Food and Agriculture Organization of the United Nations

Locust Watch
Locusts in Caucasus and Central Asia

LOCUST BULLETIN No. 73

FAO - Plant Production and Protection Division (NSP) 15 April 2021

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

Situation level: CALM elsewhere or for the other locust pests

General Situation during February and March 2021
Forecast for April 2021

Moroccan Locust (DMA) hatching started significantly earlier than last year in Tajikistan, as a result of a warm weather and close to the normal rainfall in February. In Afghanistan, Turkmenistan and Uzbekistan, DMA hatching was recorded during the second and third decades of March. During the forecast period, DMA hopper development will continue in the above countries while hatching will start in Kazakhstan, Kyrgyzstan and the Russian Federation as well as in Azerbaijan and Georgia. Italian Locust (CIT) hatching may start by the end of the forecast period in southern Caucasus and Central Asia (CCA) countries. By the end of March, overall 5 818 ha have been treated against DMA in Tajikistan, Uzbekistan and Turkmenistan, which is more than in March 2019 (1 500 ha), but less than in 2020 (13 000 ha).

Caucasus. No locust hatching was reported so far. DMA hatching should start during the second decade of April in Azerbaijan and at the end of April in Georgia while CIT hatching is not expected before the end of the forecast period.

Central Asia. DMA hatching started in February in Tajikistan, in March in Afghanistan, Turkmenistan and Uzbekistan, which is earlier than last year. A total area of 5 818 ha were treated in Tajikistan, Turkmenistan and Uzbekistan; anti-locust campaign started in Afghanistan at the end of March and reports on treated areas will be available next month. DMA hopper development will continue in those countries with mass fledging starting likely from mid-April; hatching will start elsewhere, in early April in Kyrgyzstan and southern Kazakhstan and from mid-April in the Russian Federation. CIT hatching is forecasted to start from second decade of April.

Weather and Ecological Conditions in February - March 2021

The weather was generally warm with close to norm or higher precipitations during February-March in almost all Central Asian (CA) countries, resulting in earlier DMA hatching than in 2020 in southern CA countries. In Caucasus, the temperatures were colder than normal. Precipitations in Azerbaijan were close to the norm while in Georgia they were higher than the norm.

In **Caucasus**, the weather was colder and precipitations were about or higher than the norm.

In Azerbaijan, the monthly average temperature in March was lower than the norm; the weather at the beginning of April is expected to be warmer. Because of dry conditions during winter, the natural vegetation cover is sparse and dry. Average monthly temperatures in the Central-Aran zone were 6-8ºC (3-8ºC at night, down to 0-3ºC, 9-14ºC at day, up to 17-21ºC in some days), which is close to the climatic

norm. Rainfall in these districts was close to the norm (24-45 mm). In Ganja-Kazakh zone, average monthly temperatures were 5-7ºC (3-8ºC at night, down 0-5ºC in some days, 8-13ºC at day, up to 16-20ºC in some days). Precipitations were close to the norm (19-48 mm).

In Georgia, the weather was colder than during the previous winter with higher than normal precipitations (rainy and snowy days). It is expected that such weather will enhance the egg damage in egg-pods.

In **Central Asia**, the weather was warmer than the norm and drier during February and March in most countries, especially in the southern parts. Therefore, locust hatching started earlier than in 2020 in the south.

In Afghanistan, the weather during the first months of 2021 up to mid-March was warm and dry with lower than the norm precipitations, reaching up to +24°C in early March. Starting from the second half of March, heavy rainfall in the plains and snowfall in the mountainous regions were recorded. These early spring precipitations were useful particularly for pasture lands and rain fed crops; however, serious damages were caused to blooming fruit trees. During the precipitation days, temperatures dropped below 0°C, in some areas reaching -4/5°C.

