



Food and Agriculture Organization
of the United Nations

TRANSBOUNDARY THREATS TO FOOD AND NUTRITION SECURITY IN SOUTHERN AFRICA

ISSUE 1: APRIL- JUNE 2017



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EDITORIAL

ISSUE 1: APRIL- JUNE 2017

Welcome to this inaugural issue of a quarterly Bulletin that highlights outbreaks of transboundary pests and diseases that have the potential to impact food and nutrition security in southern Africa.

The Bulletin also captures recently concluded and upcoming events that are being organized by Food and Agriculture Organization of the United Nations (FAO) and stakeholders to improve the capacities of partners in preparedness and response to crop and livestock emergencies in the region.

It is published by FAO Resilience Hub of the Subregional office for Southern Africa.

This publication is a one-stop source of information collected from FAO and other partners' sources.

We hope you will find it informative and useful.

Your comments and contributions are always welcome at FAO-SFS-REOSA@fao.org

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In this issue:

Current Threats to Crops	4
Fall Armyworm.....	4
Tomato Leaf Miner.....	4
Oriental Fruit Fly	5
Banana Bunchy Top Disease.....	5
Fusarium Wilt Of Banana.....	5
Maize Lethal Necrosis Disease.....	5
Summary of Crop Transboundary Crop Pests and Disease Status in the SADC Member States as of April 2017 (SADC).....	6
Watching out for the Locusts.....	7
Important diseases affecting livestock in Southern Africa	8
Transboundary Animal Diseases (TADs).....	9
Foot and Mouth Disease.....	9
African Swine Fever (ASF).....	10
Zoonoses.....	10
Anthrax.....	10
Rabies	10
Highly Pathogenic Avian Influenza Virus (HPAI H5N8).....	11
Wild Bird Migratory Pathways into Africa.....	11
HPAI H5N8 Outbreaks in Africa as at July 2017	11
How FAO is responding to the HPAI H5N8 outbreak in Southern Africa.....	12
What HPAI H5N8 affected and at risk countries can do.....	13
Aquatic diseases	14
Forests pests and diseases	14
Notice Board	15
Recently concluded events	15
Upcoming regional capacity building initiatives.....	17
Watching.....	17



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CURRENT THREATS TO CROPS



FALL ARMYWORM

The **fall armyworm (*Spodoptera frugiperda*)** that was first reported in Southern Africa in December 2016 has spread to all Southern Africa Development Community (SADC) countries except Lesotho and the island states. Preliminary assessments conducted between mid-February and end of April 2017, have shown that approximately 356 000 hectares of crops were affected by the fall armyworm infestation in seven SADC member states (**Botswana, Democratic Republic of Congo, Malawi, Namibia, South Africa, Swaziland and Zambia**).

It is still not known how the fall armyworm, a pest indigenous to the Americas came to Africa. There is a need to understand the adaptation, population dynamics and dispersal factors of the pest in this new environment.

For more information about fall armyworm and FAO's response -

<http://www.fao.org/food-chain-crisis/how-we-work/plant-protection/fall-armyworm/en/>

TOMATO LEAF MINER

The **Tomato Leaf Miner (*Tuta absoluta*)** that originates from South America and was first recorded in Africa in 2008 has been reported in **Angola, Malawi, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe**. The pest can be carried by consignments of fresh tomato fruits, seedlings, packaging materials or wind currents. Besides the tomato, it also attacks other various plants of Solanaceae family such potato, eggplant, pepper, tobacco and solanaceous weeds; and common beans, however, tomato as most economically important crop in the region is the main host of the pest. *Tuta absoluta* causes up to 100 percent yield loss on tomatoes, reduces fruit quality and the rot arising from secondary infection renders the fruit unfit for consumption. Shortage of tomato fruits may lead to increased market prices thereby limiting access. The damage is also likely to impact negatively on livelihoods of especially smallholder producers and traders who are mostly women.



