

**Global Emergency Transboundary Outbreak Pests (GETOP) Situation
Bulletin for August with a forecast through mid-October 2024**
résumé end français est inclus

SUMMARY

The Desert Locust, *Schistocerca gregaria* (SGR¹): In August, the desert locust (SGR) situation remained calm in most of the primary outbreak areas in the Central Outbreak Region (COR). Only some scattered adults were observed in the Nile Valley and west of the Red Sea Hills in northern and eastern Sudan, low numbers of adults were seen in the interior of Yemen, but control operations were not necessitated. Surveys were conducted in Eritrea and Ethiopia where ecological conditions have improved, but no locusts were detected. No reports were received in Djibouti, Jordan, Oman, Saudi Arabia, or Yemen. In the Western Outbreak Region (WOR), a few isolated adults were detected in west and northeast Chad, and in a single place in the central Sahara of Algeria and a few isolated hoppers were detected in Mauritania. In the Eastern Outbreak Region (EOR), a few isolated adults were detected in summer breeding areas in Pakistan (Source: BHA/TPQ, FAO/DLIS, INPV/Algeria, ANLA/Chad, CNLCP/Mali, CNLAA/Morocco, CNLA/Niger, DLCO-EA, PPD/Eritrea, PPD/Ethiopia, PPD/Sudan).

Forecast: In COR, significant activities are unlikely in the coming months and only 1st summer generation will continue and hopper numbers will increase slightly in the interior of Sudan and Yemen. New immature adults will form mid-September onwards, followed by maturing and laying after mid-October both in the interior as well as the Red Sea and Gulf of Aden coastal areas. Hoppers will continue developing and fledging from mid-September onwards leading to a 2nd generation by mid-October in the interior, while some will move to the Red Sea coast where winter breeding season could commence earlier than normal. Surveillance and timely control remain critical. In WOR, hoppers and adults are likely to continue appearing in southern Mauritania, northern Mali and Niger, central and northern Chad, and southern Algeria during the forecast period. 2nd generation breeding could start in October and locusts might concentrate and eventually move to the primary breeding areas in Chad, Niger, Mali, and northwest Mauritania. In EOR, the situation will remain generally calm and only small-scale breeding will continue along the Indo-Pakistan border until October, but locust numbers are not expected to increase significantly as the monsoon rains withdraw around the end of September (Source: BHA/TPQ, FAO/DLIS, INPV/Algeria, ANLA/Chad, CNLCP/Mali, CNLAA/Morocco, CNLA/Niger, PPD/Eritrea, PPD/Ethiopia, PPD/Sudan).

¹ Definitions of all acronyms and useful weblinks can be found on the last few pages of the bulletin.

Red (Nomadic) Locust, *Nomadacris septemfasciata* (NSE): NSE situation remained generally calm and only some low level swarms were reported in Singida region, Tanzania, during August 2024. The pest was not reported elsewhere in IRLCO-CSA primary outbreak areas during this month.

African Migratory Locust, *Locusta migratoria migratorioides* (LMI - AML): AML presence was not reported and the situation remained calm during this month (BHA/TPQ, IRLCO-CSA).

Malagasy locust, *Locust migrator capito* (LMC): No update was received during this month.

Tree locust, *Anacridiums spp.* (ASP): No ASP report was received.

Central American Locust, *Schistocerca piceiferons* (CAL): No update was received, however, some activities are likely in summer breeding areas.

South American Locust, *Schistocerca cancellata* (SAL): No update was received during this month, however, SAL activities that were reported in Argentina, Paraguay, and to some extent in Bolivia are expected to have subsided.

Italian (CIT), Moroccan (DMA), and Asian Migratory Locusts (LMI): DMA activities are expected to have declined. CIT and LMI likely continued developing in the Caucasus and northern CA regions, but likely at a reduced scale.

Fall Armyworm, *Spodoptera frugiperda* (FAW): FAW is expected to be present in irrigated and rainfed crops across the globe (BHA/TPQ, IRLCO-CSA).

African Armyworm, *Spodoptera exempta* (AAW): No AAW presence was reported.

Quelea species (QSP): QSP outbreaks were reported in irrigated rice in Shebele Zone, Somali admin region in Ethiopia; in rice, sorghum and millet crops in Moshi, Babati, Simanjiro, Kilosa and Mvomero districts in Tanzania; on irrigated wheat in Masvingo, Mashonaland Central, Matebeleland South, Mashonaland West, Mashonaland East, Manicaland and Midlands Provinces in Zimbabwe and in Nakuru and Laikipa counties in Kenya (BHA/TPQ, DLCO-EA, PPD/Ethiopia, IRLCO-CSA).

Active ETOP surveillance, monitoring, information sharing, and timely preventive interventions remain critical to abate the threats ETOPs pose to food security and livelihoods of vulnerable people and communities and others.

USAID/BHA/TPQ regularly monitors GETOPs in close collaboration with its global network of National MoA PPDs/DPVs/CNLA,/CNLAA/ANLA?CNLCP, PHSs, regional and international pest monitoring and control entities, FAO, CLCPRO, CRC, SWAC, DLCO-EA, and IRLCO-CSA, research centers, academia, private sector, civil societies, NGOs and others, and compiles and issues monthly analytical GETOP Bulletins (please refer to list of acronyms on the last few pages). **End summary**

RÉSUMÉ EN FRANÇAIS

La situation du Criquet pèlerin (*Schistocerca gregaria* SGR): En août, la situation du criquet pèlerin (SGR) est restée calme dans la plupart des zones d'infestation primaires de la région grégarigène centrale (COR). Seuls quelques adultes épars ont été observés dans la vallée du Nil et à l'ouest des collines de la mer Rouge dans le nord et l'est du Soudan, de faibles effectifs d'adultes ont été observés à l'intérieur du Yémen, mais aucune opération de lutte n'a été nécessaire. Des prospections ont été menées en Érythrée et en Éthiopie, où les conditions écologiques se sont améliorées, mais aucun criquet n'a été détecté. Aucun signalement n'a été reçu à Djibouti, en Jordanie, à Oman, en Arabie saoudite ou au Yémen. Dans la région grégarigène occidentale (WOR), quelques adultes isolés ont été détectés dans l'ouest et le nord-est du Tchad, et dans un seul endroit du Sahara central algérien, et quelques larves isolées ont été détectées en Mauritanie. Dans la région grégarigène de Pâques (EOR), quelques adultes isolés ont été détectés dans les zones de reproduction estivale au Pakistan (Source: BHA/TPQ, FAO/DLIS, INPV/Algérie, ANLA/Tchad, CNLCP/Mali, CNLAA/Maroc, CNLA/Niger, PPD/Érythrée, PPD/Éthiopie, PPD/Soudan).

