Food and Agriculture Organization of the United Nations

Locust Watch
Locusts in Caucasus and Central Asia

LOCUST BULLETIN No. 67

FAO - Plant Production and Protection Division (AGP) 15 April 2020

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

Situation level: CALM elsewhere or for the other locust pests

General Situation during March 2020 Forecast for April 2020

Moroccan Locust (DMA) hatching started significantly earlier than last year in Afghanistan, Tajikistan and Uzbekistan (and probably Turkmenistan), as a result of a warm weather with close to or below the normal rainfall in late winter - early spring. Overall, warmer and drier conditions ensured good overwintering of eggs. If such warm and dry conditions persist through April, locust numbers should be up compared to 2019. 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 some Caucasus and Central Asia (CCA) countries. In March, over 13 000 ha have been treated against DMA in Tajikistan and Uzbekistan, which is significantly more than in 2019 (1 500 ha) but less than in 2018 (57 000 ha).

Caucasus. No locust hatching was reported so far. DMA hatching should start during the 2nd 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 March in **Afghanistan**, **Tajikistan** and **Uzbekistan** - and probably also in **Turkmenistan** – earlier than last year. A total area of 13 047 ha was treated in southern Uzbekistan and Tajikistan; anti-locust campaign started in Afghanistan at the end of March but no reports of treated areas are available yet. 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 should start by the end of the forecast period.

Weather and Ecological Conditions in March 2020

The weather was generally warmer with close to normal precipitations in almost all Central Asian (CA) countries, resulting in earlier than in 2019 DMA hatching in southern Central Asian countries. In Caucasus, the temperatures were warmer than normal while the precipitations were slightly lower than normal.

In **Caucasus**, the weather was warmer and drier compared to February-March 2019.

In Azerbaijan, the weather was generally within the norm with average or slightly lower than norm precipitations. Because of dry conditions during winter, the natural vegetation cover is sparse and dry; winter wheat germination was uneven. Average monthly temperatures in the Central-Aran zone were 7-9ºC (5-10ºC at night, 11-16ºC at day, up to 19-22ºC in some days), which is close to the climatic norm. Rainfall was close or a little higher than the norm, which is 24-45 mm. In Ganja-Kazakh zone, average monthly temperatures were also close to the norm, 6-8ºC (5-10ºC at night, down to 3ºC in some days, 10-15ºC at day, up to 19-21ºC in some days). Precipitations were close to the monthly norm or slightly lower (19-34 mm). In April, the weather is expected warmer than the norm.

In Georgia, the weather was warmer than usual with little precipitations, which ensured good conditions for egg-pod overwintering.

In **Central Asia**, the weather was warmer and drier than usual in most countries, except Afghanistan. Therefore, locust hatching in south CA started much earlier than in 2019.

In Afghanistan, the weather was characterized by abundant and widespread precipitations. Daily temperatures dropped below 0°C during the third week of the month. These two factors delayed locust hatching, which started in the end of the month.

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 (between 3 and 52 mm). The average daily temperature ranged from 0 to +18.5°C with minimum of □6°C (at night) and maximum of +25°C. In the East, the weather was unstable with important temperature variations and little precipitations as rain and snow (up to 14 mm). The average daily temperature was of -3.2°C (lower than March 2019) with minimum of -18°C (at night) and maximum of +10°C. In the West, the weather was variable with sunny and rainy days (up to 16 mm). The average daily temperature ranged from -10°C to +14°C, with minimum of -15°C and maximum of +24°C, i.e. similar to March 2019. In the North, the weather was variable with sunny, cool, cloudy, rainy and snowy days (up to 26 mm). The average daily temperature were lower than normal and ranged from -16°C to 1.5°C with minimum of -22.8°C (at night).

In Kyrgyzstan, particularly in Jalal-Abad oblast, the average daily temperature was 1 to 3°C higher than the climatic norm, ranging from 0/5 to 5/10°C at night to 11/16ºC to 18/23°C at day on the plains. Temperatures ranged from -5/0°C to 0/5°C at night and from 13°C to 18°C during the day. In the foothills, temperatures ranged from -3/2°C to 3/8°C at night and from 4/9°C and up to 13/18°C during the day. The monthly amount of precipitation was close to the norm (ranging from 26 to 91 mm and from 34 to 122 mm in the foothills). In Naryn oblast, average monthly temperature was 1 to 2ºC above the norm and the precipitations (20-35 mm) were within the norm.

