



LOCUST BULLETIN No. 2



FAO - Plant Production and Protection Division (AGPM)

15 May 2010

Situation level - Moroccan Locust (DMA) in Georgia, Kazakhstan, Tajikistan, Uzbekistan and probably Afghanistan and Turkmenistan: CAUTION

Situation level - Italian Locust (CIT), Migratory Locust (LMI) and DMA elsewhere: CALM

General Situation during April 2010 Forecast until mid-June 2010

DMA situation deteriorated during April in Tajikistan and Uzbekistan with a significant increase of treated areas. A critical unprecedented situation arose in Georgia, where DMA infestations were detected along the border with Azerbaijan. In Kazakhstan, control operations started against DMA and CIT hoppers. Despite extraordinary rainfall in Caucasus during April, weather and ecological conditions started to become suitable for hatching and hopper development of the three main locust pests in the whole CCA region.

Caucasus. Dense DMA hopper bands were found by mid-April over more than 15,000 ha in south-eastern **Georgia**, along the border with **Azerbaijan**, but only hatching was reported from Azeri side, in the North-west. DMA hopper development will continue in Georgia and Azerbaijan with fledging starting during the second half of May. CIT hatching will begin in May both in **Armenia** and Georgia.

Central Asia. Control operations against DMA hopper bands intensified in April in **Tajikistan** and

Uzbekistan, where a total of more than 310,000 ha was treated. Control operations started in southern **Kazakhstan** against almost 55,000 ha of DMA and CIT hopper bands. It is likely that control of infested areas is also required or ongoing in Afghanistan, Kyrgyzstan and Turkmenistan. During the forecast period, DMA fledging will start, CIT hatching will increasingly take place in northern CA areas and LMI hatching will begin.

Weather and Ecological Conditions in April 2010

Variable weather conditions prevailed in CCA. In Caucasus, abundant and frequent rains have delayed hatching or slowed down hopper development but had no significantly impact on the locust survival. In Central Asia, hopper development continued under suitable ecological conditions in southern countries and started in Kazakhstan.

In **Caucasus**, the weather was variable in April with up to 15 days of rainfall.



In all regions of Armenia, the weather was very variable, with cloudy and sunny days and frequent rains; on 28 April it snowed in mountainous areas. Day temperatures ranged from 10°C to 23°C in lowlands, 5°C to 22°C at foothills and 4°C to 18°C in mountainous areas. In surveyed areas vegetation (crops, perennial plantations, meadows and pastures, fallow lands) was mainly green and its cover ranged from medium (mountainous areas) to dense (lowlands).

In Azerbaijan, weather conditions were mostly cool and not suitable for hatching and hopper development. Average day temperature was 9-11°C. Natural vegetation in DMA habitats was growing and green and its cover was medium; crops were at tillering stage.

In Georgia, there were more than 15 rainy days during April. In Kakheti region (SE), it rained continuously during the last week of the month and other days were mostly cloudy. Average temperature was 13-15°C. In surveyed areas, natural vegetation was green, growing and flowering with high presence of Artemisia, a plant highly preferred by locusts. In neighboring areas, sunflower, wheat, other crops and vegetables were growing.

In **Central Asia**, variable weather conditions prevailed during April but temperatures increased significantly, particularly in Kazakhstan where conditions became suitable for CIT and DMA hatching and hopper development.

In Kazakhstan, monthly weather conditions were characterized by variable temperatures and winds. In the southern region, day temperatures varied from +0.3 to +23°C and up to +32°C; minimum night temperature was of -8°C in mountainous area of Almaty region. North- and south-western winds prevailed, at an average speed of 10-12 m/s (up to 25 m/s during gusts). In the eastern region, cold winds persisted (1-6 m/s up to 15 m/s locally), but temperature increase (average of +5.2°C -with

minimum of -10°C and maximum of +28.3°C) resulted in quick melting of snow. In the western region, weather conditions were unsettled with some rains. Day temperatures ranged from -0.5 to +18.7°C (with minimum of -11.3°C and maximum of +28°C). South- and north-easterly winds had a speed of 1-6 m/s reaching 15.5 m/s locally. In the northern region, weather conditions were unstable with warm sunny days and cool ones, gusty winds, rains and wet snow. Day temperatures were mainly above zero (ranging from -4.5 to +19.9°C with minimum of -14.7°C and maximum of +30.2°C) resulting in snow melting. South-western and north-easterly winds prevailed at speed ranging from 0.1 to 10 m/s and occasionally up to 43.4 m/s. According to regions, cereal crops were from booting to tillering stage, alfalfa at shoot or growing stage (first cutting in one area of southern Kazakhstan) and fruit trees from full bloom to fruit formation.