Prévisions : Dans la région COR, il est peu probable que des activités significatives se produisent dans les mois à venir et seule la première génération estivale se poursuivra tandis que le nombre de larves augmentera légèrement dans l'intérieur du Soudan et du Yémen. De nouveaux ailés immatures se formeront à partir de la mi-septembre, suivis d'une maturation et d'une ponte après la mi-octobre, tant dans l'intérieur que dans les zones côtières de la mer Rouge et du golfe d'Aden. Les larves continueront de se développer et de s'envoler à partir de la mi-septembre, ce qui conduira à une 2^e génération vers la mi-octobre dans l'intérieur, tandis que certaines se déplaceront vers la côte de la mer Rouge où la saison de reproduction hivernale pourrait commencer plus tôt que d'habitude. La surveillance et la lutte en temps opportun restent essentielles. Dans la région WOR, les larves et les ailés continueront probablement d'apparaître dans le sud de la Mauritanie, le nord du Mali et du Niger, le centre et le nord du Tchad et le sud de l'Algérie pendant la période de prévision. La reproduction de la 2^e génération pourrait commencer en octobre et les criquets pourraient se concentrer et finalement se déplacer vers les principales zones de reproduction au Tchad, au Niger, au Mali et au nord-ouest de la Mauritanie. Dans la région de l'EOR, la situation restera généralement calme et seule une reproduction à petite échelle se

poursuivra le long de la frontière indo-pakistanaise jusqu'en octobre, mais les effectifs de criquets ne devraient pas augmenter de manière significative avec le retrait des pluies de mousson vers la fin septembre (Source : BHA/TPQ, FAO/DLIS, INPV/Algérie, ANLA/Tchad, CNLCP/Mali, CNLAA/Maroc, CNLA/Niger, PPD/Érythrée, PPD/Éthiopie, PPD/Soudan).

Criquet nomade (*Nomadacris septemfasciata* - NSE): (IRLCO-CSA). La situation du NSE est restée généralement calme et seuls quelques essaims de faible altitude ont été signalés dans la région de Singida, en Tanzanie, en août 2024. Le ravageur n'a pas été signalé ailleurs dans les principales zones de foyers de l'IRLCO-CSA au cours de ce mois.

Criquet migrateur africain (AML/LMI): (IRLCO-CSA). La présence d'AML n'a pas été signalée et la situation est restée calme au cours de ce mois (BHA/TPQ, IRLCO-CSA).

Criquet migrateur capito, (LMC): Criquet malgache, Criquet migrateur capito (LMC) : Aucune mise à jour n'a été reçue au cours de ce mois.

Le criquet arborial, *Anacridium spp*: (ASP): (IRLCO-CSA). Aucun rapport d'ASP n'a été reçu.

Langosta Centroamericana, *Schistocerca piceiferons* (Criquet Amérique centrale (CAL): Aucune mise à jour n'a été reçue en juillet; cependant, certaines activités sont probables dans les zones de reproduction estivale.

Criquet d'Amérique du Sud, *Schistocerca cancellata* (SAL): Aucune mise à jour n'a été reçue au moment de la rédaction de ce bulletin, cependant, les activités de SAL signalées en Argentine et au Paraguay et dans une certaine mesure en Bolivie peuvent s'être poursuivies (SENASA, Argentine).

Criquets italiens (CIT), marocains (DMA), Asian Migratory Locust (LMI): Les activités DMA devraient avoir diminué. Les CIT et LMI ont probablement continué à se développer dans les régions du Caucase et du nord de l'AC, mais probablement à une échelle réduite.

Chenille Légionnaire d'automne (*Spodoptera frugiperda*, J. E. Smith) (FAW): (BHA/TPQ, PPD/Ethiopia, DLCO-EA, IRLCO-CSA). La FAW devrait être présente dans les cultures irriguées et pluviales à travers le monde (BHA/TPQ, IRLCO-CSA).

Chenille Légionnaire Africaine (*Spodoptera exempta*) (AAW): Aucune présence de AAW n'a été signalée (BHA/TPQ, PPD/Ethiopia, DLCO-EA, IRLCO-CSA).

Quelea spp oiseaux (QSP): (BHA/TPQ, PPD/Ethiopia, DLCO-EA, IRLCO-CSA). Des foyers de QSP ont été signalés dans du riz irrigué dans la zone Shebele, dans la région administrative somalienne en Éthiopie ; dans les cultures de riz, de sorgho et de mil dans les districts de Moshi, Babati, Simanjiro, Kilosa et Mvomero en Tanzanie ; sur le blé irrigué dans les provinces de Masvingo, Mashonaland Central, Matebeleland Sud, Mashonaland Ouest, Mashonaland Est, Manicaland et Midlands au Zimbabwe et dans les comtés de Nakuru et Laikipa au Kenya (BHA/TPQ, DLCO-EA, PPD/Éthiopie, IRLCO-CSA).

La surveillance active des ETOP, le suivi, le partage d'informations et l'exécution d'interventions préventives en temps opportun restent essentiels pour réduire les menaces que les GETOP font peser sur la sécurité alimentaire et les moyens de subsistance des personnes et des communautés vulnérables.

