell close to the

norm, ranging from 59 to 90 mm. In North Caucasus FD, weather was unstable, average temperatures ranged from 10° to 13°C and rain ranged from 45 to 90 mm; in the western parts of the FD rain fell for 8-15 days during the second decade of April. In Volga FD, average temperatures ranged from 5° to 8°C and rain ranged from 22 to 50 mm. In the Ural FD, the weather was warmer than the norm. The average temperatures ranged from 5° to 6°C and rainfall ranged from 5 to 10 mm. By the end of the first decade of April, fields were free from snow cover. In the Siberian FD, the average temperatures ranged from 4° to 5°C and rainfall ranged from 12 to 20 mm, which is below the norm. In the Far East FD, average temperatures ranged from 2° to 3°C and rainfall ranged from 15 to 50 mm.

In Tajikistan, during the first and third decades of April, the weather was warm and dry, while the second decade was mostly rainy. The average monthly temperature ranged from 11°C at night to 22°C during the day, reaching maximum 35 °C in the south. Natural vegetation in DMA breeding areas in foothills of Khatlon was green and became drier at the end of the month.

In Turkmenistan, during the first and second decades of April, the weather was generally warm, with average temperatures of 25-30°C, while in the third decade, the weather was rainy and windy. Since early April was relatively dry with high temperatures, ephemerals in pasture areas and foothills had low density.

In Uzbekistan, weather was variable, with large temperature fluctuations. Average temperatures ranged from 14 to 19°C, with a maximum of 38 °C by the end of month. In the northern districts of the Autonomous Republic of Karakalpakstan, Khorezm and Navoi oblasts, the temperature varied from 9/16°C at nights and 12/17°C to 17/24°C during the days, with highest ones during the third decade. In Tashkent, Syrdarya, Jizzakh, Samarkand, Bukhara and southern parts of Navoi oblasts, the temperature varied from 6°C to 13°C at nights and 15/20°C to 22/30°C during the days. The temperature in Kashkadarya and Surkhandarya oblasts was higher than the norm by 1-2 °C and varied from 13-20 °C at night and from 20-25 to 28-38 °C during the days. In Fergana valley, the temperature varied from 5-10 °C

(nights) to 20-30 °C (days). Precipitation was lower than the norm, which resulted in early drying out of grasses in foothills of southern oblasts.

Area treated in April 2021

Afghanistan	36 802 ha
Azerbaijan	12 ha
Kazakhstan	20 000 ha
Tajikistan (March 2021)	4 843 ha
Turkmenistan	10 690 ha
Uzbekistan	112 191 ha
Total	184 538 ha

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

- **SITUATION**

No locust monitoring or other field works have started yet.

- **FORECAST**

Italian Locust (CIT) hatching is expected in May

Azerbaijan

- **SITUATION**

DMA hatching started on 23 April in Tartar, Agstafa (Djeyranchel) and Samukh (Eldar steppe) districts, and control operations began on 29 April. So far, 12 ha have been treated by applying Chrysamed Dedex (alpha-cypermethrin, ULV formulation) using vehicle-mounted sprayer Micronair AU-8115.

- **FORECAST**

Mass Moroccan Locust (DMA) hatching will end during the 1st decade of May and control operations will continue in parallel. CIT and Migratory Locust (LMI) survey will be continued. According to the forecast, the weather will be warm in early May, which will allow intense locust development

Georgia

- **SITUATION**

No locust-related activities were implemented in April, due to the low temperature and rainy days, as well as COVID-19 restrictions. A total of 5 000 litres of pesticide Lambdachem (lambda-cyhalothrin) was received under the FAO Project TCP/ GEO/3801. National briefing sessions were organized online. So far, no information on DMA hatching has been



received from the regions. However, based on the report from Azerbaijan, DMA hatching may have started in border districts of Georgia.

- **FORECAST**

DMA hatching and hopper development will continue in May. CIT hatching is expected in second half of May.

