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European neighborhood

EuFMD Pillar II

Report on significant FAST disease events and information

October - December 2020

European Commission for the Control of Foot-and-Mouth Disease

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Acronyms and abbreviations

ADNS	Animal Disease Notification System
BEF	Bovine ephemeral fever
ELISA	Enzyme-linked immunosorbent assay
FAST diseases	Foot-and-mouth and similar transboundary animal diseases
FMD	Foot-and-mouth disease
GF-TADs	Global Framework for the Progressive Control of Transboundary Animal Diseases
LSD	Lumpy Skin Disease
NSP	Non-structural proteins
OIE	World Organisation for Animal Health
PCP-FMD	Progressive control pathway for Foot-and-Mouth Disease
PCR	Polymerase chain reaction
PD ₅₀	Protective dose of 50 per cent (measure of vaccine potency)
PPR	Peste des petits ruminants
REMESA	Mediterranean animal health network
RVF	Rift Valley fever
SGP	Sheep and Goat Pox
SOI	Statement of Intentions between Transcaucasia and neighboring countries
SP	Structural proteins
TADInfo	Transboundary Animal Disease Information System (Egypt)
WAHIS	World Animal Health Information System

Introduction

The European Commission for the Control of Foot-and-Mouth Disease (EuFMD) risk reduction program in the European neighboring regions of North Africa, Middle East and South East European Neighborhood is delivered within the Hold-FAST strategy. This strategy continues the focus upon FMD risk reduction but extends the scope of the preparedness and risk reduction activities to similar transboundary animal diseases which pose an immediate threat to the EuFMD member countries.

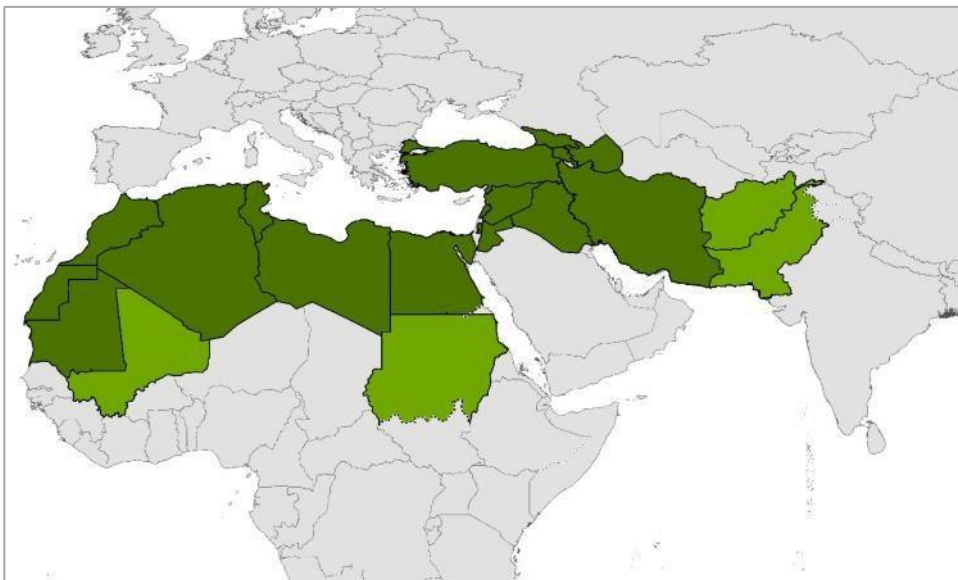
The program focuses on the control of foot-and-mouth and similar transboundary animal diseases (FAST) in the neighboring regions through the improvement of prevention, surveillance and control. In this context, the FAST quarterly report of significant events provides relevant and regular risk information to risk managers operating in EuFMD Member Nations and neighboring countries.

The constant monitoring of the epidemiological situation together with information on the implementation of control and surveillance strategies increases awareness of major transboundary animal disease threats for Europe and the regions of North Africa, Middle East and South East European Neighborhood.

The European neighborhood

The neighborhood of the current 39 EuFMD Member Nations is defined as non-EuFMD Members and that either have land borders with EuFMD Members, are members of the Mediterranean animal health network (REMESA), or whose animal health status provides an early warning for FAST disease spread to the neighborhood of Europe. The activity of Pillar II includes EuFMD Member Nations in the European neighboring region (Turkey, Georgia) (Figure 1).

Figure 1. Countries included in the activities of the EuFMD Pillar II



EuFMD Member Nations in European neighboring region: Turkey, Georgia.

Having land-borders with EuFMD Member Nations: Armenia, Azerbaijan, the Islamic Republic of Iran, Iraq, the Syrian Arab Republic, Lebanon, Palestine, Jordan, and Egypt.

Non-EU Members of REMESA: Jordan, Lebanon, Egypt, Libya, Tunisia, Algeria, Morocco, and Mauritania.

Countries significant for epidemic spread of FAST diseases to the above countries: Sudan, Mali, Afghanistan and Pakistan.

Source: Adapted from United Nations World map, May 2019.

Significant events and information

The data reported to the World Organisation for Animal Health (OIE) and mentioned in this publication have been sourced from the World Animal Health Information System (WAHIS) and refer to the period between 1st October and 31st December 2020. Other information has been obtained through the EuFMD activities and networks in the European neighborhood. Information referring to the period before 1st October is reported when relevant.

Foot-and-mouth disease

Middle East

Egypt

Four FMD outbreaks were detected in 2020, two confirmed as SAT2 serotype and the others confirmed as serotype A. Source: REMESA JPC meeting.

The General Organization for Veterinary Services (GOVS) in Egypt conducted sero-surveillance in November 2020 targeting six governorates along the border (Aswan, Matrouh, New Valley, North Sini, South Sini, and Red Sea). The surveillance was supported by EuFMD through the provision of diagnostic kits. The objective of the surveillance was to estimate the serological prevalence to NSP antibodies among the large and small ruminant populations, focusing on the 6-18 months age category. Sera were collected from 1,680 randomly selected animals and tested using a 3ABC NSP ELISA.