In Tajikistan, day temperature was of 10-28°C and winds of 5-9 m/s in April. Natural vegetation in traditional locust habitats was dense and green.

In Uzbekistan, day temperatures ranged from 20 to 26°C and average night temperature was of 10°C. Natural vegetation is much less developed (in abundance and height) as compared to 2009.

Area Treated

Georgia	5 ha
Kazakhstan	54,600 ha (up to 6 May)
Tajikistan	36,000 ha (up to 26 April)
Uzbekistan	277,000 ha (up to 7 May)

Locust Situation and Forecast

(see also the summary on page 1)

CAUCASUS

Armenia

• SITUATION

No hatching was observed and no locusts were reported during surveys carried out in April.

• FORECAST

Due to rainy and cool weather conditions, it is expected that CIT hatching will be delayed, starting during the first half of May in lowlands, in late May in foothill areas and during the first half of June in mountainous areas.

Azerbaijan

• SITUATION

DMA hatching was first observed by plant protection officers on 4-5 of April in the North-West (Djeiranchel Eldar steppes), close to the border with Georgia. During the second half of the month, hopper development slowed down due to heavy daily rains.

Awareness on locust issues and importance of reporting (in particular concerning mass hatching and hopper bands) was done by plant protection staff towards local population, especially land owners.

• FORECAST

It is expected that warmer temperatures and continuous suitable weather conditions will stimulate DMA hatching and hopper development. Chemical control operations should start from mid-May.

Georgia

• SITUATION

During surveys carried out from mid-April onwards in the South-East (Iori hills and Samukhi area), initially planned to assess Italian Locust egg survival, more than 15,000 ha infested with 2nd and 3rd instars of Moroccan Locust hoppers were detected along the border with Azerbaijan. Density reached up to 20,000 hoppers/m². Measures were taken to start ground



control operations, but their implementation was delayed by rainy conditions and only 5 ha were treated in late April. By the end of the month, it was estimated that at least 20,000 ha of rangeland were threatened, which exceeded national control capacity; therefore, an official request for emergency assistance was addressed to FAO.

• FORECAST

Although slowed down by poor weather conditions, DMA hopper development will continue and fledging (appearance of winged adult locusts) will start during the second half of May. CIT hatching is expected by the end of May. Control operations will start as soon as weather conditions allow.

CENTRAL ASIA

Afghanistan

• SITUATION

No report was received in April.

• FORECAST

Hopper development will continue in the northern part of the country with fledging in early May for DMA and late May for CIT, which would require careful monitoring.

Kazakhstan

• SITUATION

CIT hopper surveys started from the last week of April in South-Kazakhstan and Djambil regions. Hatching and young hoppers (up to 3rd instar with 1st one dominant) were observed mainly in pastures at densities up to 13-16/m². A total of 3,700 ha were treated in South-Kazakhstan up to 6 May. Elsewhere in the South, egg-bed surveys reported a density of 0.5-3 to 6-10 egg-pods/m², 20-35 to 40-62 eggs/pod and maximum egg infection of 60% in Almaty region. As a result of rainy spring, damages on egg-pods were

observed. Egg-bed surveys in other parts of the country revealed 0.2-1.6 to 9-12 egg-pods/m², 10-46 eggs/pod and infection of 20-25% in the North (Karagandin and Kostanai regions); 0.8-5.9 egg-pods/m² (up to 16/m² in Aksusk region), 21-32 eggs/pod and maximum infection of 15% in the North-east (Pavlodar region); 0.5-4.0 egg-pods/m² (up to 34.0/m² in Bokeiordin region), 25-35 eggs/pod and infection of 1.6-23% in the Western region.