In the Russian Federation, the weather was warmer than usual except for the Siberian and Far Eastern Federal Districts (FD). In the South Federal District , the weather was abnormally warm with average temperatures ranging from 6 to 9ºC (maximum 20-27ºC) and very low precipitations (only 1 to 6 mm). In the Central FD, average temperatures were higher than the norm ranging from 2 to 6ºC (maximum up to 19ºC) with 20 to 40 mm of precipitations. By the end of March, all snow melted and warm weather contributed to locust egg overwintering. In North Caucasus FD, the weather was warm with average temperatures 6 to 7ºC (maximum 17-23ºC) and low precipitation of 10 to 20 mm. In the Volga FD, the average temperatures during the day varied from -1 to -7°C, i.e. slightly above the norm. Rains amount varied from 20 to 48 mm, which is within the annual average value. In the Ural FD, the weather was warmer than in 2019 and average temperatures ranged from -0.3 to +0.3°C. Rains varied from 15 to 30 mm, which was above the norm. Snow cover was up to 30 mm. In the Siberian FD, the average temperature was from -9 to -2°C, which is below the norm. Rains amounted up to 14 to 30 mm, which is close to the norm. Snow cover was up to 60 cm. In the Far Eastern FD, the average temperature varied from -18 to -3°C, which is below the norm, and rains amounted to 1-11 mm, which is below the norm. In general, the conditions were favorable for successful overwintering of locust eggs in the soil.

In Tajikistan, the weather during the winter was mild, with average precipitations. In February-March, it was significantly warmer than usual with locally abundant rains. Average temperatures were 14°C during the day and 7°C at night. As per forecast from the National Meteorological Centre, temperatures in April will be 4 to 5°C higher than in 2019. Mild conditions during the winter and high temperatures in March resulted in earlier than usual hatching of the Moroccan Locust. In March, sowing of cotton started as well as planting of vegetables; winter wheat and barley were sprouting.

In Uzbekistan, the weather was variable with temperatures between 14 and 25°C (close to the norm). Showers during the third week delayed locust hatching in some areas.

Area treated in March 2020

Tajikistan	8 375 ha
Uzbekistan	4 672 ha
Total	13 047 ha

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

• SITUATION

No report was received.

• FORECAST

No Italian Locust (CIT) hatching or hopper development is expected before May.

Azerbaijan

• SITUATION

No hatching was observed during egg-pod surveys carried out in March to check the status of the overwintering eggs and

foresee the hatching period. Awareness was raised among local populations. Preparations for the 2020 anti-locust campaign are done.

• **FORECAST**

Mass Moroccan Locust (DMA) hatching followed by hopper development are expected during the 2nd decade of April. Control operations will start at that time. It is anticipated that up to 32 000 ha will need to be treated against DMA during the 2020 anti-locust campaign, which is lower than in 2019 (52 349 ha).

Georgia

• **SITUATION**

So far, no locust activities were carried out.

• **FORECAST**

DMA hatching should start by the end of April and CIT hatching will follow later. In 2020, control operations (by ground spraying only) should concern up to 40 000 ha, which is higher than the area treated in 2019 (31 850 ha).

CENTRAL ASIA

Afghanistan

• **SITUATION**

DMA hatching started on 26 -27 March in five provinces: Baghlan, Balkh, Kunduz, Samangan and Badghis, and control operations started in the end of March in the above provinces.

• **Forecast**

DMA hatching and hopper development will continue in early April and fledging could start by the end of the month. In 2020, it is anticipated that control operations will concern about 60 000 ha, which is similar to 2019.

Kazakhstan

• **SITUATION**

Spring surveys started in the South both for DMA and CIT. As far as DMA is concerned, 18 100 ha were surveyed in Turkestan and Zhambyl oblasts. Egg-pods were found on 2 060 ha (11 %), including at a density from 5.1 to 10 egg-pods/m² on 200 ha and of more than 10 egg-pods/m² on 700 ha. The number of eggs per pod varied from 12 to 35. From 10 to 55 % of egg-pods were found infested by parasites or affected by diseases. Apparently, the DMA populations are still in recession but higher than 2019 infested areas, which may be a sign of slow population recovery.

Concerning CIT, an area of 1 200 ha was surveyed in Zhambyl oblast where egg-pods were found on190 ha at a density of up to 5 egg-pods/m². The number of eggs per pod varied from 24 to 34. From 10 to 16 % of the CIT eggs were infested or affected. In the eastern, western and northern regions, preparation for spring surveys, which will start in April, was in progress.

• **Forecast**

DMA hatching is expected to start in early April in Turkestan and at the end of the 2nd/beginning of the 3rd decade in Zhambyl. Control operations against locusts and grasshoppers are planned on more than 553 951 ha in 2020, which is slightly lower than in 2019, when 567 600 ha were treated.

Kyrgyzstan

• **SITUATION**

Spring egg-pod surveys started during the 1st decade of March. A total of 5 860 ha were surveyed and egg□pods found on 3 070 ha (52 %) at an average density of 1.2 egg-pod/m²; 11 % of egg-pods were infested by parasites or affected by predators or diseases. No hatching was observed in March during these surveys.

• **Forecast**

DMA mass hatching is expected during the 1st-2nd decades of April in Jalal-Abad, Batken and Osh oblasts while CIT hatching should start in the end of April in Chui and Talas oblasts. Control operations should concern 120 000 ha in 2020, i.e. which is slightly higher than the area effectively treated in 2019 (114 476 ha).