USAID / BHA / TPQ surveille régulièrement les GETOP en étroite collaboration avec son réseau mondial de PPD/DPV/PHS nationaux du MoA, les entités régionales et internationales de surveillance et de contrôle des ravageurs, la FAO, la CLCPRO, le CRC, la DLCO-EA et l'IRLCO-CSA, les centres de recherche, le milieu universitaire, le secteur privé, la société civile, les ONG et autres, et compile et publie des bulletins analytiques mensuels GETOP (veuillez vous référer à la liste des acronymes sur les dernières pages). Fin du résumé

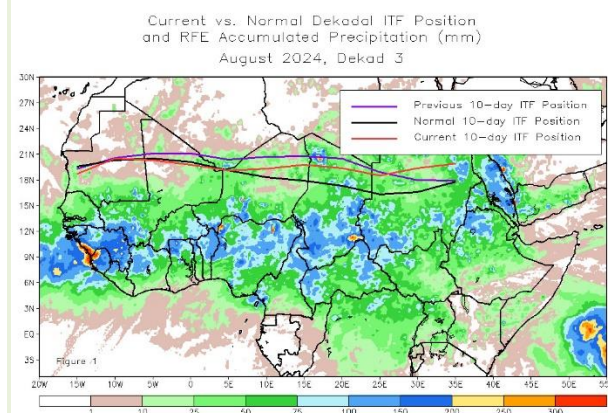
Note: All previous and current GETOP Bulletins can be accessed here: [USAID Pest and Pesticide Monitoring](#)

Additional GETOP resources can be found on the last pages.

Weather and Ecological Conditions

From August 21-31, the Inter-Tropical Front (ITF) moved southward along most of its length, except in northern Sudan, where it moved northward compared to its previous position. The western (10W-10E) portion of the ITF was located approximately at 19.8N, which was above the climatological position by 0.1 degrees. Also, at the eastern (20E-35E) portion, the ITF was approximated at 19.3N, which was above the long-term average position by 2.3 degrees. Figure 1 in next column displays the current

position of the



ITF relative to the climatological position during the 3rd dekad of August and its previous position during the 2nd dekad of August.

Figures 2 and 3 are time series, illustrating the latitudinal positions for the western and eastern portions of the ITF, respectively, and their seasonal evolutions since the beginning of April 2024 (NOAA, 9/2024).

Figure 2.

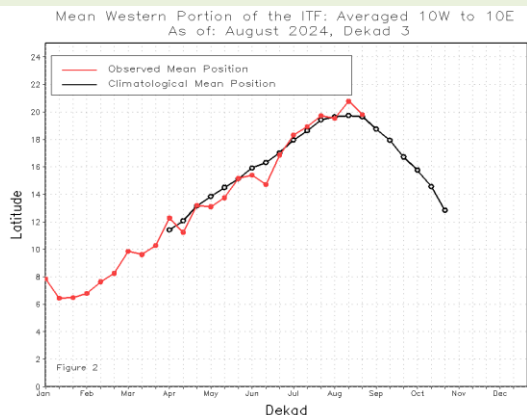
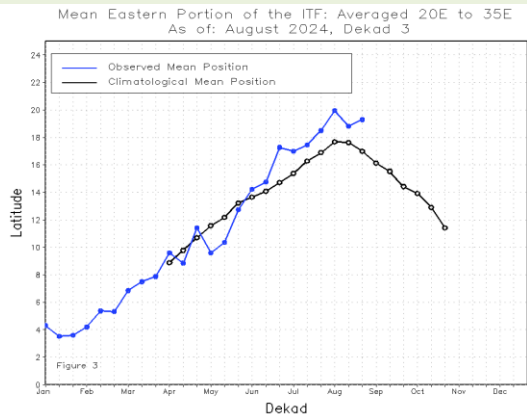


Figure 3.



From August 11-20, the Inter-Tropical Front (ITF) moved northward along most of its length, except in northern Sudan, where it moved southward compared to its previous position. The western (10W-10E) portion of the ITF was located approximately at 20.8N, which was above the climatological position by 1.1 degrees. Also, at the eastern (20E-35E) portion, the ITF was approximated at 18.8N, which was above the long-term average position by 1.2 degrees.

and its previous position during the 1st dekad of August. Figures 2 and 3 are time series, illustrating the latitudinal positions for the western and eastern portions of the ITF, respectively, and their seasonal evolutions since the beginning of April 2024 (8/2024, NOAA)

From August 1-10 (during the 1st dekad of the month), the Inter-Tropical Front (ITF) moved southward in the west and northward in the east of Africa. The western (10W-10E) portion of the ITF was located approximately at 19.5N, which was below the climatological position by 0.2 degrees. Also, at the eastern (20E-35E) portion, the ITF was approximated at 20.0N, which was above the long-term average position by 2.3 degrees (NOAA, 8/2024).

It is to be recalled that during the 3rd dekad of July, the ITF moved northward along most of its length, except in southwestern Mauritania and northern Chad, where it moved southward compared to its previous position. The western (10W-10E) portion of the ITF was located approximately at 19.7N, which was above the climatological position by 0.3 degrees. Also, at the eastern (20E-35E) portion, the ITF was approximated at 18.5N, which was above the long-term average position by 1.6 degrees.

During 2nd dekad of August, rainfall was above-average over most of Eritrea, central and eastern South Sudan, most of Sudan, many parts of Uganda, and western Kenya. Below-

average rainfall was reported over parts of central Ethiopia and western South Sudan. In Central Africa, rainfall was above-average over most of Chad, western and eastern CAR, and northern DRC. Below-average rainfall was observed in most parts of Cameroon and central CAR. In West Africa, above-average rainfall was reported over southern Mauritania, part of isolated eastern areas in Burkina Faso, Mali, Niger, and northern Nigeria. Rainfall was below-average over many parts of Senegal, western Sierra Leone, Ghana, Togo, Benin, and most of Nigeria during early 2nd dekad of August (NOAA, 8/2024).

During the 3rd dekad of August, above-normal rainfall across the northern portion of the Gulf Guinea and the neighboring areas of the Sahel region, including the southern portion of Sudan and Eritrea, and much of South Sudan and Ethiopia. In contrast, there is an increased chance for below-normal rainfall over southeastern Nigeria, Cameroon, Equatorial Guinea, northern Gabon, Congo and western DRC. From early 1st dekad of September, above average rainfall is predicted in many places in the Sahel and neighboring areas of the Gulf of Guinea region, including southern Sudan and Eritrea, much of Guinea and the eastern portion of Ethiopia, and northern DRC and Uganda. There is increased chance for below-normal rainfall along the Gulf of Guinea coast (NOAA, 8/2024).

There is a slight to moderate tilt in the odds to favor below-average rainfall over portions of the Gulf of Guinea region through Aug - Oct 2024.

There is also a tilt in the odds to favor below-average rainfall over parts of central Africa, equatorial East Africa, and the southern portion of Southern Africa during the northern hemisphere autumn 2024.