ORIENTAL FRUIT FLY

The **oriental fruit fly (*Bactrocera dorsalis*)** is a very destructive pest of fruit in areas where it occurs. It has been recorded from 478 kinds of fruit and vegetables (USDA 2016), including: apricot, avocado, banana, citrus, coffee, fig, guava, loquat, mango, roseapple, papaya, passion fruit, peach, pear, persimmon, pineapple, surinam cherry and tomato. However, avocado, mango and papaya are the most commonly attacked. The outbreak has been reported in **Angola, Botswana, the Democratic Republic of Congo (DRC), Malawi, Mauritius, Mozambique and Namibia. Outbreaks have also been reported in South Africa, Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe.**

BANANA BUNCHY TOP DISEASE

Banana bunchy top disease (BBTD) caused by the **Banana Bunchy Top Virus (BBTV)** is considered to be the most economically destructive virus disease affecting bananas worldwide. The virus has been reported in **Lesotho, Malawi, Mozambique, South Africa, Tanzania and Zambia.**

FUSARIUM WILT OF BANANA

Fusarium wilt of banana, popularly known as **Panama disease**, is a lethal fungal disease caused by the soil-borne fungus *Fusarium oxysporum* f. sp. *cubense* (*Foc*). *Fusarium* TR4 has been reported in **Malawi and Mozambique.** It is a growing concern for the industry as it colonizes, infects and destroys Cavendish banana plants.

<http://www.fao.org/world-banana-forum/projects/fusarium-tr4/disease/en/>

MAIZE LETHAL NECROSIS DISEASE

The **Maize Lethal Necrosis Disease (MLND)** is a result of a combination of two viruses, the Maize Chlorotic Mottle Virus (MCMoV) and any of the cereal viruses in the Potyviridae group, like the Sugarcane Mosaic Virus (SCMV), Wheat Streak Mosaic Virus (WSMV) or Maize Dwarf Mosaic Virus (MDMV). The double infection of the two viruses gives rise to what is known as MLND, also referred to as Corn Lethal Necrosis (CLN). Outbreaks have been reported in **DRC and Tanzania**



SUMMARY OF CROP TRANSBOUNDARY CROP PESTS AND DISEASE STATUS IN THE SADC MEMBER STATES AS OF APRIL 2017 (SADC)

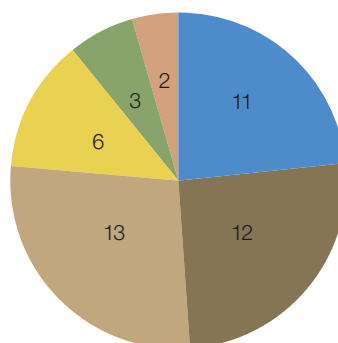
Countries	Fall army worm	Tuta absoluta	Fruit fly	Banana Bunchy Top Virus	Panama Disease	Lethal Maize Necrosis
Angola	Yes	Yes	Yes	No	No	No
Botswana	Yes	Yes	Yes	No	No	No
DRC	Yes	Yes	Yes	Yes	Yes	Yes
Lesotho	No	No	No	No	No	No
Madagascar	No	No	No	No	No	No
Malawi	Yes	Yes	Yes	Yes	Yes	No
Mauritius	No	No	Yes	No	No	No
Mozambique	Yes	Yes	Yes	Yes	Yes	No
Namibia	Yes	Yes	Yes	No	No	No
South Africa	yes	Yes	Yes	Yes	No	No
Seychelles	No	Yes	yes	No	No	No
Swaziland	Yes	Yes	Yes	No	No	No
Tanzania	Yes	Yes	Yes	Yes	No	Yes
Zambia	yes	Yes	Yes	Yes	No	No
Zimbabwe	Yes	Yes	Yes	No	No	No
Status in April 2017	11	12	13	6	3	2
	73%	80%	87%	40%	20%	13%

Source: SADC Plant Protection Technical Meeting 2017

Key: 'Yes' for presence 'No' for absence or not yet confirmed

Status of crop pests and diseases by country (April 2017)

- Fall army worm
- Tuta absoluta
- Fruit fly
- Banana Bunchy Top Virus
- Panama Disease
- Lethal Maize Necrosis