The results revealed an overall NSP seroprevalence of 10.8% (182/1,680; 95%CI 9.4-12.4%) for small and large ruminants combined. The highest seroprevalence was in Aswan governorate (23.6%) with the lowest being in Matruh governorate (Table 1). Source: GOVS.

Table 1. FMD seroprevalence in the border governorates in Egypt 2020 (preliminary data)

Governorate	Number samples	Number positive	Percentage of seroprevalence (95% CI)
Aswan	280	66	23.6 (18.7-29.0)
North Sinai	280	43	15.4 (11.6-20.1)
South Sinai	280	24	8.6 (5.8-12.4)
New Valley	280	19	6.8 (4.4-10.4)
Red Sea	280	17	6.1 (3.8-9.5)
Matruh	280	13	4.6 (2.7-7.8)
Overall	1680	182	10.8 (9.4-12.4)

Lebanon

FMD risk-based sero-surveillance was conducted in November 2020 with the support of EuFMD. The objective was to identify high-risk areas to be targeted in the control strategy. Two types of cattle farming systems were targeted (large and subsistence farms) in three areas according to specific criteria concerning the high risk of FMD. Two types of sheep and goat farming systems were also targeted (flocks within the villages in three governorates and transhumant flocks before and after seasonal movements). Sera from 1,634 randomly selected animals were collected (Table 2) and will be tested for NSP antibodies using a 3ABC ELISA at the national laboratory. Source: Lebanese veterinary authority.

Table 2. Distribution of sero-surveillance samples in Lebanon by regions and species.

Governorate	Location	Number of sampled cattle	Number of sampled sheep & goats (village flocks)	Number of sampled sheep and goats (transhumant flocks)
Akkar	Up north- south and south east on the borders with Syria	147	187	0
North Lebanon	South of Akkar	0	0	156
Mount Lebanon	Internal governorate	0	0	250
Baalbek-Hermel	East Lebanon on the Eastern borders with Syria	0	370	100
Beqaa	Adjacent to Baalbek-Hermel	124	4	0
Nabatia	South Lebanon- on the borders with Israel and Syria	100	200	0
Total		371	757	506
		1634		

North Africa

Algeria

The last FMD outbreak in Algeria was reported in March 2019 (lineage O EA-3). The vaccination program consists of mass vaccination twice a year for large ruminants (except in 4 southern wilayas) using 6PD₅₀ vaccine (strains O 3039, O Manisa, A 22 Iraq). Between December 2019 and March 2020, 844,734 large ruminants were reportedly vaccinated (representing 60% vaccination coverage). An additional campaign was initiated in October 2020.

Libya

Two outbreaks were notified to the OIE on 15th December 2020 (date of start of the outbreaks: 1st November 2020; current status as of 13th January 2021: continuing). Five cases were reported among sheep on two farms located in the Eastern region (Benghazi) with a population of 313 susceptible sheep and 26 goats. Clinical signs included fever, lameness, and abortion in some cases. Source: [OIE WAHIS](#).

An investigation team from the National Centre for Animal Health (NCAH), Tripoli visited the areas around the infected premises in Benghazi, Al-Marj, Al-Abyaar, the Gulf of Sirte and Tukra. Sera from 173 cattle, sheep and goats were collected, with 9 sheep and 10 cattle samples from Benghazi and Al-Marj testing positive to NSP antibodies. Structural proteins (SP) ELISA testing to indicate the possible serotype is still pending, noting previous reports identified serotype A as the likely cause. Source: NCAH

Recently, the NCAH adopted a new FMD vaccination strategy, and is planning to receive 400,000 doses to vaccinate the cattle population in Libya (estimated at 100,000 heads), providing two doses, two weeks apart. Small ruminants will also be vaccinated using a ring vaccination strategy in response to reported outbreaks.

An FMD virtual awareness campaign targeting public and private vets on the topics of FMD diagnosis, sampling, biosecurity, and epidemiology are currently underway, also implemented by the NCAH, in collaboration with EuFMD and the FAO sub-regional office for North Africa.

Morocco

Morocco renews the OIE endorsed, FMD official control program each year. The last outbreak in Morocco was reported in July 2019. The vaccination strategy uses a bivalent vaccine (strains: O/TUR/2009, A22/IRQ/64). Based on in vitro vaccine matching, the r_1 values indicated a good match between the O/TUR/2009 vaccine and strains from the O/EA-3 lineage circulating in the region. Since 2019, the vaccination program consisted of mass vaccination twice a year for large ruminants (approximately 2.8 million animals) and once yearly risk-based vaccination of small ruminants in border regions in the eastern part of the country (approximately 5 million animals). Morocco conducted post vaccination monitoring studies, with satisfactory results from a small-scale immunogenicity study in 2019 and a population immunity study in 2020.

Tunisia

No outbreaks were reported in 2020 in Tunisia. The vaccination strategy against FMD consists of annual mass vaccination using 6PD₅₀ trivalent vaccine (strains: O3039, O Manisa, SAT2 Eritrea, A Iraq22) for large ruminant and bivalent (O3039, O Manisa, SAT2 Eritrea) for small ruminants. The reported vaccination coverage in 2020 was 71.2% in large ruminants and 85.7% in small ruminant populations.

South East European Neighborhood

Iran (Islamic Republic of)

During an official meeting with EuFMD on 22 December 2020, the Islamic Republic of Iran reported about 60 FMD outbreaks in large ruminants and 10 outbreaks in small ruminants between October and November 2020. For the first 8 months of 2020, 974 FMD outbreaks were reported in Iran. FMD outbreaks are mostly reported at the end of winter and beginning of spring, due to the combination of more intense livestock movements, increased number of small ruminants (newborns) and more suitable climatic conditions for FMDV environmental survival at these periods. Within the A/ASIA/Iran-05 lineage, the main circulating sublineages identified between January and November 2020 were Sis-12, Sis-13, Far-11 while for O/ME-SA/PanAsia-2, it was Qom-15 and Ant-10. The main Asia1 lineage was Sindh-08. The O PanAsia-2 Ant-15 sublineage has been predominant between January to November 2020, but the A Iran-05 Far-11 sublineage has been increasingly detected in recent weeks. Implementation of biosecurity measures and vaccination strategies were the main control measures to be applied.