In Kazakhstan, the weather was variable with temperatures close to multiannual averages. In the south, the weather was variable, with sunny days and precipitations in the form of rain and snow higher then the norm (10-235 mm). The average daily temperature ranged from -15 to +18.2°C with minimum of -23°C (at night) and maximum of +24.9°C. Relative humidity of the air was in the normal range 21-90%. In the east, the weather was unstable with important temperature variations and little precipitations in the form of rain and snow (up to 14 mm). The average daily temperature was of -3.7°C with minimum of -24°C (at night) and maximum of +7°C. In the west, the weather was variable with sunny and rainy days (up to 36 mm). The average daily temperature ranged from -25.2C to +6.5°C, with minimum of -28.4°C and maximum of +10.1°C. In the north, the weather was variable with sunny, cool, cloudy, rainy and snowy days (19-52 mm). The average daily temperature ranged from -18.8°C to +1.5°C with minimum of -29°C (at night) and maximum +4°C.

In Kyrgyzstan, particularly in Jalal-Abad oblast, the average daily temperature in March was about the climatic norm: 7 to 9°C in the valleys and 3 to 5°C in the foothills. In March, the temperature ranged from 0/5 to 6/11°C at night, while some nights with lower temperature were recorded (-1 to -6°C). Temperature variation on plains at days was from 9/4ºC to 20/25°C, with lower temperature recorded some days (1 to 6°). In the foothills, temperature ranged from -3/-8°C to 1/6°C at night and from 7/12°C and up to 15/20°C during the days, while temperature dropped down to -2/+3°C some days. The monthly amount of precipitation was higher than the norm ranging from 68 to 70 mm in the plains and from 87 to 122 mm in the foothills. In Naryn oblast, average monthly temperature (0/-2°C) and the precipitations (9-23 mm) were within the norm. During March, the temperature varied from -7/-12 to -3/+2°C at nights with some cold nights around the -13/-18°C and daily temperature varied from 0/5 to 9/14° C.

In the Russian Federation, weather in March was colder than the norm in most of the regions. In many, fields were covered by snow up to 65 cm, which may become a reason for delays in locust hatching. In general, the weather conditions were suitable for overwintering of locust eggs in the soil in five out of the seven Federal Districts (FD) and unfavorable in Central FD or less favorable in Far Eastern FD. In the Central FD, the average temperature was -2/-6.5°C, rising up to +6°C some days, and precipitations were around 15-20 mm. In the South FD, the average temperature was 1.3/6.9°C with maximum reaching +18°C; precipitation was 13-47 mm. In the North Caucasus FD, monthly average temperature was 1-5°C, with highest one of +18°C; precipitation was 20-40 mm. In the Volga FD, the average temperature was -7°C/-8°C, rising up to +2°C some days; precipitations amount varied from 12 to 20 mm. In the Ural FD, the average temperature was -8.7/-3.6°C, occasionally rising to +2.5°C; overall precipitation was 15-20 mm. In the Siberian FD, the average temperature was from -9.5 to -6°C, with maximum reaching +9°C; precipitations amounted 5-20 mm. In the Far Eastern FD, the average temperature in March was -5/-1°C, precipitations amounted 19-23 mm.

In Tajikistan, the weather during the winter was mild, with higher than normal precipitations in the form of snow and rains. In February-early March, it became warmer and the temperature rose up to 18-20°, which was suitable for earlier than normal DMA hatching. The average temperature during the days was from 4 to 18°C and from 2 to 10°C at night. Temperatures in April are forecasted to be 6 to 8°C higher than in March.

In Turkmenistan, variable weather was recorded in March; the first decade of March was warm and without precipitation;

during the second decade, in some areas, precipitation in form of snow was recorded and temperature dropped down to -15/-16°C; the third decade of March was rainy and windy (up to 16/20 m/sec). As the weather during the late winter-early spring was relatively dry with lower than usual precipitations, ephemeral plants in the mountainous, foothills and desert areas developed a low density cover. Farmers started planting cotton in March.

In most oblasts of Uzbekistan, the weather in March was close to the norm with periodic rainfalls. In the Autonomous Republic of Karakalpakstan, Khorezm and northern part of Navoi oblasts the air temperature in March varied from 0/5°C to 3/8°C at nights and 0/5°C to 10/15°C during the days, reaching higher readings by the third decade. In Tashkent, Syrdarya, Jizzakh, Samarkand, Bukhara and southern parts of Navoi oblasts, the air temperature in March varied from 2°C to 8°C at nights and 3/8°C to 13/18°C during the days. In Kashkadarya and Surkhandarya oblasts, the temperature ranged from 2/3°C to 5/10°C at night and 5/10°C to 15/20°C during the days. In Ferghana valley, temperature variation was from 0/5°C to 2/3°C at night and 3/8°C to 10/15°C during the days.