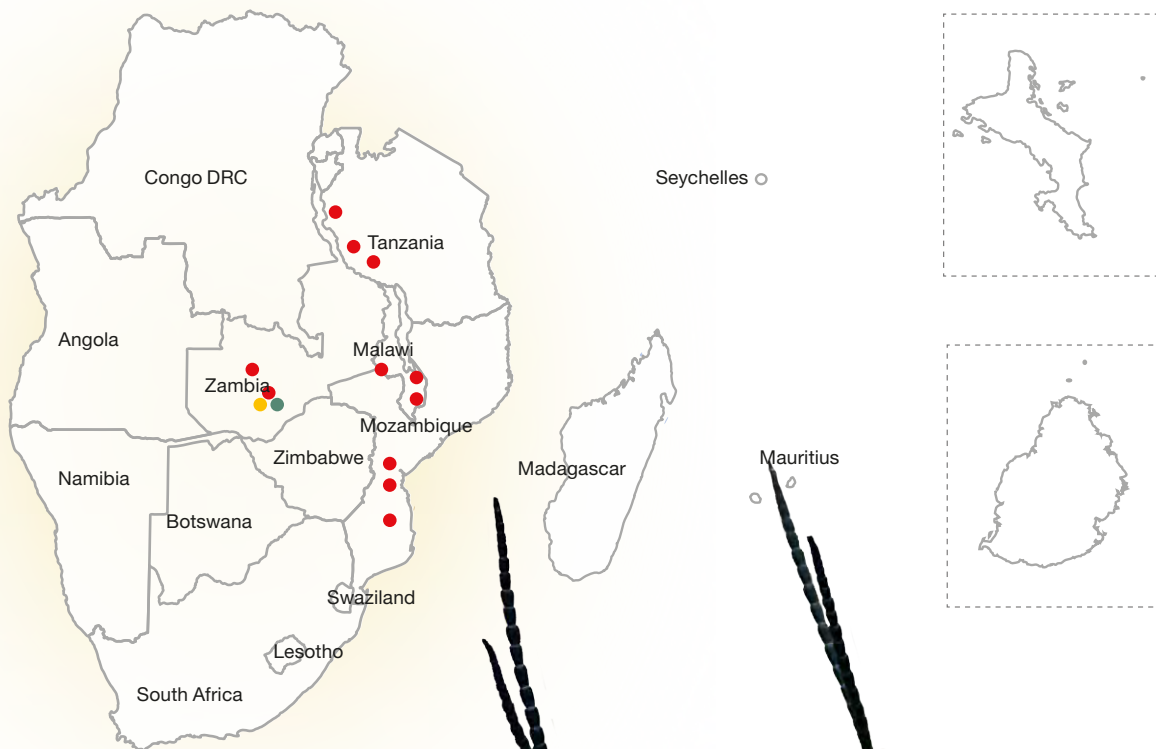
WATCHING OUT FOR THE LOCUSTS

Red locust and African migratory locust populations have been cited in the natural breeding areas in **Malawi, Zambia, Mozambique and the United Republic of Tanzania**. This is anticipated in the Lake Chilwa/Lake Chiuta plains (**Malawi**); Ikuu-Katavi plains, Rukwa Valley plains and Malagarasi Basin (**Tanzania**); Buzi-Gorongosa plains and Dimba plains (**Mozambique**) and Kafue Flats (**Zambia**).

In **Madagascar**, groups and a few small swarms of the Malagasy Migratory Locust may form; Red Locust adult groups could locally be present. **See more here** <http://www.fao.org/3/a-i7089e.pdf>

The African Migratory locust occurs in most of Africa south of the Sahara Desert, but its main breeding ground, and the original source of most plagues, is on the floodplains **of the Niger River in West Africa**.

The Red Locust, *Nomadacris septemfasciata* (Serville, 1838), is a very hazardous insect pest to agriculture in and breeds in specific grassland areas located in **Malawi, Mozambique, Tanzania and Zambia**.



Presence of the Red and African Migratory Locust

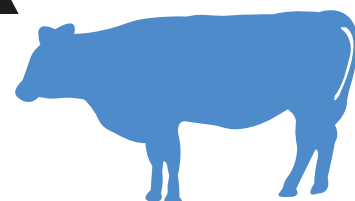
- Present - Red Locust
- Present - *Catalopius* spp.
- Present - African Migratory
- No reports yet





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IMPORTANT DISEASES AFFECTING LIVESTOCK IN SOUTHERN AFRICA



The livestock industry is one of the most significant and fastest growing sectors in the economies of countries in Southern Africa, contributing up to 40 per cent to agricultural gross domestic product (GDP). Most of this growth has been in response to a growing and increasingly urbanized human population, accompanied by higher incomes and an increased demand for livestock products. With approximately 100 million of its human population of around 235 million wholly or partially dependent on livestock, this sector presents an opportunity for poor smallholder livestock farmers, particularly women, to rise out of poverty. The growth of the sector however, is challenged and constrained by the occurrence of transboundary animal diseases (TADs) and zoonoses, such as foot and mouth disease (FMD), highly pathogenic avian influenza (HPAI) H5N8, lumpy skin disease (LSD), african swine fever (ASF), contagious bovine

pleuropneumonia (CBPP), Newcastle disease (ND), peste des petits ruminants (PPR), rabies, brucellosis, bovine tuberculosis (bTB), rift valley fever (RFV), and anthrax.