According to the Iran Veterinary Organization (IVO), 6,204,125 large ruminants and 44,599,728 small ruminants were vaccinated against FMD between 1st January and 1st November 2020, using trivalent vaccines (O, A, Asia1) that were either locally produced or imported.

Pakistan

The most recently sourced information on FMD in Pakistan was covered in the previous FAST report, indicating O, A and Asia-1 serotypes to be circulating.

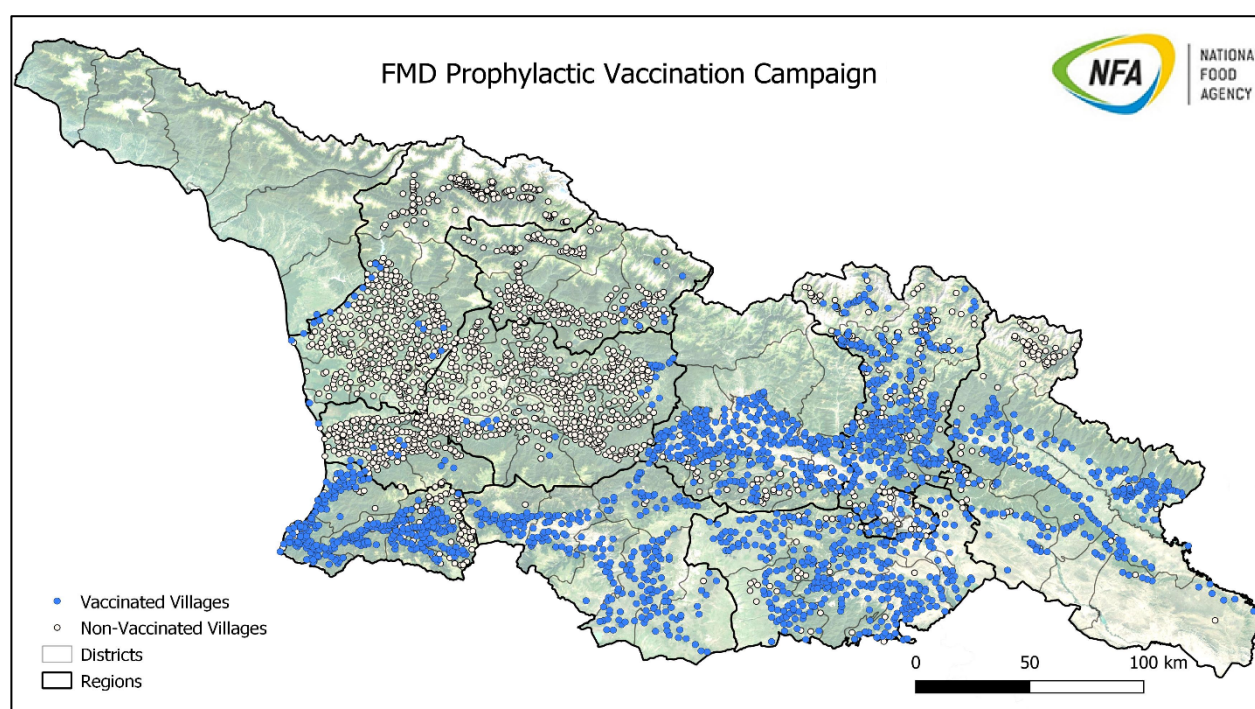
Transcaucasus countries: Armenia, Azerbaijan and Georgia

The 2020 autumn vaccination campaigns are currently underway in Georgia, Azerbaijan and Armenia, following a risk-based approach according to their respective national FMD control strategies.

Georgia has conducted a risk-based vaccination since 2017. The entire population of cattle and small ruminants of eastern Georgia is considered at high risk of FMD and therefore regularly vaccinated. In western Georgia, villages are targeted based on their proximity to live animal markets, migrating animals, and borders with Turkey and non-controlled territories (Figure 2).

Armenia is planning to carry out a serological survey (circa 4,400 samples) in large and small ruminant populations following the 2020 autumn vaccination campaign.

Figure 2. FMD Prophylactic Vaccination Campaign 2020 in Georgia (preliminary data)



Source: Downloaded from National Food Agency (NFA)

Turkey

Turkey reported the occurrence of 28 FMD outbreaks in cattle (n=21) and small ruminant (7) populations between October and December 2020 (18 in October, 5 in November and 5 in December), among which 21 were confirmed serotype O. This brings the total number of clinical outbreaks in 2020 to 147, with the number of confirmed outbreaks reported to ADNS being 142 (Source: [ADNS](#)). The outbreaks that occurred during the last trimester were distributed in different parts of Anatolia (Ardahan, Bursa, Corum, Denizli, Erzurum, Eskisehir, Isparta, Izmir, Karamanmaras, Kars, Mus, Samsun, Sinop, Tokat, Van, Zondulak provinces). EuFMD focal points from the Transcaucasus countries were informed about outbreaks in proximity to their borders, as part of the Statement of Intentions between Transcaucasia and neighboring countries (SOI). This triggered targeted control measures, including vaccination, surveillance and awareness raising in the adjoining border regions of the Transcaucasus countries.

FMD is endemic in Anatolia and the circulating sublineages are still believed to be the O PanAsia-2/Qom15 and O PanAsia-2/ANT10 as reported in the previous FAST report. Both are well matched to the vaccines currently in use. Serotypes A and Asia1 were not detected since January 2018 and July 2015, respectively.

The Thrace region has been free with vaccination since May 2010.

Peste des petits ruminants

Middle East

Egypt

Two outbreaks were reported in 2020 in the northern part of the country. Mass vaccination is adopted through annual national campaigns. Additional vaccination is available on request from the animal owner, and also through reactive vaccination conducted by the veterinary authorities in case of PPR outbreaks. The vaccine currently used against PPR is a commercial live attenuated PPRV vaccine of strain Nigeria 75/1 produced locally by the Veterinary Sera and Vaccines Research Institute and evaluated by the Central Laboratory for Evaluation of Veterinary Biologics (CLEVB) for sterility, purity, safety, and potency. (Source: GOVS).

