Food and Agriculture Organization of the United Nations

Locust Watch
Locusts in Caucasus and Central Asia

LOCUST BULLETIN No. 65

FAO - Plant Production and Protection Division (AGP) 11 September 2019

Situation level: CALM everywhere for the three locust pests

General situation during August 2019 Forecast until mid-October 2019

Italian Locust (CIT) mating and egg-laying continued in Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Russian Federation, Tajikistan and Uzbekistan. Migratory Locust (LMI) mating and egg-laying continued in Kazakhstan, Russian Federation and Uzbekistan. During the forecast period, locusts will complete their natural cycle in most areas. Control operations ended in all countries; since the beginning of the national campaigns, In total, about 1.8 million ha were treated since the beginning of the 2019 campaign. This is less than a half of the area treated in the same period in 2018.

Caucasus. CIT mating and egg-laying continued in **Armenia** and **Georgia**. During the forecast period, CIT populations will disappear.

Central Asia. CIT mating and egg-laying continued in Kazakhstan, Kyrgyzstan and the Russian Federation. LMI mating and egg-laying continued in Kazakhstan, the Russian Federation and Uzbekistan. During the forecast period, CIT populations will disappear in most countries. In August, 20 280 ha were treated (in Russia).

Weather and Ecological Conditions in August 2019

Warm weather with temperatures close to the climatic norms prevailed. Precipitations were also close to the multiannual averages; the natural vegetation dried out.

In **Caucasus,** and more specifically Armenia, the weather was hot and dry with daily temperatures ranging from 32 to 37 °C in the lowlands, from 25 to 30 °C in foothills and from 20 to 25 °C in the mountains.

In Azerbaijan, the weather was hot with daily temperatures ranging from 32 °C to 40 °C. Grassland vegetation in the steppes completely dried out.

In **Central Asia**, the weather was variable with temperatures close to or above the climatic norms and precipitations lower than usual.

In Kazakhstan, the weather was variable. In the South, the weather hot with hot sunny days followed by days with rain showers. The average daily air temperature ranged from 13.9 to 34 °C, with minimum of 10.2 °C at night and maximum of 43.0 °C during the day. Precipitations fell in the range from 1.0 to 67 mm, which is close to the norm. In the East, the weather was variable with warm sunny and cool cloudy days with precipitations. The average daily temperature was of 21.4 °C with minimum of 9.0 °C and maximum of 36.0 °C, which is slightly above the norm. Precipitation amounted to 35.4 mm (below the norm). In the West, the weather was mostly sunny with low precipitations. The average daily temperature ranged from 10.1 to 34.5 °C, which is above the norm, with minimum of 9.2 °C and maximum of 42.0 °C. Precipitation ranged from 1.0 to 32 mm. In the North, the weather was variable with warm and cool days, precipitations and gusty winds. The average daily temperature ranged from 13°C to 27.5 °C, close to the norm, with minimum of 3.0 °C and maximum of 36.6 °C. Precipitations ranged from 1.0 to 47.0 mm, which is below the norm.

In the Russian Federation, the weather was mostly warm with temperatures close to climatic norms. Average

temperature ranged as follows: in the Central Federal District (FD), from 16 to 27.9°C, in the North Caucasus FD, from 22 to 29.8 °C; in the Southern FD, from 22.7 to 33.1 °C; in the Volga FD, from 13 to 28.3 °C; in the Ural FD, from 15.3 to 27.1 °C; in the Siberian FD, from 16.7 to 29 °C; and in the Far East FD, from 13.3 to 25.5 °C. In most FDs, the precipitation amount was close to the norm except for the Ural and Far East FDs, where rainfall significantly exceeded the norm (101 and 394 mm, respectively).

Area treated in July 2019

Russia 20 280 ha

Locust Situation and Forecast

(see also summary on page 1)

CAUCASUS

Armenia

- **SITUATION**

Egg-laying of small Italian Locust (CIT) populations continued, mostly in Ararat district.

- **FORECAST**

During the forecast period, the natural cycle of CIT will complete. In 2020, no increase of CIT-infested areas is expected.

Azerbaijan

- **SITUATION**

CIT finished egg-laying in Djeyranchel steppe. DMA and CIT egg-pod surveys were in progress.

- **FORECAST**

CIT and DMA eggs will remain in the soil until hatching next spring. 2020 CIT and DMA infestations will remain at a level similar to 2019.

Georgia

- **SITUATION**

No report was received.

- **FORECAST**

During the forecast period, CIT natural cycle will complete. Because of limited information received, it is not possible to attempt predicting the locust situation in 2020

CENTRAL ASIA

Afghanistan

- **SITUATION**

No detailed report was received.

- **FORECAST**

DMA eggs will remain in the soil until hatching next spring. The level of DMA infestations in 2020 will be comparable to 2019.

Kazakhstan

- **SITUATION**

DMA egg-pod surveys took place in August in South-Kazakhstan and Zhambyl provinces on 15 900 ha of which 1 230 ha (8%) were infested, including 1 100 ha with relatively high densities from 2.1 to 5 egg-pods/m^2. Percentage of egg-pods damaged by natural enemies ranged from 2.4 to 12%.