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 operations started in eight provinces, namely in Badghis (where 300 ha were treated), in Baghlan (5 158 ha), Balkh (2 700 ha), Herat (658 ha), Kunduz (9 606 ha), Samangan (12 440 ha), Sar-e-pul (700 ha), and Takhar (5 240 ha). By the end of April, a total of 36 802 ha were treated, which is 22% higher than in 2020. In addition, if security situation allows, control operations will also start in Faryab province. Hopper bands treatment is carried out by applying Insect Growth Regulators (diflubenzuron).

- **FORECAST**

Hatching is expected to start in May in Ghor and mountainous area of Badakhshan province (instead of April, due to the cold weather). DMA development will continue throughout the month in most infested provinces. In Nangarhar, control operations will start in early May.

Kazakhstan

- **SITUATION**

CIT, DMA and LMI egg-pods surveys are ongoing in all regions. Overall, 394 200 ha were surveyed for the presence of DMA in Turkestan oblast, out of which 43 000 ha were found infested, with average density up to 5 egg-pods/m² on 19 200 ha, up to 10 on 15 400 ha, and more than 10 on 8 400 ha. Out of the 23 800 ha areas infested with DMA hoppers with densities exceeding the economic threshold, 20 000 ha were treated with pesticides. In 2021, the following ones will be used against locusts: imidor (a. i. imidacloprid), enzhio (thiamethoxam+lambda-cyhalothrin), combat

(chlorpyrifos+cypermethrin), locustin (diflubenzuron+imidacloprid) and vantage (gamma-cyhalothrin).

Concerning CIT, an area of 97 600 ha was surveyed in 11 oblasts out of which 16 200 ha were found infested with an average density of up to 1 egg-pods/m² on 8 600 ha, from 1 to 5 egg-pods/m² on 6 500 ha, from 5 to 10 egg-pods/m² on 800 ha and more than 10 egg-pods/m² on 300 ha. Eggs infestations by parasites and diseases ranged from 1 to 50%.

With regard to LMI, spring surveys were conducted on 32 000 ha in five oblasts, out of which 1 900 were infested. Average density of up to 1 egg-pods/m² was found on 900 ha, from 1 to 5 egg-pods/m² on 900 ha, and from 5 up to 10 egg-pods/m² on 100 ha. The average number of eggs in egg-pods ranged from 40 to 92. From 6 to 52% of egg-pods were found parasitized.

- **FORECAST**

DMA hopper development will end and fledging will occur in May. CIT hatching and hopper development will continue in Jambyl oblast. Hatching will start in other oblasts starting from second decade of May. LMI hatching will start in the third decade of May.

Kyrgyzstan

- **SITUATION**

DMA hatching started on 15 April in Jalal-Abad (which is 8 days later than last year), on 23 April in Osh and on 26 April in Batken (near the border with Tajikistan). In total, 3 825 ha were surveyed in Jalal-Abad during the month, out of which 1 800 ha were infested. In Osh and Batken, survey were in progress.

- **FORECAST**

DMA mass hatching will continue till the third decade of May in Jalal-Abad, Osh and Batken. CIT mass hatching is expected during the third decade of May and first decade of June in Tchu and Talas.

Russian Federation

- **SITUATION**

Locust surveys were conducted on 347 670 ha, including egg-pods on 328 950 ha and hoppers on 18 720 ha. Egg-pods were found on 48 330 ha, primarily in North Caucasus and Southern FD; no hopper hatching was detected yet. The highest egg-pod density, of 200/m², was found in Volgograd.

Grasshopper surveys covered 197000 ha including egg-pods on 170430 ha out of which 40210 ha were infested and hoppers on 26570 ha out of which 3270 ha were infested.

- **FORECAST**

In May, hatching of all locust species will occur in most areas.



Tajikistan

- **SITUATION**

No report was received for the month of April. DMA hopper development likely continued in Khatlon and Districts of Republican Subordination (DRS) while hatching should have started in Sughd.