Area treated in March 2021

Tajikistan	4 843 ha
Turkmenistan	100 ha
Uzbekistan	875 ha
Total	**5 818 ha**

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

- **SITUATION**

No locust activities have been carried out so far.

- **FORECAST**

Spring surveys will start in May and control operations in June.

Azerbaijan

- **SITUATION**

No hatching was observed by the end of March. Surveys are being carried out to check the status of the overwintering eggs and predict the hatching timing.

- **FORECAST**

Mass Moroccan Locust (DMA) hatching followed by hopper development are expected during the 2nd half of April. It is anticipated that up to 40 000 ha will need to be treated against DMA during the 2021 anti-locust campaign, which is 20% higher than in 2021 (32 391 ha).

Georgia

- **SITUATION**

No locust activities have been carried out so far.

- **FORECAST**

DMA hatching should start by the end of April and CIT hatching will follow later. In 2021, control operations (by ground spraying only) should concern up to 60 000 ha, which is less than the area treated in 2020 (80 352 ha). Based on the results of control operations and surveillance conducted in 2020, it is forecasted that in Kvemo Kartli district, situation may become more serious compared to other locust-infested areas.

CENTRAL ASIA

Afghanistan

- **SITUATION**

DMA hatching occurred in Kunduz, Baghlan and Balkh provinces, from 24 March. Locust control campaign started in Kunduz on 28 March and in Balkh on 29 March. Control operations will begin in early April in Ghor, Badghis, and Herat provinces.

- **FORECAST**

DMA hatching and hopper development will continue in early April and fledging could start by the end of the month. In 2021, based on the actual situation, control operations will concern about 75 000 ha, which is 15% higher than previous year.

Kazakhstan

- **SITUATION**

In northern, western and eastern regions, spring surveys of egg-pods will start in April. Spring surveys started in the south for DMA, CIT and LMI.

Overall, 13 600 ha were surveyed for the presence of DMA in Turkestan oblast during March. Egg-pods were found on 7 080 ha (52 %), including at an average density of up to 1 egg-pods/m² on 1 500 ha from 1.1 to 2 egg-pods/m² on 3 180 ha, from 2.1 to 5 egg-pods/m² on 1 280 ha, from 5.1 to 10 egg-pods/m² on 720 ha, and more than 10 on 400 ha. The

number of eggs per pod varied from 18 to 32. From 8 to 16.6 % of egg-pods were found infested by parasites or affected by diseases.

Concerning CIT, an area of 1 200 ha was surveyed in Almaty oblast where egg-pods were found on 170 ha at a density of up to 1 egg-pods/m². About 23-25 % of the CIT eggs were infested/ affected by parasites and diseases.

With regard to LMI, 690 ha were surveyed in Almaty oblast, where only 10 ha were found infested with densities of up to 1 egg-pods/m². 21% of egg-pods were found parasitized.

- **Forecast**

DMA hatching is expected to start in the beginning of second decade of April in Turkestan oblast and at the end of the second decade in Zhambyl oblast. Control operations against locusts and grasshoppers are planned on more than 640 790 ha in 2021, including against DMA on 114 100 ha, CIT 384 690 ha and LMI 142 000 ha.

Kyrgyzstan

- **Situation**

Spring egg-pod surveys started during the second half of March. A total of 3 210 ha were surveyed and egg-pods found on 2 160 ha (67 %) at an average density of 0.8 egg-pod/m²; 16 % of egg-pods were infested by parasites or affected by predators or diseases. No hatching of DMA and CIT was observed in March during these surveys.

- **Forecast**

DMA mass hatching is expected during the 2nd decade of April in Jalal-Abad, Batken and Osh oblasts while CIT hatching should start in early May in Chui and Talas oblasts. Control operations should concern 70 000 ha in 2021, which is similar to the area treated in 2020 (70 672 ha).

Russian Federation

- **Situation**

Delays with spring egg-pod surveys in the South and North Caucasus FDs were due to the weather conditions in March. Due to the abundant snow in the fields, spring surveys have not been conducted so far.