Palestine

Twelve outbreaks were reported in West Bank in 2020. The vaccination strategy adopted is a reactive vaccination or upon the request of the livestock keepers using regionally sourced vaccines. Source: EuFMD regional expert meeting.

Sudan

Thirty-seven outbreaks were reported in 2020. The strategy of mass vaccination is adopted nationally once a year using locally produced PPR vaccine. Source: EuFMD regional expert meeting.

North Africa

Algeria

The last PPR outbreak was reported in December 2019 (lineage IV). The control strategy incorporates mass vaccination with more than 22 million animals vaccinated (estimated 70% coverage) during the campaign implemented since January 2020. Another vaccination campaign was initiated in October 2020. (Source: EuFMD regional meeting).

Libya

Six outbreaks were notified to the OIE on the 1st November 2020 (date of start of the outbreak: 17 September 2020; status as of 13th January 2020: continuing). On 10th October 2020, three outbreaks were reported (Western mountain, Waadaa Alhayi, Gharyan) considered as one outbreak cluster of 570 susceptible sheep and goats. Clinical signs were detected in 57 individuals with the death of 23 animals (Source: [OIE WAHIS](#)).

On 13th October 2020, clinical signs were reported in 45 sheep and 65 goats with deaths of 20 and 35 respectively on a farm located in Az Zawiyah district containing a susceptible population of 850 sheep and 750 goats. (Source: [OIE WAHIS](#)). Also, in Az Zawiyah, on 18th October 2020, clinical signs were detected in approximately 45 sheep and 65 goats with deaths of 20 and 35 respectively. This farm had a total number of 850 sheep and 750 goats. (Source: [OIE WAHIS](#)). This was followed by an additional report on 21st October 2020 detailing clinical signs in approximately 70 goats with the death of 23. The farm had a total of 300 sheep and 260 goats. (Source: [OIE WAHIS](#)).

Morocco

The last of the three PPR outbreaks was reported in April 2020. Between 17th January and 20th May 2020, 23 million small ruminants (18 million sheep, 5 million goats) were vaccinated as part of mass vaccination campaign to be conducted every two years. . (Source: EuFMD regional meeting).

Tunisia

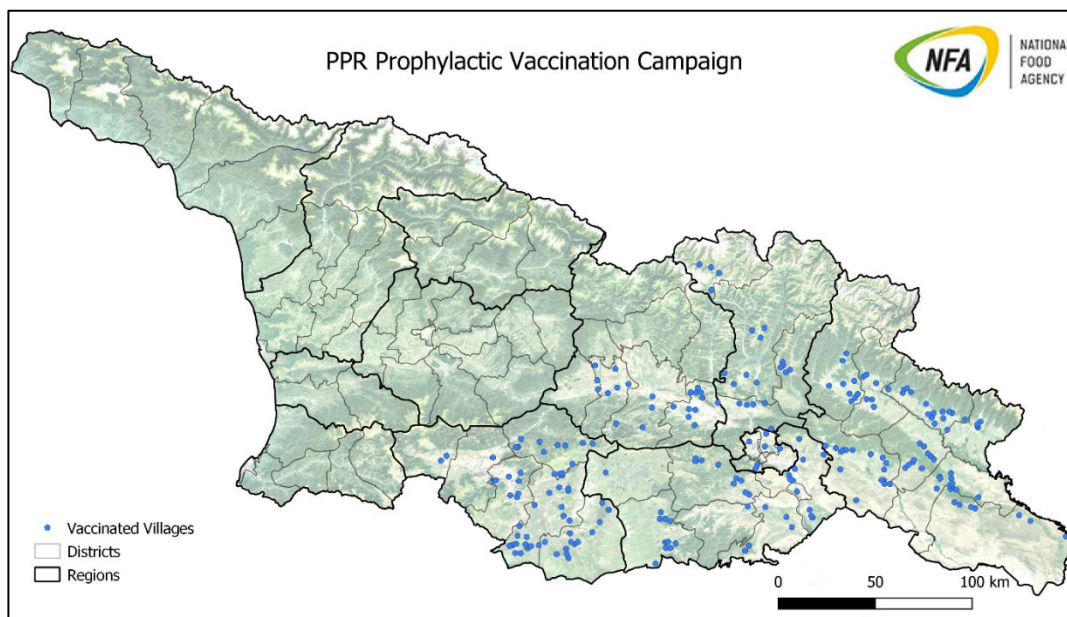
Tunisia is endemic with 25 outbreaks reported during 2020. No vaccination strategy is adopted in the country due to budget restrictions (Source: EuFMD regional meeting).

South East European Neighborhood

Georgia

Following a call for tender, 300,000 doses of vaccine against PPR were purchased from a Turkish manufacturer in 2020. Additionally, 400,000 doses of PPR vaccine (Nigerian 75/1 strain) were donated by FAO in 2020. Based on preliminary data, the 2020 PPR vaccination campaign reached 267,554 small ruminants (Figure 3).

Figure 3. PPR Prophylactic Vaccination campaign 2020 in Georgia (preliminary data)



Source: Downloaded from National Food Agency (NFA)

Iran (Islamic Republic of)

During an official meeting with EuFMD on 25 November 2020, the Islamic Republic of Iran reported vaccination of 29,885,205 small ruminants against PPR between 1st January and 1st November 2020, with vaccines including Nigeria75/1 strain, either produced locally or imported. In the last six months of 2020, Iran moved from a mass vaccination program against PPR to a targeted vaccination, based on the incidence of the disease.

Pakistan

A development project called “Phase I - Risk Based PPR control in Sheep and Goats of Pakistan” has been approved with a total budget of 1800 million Pakistani Rupees for six years.

No updates on disease incidence during the reporting period were available.

