



LOCUST BULLETIN No. 21



FAO - Plant Production and Protection Division (AGPM)

15 May 2013

Situation level - Moroccan Locust (DMA) in Afghanistan, Kazakhstan, Kyrgyzstan and Tajikistan: CAUTION

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

General Situation during April 2013 Forecast until mid-June 2013

Following early hatching of the Moroccan Locust (DMA) in most of Central Asian countries, almost 174,000 ha have been treated in April. Hatching of Italian Locust (CIT) and Asian Migratory Locust (LMI) should start in early May but could be delayed in some countries due to heavy rains and temperature drop in late April. In Caucasus, Azerbaijan has started control operations against DMA (more than 8,000 ha).

Caucasus: Moroccan Locust (DMA) hatching started in early April in **Azerbaijan**, where more than 8,000 ha were treated. No hatching was reported elsewhere in Caucasus.

Central Asia: DMA hopper development was in progress in **Afghanistan, Tajikistan, Kyrgyzstan** and **Kazakhstan**, where a total of 173,932 ha were treated, which represented almost the double as compared to the same month in 2012. DMA hopper development was probably also in progress in **Turkmenistan** and **Uzbekistan**. Mass CIT and LMI hatching will occur during the forecast period.

Weather and Ecological Conditions in March 2013

Unstable weather prevailed. Temperatures were generally above normal except in Armenia and the Russian Federation, where snow fell for a longer period than usual. In southern Central Asian countries, weather conditions were suitable for locust hatching.

In **Caucasus**, mild weather prevailed but temperature dropped at time.

In Armenia, precipitations fell in most regions in April; cumulative rainfalls were of 53 mm in the mountains, 40 mm at foothills and varied from 10 to 15 mm elsewhere. The last decade of April, the remaining snow cover was of 2-17 cm. The average temperature was mostly normal with little variations. Temperatures ranged from -1/+4°C to 30/33°C in the lowlands, from -4/+1°C to 23/28°C at foothills and from -5/0°C to 17/22°C in mountainous areas, which represented an increase of more than 10°C as compared to the previous month. Spring field work continued. In lowlands and foothills, fruit trees were flowering but frost at foothills on 24-25 April caused damage to fruit trees, vine yards and potatoes. In mountainous areas, agricultural activities started.

The natural vegetation was mostly green with a dense cover in lowlands and foothills and with a medium one in mountainous areas.

In Azerbaijan, the weather was relatively cool with an average temperature of 15/22°C, which represents nevertheless an increase of more than 10°C as compared to the previous month; wind speed was of 5-10 m/s. During the 3rd decade of April, rains fell and temperatures dropped sharply but increased again at the end of the month. These weather conditions were suitable for hatching and hopper development. Natural vegetation was at the shoot stage and but the cover was still sparse; cereal crops were at the seedling stage.

In Georgia, the average temperature was of 8/13°C during the first fortnight of April and of 18/23°C during the second one, an increase of more than 5°C as compared to the previous month. The vegetation was developing and had a medium cover.

In **Central Asia**, the weather was still unstable with periods of heavy rains at times.

In Afghanistan, rainy weather prevailed and the development of crops was good.

In Kazakhstan, variable weather prevailed. In the South, average daily temperatures ranged from 12.2°C to 21.5°C with a maximum up to 31°C, and the minimum night temperature was of -2.6°C. Precipitation fell as rain and snow. Relative humidity varied from 35 to 90%. North-east- and south-westerly winds prevailed at a speed of 1-13 m/s. In the East, the weather was instable and rain and snow fell at times. Average day temperatures ranged from -3.5°C to +8.4°C with minimum of -11°C and maximum of +24°C. Relative humidity was of 64%. North-westerly and south-westerly winds prevailed at a speed of 1-7 m/s. In the West, the weather was characterized by variable cloudiness and precipitation fell as snow and rain. The average day temperatures were of 10.6-16°C with minimum of -1.8°C and maximum of 27.6°C. The relative humidity varied from 26 to 74%. South-easterly and north-easterly winds prevailed at a speed of



1-8 m/s. In the North, clear weather, high temperatures and moderate wind prevailed but at the end of the month there were cloudy days with precipitation as rain, snow and hail resulting in a temperature drop. The average day temperatures ranged from -9°C to +13°C, with minimum of -6.7°C and maximum of +20°C. The relative humidity ranged from 45 to 95%. South-westerly and northerly winds prevailed at a speed of 1-14 m/s with gusts at 25-43 m/s.

In Kyrgyzstan, the average monthly temperature was of 13/15°C, 1.5/2°C above normal. The first decade was the coldest with night temperatures of 3/8°C and frost in some areas. The remaining of the month, temperatures were of 9/14°C at night and 24/29°C during the day. The monthly rainfall was close to normal, of 44-87 mm in lowlands and 92-157 mm at foothills. The vegetation was green in the north and dry in the south, dominated by grasses, herbs, wormwood and ephemera. The height was of 1-5 cm with a medium cover.