Jul – Sep: There is a moderate to high tilt in the odds to favor above-average rainfall over much of Central America and the Caribbean.

Aug – Oct: There is a slight to moderate tilt in the odds to favor below-average rainfall over the northern portion of Mexico.

Jul -Sep: There is a slight tilt in the odds to favor above-average rainfall over the far northern parts of South America.

Aug – Oct: The forecasts call for a moderate to high tilt in the odds to favor below-average rainfall over parts of northern, central, and southern South America.

There is a slight tilt in the odds to favor below-average rainfall over many parts of Central Asia during the northern hemisphere autumn 2024.

Aug - Oct: There is a slight tilt in the odds to favor below-average rainfall over the northern portion of Central Asia.

Jul – Sep: There is a slight to moderate tilt in the odds to favor above-average rainfall over many

parts of South Asia, including India and China.

Aug - Oct: There is a slight to moderate tilt in the odds to favor below-average rainfall over parts of the far southern Asia through the northern hemisphere summer 2024 (NOAA climate prediction center; 6/2024),

Since mid-March, the seasonal precipitation prediction for the past four months expected above-average rainfall and favorable breeding conditions during the summer. Now all the models have completely reversed. The positive IOD phase is now negative and La Niña is likely to develop during the next few months rather than El Niño. Nevertheless, normal to above-normal rains are expected during the northern Sahel from Niger to Eritrea, across Arabia to Indo-Pakistan for August and September and continuing during October in Yemen. Mainly dry condition is anticipated in Mali and Mauritania. During the winter, dryness will develop from October onwards along the Red Sea and Gulf of Aden except in southeast Egypt, while normal to above-normal rainfall may occur from November onwards in northwest Mauritania (FAO ECLO, 7.2024).

During the 2019-22 massive locust outbreak among the main factors that led to the outbreaks were the combination of locust presence and

favorable ecological conditions from heavy rains from several tropical cyclones in the Red Sea, Gulf of Aden, Northern Somalia coasts and the interior of the Arabian Peninsula and Seas regions (source: FAO/DLIS).

Dry conditions prevailed in most **NSE** outbreak areas and temperatures started to increase as the winter cool season ended. Above normal rains were recorded in Wembere Plains and Bahi Valley resulting in extensive flooding likely affecting locust breeding (IRLCO-CSA).

The Caucasus and Central Asia (CCA):

https://www.cpc.ncep.noaa.gov/products/international/casia/casia_hazard.pdf

Detailed Accounts of Monthly GETOP Situation and Forecast for the Next Six Weeks

The **Desert Locust** (*Schistocerca gregaria* - **SGR²**): In COR, the SGR situation remained generally calm across the region.

In **Eritrea**, survey was conducted in summer and winter breeding areas around Tesseney, Omhajer, Forto-sawa and in the western lowland and around Karora, Mehimet, Afabet, Shieb, Massawa, Foro and Ghelalo, but no locusts were detected.

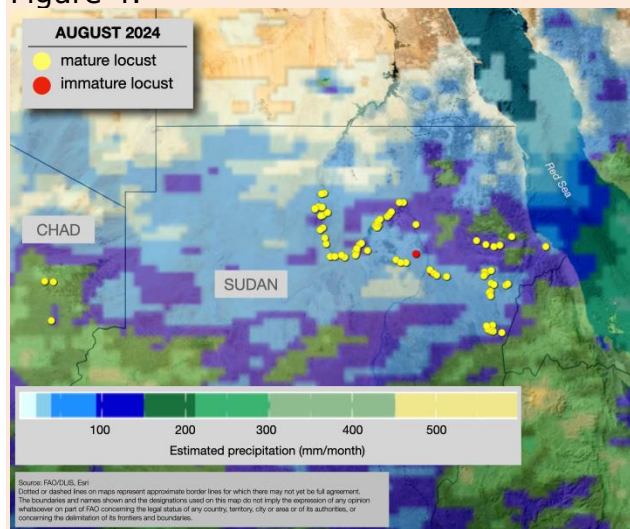
In **Ethiopia**, surveys were not conducted during August, however, favorable conditions (moist soil and green vegetation) were reported in summer

² Definitions of all acronyms can be found at the end of mature the report.

breeding areas in Somali, Oromo and Afar admin regions as well as Dire Dawa city administrations during this month.

In **Sudan**, scattered mature solitary adults were detected along the northern Nile Valley from Dongola Ed Debba and Abu Hamed to the Bayuda Desert, Atbara River, and west of the Red Sea Hills between Haiya and Kassala Along the Red Sea coast, there was one area with scattered mature solitarious adults near Tokar Delta.

Figure 4.



SGR situation in August 2024 (Source: FAO/ECLLO).

No updates were received and no SGR were reported in Djibouti, Jordan, Kenya, Kuwait, Oman, Somalia, South Sudan, Tanzania, Uganda, Yemen or Saudi Arabia during this month (Source: DLCO-EA, FAO/ECLLO/DLIS, PPD/Eritrea, PPD/Ethiopia, PPD/Sudan).

Forecast: The 1st summer generation will continue and hoppers numbers will increase slightly in the interior of Sudan and Yemen as opposed to western Eritrea and southern Egypt. Immature adults will form mid-September, begin maturing and laying eggs after mid-October in the interior and the Red Sea and Gulf of Aden coastal areas. Consequently, winter

breeding will start earlier than usual in Saudi Arabia and perhaps northwest Somalia. Locust numbers are likely to increase and necessitate timely control operations (Source: FAO/ECLLO/DLIS, PPD/Eritrea, PPD/Ethiopia, PPD/Sudan).

SGR – WOR: In WOR, some isolated adults were detected in west and northeast of Chad, and in the central Sahara of Algeria and a few isolated hoppers were detected in Mauritania.

Forecast: In WOR, some hoppers and adults are likely to continue appearing during the forecast period in southern Mauritania, northern Mali and Niger, in central and northern Chad, and southern Algeria. A second generation of breeding could start in October where locust might concentrate and eventually move to the Tibesti Mountains of Chad, Air Mountains of Niger, Adrar des Iforas in northeast Mali, and northwest Mauritania (Source: BHA/TPQ, FAO/ECLLO/DLIS, INPV/Algeria, ANLA/Chad, CNLCP/Mali, CNLAA/Morocco, CNLA/Niger).