Turkey

Turkey reported the occurrence of 17 PPR outbreaks during the reporting period (3 in October, 12 in November and 2 in December 2020), among which 14 were reported in sheep and 3 in goats, in 11 provinces of the Anatolian region (Afyonkarahisar, Ankara, Batman, Bingol, Burdur, Bursa, Eskesehir, Karaman, Konya, Osmaniye and Samsun provinces).

Since 2016, the control policy has included vaccination of all newborn and unvaccinated adults, using ring vaccination as outbreak response. No movements of unvaccinated animals are allowed. In the Thrace region, all small ruminants have been vaccinated since 2013 and since the same year, PPR has not been clinically detected. The plans for the Thrace region to achieve the OIE status of freedom with vaccination was postponed to 2021. Clinical and serological surveillance are being carried out in the region, while animal movements are strictly controlled.

Rift Valley fever

Middle East

Egypt

In parallel with the FMD sero-surveillance conducted in November 2020 covering six governorates in border areas, samples were also tested for RVF virus IgM antibodies (n= 1680, 280 per each governorate). All samples were negative. Source: GOVS.

North Africa

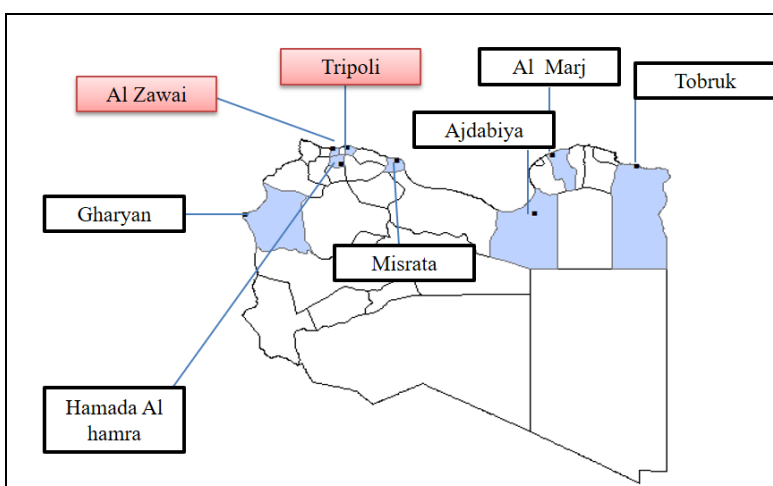
Libya

The first ever cases of RVF reported in Libya occurred between January and May 2020: eight outbreaks, thirty-six cases and six deaths in sheep and goats were recorded since the beginning of the year. Since then, no additional cases have been reported. Source: [OIE WAHIS](#)

To inform the disease situation, sero-surveillance was conducted near city areas along the Tunisian border among beef and dairy cattle. Sampling is ongoing, but at the time of writing 163 serum samples had been collected. In addition, around 240 blood samples were collected from Tripoli, Zawai and Misrata and the sampling will be continued in parallel with the FMD vaccination campaign in January 2021.

Following a virtual learning course on “**Rift Valley Fever and other mosquito-borne arboviruses: entomological surveillance**” held in July 2020, organized by EuFMD in collaboration with the Enhancing Research for Africa Network (ERFAN) and Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (IZSAM), participants were planning field activities in identified high-risk areas (Tobruk, Al Marj, Ajdabiya, Misrata, Tripoli, Al Zawai, Gharyan and Hamada Al Hamra; Figure 4). So far mosquito collection conducted in Tripoli identified the presence of *Culex pipiens*.

Figure 4. Identified high-risk areas in Libya for entomological surveillance



Source: Downloaded from Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise (IZSAM)

Mauritania

The latest Rift Valley Fever outbreaks were reported in September 2020 (6 outbreaks, affecting camels and sheep) (Source: [OIE WAHIS](#)), with the first human case on 14th September 2020. Up until 3rd December 2020, 26 human deaths were reported in 5 wilayas (76 positive cases were reported in 10 affected wilayas). In animals, as reported by the CVO during a webinar on vector borne diseases in north Africa organized by OIE, a total of 557 samples were taken in 9 wilayas (248 among small ruminants, 249 among camels and 30 in large ruminants) and antibody ELISA results have indicated 59 positive samples (52 small ruminants and 7 large ruminants) while PCR testing shows 79 positives (74 in camels and 5 in large ruminants). (Source: Country data shared in OIE regional meeting).

Lumpy skin disease

Middle East

Egypt

In 2020, 87 suspected outbreaks (17 confirmed) were reported with most of the cases in Delta, North-east, and South-west regions. Source: GOVS

Mass vaccination is adopted throughout the country, conducted once a year for cattle, and complemented by ring vaccination in case of LSD outbreaks. The vaccines currently used include one locally produced (containing a Romanian Strain of sheep pox virus) and one imported (LSDV Neethling strain). Every batch of these vaccines is evaluated by CLEVB testing the sterility, purity, safety, and efficacy, and/or potency.

Lebanon

A risk-based vaccination program is being supported by FAO-Lebanon using 40,000 doses to vaccinate cattle in high-risk areas along the borders with the Syrian Arab Republic and other selected destinations at risk through live animal movements the Syrian Arab Republic. Source: Lebanese veterinary authority.

Syrian Arab Republic

Using donor funding, the veterinary authority will conduct an initial vaccination campaign to cover 350,000 heads of cattle against Lumpy skin disease (LSD), extending to all cattle in the country at a later stage. The veterinary authority is planning to implement a small-scale immunogenicity study, the supported by EuFMD, to assess the quality of imported LSD vaccines. Source: Syrian veterinary authority.

South East European Neighborhood

Armenia

It was reported that 20,100 large ruminants were vaccinated between October and December 2020.

Azerbaijan

It was reported that 1,000 large ruminants were vaccinated in December 2020 using heterologous vaccine.

Georgia

Following a call for tender, the National Food Agency purchased 404,500 doses of vaccine against LSD from a Turkish manufacturer (including the “Bakirkoy” sheep pox virus strain). In addition, 200,000 doses of Neethling strain vaccine were donated by the European Commission’s Directorate-General for Health and Food Safety (DG-SANTE). At the time of reporting, 380,249 bovines had been vaccinated (figure 5.).