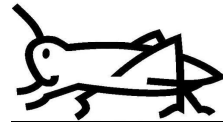
DMA hopper surveys started on 9-14 April in South-Kazakhstan and Djambil regions, where hoppers were found in natural habitats and pastures. In South-Kazakhstan, hatching was observed from 9 April with a peak on 17-19 April. Density reached 40-65 hoppers/m². On 5 May, 1st to 4th hopper instars were observed with predominant 3rd instar hoppers. By 6 May, a total of 50,900 ha had been treated in South-Kazakhstan. In Djambil region, hatching occurred from 28 April to 4 May and densities were of 3-4 first instar hoppers/m².

LMI egg-pod surveys reported an average of 0.5-5 egg-pods/m² (locally up to 8-12), 39-110 eggs/pod and egg infection rate of 2-10% in the Aral Sea area (Kizilordin region); and 0.6-1.2 egg-pods/m², 40-64 eggs/pod and egg infection of 0.6-14.2% in the Western-Kazakhstan region.

• **FORECAST**

Provided suitable weather conditions (hot and dry), CIT hatching will start during the first decade of May with mass hatching during the second and third decades in South-Kazakhstan areas where it has not yet occurred; during the second decade of May in West-Kazakhstan; by mid-May with related peak in East-Kazakhstan; by mid-May in Kostanai and Akhmolin regions, the southern parts of North-Kazakhstan, and during the 3rd decade elsewhere in North-Kazakhstan with massive hatching by the end of the month and early June.

DMA fledging is expected during the third decade of May in the southern parts of South-Kazakhstan under



suitable weather conditions.

Beginning of LMI hatching is expected from mid-May onwards in South-Kazakhstan; by the end of May in West- and East-Kazakhstan; and in early June in North-Kazakhstan (Kostanai area).

Kyrgyzstan

• **SITUATION**

No report was received in April.

• **FORECAST**

DMA and CIT hopper development will occur during the forecast period.

Tajikistan

• **SITUATION**

DMA hoppers continued to form medium to large bands over a total infested area of about 100,000 ha in green or greening steppe. Band size varied from 0.5 to 6 m² reaching up to 1000 m² at density of 100-500 hoppers/m². Infestations were mainly concentrated in Khatlon region, in South-west (where half of the control operations were carried out), but started appearing also in RRS and Sughd regions following hatching of DMA and CIT in northern areas.

Up to 26 April, 36,000 ha have been treated against hopper bands (mainly of DMA) of which half by chemical spraying.

• **FORECAST**

DMA fledging will progressively occur from southern to northern parts of the country during the forecast period. CIT hopper development will continue. Regular and well documented surveys should be carried out in all infested areas to monitor the situation and undertake timely and appropriate control operations.

Turkmenistan

• SITUATION

No report was received in April.

• FORECAST

DMA fledging should occur at the beginning of the forecast period.

Uzbekistan

• SITUATION

DMA hopper development continued during April with gregarious 2nd and 3rd instars present in Kashkadar and Surhandar regions (southern Uzbekistan) during the first decade of the month. Fledging started by the end of the month in these regions as well as in Dzhizan and Samarkand regions and 70% of the DMA population had reached adult stage in early May. Significant ground and aerial (4 hang-gliders) control operations were carried out from 1st April to 7th May in Kashkadar (170,000 ha) and Surhandar (62,000 ha) regions, and from 15th April to 7th May in Jhizan (20,000 ha) and Samarkand (25,000 ha) regions.

LMI hatching started in the Aral Sea area.

• FORECAST

DMA population will fledge in southern Uzbekistan and it is anticipated that locust and grasshopper control operations will increase from 5,000-8,000 ha to up to 30,000 ha per day, including against grasshoppers.

No significant LMI developments are likely during this campaign.

Announcements

Locust warning levels. A colour-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’s 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 Annie.Monard@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.

New information on Locust Watch in Caucasus and Central Asia.

Recent additions to the website (<http://www.fao.org/ag/locusts-CCA/en/index.html>) are:

- Update regarding the current two-year FAO regional project (section Regional approach);
- Leaflets on locusts in CCA (section Documents);
- New pictures (section Photos), including on the current situation in Georgia.

2010 events. The following activities are scheduled:

- **Joint cross-border technical meeting** between Georgia and Azerbaijan on 20 April.
- **Regional technical workshop on control techniques.** 18-22 October, Kyrgyzstan (tentative date and location).