- **FORECAST**

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

Turkmenistan

- **SITUATION**

DMA hatching and development continued in April, with hoppers reached 5th instar in Lebap region and 2nd-3rd instars in other regions by the end of the month. DMA surveys were carried out on an area of 53 526 ha in all regions, including in foothill areas of Akhal (10 484 ha), Balkan (7 304 ha), Lebap (16 747 ha), Mary (12 084 ha) and desert areas of Dashoguz (6 907 ha). In Mary, *Dociostaurus kraussi* was found to be a dominant species. In Koytendag district of Lebap, hatching continued. DMA hatching started during the first decade of April in Akhal and Mary and during the second decade of April in Balkan. In general, DMA infested areas are lower than last year. In total, 10 690 ha were treated in Akhal, Balkan, Lebap and Mary regions. Control operations were carried out by applying pesticide Fascord EC (a. i. alpha-cypermethrin).

CIT hatching started at the end of the second decade of April in foothills of Central Kopetdag of Akhal welayat, where the hopper density is low.

- **FORECAST**

DMA fledging followed by mating should occur in May, CIT hatching will continue and LMI hatching is expected to start. Based on surveys conducted in April and by comparing DMA hatching dynamics with previous years, it is expected that the situation will be calm this year.

Uzbekistan

- **SITUATION**

DMA hopper development continued in April by the end of which populations reached 5th instar in the southern oblasts and 3rd instar in Jizzakh, Samarkand and Navoi oblasts. Hopper bands formed densities from 400 to 800 individuals/m² in the south. CIT hatching started at the end of April in central, northern and north-western regions.



LMI hatching has not been observed yet. Anti-locust campaign continued with 112 191 ha treated by the end of the month, with pesticides lambda-cyhalothrin, imidacloprid, alpha-cypermethrin and fipronil. Area treated against DMA are of 42 088 ha in Kashkadarya, 36 295 ha in Surkhandarya, 21 375 ha in Jizzakh, 9 216 ha Samarkand and 2 460 ha in Navoi. Treatments against CIT took place on 757 ha in Tashkent oblast.

- **FORECAST**

DMA fledging followed by mating and egg-laying will take place in May in Surkhandarya and Kashkadarya oblasts. CIT hopper development will continue in Karakalpakstan, Samarkand, Jizzakh, Syrdarya and Tashkent oblasts. LMI hatching may start in mid-May 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 2021

- **Online Refresher Course on locust monitoring and information management, including the Automated**

System for Data Collection (ASDC) and the Caucasus and Central Asian Locust Management System (CCALM), as well as pesticide risk reduction, delivered to the benefit of five Plant Protection/Locust Experts from Armenia on 27-29 April by Mr A. Latchininsky, FAO Agricultural Officer/Locust Management and Ms N. Muratova, International Consultant, GIS Expert.

- **National sessions on locust management (for staff) and Briefing sessions on spraying and pesticide risk reduction (for staff/local manpower), delivered by Master-Trainers:**

- Georgia: first of the two national sessions delivered to the benefit of 14 Plant Protection/Locust Experts on 22-23 April (online);
- Kyrgyzstan: first two briefing sessions delivered to the benefit of 30 Plant Protection/Locust Experts, on 5-7 April in Aksy and Nooken districts, Jalal-Abad (15 persons), and on 21-23 April, Nookat and Aravan districts, Osh (15 persons);
- Tajikistan: fourth and last national session delivered to the benefit of 18 Plant Protection/Locust Experts on 13-15 April, B. Gafurov district, Sughd; first briefing session delivered to the benefit of 25 staff/local manpower on 27-28 April in Vaskh district, Khatlon; and two first information sessions organized to the benefit of 35 farmers on 29 April (18 persons) in Kabadiyan district, Vakhsh, and on 30 April (17 persons) in Jayhun district, Khatlon.

- **Practical Guidelines (PG):**

- PG on three Locusts Pests in CCA: printed in Russian to the benefit of Caucasian countries and Russian Federation; translation ensured into Azeri and Georgian.
- PG on pesticide risk reduction for locust control in CCA: printed in English/Russian to the benefit of Caucasian countries and Russian Federation; translated ensured into Azeri and Georgia and launched into Uzbek..