Figure 5. LSD Prophylactic Vaccination Campaign 2020 in Georgia (preliminary data)

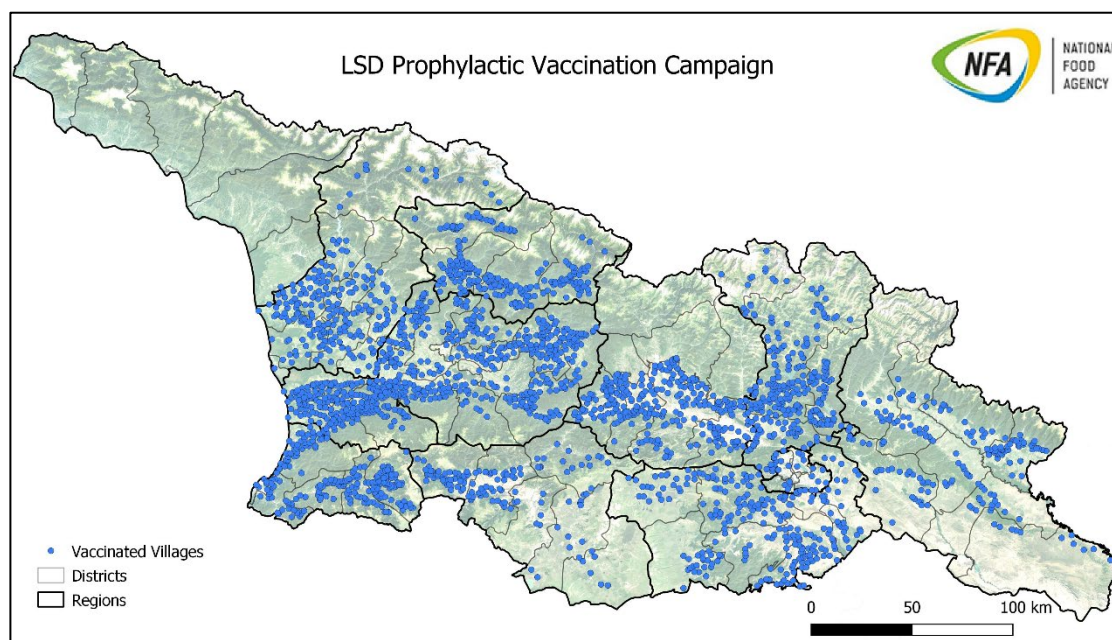


Figure 5: Downloaded from National Food Agency (NFA)

Iran (Islamic Republic of)

During an official meeting with EuFMD on 25 November 2020, the Islamic Republic of Iran reported the vaccination of 2,757,320 large ruminants against LSD between 1st January and 1st November 2020, using both heterologous vaccine (RM-65 and Gorgan pox virus) and imported homologous vaccine (Neethling) from Turkey. Vaccination is free of charge for villagers and nomadic farmers, while payment is required for the animals of large-scale dairy farms.

The number of cases decreased in 2020 compared to 2019, believed due to less favorable climatic conditions for the vectors.

Turkey

No outbreaks have been reported in Thrace or Anatolia during the current reporting period. The last cases reported in August in Ağrı, in the eastern part of the country.

A mass vaccination campaign of the large ruminant population is carried out annually. In the Anatolian region, a heterologous vaccine is used (at four times the small ruminant dose) with an estimated coverage of 87%-94% in 2020. In the Thrace region a homologous vaccine (Neethling) is used with an estimated vaccine coverage of 95 % in 2020. To evaluate immunity and vaccination performance, a serological survey has been carried out. Source: GDFC.

Sheep and goat pox

Middle East

Lebanon

Through NGO support, a mass vaccination campaign against sheep pox will be launched by the veterinary authority with 700,000 doses of sheep pox vaccine. Source: Lebanon veterinary authority.

North Africa

Algeria

No further reports were provided since those previously reported in the first semester of 2020. (Source: EuFMD regional meeting).

Morocco

The disease is endemic. During 2020, Morocco reported 90 sheep pox outbreaks. More than 23 million small ruminants have been vaccinated against sheep pox during the national vaccination campaign against PPR and sheep pox carried out between January and May 2020. (Source: EuFMD regional meeting).

Tunisia

Tunisia is endemic and reported 75 outbreaks during 2020 (up until the end of November). Mass vaccination is conducted once a year. In 2020, more than 4 million animals were vaccinated with a live-attenuated vaccine (estimated 66.6 % coverage). (Source: EuFMD regional meeting).

South East European Neighborhood

Iran (Islamic Republic of)

During an official meeting with EuFMD on 25 November 2020, the Islamic Republic of Iran reported the vaccination of 36,132,678 sheep and 14,804,980 goats against SGP between 1st January and 1st November 2020, using locally produced vaccines incorporating RM65 and Gorgan strains for sheep and goats respectively.

In the last six months, the former mass vaccination program has been replaced by a new risk-based vaccination strategy. Vaccination is free of charge for the owners of the animals.

Turkey

Turkey reported the occurrence of 33 SGP outbreaks between October and December 2020 (9 in October, 14 in November and 10 in December), in 19 provinces of the Anatolian region (Adana, Afyonkarahisar, Balıkesir, Canakkale, Corum, Erzurum, Eskisehir, Izmir, Karaman, Kayseri, Konya, Kutahya, Nigde, Ordu, Samsun, Sivas, Tokat and Usak provinces). No outbreaks have been reported in Thrace since 2016. Control measures include vaccination of all small ruminants in Thrace and vaccination in response to the outbreaks in Anatolia (the vaccination program is maintained in place for two years after the outbreak).

Bovine ephemeral fever

Middle East

Syrian Arab Republic

Since the last FAST report of suspected BEF in Syria, no further updates were received, and the presence of virus was not confirmed.