SGR - EOR: A few isolated adults were detected in summer breeding areas in Pakistan during this month.

Forecast: In the EOR, limited small-scale breeding will continue along the Indo-Pakistan border until October, but locust numbers are not expected to increase significantly with monsoon rains withdrawing around the end of September (Source: FAO/ECLLO/DLIS).

Active surveillance and timely preventive interventions always remain critical to abate any potential threats in the coming months.

SGR threats can be abated with coordinated and planned monitoring, surveillance and preventive control

interventions led by the National/PPD in collaboration with relevant national and regional organizations, adequate resources [by host authorities and partners] coupled with deterrence of unnecessary anthropogenic anomalies (e.g., conflicts, security incidences, blockage of transportation arteries, delayed resource release, potential asset diversions, etc.).

Red (Nomadic) Locust (NSE): NSE situation remained generally calm during this month, however, some low level swarms were reported in Singida region, Tanzania, during August 2024. Joint surveys were carried out by the IRLCO-CSA and Tanzania Ministry of Agriculture and revealed the presence of swarmlets (20-30 locusts/m²) and control was carried on an estimated 1,018 ha using a helicopter, drones and motorized sprayers. Isolated NSE populations were detected in the Wembere plains and Bahi Valley, and surveys continued in Malagarasi Basin, Ikuu-Katavi plains and Rukwa Valley in Tanzania plains at the time this Bulletin was compiled. The situation was unclear and significant developments were not reported in Lake Chilwa plains in Malawi, Buzi-Gorongosa plains in Mozambique and Kafue Flats in Zambia and surveys are planned for October 2024. No reports of NSE in Kenya or Zimbabwe (IRLCO-CSA).

Forecast: With vegetation drying and burning continued in most of the outbreak areas, it is likely NSE are concentrating and forming swarms in primary outbreak areas in Malawi, Mozambique, Tanzania and Zambia. Some locusts may migrate to areas where favorable conditions exist and likely cause damage. Timely preventive interventions remain critical to abate any

major threats to crops and pasture (BHA/TPQ, IRLCO-CSA).

African Migratory Locust (AML - LMI): AML was not reported in IRLCO-CSA member (IRLCO-CSA).

Forecast: AML will remain calm with ecological conditions drying through the coming months. Survey operations remain critical for early detection and timely interventions (BHA/TPQ, IRLCO-CSA).

Active monitoring and surveillance remain critical to plan timely preventive interventions and abate the threats the ETOPs pose.

Malagasy locust (Locust migratoria capito - LMC): LMC activities were not reported during this month.

Tree locust - Anacridium spp (ASPP): Tree locusts were not reported during August (BHA/TPQ).

Elegant grasshopper (Zonocerus elegance (ZEL): No update was received at the time this Bulletin was compiled (BHA/TPQ).

Central American Locust - Schistocerca piceifrons (CAL): No update was received at the time this Bulletin was compiled and CAL was expected to have remained in recession until the rains began.

[Note: CAL is a serious pest in 10 regions in Mexico (Campeche, Chiapas, Hidalgo, Oaxaca, San Luis Potosí, Tabasco, Tamaulipas, Veracruz, Quintana Roo and Yucatán - MoA/México), and in CA region, and it is known to attack hundreds of species of plants of economic

importance, including agave, banana, beans, corn, cotton, peanut, rice, sesame, soybean, sorghum, sugarcane, and several species of fruit trees (Pech, CESVY-SENASICA, Mexico)

South American Locust, *Schistocerca cancellata* (SAL) (a.k.a. Flying lobster):

No update was received at the time this Bulletin was compiled although the pest caused serious threats/damage to primary outbreaks and invasion areas in previous months in the subregion.

<https://test.senasa.gov.ar/langostas/>

Italian (CIT), Moroccan (DMA) and Migratory (LMI)

DMA likely ended its activities in the southern part of the region and maturing in the CA regions. Italian Locust (CIT) that started hatching and hopper development during previous months in most Caucasus and Central Asian (CCA) countries is expected to have completed fledging and began maturing. Asian Migratory Locust (LMI) likely continued developing and maturing in Kazakhstan and the Russian Federation. DMA lifecycle is expected to have ended particularly in the southern and central areas (FAO/ECLO, BHA/TPQ).

Forecast: DMA activities are expected to end and CIT and LMI will continue winding down their development while LMI will continue egg laying during the forecast period (FAO/ECLO).

Fall armyworm (FAW): FAW was reported in several administrative regions in **Ethiopia** where infested crops were controlled using cultural and conventions control interventions during the 2nd dekad of August. In **Malawi**, FAW was reported in all Agriculture Development Divisions (ADDs) where the pest was detected attacking irrigated maize on close to 63,620 ha (nearly 4% of irrigated maize) and half of that was

controlled by the end of August using botanical and conventional pesticides (BHA/TPQ, PPD/Ethiopia, IRLCO-CSA).

Forecast: FAW will likely continue being a problem to rainfed and/or irrigated maize and other cereal crops during the forecast period (BHA/TPQ).

NOTE: *FAW has become a resident pest in several countries which it has invaded since 2016 (the first time it was reported on the African continent) and continued threatening crops on the continent thereafter. Between 2018 and 2020, FAW was recorded from South Asia, Southeast Asia, East Asia, and Pacific/Australia and continued thereafter. END NOTE*

Active surveillance, monitoring, reporting, and timely preventive interventions remain critical to abate major crop damage.

FAO-led Global Action for Fall Armyworm Control

NOTE: *The Food and Agriculture Organization of the United Nations (FAO) and CIT continued active engagements in a transformative, coordinated Global Action for Fall Armyworm Control (GAFC) which was launched in December 2019 as an urgent response to the rapid spread of FAW. GAFC was intended to be implemented in 65 [target] countries across Africa, Near East and Asia-Pacific from 2020 to 2022: [FAO GLOBAL ACTION FOR FAW CONTROL](#)*

BHA/TPQ is collaborating with partners to benefit farming communities and host-governments with the intention to scale up and spread gains across FAW prone regions, consistent with the spirit of GAFC and host-country strategies. These initiatives are built on experiences gained

over the past several years, including outcomes of projects and programs supported through USAID legacy OFDA, legacy BFS, national partners, CGIARs, FAO, and several other entities.