In the Russian Federation, the weather was characterized by unstable temperatures, which increased 7-12 days earlier than usual, and lack of rain in the southern areas of the Central Federal District (FD). The resumption of the winter crops was noted during the 1st decade of the month, 3-5 days earlier than usual. The weather was variable in the North Caucasus and Southern FDs with average daily temperature of 6.1/18.8°C and maximum of up to 28°C during sunny days. The development of all crops was ahead as compared to long-term data, which was also the case for the wintering pests. In the Volga FD, the weather was unstable with precipitation as rain and snow but temperatures were positive in most regions. The average temperature ranged from 2.5 to 6°C and was higher than normal by 4/6°C. These weather conditions resulted in an earlier start of the growing season as compared to normal, by 7-10 days in the southern, south-western and central parts of this FD.

In the Siberian FD, the weather was unstable with rainfalls of various intensity and wet snow in early April. The average temperature was of 0/3.5°C; the winds were moderate.

In Tajikistan, warm and dry weather prevailed during the 1st fortnight with no rain at all. Average day temperatures were of 22/28°C and night temperatures of 8/12°C. Consequently, pasture growth and plant development stopped. From 16 to 21 April, heavy rains fell everywhere and from 24 to 30 April, there were thunderstorms with hail at times.

Area Treated in April 2013

(as per information received from countries)

- Afghanistan 69,152 ha
- Azerbaijan 8,200 ha
- Kazakhstan 65,290 ha
- Kyrgyzstan 3,000 ha
- Tajikistan 36,490 ha

Locust Situation and Forecast

(see also the summary on page 1)

CAUCASUS

Armenia

SITUATION

No hatching was observed in April and no control operations were carried out.

FORECAST

Hatching of the Italian Locust (CIT) will mostly occur in May, probably during the first half of the month in the low-lying areas. No development of the two other locust pests is expected except if they fly from neighboring countries.

Azerbaijan

SITUATION

First hatching of the Moroccan Locust (DMA) was observed in early April in the Djeiranchel area (in the Ganja-Gazakh economic region) and in the Tartar area, where control operations cannot be undertaken.



Ground spraying of pyrethroids was carried out on 8,200 ha in the Djeiranchel area. Surveys were in progress to identify other hatching sites. Awareness campaigns were carried out to inform farmers and rural inhabitants on spraying operations.

FORECAST

It is expected that DMA mass hopper development will take place during May and that almost all control operations will be carried out during that month.

Georgia

SITUATION

No DMA hatching was observed in April, including during the two surveys conducted close to the Azeri border (Alazani Valley) and close to the Russian border (Akhmeta municipality), both in the Kakheti region (in the eastern part of the country) on 22-27 April and on 29 April-1st May respectively.

FORECAST

Both DMA and CIT mass hatching should occur during the forecast period and result in related control operations.

CENTRAL ASIA

Afghanistan

SITUATION

Survey and control operations were carried out in seven northern and northeastern provinces in April. Second to 4th instar hoppers were observed in Badakhshan, Balkh, Faryab, Kunduz, Samangan and Sar-i-pul provinces while 2nd to 3rd instar hoppers only were observed in Baghlan. Ground ULV spraying was conducted on 69,152 ha.

FORECAST

DMA hopper development will continue during the forecast period. Control operations will be pursued including against locust populations expected to move from the neighboring countries.

Kazakhstan

SITUATION

DMA spring survey of egg-pods came to an end in April in the southern region (South-Kazakhstan, Zhambyl and Almaty oblasts), where the total surveyed area was of 29,650 ha, of which 6,370 ha were found infested. The number of eggs per pod was of 20-37. In South-Kazakhstan, out of 655,420 ha surveyed, 164,165 ha were infested by DMA hoppers, and control operations were carried out on 65,290 ha. Second and 3rd instars prevailed but there were already some 4th instar hoppers (less than 3% of the whole hopper population). In Zhambyl, 80 ha were infested out of 1,700 ha surveyed.

CIT egg-pod survey continued. In the West, the density was of 2.1-192 egg-pods/m² and the number of eggs per pod was of 20-45. The damage due to birds, entomophages and parasites varied from 3 to 15%. In the central part (Karagandy), the density was of 0.3-5 egg-pods/m² and the number of eggs per pod was of 15-36. In the North, the density was of 0.32-13 egg-pods/m² and the number of eggs per pod was of 15-43. Damage to egg-pods varied from 1 to 40% due to bacterial diseases, parasites and mechanical action. A total of 165,080 ha were surveyed of which 60,180 ha were infested. In Zhambyl, CIT hatching was reported on 26-30 April in some areas at a density of 0.1-1 hopper/m².