The risk of pathogen transmission threatens local livelihoods relying on animal production; public health in the case of zoonoses; national economies in the context of transboundary animal diseases, and the success of integrated conservation and development initiatives. Countries in the region continue to face challenges in the prevention and control of TADs and zoonotic infections. These challenges include, under resourced veterinary support services, limited technical expertise, lack of appropriate policy and regulatory frameworks, fragmented and poorly organized livestock value chains and low capacities for effective animal disease surveillance, detection, preparedness and response to disease outbreaks.



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As the lead intergovernmental organization with the global mandate to end world hunger and to ensure food security for all, FAO in collaboration with the SADC Secretariat, is actively engaged in providing technical assistance to countries in the region, to address these and related challenges.

Below is a brief synopsis of some diseases of transboundary and zoonotic importance in the region.

TRANSBOUNDARY ANIMAL DISEASES (TADS)

FOOT AND MOUTH DISEASE

Foot and mouth disease (FMD) – arguably the most important trade-restricting livestock disease in the region. It affects cloven-hoofed animals and is caused by a group of viruses belonging to the Aphthovirus genus. In southern Africa, infected African buffaloes (*Syncerus caffer*) are the major reservoir of the South African Territories (SAT) types of the virus. Animals suffering from FMD develop blisters in the mouth and skin just above and between the ‘claws’ of the hoof. Although the disease kills few animals it can result in serious production losses in intensively farmed livestock such as dairy, pig and stud breeding establishments.

Since the beginning of the year (2017), four countries have reported outbreaks, that is, the **Democratic Republic of Congo (DRC), Namibia, South Africa and Zimbabwe**. A few countries in the region are officially recognized as free from FMD without vaccination (Lesotho, Madagascar, Swaziland) or have achieved FMD-free zones without vaccination (Botswana, Namibia, South Africa).

Traditionally, routine mass prophylactic vaccination against FMD in the region is conducted biannually, i.e. every six months. Most countries in the region use the trivalent SAT 1,2 and 3 serotype vaccine.

Although FMD has often been regarded as an insignificant disease in extensive production systems, losses from reduced production (death of an animal, loss in weight gain, milk production and draught power), and market access can be substantial for small holder farmers in the region, leading to poverty and food insecurity.

For more information on FMD - the FAO/OIE Progressive Control Pathway for FMD (PCP-FMD), the FMD World Reference Laboratory (WRL), Research, E-learning, Success FMD control stories, visit <http://www.fao.org/ag/againfo/commissions/eufmd/commissions/eufmd-home/en/>

AFRICAN SWINE FEVER (ASF)

African swine fever (ASF) is a highly contagious hemorrhagic disease of pigs and warthogs, generally prevalent and endemic in most countries of sub-Saharan Africa. The virus spreads to susceptible animals through biting flies and ticks, as well as through contaminated premises, vehicles, equipment or clothing. Severely affected pigs show signs of pyrexia (high fever) followed by death in 2-10 days. Mortality rates can be as high as 100 percent. Other clinical signs may include, loss of appetite, depression, redness of the skin of the ears, abdomen, and legs, respiratory distress, vomiting, bleeding from the nose or rectum and sometimes diarrhoea. Abortion may be the first event seen in an outbreak. Since the start of the year, ASF has been officially reported in **South Africa, Zambia and Zimbabwe**.

Prevention depends on stringent import policies, ensuring that neither infected live pigs nor pork products are introduced into areas free of ASF. In endemic areas, control of the soft tick vector (*Ornithodoros moubata*) is important in preventing the disease. A successful eradication program must include; rapid diagnosis, slaughter and disposal of all animals on the infected premises, along with movement control, quarantine, surveillance and traceability.