Note: Several species of FAW natural enemies have been identified across different countries and regions and their efficacy, effectiveness, environmental impacts, safety, and other relevant parameters have been tested. Some have been in use in an IPM toolbox. For instance, a package of biological control for FAW was demonstrated in a video clip from Syria that *Trichogramma pretiosum*, an egg parasitoid, can be mass released to control the FAW egg populations. Bacterial insecticide, such as *Bacillus thuringiensis* is sprayed four to five days after a *Trichogramma pretiosum* parasitoid was released to control any surviving FAW larvae. The third component in the package was mass release of a larval parasitoid, *Habrobracon hebetor*, that further disrupts the life cycle of FAW. Other environmentally friendly and safer alternatives are also being tried and utilized to prevent and mitigate FAW damage in many countries across the globe. End note.

African Armyworm (Spodoptera exempta, Walker) (AAW): AAW during this month as the seasonal activities have ended (Source: BHA/TPQ; IRLCO-CSA).

Forecast: AAW may occur in Kenya and Tanzania as the short rainy season commences in October. National Armyworm Monitoring Unites and communities are advised to begin monitoring from October on and prepare for timely response interventions (BHA/TPQ, IRLCO-CSA).

USAID legacy OFDA through DLCO-EA and host-country partners supported a project in East Africa in 2012-15 where farmers and technical staff received training in AAW identification, detection, monitoring, surveillance, trap operations, reporting as well as managing which is still benefiting the direct beneficiaries and cascaded to other farming communities. The project was dubbed and being implemented to this day.

Quelea species (QSP): QSP outbreaks were reported attacking irrigated rice and controlled in Shebele Zone (Gode, Berano and Adadile) Somali admin region in Ethiopia. QSP flocks were reported threatening rice, sorghum and millet crops in Moshi, Babati, Simanjiro, Kilosa and Mvomero districts in Tanzania. and Karonga Agriculture Development Divisions in Malawi; wheat crops in Nakuru, Laikipia Counties in Kenya and Masvingo, Mashonaland Central, Matabeleland South Mashonaland West, Manicaland, Mashonaland East and Midland Provinces in Zimbabwe, and sorghum in Simanjiro district, Tanzania. QSP outbreaks were also reported attacking irrigated rice in Shebele Zone (Gode and Berano) Somali admin region in **Ethiopia** during the 2nd dekad of August and aerial control was launched on 50 ha using 100 lt of Baythion 64% ULV (BHA/TPQ, DLCO-EA, PPD/Ethiopia, IRLCO-CSA).

Forecast: QSP outbreaks will continue being a problem to small-grain crops in irrigated or rainfed QSP prone regions (Ethiopia, Kenya, Zimbabwe etc.,) where irrigated crops continued must sustain surveillance, monitoring and timely interventions (BHA/TPQ, DLCO-EA, IRLCO-CSA).

QSP prone countries are always encouraged to share with neighboring

countries and relevant regions information on the pest situation, actions undertaken as well as follow up plans.

Facts: QSP can travel ~100 km/day in search of food. An adult QSP can consume 3-5 grams of small grain and destroy the same amount each day. A medium density QSP colony can contain up to a million or more birds and is capable of consuming and destroying 6,000 kg to 10,000 kg of seeds/day – amount enough to feed 12,000-20,000 people/day.

Rodents: No update was received during this month, but the pest remains a perennial problem to pre- and post-harvest crops across various regions.

FACTS: On average, an adult rat can consume 3-5 gm of food (grain, etc.) per day; a population of 200 rats/ha (a very low density/unit area) can consume a quantity enough to feed an adult sheep/day, not to mention the multiple times that amount of food the rats can damage, destroy, and contaminate making it unfit for human or animal consumption; rats are also zoonotic - diseases vectors and transmitters.

Coconut rhino beetle (CRB) (Oryctes rhinoceros – CRH): No update was received on CRB in the **Republic of Marshall Islands** at the time this bulletin was compiled.

CRB was reported in **Vanuatu** a few months ago, but no additional information was received at the time this bulletin was compiled.

All GETOP front-line countries are encouraged to maintain regular monitoring and surveillance as well as launch preventive control interventions in

a timely manner. Regular crop scouting is critical to avoid damage/losses. Invasion countries must also remain alert. Regional and national ETOP entities - DLCO-EA, IRLCO-CSA, DLCCs, DLMCC, CNLAs, ELOs, National DPVs and PPDs, etc., are encouraged to continue sharing ETOP information and reports with stakeholders, including neighboring countries, and humanitarian and development partners, etc., as early and often as possible. Lead farmers, field scouts, community forecasters and others must remain vigilant and report ETOP detections to relevant authorities in their jurisdictions as quickly as possible. Strong surveillance, monitoring and quarantine enforcement remain critical to prevent invasive pest species.

NOTE – Advanced Technologies for GETOP Surveillance, Early Warning and Forecasting Enhance Effective GETOP Management: Innovative technologies, such as drones, for high-resolution images in remote and hard-to-reach inaccessible areas are being explored. Drones for locust monitoring, and localized control in sensitive, and hard to reach areas continuous improving showing promising results. While the range of agriculture-oriented drones may be limited for large-scale area-wide ETOP interventions, such as massive swarms and hopper bands, countries and partners have expressed interests to support work on key parameters associated with these technologies.

Crowd and cloud sourcing for data collection, sharing, etc. are another set of assets that can be of great value for GETOP operations. Dynamic population and biotope modeling, from CIRAD and ICIPE, respectively, and accounting for associated parameters such as soil moisture, vegetation index, etc. that involved multiple partners – USAID,

Penn-FAO, NOAA, NASA, CIRAD, ICIPE, National and International Research institutions, academia, private sector, and many more will certainly contribute to better understand ETOP – DL phenology, ecology, habitat range with a goal to manage them safely and effectively. **End note.**

ETOP Proliferation and Climatic Factors

Note: Climate induced weather anomalies contribute to an ecological shift in ETOP habitats, triggering risks in the outbreaks and resurgence of ETOPs and/or the emergence of new and invasive pest species. The frequency, extent, and payload of ETOP prevalence, appearances, and upsurges are partially attributed to the changes in the weather patterns - extensive, and above normal rainfall partly associated with the occurrence of multiple cyclones or persistent drought that significantly impact pest presence, proliferation causing additional stresses to food security and livelihoods of vulnerable communities and populations: Case in point: multiple cyclones that occurred in the western Indian Ocean, in the Arabian Peninsula and the Horn of Africa region within a time span of less than two years, from May 2018 to December 2019, lead to major SGR upsurges and outbreaks that continued impacting the COR region through 2021 [into 2022] End note; Scientific review of the impact of climate change on plant pests – A global challenge to prevent and mitigate plant pest risks in agriculture, forestry, and ecosystems. Rome. FAO on behalf of the IPPC Secretariat <https://www.fao.org/documents/card/en/c/cb4769en>.