LMI egg-pod surveys were also carried on a total of 19,640 ha of which 4,614 were infested by egg-pods. In the West, the density was of 0.3-8.5 egg-pods/m² and the number of eggs per pod was of 30-100. Damage to egg-pods varied from 9.5 to 23%. In the South, the density was of 0.5-9 egg-pods/m² and the number of eggs per pod was of 23-95. Damage to egg-pods varied from 1 to 18% due to bacterial diseases, parasites and mechanical action. In the East, because of persistent flooding, 900 ha only were surveyed and no egg-pods were found.

FORECAST

Mass DMA hatching is expected in Zhambyl during the forecast period. CIT hatching should start during



the 1st decade of May in the West and in the South, with mass hatching during the 2nd and 3rd decades in the latter. In the East, hatching is expected by mid-May under optimal weather conditions. In the North, hatching should start during the 2nd decade and last until the end of the month. LMI hatching is expected by the 2nd decade of May in the West, the 3rd decade of May in the South, if weather conditions are suitable, and during the 1st and 2nd decades of June in the East.

Kyrgyzstan

SITUATION

DMA hatching started by mid-April in Jalal-Abad province. During the month, 7,525 ha were surveyed, of which 4,230 ha (4,150 ha in Jalal-Abad and 80 ha in Batken) were found infested at an average density of 5-27 hoppers/m². First and 2nd instars prevailed and hoppers formed groups of 10-20 m², feeding a lot. Spraying operations were carried out on 3,000 ha in Jalal-Abad.

FORECAST

DMA mass hatching is expected during the 1st and 2nd decades of May in Jalal-Abad and Batken. CIT mass hatching should occur during the 2nd and 3rd decades of May in Chui, Talas and Naryn provinces.

Russian Federation

SITUATION

Screening of over-wintering eggs continued in April. The average density of egg-pods was of 0.49/m² in the Central Federal District (FD), 1.4/m² in the North Caucasus FD, 2.7/m² in the Southern FD, 3.03/m² in the Volga FD and 3.3/m² in the Siberian FD.

FORECAST

Mass hatching of the three locust pests is expected during the forecast period.

Tajikistan

SITUATION

DMA hatching surveys started more than two weeks earlier than in 2012 due to weather conditions suitable for egg development in February and March. Up to 30 April, 124,559 ha were surveyed. A total of 62,945 ha were infested and ground control operations, which started almost one month earlier than usual, were carried out on 36,490 ha.

FORECAST

DMA hopper development will probably be affected by the heavy rains which fell during the second half of April. CIT hatching could also be delayed by these weather conditions.

Turkmenistan

SITUATION

No bulletin was received for April.

FORECAST

DMA hopper development will continue during the forecast period.

Uzbekistan

SITUATION

No bulletin was received for April. The preliminary results of the mission carried out in early May in the Aral Sea delta confirmed that LMI egg-pods in high density were present on at least 118,000 ha but this estimate did not take into account the areas which were still flooded and could not be surveyed. As the water can recede very quickly, the infested areas will increase. Hatching has just started in some places. The ecological conditions were suitable for LMI development.

FORECAST

During the forecast period, DMA hopper development will continue, CIT hatching occur and LMI hatching generalize



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 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 and Marion.Chiris@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.

April 2013 events and activities. The following activities occurred or were ongoing:

- **Training session on mitigating and monitoring the impact of locust treatments on human health and the environment** delivered by Mr H. van der Valk in Tbilisi, **Georgia**, on 22-27 April 2013, to 12 Armenian, Azeri, Georgian and Russian locust experts;



- **Training session on Ground Ultra-Low Volume Spraying Techniques** delivered by Mr T. Sanders in Khatlon province, **Tajikistan**, on 15-19 April 2013 to 12 national staff;
- **Training session on Ground Ultra-Low Volume Spraying Techniques** delivered by Mr T. Sanders, **Kyrgyzstan**, on 22-26 April 2013 to 12 national staff;
- **Joint survey** carried out on 28 April-1st May 2013 in Kakheti region, **Georgia**, by 12 Armenian, Azeri, Georgian and Russian locust experts;
- **E-Committee on documentation**: Lists of the most recommended publications under finalization for CIT and DMA;
- **Asian Migratory Locust outbreak in Uzbekistan**: the approval of a short-term emergency project (against FAO funding) resulted in a survey and need assessment mission to be carried out by Mr A.V. Latchininsky and Mr F. Gapparov on 1-9 May 2013 in the Aral Sea delta.

May 2013 events and activities. The following activities are scheduled:

- **Training session on locust monitoring and information management** in Astrakhan, **Russia**, on 13-17 May 2013, for Kazakh and Russian locust experts (Mr A.V. Latchininsky);
- **Joint survey** scheduled on 18 May 2013 in Astrakhan, **Russia**, with Kazakh and Russian locust experts;
- **Training session on mitigating and monitoring the impact of locust treatments on human health and the environment** in Khudjand, **Tajikistan**, on 27-31 May 2013 (Mr H. van der Valk);
- Ongoing negotiation for the delivery of **pesticides to Kyrgyzstan and Tajikistan** against the two national FAO projects;
- Ongoing **fund-raising activities** by AGPMM.