ZOONOSES

Zoonoses (diseases moving between animals and people) and other health threats at the human - animal - ecosystem interface pose ongoing and increasing risks to public health, particularly in southern Africa where people, livestock and wildlife share space and resources. **Zoonotic diseases can be caused by viruses** (*Rabies, avian influenza, Crimean-Congo hemorrhagic fever, Ebola and Rift Valley fever*), **bacteria** (*Salmonellosis, Anthrax, brucellosis, shigellosis*), **parasites** (*cysticercosis/taeniasis, hydatidosis, toxoplasmosis, trichinellosis*), **and fungi** (*dermatophytosis*). However, these threats cannot

be addressed by one sector alone. The complexity of interactions along the interface requires strong and consistent collaboration among the sectors responsible for human health, animal health, and the environment.

The following are major zoonoses reported in the region.

ANTHRAX

Anthrax is a disease of cloven hoofed animals (livestock and wildlife) endemic in most countries in southern Africa. The disease also affects human beings handling infected carcasses, meat, hide, wool, bones and dung. Livestock mortalities range between 50 percent and 100 percent. **South Africa, Tanzania, Zambia and Zimbabwe** have reported outbreaks.

Outbreaks are associated with extreme weather events, such as droughts and heavy rains and anthrax cases in the region are typically reported between June and December. The *Bacillus anthracis* spores can lie dormant in the soil for many years. Case fatality rates of between 4-20 percent have been reported in countries such as Zambia.

Annual vaccination of cattle in high-risk areas is an effective way to control the disease. Failure to vaccinate can impact negatively on public health, lead to spread of disease and the loss of livelihoods for small holder livestock farmers in the region.

Suspected anthrax carcasses should never be opened for fear of spreading the spore-forming bacteria. Carcasses should be buried in 2 - 3 metre deep pits and covered with lime.

RABIES

Rabies is an endemic disease in most SADC countries. Dogs are responsible for most human deaths. Transmission is usually through exposure to the body fluids of an infected animal, primarily via bites. Forty per cent of people who are bitten by

suspect rabid animals are usually children under 15 years of age. Clinical signs in infected humans include fever, malaise, salivation and behavioral changes which can progress to paresis, paralysis, convulsions and coma. Once symptoms of the disease develop, rabies is nearly always fatal.

The control of rabies in the region is through effective awareness campaigns and routine vaccination of rural dogs which are at greater risk of contracting the virus from jackals, the main wildlife reservoir of the virus. Protection lasts for three years. Failure to conduct routine vaccinations can result in loss of human life and livelihoods, as cattle, goats and donkeys also acquire the disease following a bite from an infected animal. Cattle have also been known to occasionally

transmit the disease to man. Wound cleansing and immunization within a few hours after contact with a suspect rabid animal can prevent the onset of rabies symptoms and death.

Rabies is a neglected disease of poor and vulnerable populations whose deaths are rarely reported. Under-reporting of rabies also prevents mobilization of resources from the international community for the elimination of human dog-mediated rabies. It is therefore imperative that Member States make a conscientious effort to report outbreaks.

HIGHLY PATHOGENIC AVIAN INFLUENZA VIRUS (HPAI H5N8)

Family poultry currently makes up more than 80 percent of the continent's poultry population. In many households, women, youth, children and the vulnerable (old and disabled people) manage poultry. The occurrence of HPAI in Africa is therefore a major concern, posing a very real threat to the poultry industry. Since October 2016, H5N8 Highly Pathogenic Avian Influenza (HPAI) has been spreading globally via wild and migratory birds, affecting, at least, 90 species of wild birds and/or domestic birds in 47 countries in Asia (n=8), Europe (n=30) and Africa (n=9). According to the World Health Organization (WHO), 'HPAI A(H5N8) viruses have the potential to cause human infections, although, based on the limited information obtained to date, the likelihood is low'.

In sub-Saharan Africa, HPAI (H5N1 and H5N8) outbreaks were primarily confined to West Africa, up until January 2017, when Uganda confirmed the first ever outbreak in the East African region. More recently, outbreaks of HPAI H5N8 were reported the **Democratic Republic of Congo (DRC), Zimbabwe and South Africa**. Export of live chickens, chicken products and eggs to some trade partners have been disrupted.

The genetic similarities of clade 2.3.4.4 of the H5N8 virus in Zimbabwe to that circulating last winter in Europe, Uganda, and Egypt, and now South Africa, makes the likelihood of the involvement of wild birds high. Local, or lateral spread, of avian flu is quite often due to the transport or sale of poultry and poultry products, or the movement of contaminated equipment. This underlines the importance of registering buyers/sellers and good record keeping to enable forward tracing.