BHA's Contributions to ETOP Abatement Interventions

USAID/BHA/TPQ continues its effort in strengthening national and regional capacity in GETOP prone countries across regions. The supports for GETOPs include projects on FAW in Eastern Africa, the Horn, locusts and grasshoppers in West Africa, desert locusts in the Red Sea region, the Horn of Africa, and the Arabian Peninsula, as well as three major locust species in the Caucasus and Central Asia (CCA) regions.

In Eastern Africa, Southern Africa and the Horn, a multi-year DRR project that targets community based FAW monitoring forecasting and early warning is in progress in all five countries (Ethiopia, Malawi, Rwanda, Uganda, and Zambia) under the auspice of the International Center for Insect Physiology and Ecology [ICIPE](#) in close collaboration with participating countries.

In the Caucasus and Central Asia region, where tens of millions of farmers and herders are affected by three major locust species, BHA is co-funding a multi-year DRR project. The project is being implemented under the leadership of UNFAO in close collaboration with the affected countries in the regions [BHA CCA Locust Support](#).

BHA/TPQ/FSL also co-sponsors a multi-year DRR locust project through the UN/FAO in the CRC region with a focus on strengthening surveillance, monitoring, early detection, and early warning as well as management of the SGR to improve food security and livelihoods of tens of millions of vulnerable communities and contribute to the national economy.

USAID/BHA/TPQ/FSL supports operational research through Arizona

State University on integration of alternative locust and grasshopper management tools into community and National Plant Protection Departments practices. This project is being implemented in West Africa in collaboration with Senegal/PPD, University of Gaston Berker University, St Lous, Senegal, CIRAD, French Institute of Development Research (IRD).

Note: A sustainable Pesticide Stewardship (SPS) can contribute to strengthening pesticide delivery system (PDS) at the national and regional levels. A viable and effective SPS can be established by linking stakeholders across political boundaries and geographic regions. A strong and viable PDS can effectively reduce pesticide related human health risks, minimize environmental pollution, reduce pest control costs, improve food security, and contribute to the national economy. **End note.**

BHA/TPQ promotes an integrated pest management (IPM) approach - the Agency policies, and procedures - to help minimize health risks and protect the environment from misuse and mismanagement of pesticides, pesticide containing materials and empty containers, and improve safer and effective pest pesticide management interventions. An informed procurement decisions and use of pest management products as well as judiciously executed triangulations of surplus stocks are worth considering.

Inventory of Strategic Pesticide Stocks for SGR Control

In August, the SGR strategic pesticide stocks were not utilized and there are no changes for the month.

Table 1. Estimated inventory of strategic SGR Pesticide Stocks in frontline and invasion countries.

Country	Quantity l/kg
Algeria	1,184,666~
Burkina Faso	2,572
Chad	65,420 + 169 bio-p
Egypt	6,989 ULV, 9,978~
Eritrea	7,555
Ethiopia	29,260~
Libya	24,930~
Kenya	?
Madagascar	9,335~+
Mali	240~ bio-p
Mauritania	31,723 + 316.5 ^{GM}
Morocco	3,375,082, ^D
~Niger	62,000
Oman	5,000~
Saudi Arabia	?
Senegal	154,372~
Somalia	?
Sudan	4,199~?
South Sudan	?
Tunisia	62,200 ^{OB} +200 ^{OBML} +1,025 ^{LV}
Uganda	?
Yemen	8,528; 172.35kg ^{GM} ~

*Includes different pesticides and formulations - ULV, EC and dust.
 Bio-p = biopesticide
 ~ data may not be current.
 + = other MoA stocks are not included
 ? = data not available
^{GM} = GreenMuscle™ (fungal-based – *Metarhizium acridum* - biological pesticide, e.g., NOVACRID)
^{OB} = obsolete
^{ML} = malathion
^{LV} = Larvos

LIST OF ACRONYMS

- AAW African armyworm (*Spodoptera exempta*)
- AELGA Assistance for Emergency Locust Grasshopper Abatement

	(formerly Africa Emergency Locust and Grasshopper Assistance)	CTE	<i>Chortoicetes terminifera</i> (Australian plague locust)
AFCS	Armyworm Forecasting and Control Services, Tanzania	DDLC	Department of Desert Locust Control
AfDB	African Development Bank	DLCO-EA	Desert Locust Control Organization for Eastern Africa
AGRA	Agricultural Green Revolution in Africa	DLMCC	Desert Locust Monitoring and Control Center, Yemen
AME	<i>Anacridium melanorhodon</i> (Tree Locust)	DMA	<i>Dociostaurus maroccanus</i> (Moroccan Locust)
AML	African Migratory (Locust <i>Locusta migratoria migratorioides</i>)	DPPQS	Department of Plant Protection and Quarantine Services, India
APLC	Australian Plague Locust Commission	DPV	Département Protection des Végétaux (Department of Plant Protection)
APLC	Australian Plague Locust Commission Bands groups of hoppers marching in the same direction	ELO	EMPRES Liaison Officers –
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa	EMPRES	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases
BHA	Bureau for Humanitarian Assistance (USAID)	EOR	Eastern SGR Outbreak Region
CABI	Center for Agriculture and Biosciences International	ETOP	Emergency Transboundary Outbreak Pests
CAL	Central American Locust <i>Schistocerca piceifrons piceiferons</i>	FAW	<i>Spodoptera frugiperda</i> (SFR) (Fall armyworm (FAW))
CBAMFEW	Community-based armyworm monitoring, forecasting and early warning	Fledgling	immature adult locust /grasshopper that has the same phenology as mature adults, but lacks fully developed reproductive organs to breed
CCA	Caucasus and Central Asia	GM	GreenMuscle® (a <i>Metharhizium</i> fungal-based biopesticide); NOVACRID, Green Guard
CERF	Central Emergency Response Fund	ha	hectare (= 10,000 sq. meters, about 2.471 acres)
CIT	<i>Calliptamus italicus</i> (Italian Locust)	ICAPC	IGAD's Climate Prediction and Application Center
CLCPRO	Commission de Lutte Contre le Criquet Pélerin dans la Région Occidentale (Commission for the Desert Locust Control in the Western Region)	IGAD	Intergovernmental Authority on Development (Horn of Africa)
CNLA(A)	Centre National de Lutte Antiacridienne (National Locust Control Center)	IRIN	Integrated Regional Information Networks
COR	Central SGR Outbreak Region	IRLCO-CSA	International Red Locust Control Organization for Central and Southern Africa
CPD	Crop Protection Division	ITCZ	Inter-Tropical Convergence Zone
CRB	Coconut rhino beetle (<i>Oryctes rhinoceros</i> – ORH)	ITF	Inter-Tropical Convergence Front = ITCZ)
CRC	Commission for Controlling Desert Locust in the Central Region		