- **Forecast**

In April, egg-pod surveys to assess the status of the overwintering eggs will be carried out in many regions. As the weather conditions become favorable, it is expected that hatching starts in the southern FDs. It is planned to carry out control operations on 589 330 ha in 2021, which is significantly more than last year for about 19% (480 390 ha).

Tajikistan

- **Situation**

First DMA hatching was recorded on 20 February, which is 20-25 days earlier than last year, and by 25 March, hatching had started in 15 districts of Khatlon region. CIT hatching was not observed in March. Chemical treatments were conducted on 4 843 ha. Headquarters are established at all administrative levels for control of locusts and other pests, against state budget.

- **Forecast**

In April, DMA hopper development will occur followed by fledging and mating. CIT hatching may start from second decade of April in Sughd region. During the campaign, as per forecast, surveys will be carried out on 419 083 ha, of which 129 445 ha during spring (egg-pods and hatching), 130 515 ha during summer (fledging) and 159 123 ha in autumn (egg-laying); control operations should concern 115 359 ha in 2021, which is close to the area treated in 2020 (113 359 ha).

Turkmenistan

- **Situation**

Spring surveys of DMA and other locusts and grasshoppers were carried out on an area of 16 066 ha in all regions. Hatching of *Dociostaurus kraussi* was recorded first, on 12-13 March in Lebap region. DMA hatching started during the third decade of March in the most southern parts of the Lebap region, at the foothills of Koytendag range. Control operations were carried out on 100 ha there. In general, the situation is calm and under the control. Regular field surveys are undertaken.

- **Forecast**

DMA hatching is expected to start in April in foothill areas of Akhal, Balkan and Mary regions. CIT hatching will also start in April. Overall, control operations should be carried out on about 75 000 ha in 2021, which is similar to the area treated in 2020 (75 493 ha).

Uzbekistan

- **Situation**

DMA hatching started on 12-18 March in Surkhandarya oblast, on 18-20 March in Kashkadarya oblast and

23-26 March in Samarkand oblast. By the end of March, DMA hoppers were in their first and second instars, with an average density of 250-500 individuals in a band. CIT or LMI hatching has not been observed so far. In March, 875 ha were treated by lambda-cyhalothrin and imidacloprid against DMA in Surkhandarya (600 ha) and Kashkadarya (275 ha).

- **FORECAST**

DMA hopper development followed by fledging will occur while CIT hatching will start in first decade of April. Control operations should be needed on 592 500 ha in 2021, which is 11% higher than in 2020 (528 700 ha).

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 from November 2020 to March 2021

- **Technical Workshop on locusts in CCA** held online on 24-26 November 2020 with nine CCA countries (all but Armenia), USAID and JICA representatives and observers, including from China and Iran (Report available at: http://www.fao.org/3/cb3903en/cb3903en.pdf).
- **Operational start of "Project for improvement of locust management" (GCP/INT/384/JCA)** to the benefit of Afghanistan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan (five-year duration, USD 7.5 million) on 2nd November 2020, followed by first Project Steering Committee on 1st December 2020; project so far signed by all countries, except Kazakhstan.
- **Training activities:**
  - **Online Refresher Courses 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 a total of 136 Plant Protection/Locusts Experts, including Master-Trainers, from five CCA countries by Mr A. Latchininsky, FAO Agricultural Officer/Locust Management and Ms N. Muratova, International Consultant, GIS Expert, as follows:
    - Georgia: ten experts, on 14-18 December 2020
    - Afghanistan: eight experts, on 18-22 January 2021
    - Turkmenistan: five experts, on 1- 5 February 2021
    - Tajikistan: five experts, on 26-28 February 2021
    - Russian Federation: 27 experts (and 81 observers), on 1-5 March 2021.
  - **National sessions on locust management, Kyrgyzstan** (as follow-up of the online Refresher Course delivered in October 2020 to the benefit of seven Master-Trainers): delivered by the Master-Trainers to the benefit 30 locust specialists on 17-19 November 2020 in Osh and on 24-26 November 2020 in Cholpon-Ata.
  - **National sessions on locust management, Tajikistan** (as follow-up of above-mentioned Refresher Course): three national sessions delivered by the Master-Trainers to the benefit of 32 locust specialists, on 16-18 March in Pyanj district, Vakhsh, Khatlon (17 participants), on 17-19 March in Dangara district, Kulob, Khatlon (eight participants) and on 29-31 March in Rudaki, RRS (seven participants).
- **Practical Guidelines on three locust pests in CCA**:

300 Russian copies delivered to Kyrgyzstan; translation ensured into Tajik.

- **Two posters on Italian and Moroccan Locusts** (biology, ecology, monitoring) published in Russian for Kyrgyzstan; similar posters under preparation for Azerbaijan, Georgia, Tajikistan, Turkmenistan and Uzbekistan.
- **Regional Workshop on locust data collection, analysis, forecast and reporting in CCA** organized online on 16-18 March 2021 with nine CCA countries (all except Tajikistan).
- **Joint or cross-border surveys (CBS):** all envisaged CBS (planned in March/April 2021) tentatively postponed, due to Covid-19 travel restrictions, to May/ July 2021, subject to positive evolution of the sanitary situation.
- **Human Health and Environmental Monitoring Teams:** Action Plans for the 2021 campaign received from Azerbaijan, Kyrgyzstan and Tajikistan.
- **Pesticide Referee Group**: 11th meeting held on 9-10 February 2021.
- **Procurement:**
  - Equipment delivered: pesticides (Alpha-Cypermethrin, Lambda-Cyhalothrin and Chlorpyrifos), Personal Protective Equipment (PPE) kits (partially) and cholinesterase kits to Kyrgyzstan, from August 2020 to February 2021 (TCP/KYR/3801); IT equipment (partially) and pesticide (Teflubenzuron) to Georgia, in January/ March 2021 (TCP/GEO/3801).
  - Procurement in progress, at various stages, for: tablets (GCP/GLO/963/USA, GCP/INT/384/JCA, TCP/TAJ/3806); entomological kits, 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); pesticides (Lambda-Cyhalothrin), ULV sprayers, PPE and IT equipment (TCP/ GEO/3801).
- **Communication aspects:** communication strategy developed for project GCP/INT/384/JICA; news regularly published on FAO website "Locust Watch in CCA".
- **Preparatory actions** for activities to be implemented during the 2021 national locust campaigns, as per annual Workplan of the Programme.

Forthcoming events and activities in April 2021:

- **Operational support to survey and control operations:** to be provided to Georgia, Kyrgyzstan and Tajikistan.
- **Online Refresher Course on locust monitoring and information management, including ASDC and CCALM, as well as pesticide risk reduction**, scheduled on 27-29 April for Armenia.
- **National sessions on locust management (for staff) and Briefing sessions on spraying and pesticide risk reduction (for staff/local manpower):**
  - Georgia: first of the two national sessions scheduled on 21-23 April in Samtskhe-Javakheti (Borjomi);
  - Kyrgyzstan: two briefing sessions scheduled on 5-7 April in Aksy and Nooken districts, Jalal-Abad, and on 21-23 April, Nookat and Aravan districts, Osh (out of the five scheduled up to June 2021);
  - Tajikistan: fourth and last national session scheduled on 13-15 April, to be followed by four briefing sessions as well as eight information sessions for farmers in Khatlon, RRS and Sughd oblasts (dates to be determined).
- **Practical Guidelines (PG)**:
  - PG on three Locusts Pests in CCA: to be printed and dispatched in Russian to Caucasian countries and Russian Federation; translation to be launched into Azeri and Georgia.
  - PG on pesticide risk reduction for locust control in CCA: to be printed and dispatched in English/ Russian to Caucasian countries and Russian Federation and to be translated into Azeri, Georgia, Turkmen and Uzbek.
- **Two posters on Italian and Moroccan Locusts** (biology, ecology, monitoring) to be published in Kyrgyz and translated into Azeri, Georgian, Turkmen and Uzbek.
- **Human Health and Environmental Monitoring Teams**:
  - Georgia: Action Plan to be prepared;
  - Kyrgyzstan: first monitoring mission scheduled on 12-17 April, Aksy and Nooken districts, Jalal-Abad

(out of the five planned up to June);

- Tajikistan: four monitoring mission scheduled in Khatlon, RRS and Sughd oblasts (dates to be determined).

- **Procurement:** ongoing, with expected delivery of tablets, ULV sprayers to several countries and pesticides to Georgia.

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