WILD BIRD MIGRATORY PATHWAYS INTO AFRICA



HPAI H5N8 OUTBREAKS IN AFRICA AS AT JULY 2017



HOW FAO IS RESPONDING TO THE HPAI H5N8 OUTBREAK IN SOUTHERN AFRICA

1. FAO is providing technical assistance and supporting the operational needs of the governments in the region. This assistance covers many facets of disease prevention, preparedness, planning for emergencies, control activities and surveillance and intelligence on diseases. Others are enhancing diagnostic capacity, communication, conducting socio-economic and marketing analysis and resource mobilization.
2. Together with the World Organization for Animal Health (OIE) and WHO, in collaboration with the SADC Secretariat and Member States, FAO coordinates regional livestock interventions, especially those relating to international trade in animals and products of animal origin.
3. FAO has responded to the requests for assistance from affected and at-risk countries in Southern Africa, specifically the Zimbabwe Government, by fielding expert missions to assess the disease situation and evaluate the country's preparedness levels and control strategies. The Organization has come up with recommendations for strengthening response activities and laboratory capacities in the country.
4. FAO also facilitated the shipping of samples to the World Reference Laboratory (WRL) for diagnosis.
5. FAO, in collaboration with SADC is convening regional multi-stakeholder meetings and training

workshops on risk management for preventing and controlling TADs and HPAI H5N8 along the poultry value chain in the region. Additionally, emergency consultative meetings are being

held for the review and update of the regional and national HPAI preparedness and response plans, as well as information sharing and strengthening of networking platforms.

WHAT HPAI H5N8 AFFECTED AND AT RISK COUNTRIES CAN DO

- Raise awareness on HPAI and the appropriate precautionary measures, for poultry producers, marketers, hunters and consumers;
- Encourage reporting of sick and/or unexplained deaths of birds (hotlines, collection points);
- Increase surveillance efforts for sick and/or dead poultry and wild birds;
- Improve biosecurity measures at farms and markets;
- Put laboratory testing in place to detect the currently circulating avian influenza viruses;
- Review the status of preparedness, contingency planning, field and diagnostic capacities, and material and equipment requirements (disinfectants, PPE kits);
- Initiate resource mobilization for increased preparedness, communication and, in case of virus incursion, response activities; and
- Participate in a regional events and coordination

to enhance information sharing with other countries in the region.

- **For more information on HPAI visit -**
<http://www.fao.org/avianflu/en/index.html>



AQUATIC DISEASES

- **Angola, Botswana, Malawi, Namibia, United republic of Tanzania, Zambia, and Zimbabwe** are at risk of the fish disease **Epizootic ulcerative syndrome (EUS)**. It is an infection caused by an oomycete fungi known as *Aphanomyces invadans* or *A. piscicida*. *Aphanomyces* is a member of a group of organisms formerly commonly known as water moulds; they are currently recognized as belonging to the group of heterokonts or stramenopiles (OIE, 2006). EUS is an epizootic condition affecting wild and farmed freshwater and estuarine finfish since it was first reported in 1971. See more about EUS here - <http://www.fao.org/docrep/016/i0777e/i0777e.pdf>
- **Tilapia lake virus (TiLV)** which is already present in **Colombia, Ecuador, Egypt and Israel**, is likely to have a wider distribution and become a significant threat to the tilapia industry in Africa (**Ghana, Kenya, Nigeria, Uganda, Zambia, and Zimbabwe**). Tilapias are farmed globally and are the second most important aquaculture species in terms of volumes produced, providing a key source of affordable animal protein, income to fishfarmers and fishers, and domestic and export earnings.

See details here -

<http://www.fao.org/3/a-i7089e.pdf> and
<http://www.fao.org/3/a-i7326e.pdf>

FORESTS PESTS AND DISEASES

- The likelihood of outbreaks of the insect pest Red gum lerp psyllid *Glycaspis brimblecombei* (Psyllidae, Hemiptera) in Eucalyptus forests is still high in **Malawi, Mozambique, and Zimbabwe**.
- The insect pest Blue gum chalcid is still a threat for Eucalyptus forests in **Zambia** and **Zimbabwe**. Bronze bug is still damaging eucalyptus woodlots in **Zimbabwe**.