South East European Neighborhood

Iran (Islamic Republic of)

During an official meeting with EuFMD on 25th November 2020, the Islamic Republic of Iran reported the vaccination of 60,134 cattle against bovine ephemeral fever between 1st January and 1st November 2020 using imported vaccines.

Conclusions

Foot and mouth disease

In Turkey, all reported outbreaks are still due to serotype O, which has re-emerged with O/ME-SA/PanAsia-2/ANT-10 sublineage after 5 years of absence. Further developments in Turkey will need special attention, also accounting for the recent upsurge in outbreaks due to A/ASIA/Iran-05/Far-11 sublineage in Iran.

In Libya, the inability to collect samples from outbreaks and ship them to a Reference Laboratory limited the capacity to perform phylogenetic and vaccine matching analysis leaving uncertainty on the origin of the virus and on the likely effectiveness of vaccines used in the region.

Peste des petits ruminants

The disease appears to be still prevalent in the North African region, with recent reports from Libya, approximately 30 km south of Tripoli. Although there was no laboratory confirmation of viral presence, seropositive animals with clinical disease provides evidence of circulation and there is potential for further transmission due to animal movements and the presence of livestock markets.

Rift Valley fever

No new outbreaks were reported in Libya after May 2020, and the situation may have stabilized or subsided in North Africa. However, the continued presence and threat in Mauritania and the sub-Saharan region from favorable environmental and climatic conditions suggests a heightened awareness is needed in case of spillover of virus into vector habitats in North Africa.

Lumpy skin disease

Although there have been numerous efforts to implement vaccination in the Middle East and Transcaucasus, the continued reports from Egypt suggest a threat remains and instability in Syria with associated animal movements may contribute to long distance transmission.

Sheep and goat pox

The disease situation appears stable, and is endemic in North Africa, the Middle East and South East European Neighborhood (Turkish Anatolia, Islamic Republic of Iran).

Bovine ephemeral fever

Information is sparse although the recent suspected cases in Syria should be monitored and the awareness of the disease should be increased.

Table 3. Summary of significant events (fourth quarter 2020)

Disease	Country	Date	Outbreak	Epidemiological information	Surveillance	Vaccination	Other risk information	Source
FMD	Egypt	--	4 outbreaks in 2020	2 outbreaks confirmed as SAT2, the others as serotype A	Sero-surveillance in border governorates: 10.8 of the samples NSP positive	--	--	Data shared by the country
	Lebanon	--	--	--	1,634 randomly selected animals were collected and will be tested for NSP antibodies	--	--	Data shared by the country
	Libya	15/12/2020-continuing	2 outbreaks in Benghazi: 5 cases. Laboratory confirmation with NSP ELISA.	Previous outbreaks in the area were linked to serotype A; area connected with South	--	--	Risk of spread to Tunisia and Algeria. Awareness campaign targeting public and private vets currently underway	OIE
	Turkey (Anatolia)	08-09/2020	6 outbreaks in Erzurum, Ardahan and Artvin provinces	Serotype O endemic in Anatolia (sublineage O/PanAsia-2/Qom15)	--	--	--	Data shared by the country
	Armenia	10-12/2020	--	--	--	360,998 bovines and 69,889 small ruminants vaccinated between October and December 2020	--	Data shared by the country
	Azerbaijan	10-12/2020	--	--	--	78,653 bovines and 35,012 small ruminants were vaccinated in December 2020, with trivalent vaccines A, O Asia-1 and bivalent vaccines O A respectively. Vaccine coverage is 82% for bovines and 78% for small ruminants in 2020	--	Data shared by the country

Disease	Country	Date	Outbreak	Epidemiological information	Surveillance	Vaccination	Other risk information	Source
FMD	Georgia	10-12/2020	--	--	NSP Serosurveys: 4,000 samples were tested SP Serosurveys: 500 samples were tested. NSP survey results revealed that FMDV circulation has decreased comparison with previous year	360,524 bovines and 397,741 small ruminants vaccinated (based on risk) during the reporting period. Totally in 2020 388,451 bovines and 420,082 small ruminants were vaccinated during autumn vaccination campaign in Georgia	--	Data shared by the country
	Iran (Islamic Republic of)	10-12/2020	974 outbreaks (January – November 2020)	Circulating lineages: A/ASIA/Iran 05; O/ME-SA/PanAsia-2; Asia1/ASIA/Sindh-08	--	6,204,125 large ruminants and 44,599,728 small ruminants were vaccinated between 1st January and 1st November 2020, with trivalent vaccines (O, A, Asia1) locally produced or imported	Illegal imports of cattle and camels from Pakistan. Cattle imported illegally can be legalized under government control.	Data shared by the country
	Pakistan	04-06/2020	27 outbreaks in Punjab, Sindh and Khyber Pakhtunkhwa provinces	Circulating serotypes: O, A, Asia 1	--	Annual mass vaccination campaigns in cattle and buffaloes followed by SP and NSP serosurveys	“Risk-based FMD control in Pakistan” approved with a total budget of Rs 763 million for six years	Data shared by the country
FMD	Morocco	2020	No outbreak since July 2019	--	--	Mass vaccination twice a year in large ruminants (2.8 million); Risk based vaccination for small ruminant one a year (5 million vaccinated)	--	EuFMD regional meeting
	Algeria	2020	No outbreak since March 2019	--	--	844,734 large ruminants vaccinated (Dec 2019 - March 2020: 66% of vaccination coverage). Ongoing campaign since Oct 2020	--	EuFMD regional meeting