FAO-DLIS	Food and Agriculture Organizations' Desert Locust Information Service	PPSD	Plant Protection Services Division/Department
Hoppers	young, wingless locusts/grasshoppers (Latin synonym = nymphs or larvae)	PRRSN	Pesticide Risk Reduction through Stewardship Network
JTWC	Joint Typhoon Warning Center	QSP	Quelea species (Red Billed Quelea bird, etc.)
Kg	Kilogram (~2.2 pound)	SAL	South American (Locust <i>Schistocerca gregaria</i>)
L	Liter (1.057 Quarts or 0.264 gallon or 33.814 US fluid ounces)	SARCOF	Southern Africa Region Climate Outlook Forum
LCC	Locust Control Center, Oman	SGR	<i>Schistocerca gregaria</i> (the Desert Locust)
LPA	<i>Locustana pardalina</i>	SSD	Republic of South Sudan
LMC/ML	<i>Locusta migratoriacapito</i> (Malagasy locust)	SPB	Southern Pine Beetle (<i>Dendroctonus frontalis</i>) – true weevils
<i>Metarhizium acridum</i>	(a fungal entomopathogen used for locust and grasshopper control, e.g., NOVACRID (Benin isolate; Green Muscle (Niger and CIRO isolates); The entomopathogen was formerly named <i>M. anisopliae</i> var <i>acridum</i> and before that it was referred to as <i>M. flavoveridea</i> and <i>Metarhizium</i> sp.)	SWAC	Southwest Asia DL Commission
MoAFSC	Ministry of Agriculture, Food Security and Cooperatives	PBB	Pine Bark Beetle
MoAI	Ministry of Agriculture and Irrigation	PHS	Plant Health Services
MoARD	Ministry of Agriculture and Rural Development	PSPM	Preparedness, Strategic Planning and Mitigation (formerly known as Technical Assistance Group - TAG)
NALC	National Agency for Locust Control	TPQ	Technical and Program Quality Triangulation
NCDLC	National Center for the Desert Locust Control, Libya		Transfer of donated pesticides from countries with large inventories with no immediate need to countries with immediate need through a third party negotiation and shipments, etc. Usually, FAO plays the third-party role in the case of locust and other emergency pests.
NOAA (US)	National Oceanic and Aeronautic Administration	UF	University of Florida
NPS	National Park Services	USAID	the United States Agency for International Development
NSD	Republic of North Sudan	UN	the United Nations
NSE	<i>Nomadacris septemfasciata</i> (Red Locust)	WOR	Western SGR Outbreak Region
OFDA	Office of U.S. Foreign Disaster Assistance	ZEL	<i>Zonocerus elegans</i> , the elegant grasshopper
PBB	Pine Bark Beetle (<i>Dendroctonus</i> sp.: Curculionidae – true weevils	ZVA	<i>Zonocerus variegatus</i> , the variegated grasshopper has emerged as a relatively new, dry season pest, largely associated with the destruction of its natural habitat through deforestation, land clearing for agricultural and other development efforts and climate anomalies.
PHD	Plant Health Directorate		
PHS	Plant Health Services, MoA Tanzania		
PPD	Plant Protection Department		
PPM	Pest and Pesticide Management		

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Additional resources on GETOPs

USAID/BHA Pest and Pesticide Monitoring and GETOP Bulletins: [USAID/BHA PPM](#)

USAID Pest Management Guidelines

[USAID PMG](#)

[US EPA IPM](#)

SGR: USAID/BHA supports for locust operations in the CCA Region [BHA CCA](#)

[Locust Support](#)

UN/FAO Desert Locust (SGR) Watch [FAO Desert Locust Watch](#)

FAO Locust Hub [SGR HUB](#)

FAO Locust Emergency Appeal for Greater Horn of Africa and Yemen [SGR Appeal for GHA and Yemen](#)

FAO Desert Locust Crisis [SGR Crisis](#)

FAO/Central Region Commission for the SGR Control [SGR CRC](#)

FAO/Western Region Commission for SGR Control [SGR CLCPRO](#)

FAO SGR Response Overview Dashboard [FAO SGR Dashboard](#)

FAO Locust Watch – Caucasus and Central Asia [CCA Locust Watch](#)

IGAD Climate Prediction and Application Centres [ICPAC Climate SGR](#)

The Desert Locust Control Organization for Eastern Africa [DLCO-EA](#)

ASU Locust and Grasshopper: [HopperWiki](#)

FAW:

USAID FtF FAW [USAID FAW](#)

USAID FAW PEA/PERSUAP [FAW PERSUAP](#)

FAO FAW Monitoring and Early warning System [FAW EW&M](#)

FAO-USAID Global Action for FAW Control webinars [GAFC](#)

FAO NURU FAW Application [Nuru the talking app for FAW](#)

FAW management animation SAWBO

[FAW Management Animation](#)

[FAW GAFC Map 2022](#)

[CABI on FAW](#)

CABI on Invasive species [Invasive Species Compendium](#)

AAW:

[Armyworm](#)

Famine Early Warning System Network [FEWS NET](#)

NOAA Climate Prediction Center [NOAA CPC](#)