Russian Federation

• **SITUATION**

Spring egg-pod surveys started in the South and North Caucasus FDs. In the Republic of Dagestan, 33 000 ha were surveyed of which 7 100 ha were found infested at a density of 1.1 egg-pod/m². In the Republic of Ingushetia, 60 ha out of the 1 000 ha surveyed were infested at a density of 0.3 egg-pod/m². In the Astrakhan oblast, 1 000 ha out of the 4 000 ha surveyed against Asian Migratory Locust (LMI) were infested at an average density of 0.05 egg-pod/m². In the Stavropol Region, 5 300 ha out of 30 600 ha were found infested at an average density of 0.8 egg-pods/m^2. In Volgograd oblast, all 210 surveyed ha were found infested with a density of 15 egg-pods/m^2.

• **FORECAST**

In April, egg-pod surveys to assess the status of the overwintering egg-pods will intensify and be carried out in many regions. Hatching of DMA will start in the south. It is planned to carry out control operations on 426 980 ha, which is significantly more than in 2019 (371 050 ha).

Tajikistan

• **SITUATION**

Egg-pod and nymphal surveys during hatching were

conducted on 105 602 ha, out of which 62 136 ha (59%) were found infested. DMA egg-pods overwintered well, with a survival rate of 95-98%. DMA hatching started on 2 March and then was observed throughout the month in 18 districts of Khatlon region and in two of the Districts of Republican Subordination (DRS), i.e. three to four weeks earlier than in 2019. CIT hatching has not been observed in March. Chemical treatments were conducted on 8 375 ha, including 6 037 ha in Vakhsh valley of Khatlon oblast and 2 338 ha in Kuliab zone of Khatlon oblast.

- **FORECAST**

In April, DMA hopper development will occur followed by fledging and mating. CIT hatching may start from early April. During the overall campaign, as per forecast, surveys will be carried out on 395 464 ha, of which 122 255 ha during spring (egg-pods and hatching), 128 170 ha during summer (fledging) and 145 039 ha in autumn (egg-laying); control operations should concern 102 668 ha in 2020, which is lower than the area treated in 2019 (114 232 ha).

Turkmenistan

- **SITUATION**

No report was received. In view of the situation in the neighbouring countries, DMA hatching started probably in March.

- **FORECAST**

DMA hopper development followed by fledging will occur in April. Overall, control operations should be carried out on 85 000 ha in 2020, which is similar to the area treated at 2019 campaign (84 066 ha).

- **FORECAST**

DMA eggs will remain in the soil until hatching next spring. Because of very limited information received, it is impossible to make forecast for 2020.

Uzbekistan

- **SITUATION**

DMA hatching started on 20 March in Surkhandarya and Kashkadarya provinces. It was preceded by the hatching of *Dociostaurus kraussi* on 12-18 March. By the end of March, DMA was in the first and second hopper instars with densities between 800 and 1 500 individuals in bands. No CIT or LMI hatching has been observed so far. In March, 4 672 ha have been treated by lambda-cyhalothrin and imidacloprid against DMA in Surkhandarya (1 423 ha), Kashkadarya (2 524 ha), Samarkand (418 ha) and Djizzah (307 ha).

- **FORECAST**

DMA hopper development followed by fledging will occur and CIT hatching will start. Control operations should be needed on 640 400 ha in 2020, which is 21% higher than in 2019 (503 400 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 in March 2020

- **Round-trip missions for advocacy on sustainable long-term regional cooperation**: first mission by a FAO Team scheduled in Tashkent, Uzbekistan, and Nur-Sultan, Kazakhstan, on 9□14 March 2020, postponed due to sanitary situation and travel restrictions (COVID□19); new dates to be fixed for missions in all countries (initially envisaged between March and September 2020) once travel restrictions are removed.
- **"Automatic System for Data Collection" (ASDC) and**

“Caucasus and Central Asia Locust Management System” (CCALM): contract renewed between FAO and the Institute of Space Technique and Technologies (ISST) in Almaty, Kazakhstan, to obtain operational and technical support to host, maintain, update and improve ASDC and CCALM.

- **Human Health and Environmental Monitoring Teams:** comments from the FAO Environmental Expert on the 2019 locust campaign shared with Azerbaijan and Georgia and Action Plan for the 2020 campaign requested for FAO to provide technical and operational support to the Teams.

Forthcoming 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), to be shared with the countries for comments.
- **National training on locust monitoring and information management, including ASDC and CCALM**, scheduled to the benefit of about 20 Plant Protection/Locust Experts in Baku, Azerbaijan, on 30 March-3 April 2020, postponed due to sanitary situation and travel restrictions (COVID-19).
- **Regional training on locust monitoring and information management, including ASDC and CCALM**, organized by "Russian Agricultural Center”, Ministry of Agriculture, Russian Federation, in Orenburg on 7□10 April 2020, with FAO trainers and with the participation of trainees from neighboring countries, postponed to September 2020 (due to COVID-19).
- **Human Health and Environmental Monitoring Teams:** comments from the FAO Environmental Expert on the 2019 locust campaign to be shared also with Tajikistan; Action Plan for the 2020 campaign to be received from the different countries by FAO for providing technical and operational support to the Teams.
- **New project GCP/INT/384/JCA**: 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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