SIGNIFICANT FAST DISEASE EVENTS AND INFORMATION

OCTOBER-DECEMBER 2020

	Tunisia	2020	No outbreaks reported	--	--	Vaccination coverage in 2020 reached respectively 71.2 % in large ruminants and 85.7 % in small ruminants populations	--	EuFMD regional meeting
PPR	Egypt	2020	2 outbreaks reported in 2020	--	--	Mass vaccination is adopted through annual national campaigns	--	Data shared by the country
	Palestine	2020	12 outbreaks reported in 2020	--	--	--	--	Data shared by the country
	Sudan	2020	37 outbreaks reported in 2020	--	--	Mass vaccination is adopted nationally once a year	--	Data shared by the country
	Libya	01/11/2020	6 outbreaks in Western mountain, Waadaa Alhayi, Gharyan) & Az-zawiyh, clinical signs in 57 shoats, death of 23 in the cluster (3 outbreaks) and clinical signs in 90 sheep and 200 goats, death of 40 sheep and 93 goats in the others	--	--	--	--	OIE WAHIS
	Morocco	01-05/2020	No new outbreaks after 25 April 2020	--	--	More than 23 million small ruminants vaccinated (vaccination every 2 years, coupled to sheep Pox)	--	OIE; data shared by the country
	Algeria	2020	No outbreak since December 2019	--	--	22 million animals (70% vaccination coverage) vaccinated. Ongoing vaccination round since October 2020	--	EuFMD regional meeting
	Tunisia	2020	25 outbreaks	--	--	No vaccination	--	--

Disease	Country	Date	Outbreak	Epidemiological information	Surveillance	Vaccination	Other risk information	Source
PPR	Turkey (Anatolia)	07-09/2020	30 outbreaks	--	--	All small ruminants vaccinated since 2016; ring vaccination as outbreak response	Plan for Thrace status free with vaccination postponed to 2021	Data shared by the country
	Iran (Islamic Republic of)	10-12/2020	--	--	--	36,132,678 sheep and 14,804,980 goats were vaccinated against PPR between 1st January and 1st November 2020	--	Data shared by the country
	Azerbaijan	10-12/2020	--	--	--	No vaccination	--	Data shared by the country
	Georgia	10-12/2020	--	--	Based on DTRA funded project, 1,600 animals were tested in 2020	26,289 small ruminants were vaccinated during the reporting period (267,554 since the beginning of 2020)	--	Data shared by the country
	Pakistan	--	--	--	--	Approved "Phase I-Risk Based PPR control in Sheep and Goats of Pakistan"	--	Data shared by the country
RVF	Mauritania	2020	6 outbreaks (sheep and camels) in Aleg, Tidjikja, Moudjeira and Tamcheppet Departments in September 2020. 76 cases, 26 deaths. Human cases were reported.	--	557 animal samples were taken in 9 wilayas :59 positive (ELISA) 79 positives (PCR)	--	--	OIE. Shared data (OIE regional meeting)

Disease	Country	Date	Outbreak	Epidemiological information	Surveillance	Vaccination	Other risk information	Source
RVF	Libya	09/05/2020	No new cases reported	--	Active surveillance: 163 serum samples along Tunisian borders and 240 from Tripoli, Zawai and Misrata, pilot phase of entomological surveillance, <i>Culex pipiens</i> . Identified in Tripoli	--	--	Data shared by the country
	Egypt	November 2020	--	--	Active sero-surveillance in 6 border governorates, 1,680 blood samples tested negative for RVF virus IgM antibodies	--	--	Data shared by the country
LSD	Egypt	2020	87 suspected outbreaks (17 confirmed) in Delta, North-east, and South-west regions	--	--	--	--	Data shared by the country
	Syrian Arab Republic	--	--	--	--	Initial LSD vaccination campaign will be conducted 350,000 will be used.	--	Data shared by the country
	Lebanon	30/10/2020	--	--	--	Risk-based vaccination is being carried out, 400,000 doses are being used at high-risk areas	--	Data shared by the country

Disease	Country	Date	Outbreak	Epidemiological information	Surveillance	Vaccination	Other risk information	Source
LSD	Turkey (Anatolia)	01-09/2020	5 outbreaks in Sakarya, Düzce, Samsun, Ağrı, Van provinces (Anatolia)	--	--	Annual mass vaccination, with triple-4 time dose sheep and goat pox vaccine used in Anatolia region. From 2021, Thrace will employ a Neethling vaccine.	--	Data shared by the country
	Iran (Islamic Republic of)	10-12/2020	--	--	--	2,757,320 bovines vaccinated between January and November 2020	--	Data shared by the country
	Armenia	10-12/2020	--	--	--	20,100 bovines vaccinated between October and D 2020	--	Data shared by the country
	Azerbaijan	10-12/2020	--	--	--	1,000 bovines were vaccinated in December 2020 with heterologous vaccine. Total vaccine coverage for 2020: 98%	--	Data shared by the country
	Georgia	10-12/2020	--	--	--	129,473 bovines were vaccinated during the reporting period. In total, 380,249 bovines were vaccinated in 2020.	--	Data shared by the country
SGP	Lebanon	2021	--	--	--	Mass vaccination campaign will be conducted (with 700,000 vaccine doses)	--	Data shared by the country
	Morocco	2020	90 outbreaks	--	--	More than 23 million small ruminants vaccinated (vaccination each 2 years, coupled to PPR)	--	OIE
	Algeria	2020	94 outbreaks	--	--	Ring vaccination (635,561 sheep vaccinated)	--	EuFMD regional meeting
	Tunisia	2020	75 outbreaks	--	--	+4 million animals vaccinated (66.6% vaccination coverage)	--	EuFMD regional meeting

Disease	Country	Date	Outbreak	Epidemiological information	Surveillance	Vaccination	Other risk information	Source
SGP	Turkey (Anatolia)	10-12/2020	33 outbreaks	--	--	All small ruminants are vaccinated in Thrace, vaccinated in response to outbreaks in Anatolia	--	Data shared by the country
	Iran (Islamic Republic of)	10-12/2020	--	--	--	36,132,678 sheep and 14,804,980 goats have been vaccinated between 1st January and 1st November 2020. Mass vaccination replaced by risk-based vaccination strategy	--	Data shared by the country
	Azerbaijan	12/2020	--	--	--	441 small ruminants were vaccinated in December 2020. Total vaccine coverage for 2020: 86%	--	Data shared by the country
BEF	Iran (Islamic Republic of)	01-09/2020	39 outbreaks and 92 cases in cattle in Qazvin, Ilam, Khuzestan and Bushehr provinces	--	--	60,134 cattle vaccinated between January and November 2020	--	Data shared by the country



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