Summer CIT surveys during mating and egg-laying took place on 14 200 600 ha including on 2 254 700 ha in August. The infested area was 790 300 ha (6%) including 278 700 ha above Economic Threshold (ET) of 5 adults/m^2. For the third year in a row, CIT infested area is in decline (from 1 929 299 ha in 2017 to 973 400 ha in 2018 and 790 300 ha in 2019). No treatments against CIT were carried out in August.

LMI surveys during mating and egg-laying were carried out on 3 679 600 ha out of which 326 500 ha were infested (9%) including 57 600 ha with densities exceeding 1 000 adults/ha. No treatments against LMI were carried out in August.

- **FORECAST**

During the forecast period, CIT and LMI natural cycles will complete. Eggs of all three locust species will remain in the soil until hatching next spring. 2020 DMA infestations are expected to slightly increase compared to 2019, while CIT infestations will continue to decline and LMI infestations will remain at the level of 2019.

Kyrgyzstan

- **SITUATION**

No reports was received.

- **FORECAST**

CIT natural cycle will complete during the forecast period. CIT and DMA egg-bed surveys will start in October, after which it will be possible to forecast the 2020 situation.

Russian Federation

- **SITUATION**

During surveys in August, locust adults were found on 151 800 ha, including 89 190 ha (59%) above ET. In addition, non-swarming grasshopper adults were found on 477 550 ha, including 17 640 ha (4%) above ET. DMA annual cycle completed in early August while CIT and LMI continued to mate and lay eggs.

More specifically, in the Central FD, an area of 13 420 ha was infested by grasshopper adults at a density of 2.70-8.0 individuals/m^2. In the South FD, locust adults infested 35 940 ha at a density ranging from 17 to 1 000 individuals/ m^2; adult grasshopper infestations were found on 48 370 ha at a density ranging from 1.09 to 30 adults/m^2. In North Caucasus FD, locust adults infested 83 950 ha at a density ranging from 6.67 to 50 adults/m^2. In the Volga FD, adult locust infestations were found on 16 200 ha at a density ranging from 0.9 to 3 adults/m^2; adult grasshopper infestations were recorded on 74 410 ha at a density ranging from 1.61 to 10 adults/m^2. In the Ural FD, adult grasshopper infestations were recorded on 43 010 ha at a density ranging from 1.26 to 20 adults/m^2. In the Siberian FD, adult locust infestations were found on 4.450 ha at a density ranging from 0.9 to 3 adults/ m^2; adult grasshopper infestations were found on 194 120 ha at a density 2.97-70 adults/m^2. In the Far East FD, locust adults were observed on 11 210 ha with densities ranging from 19.74 to 51 adults/m^2, adult grasshopper infestations were recorded on 23 450 ha at a density ranging from 0.65 to 4 adults/m^2.

An area of 20 280 ha was treated mostly in South, North Caucasus, Volga, Ural and Siberian FDs. The total area of anti-locust treatments in 2019 was 367 310 ha, which is significantly lower than in the previous years (2018: 677 940 ha; 2017: 768 950 ha; 2016: 854 670 ha) and is the lowest in the last ten years in Russia.

- **FORECAST**

Locust and grasshopper natural cycles will complete during the forecast period. The level of 2020 locust infestations will remain similar, or slightly higher than in 2019.

Tajikistan

- **SITUATION**

No report was received.

- **FORECAST**

DMA and CIT eggs will remain in soil until hatching next spring. Locust infestations in 2020 are expected to remain similar to 2019.

Turkmenistan

- **SITUATION**

No report was received.

- **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**

No report was received. CIT and LMI mating and egg-laying continued.

- **FORECAST**

DMA and CIT eggs will remain in the soil until hatching next spring. LMI natural cycle will complete except in the areas with recently receded water in the Aral Sea zone. After several years of high locust infestations, it is expected that they will start to decline in 2020.

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 5th 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 2019

- **Practical Guidelines on pesticide risk reduction for locust control in CCA:** hard copies dispatched to Afghanistan (500 copies) and Tajikistan (600 copies).
- **Workshop on Locust Data Analysis, Forecasting and Reporting in CCA and Technical Workshop on Locusts in CCA,** respectively planned on 11-12 and 13-15 November, 2019 in Tashkent, Uzbekistan: FAO official invitation letters issued.

Forthcoming events and activities in September 2019

- **Human Health and Environmental aspects:**
  - Georgia: third mission of the Human Health and Environmental Monitoring Team scheduled on 10-19 September, in Marneuli, Kvemo Kartli region, to collect samples of vegetation treated against locusts and analyse the residues of insecticides.
- **Regional training session on Locust monitoring and information management, including the Automated System for Data Collection (ASDC) and the Caucasus and Central Asia Locust Management System (CCALM),** scheduled on 16-20 September in Tashkent, Uzbekistan, to the benefit of 12 Locust Experts from Uzbekistan and four from Turkmenistan.
- **Workshop on Locust Data Analysis, Forecasting and Reporting and Technical Workshop on Locusts in CCA**: official nominations from countries expected by 15 September.