- **Two posters on Italian and Moroccan Locusts** (biology, ecology, monitoring) published in Kyrgyz and translated into Azeri, Tajik and Turkmen.
- **Human Health and Environmental Monitoring Teams:**
 - Georgia: Action Plan to be prepared;
 - Kyrgyzstan: first monitoring mission conducted on 12-17 April, Aksy and Nookan districts, Jalal-Abad (out of the five planned up to June);
- **Procurement:**
 - Equipment delivered: pesticide Lambda-Cyhalothrin to Georgia (TCP/GEO/3801).
 - Procurement in progress, at various stages, for: tablets (GCP/GLO/963/USA, GCP/INT/384/JCA, TCP/TAJ/3806); entomological kits and binoculars, motorbikes, vehicles for survey/control, tractors, ULV and EC sprayers, water tank lorries, minibus, tires, camping equipment and PPE (GCP/INT/384/JCA and TCP/TAJ/3806); ULV sprayers, PPE (GCP/INT/384/JCA, TCP/GEO/3801, TCP/KYR/3801), IT equipment (TCP/GEO/3801), test-mate kits (GCP/INT/384/JCA).

Forthcoming events and activities in May 2021:

- **Online Refresher Courses on locust monitoring and information management, including ASDC and CCALM, as well as pesticide risk reduction** scheduled as follows:
 - Kazakhstan: on 17-21 May 2021
 - Azerbaijan: on 24-28 May 2021
- **National sessions on locust management (for staff) and Briefing sessions on spraying and pesticide risk reduction (for staff/local manpower):**
 - Georgia: second of the two national sessions scheduled the second half of May in Kakheti;
 - Kyrgyzstan: second two briefing sessions scheduled on 11-13 May in Leilek and Batken districts, Batken, and on 24-26 May, Manas and Kara-Buura districts, Talas (out of the five scheduled up to June);
 - Tajikistan: three briefing sessions scheduled on 4-5 May in Dangara, Kulab district, Khatlon and on 18-19 May, both in Rudaki district, RSS, and in Jabbor Rasulov district, Sughd; as well as

six information sessions for farmers during the month, in various locations in DRS and Sughd.

- **Practical Guidelines (PG):**
 - PG on three Locusts Pests in CCA: Russian version to be delivered to Caucasian countries and Russian Federation; Editing and review of technical terminology of Azeri and Georgian versions in progress.
 - PG on pesticide risk reduction for locust control in CCA: English/Russian versions to be delivered to Caucasian countries and Russian Federation; Editing and review of technical terminology of Uzbek version in progress; Translation to be launched into Turkmen.
- **Two posters on Italian and Moroccan Locusts** (biology, ecology, monitoring) to be printed in Kyrgyz, published in Azeri, Tajik and Turkmen and translated into Georgian and Uzbek.
- **Human Health and Environmental Monitoring Teams:**
 - Georgia: first monitoring mission in Kakheti, Mtskheta-Mtianeti and Kvemo-Kartli envisaged on 25 May-20 June (out of the three missions planned to August);
 - Kyrgyzstan: second monitoring missions scheduled on 3-8 May, Nootkat and Aravan districts, Osh (out of the five planned up to June);
 - Tajikistan: monitoring missions to start.
- **Procurement - ongoing, with expected delivery of:**
 - Tablets to Armenia, Azerbaijan, Georgia, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan (GCP/GLO/963/USA, GCP/INT/384/JCA, TCP/TAJ/3806);
 - ULV sprayers to Afghanistan, Georgia and Kyrgyzstan (GCP/INT/384/JCA);
 - IT equipment to Georgia (TCP/GEO/3801);
 - Tires for motorbikes, vehicles and tractors to Tajikistan (TCP/TAJ/3806), PPE kits for Kyrgyzstan (TCP/KYR/3801).