See details here - <http://www.fao.org/3/a-i7089e.pdf>



RECENTLY CONCLUDED EVENTS



- FAO, in collaboration with the SADC, organized a multi-stakeholder Southern and Eastern Africa regional technical meeting on, preparedness and response actions to HPAI and other high-impact trans boundary livestock diseases in February 2017, in Harare, Zimbabwe. In May 2017, the SADC Council of Ministers Meeting in Swaziland, highlighted the continued presence and occurrence of TADs and zoonoses that continue to hamper production and trade of livestock and livestock products in the region. The meetings emphasized the need to prioritize and strengthen the capacity of national veterinary services, in order to ensure effective control and management of TADs.
- FAO has been rolling out a series of Livestock Emergency Guidelines and Standards (LEGS) training events for livestock specialists, policy makers, rural developers, and humanitarian specialists. The initial training in October 2016 brought together livestock experts from 11 countries adversely affected by the El Niño drought. Subsequently, additional trainings have been held at national level in Namibia, Malawi and Lesotho. The purpose of the training is to provide livestock specialists with skills necessary for the design and implementation of appropriate livestock interventions during emergencies. For more information visit:
 - LEGS – <http://www.livestock-emergency.net/>
 - The training – FAO-SFS-REOSA@fao.org
- Two meetings that focused on fall armyworm, one for the SADC region as follow-up to the Harare consultative meeting of February 2017 and a second one (All Africa) jointly organized by FAO, **Alliance for a Green Revolution in Africa** (AGRA) and International Maize and Wheat Improvement Center (CIMMYT),



were held in Nairobi, Kenya (25-28 April 2017). The All Africa meeting gathered partners from governments, national, regional and international research and development institutions, academia and donor agencies as well as representatives from the private sector. The meeting came up with a set of action points and recommendations addressing research gaps, need for more knowledge on the pest's behavioral and biological adjustments to African ecological context, monitoring, early warning and forecasting, contingency planning, impact assessment, short-, medium- and long-term measures for management of the pest.

- From 26 – 30 June 2017, Over 60 plant protection and extension specialists from southern Africa attended a Training of Trainers (TOT) course in fall armyworm management. The training was co-organized by FAO and the

Agricultural Research Council of South Africa (ARC) in collaboration with the Southern Africa Development Community (SADC), *Centre for Agriculture and Biosciences International* (CABI), Crop Watch Africa, International Maize and Wheat Improvement Center (CIMMYT), International *Red Locust Control Organization for Central and Southern Africa* (ILRCO-CSA) and the University of Zimbabwe. It was undertaken as part of the efforts to strengthen the capacity of national institutions involved in plant protection and extension to be better able to support farmers to effectively contain and manage the fall armyworm infestation in the region. Trainees were drawn from drawn from Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius and Mozambique. Others were from Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

UPCOMING REGIONAL CAPACITY BUILDING INITIATIVES

- Following the outbreak HPAI H5N8 subtype in southern Africa, the SADC Secretariat in collaboration with the FAO are organizing a regional technical meeting of stakeholders to assess the preparedness, response capacities and actions of Member States to the recent and on-going outbreaks of Highly Pathogenic Avian Influenza (HPAI) in the region. The Meeting will be held in Johannesburg, South Africa, from 01 – 04 August 2017.
- The Good Emergency Management Practice (GEMP) training. The training is tentatively scheduled to take place in the week of 08 - 11 August 2017 in Johannesburg, South Africa. More information about GEMP - <http://www.fao.org/3/a-ba0137e.pdf>
- A six-day Livestock Emergency Guidelines and Standards (LEGS) Training of Trainers (TOT) course will be held in Johannesburg from 25 – 30 September 2017. Applications are now invited for the course, on a cost-share basis. Participants may apply for the first three days of the course (25-27 September) if they are only interested in the LEGS training course rather than the TOT. For further information please contact Elma Zanamwe-Sikala: elma.sikala@fao.org or the LEGS Coordinator: Coordinator@livestock-emergency.net.

**01 - 04
AUGUST**

**08 - 11
AUGUST**

**25 - 30
SEPTEMBER**

WATCHING

2017 El Niño prediction

Currently, majority of forecasting models from international climate centers are predicting El Niño conditions to become most likely from around July 2017, and to persist for the remainder of the year. This is a very early forecast and liable to changes over the coming months. There is therefore a need to continue monitoring the ENSO evolution and to start contingency planning in case the prediction materializes.





NEXT EDITION

Will highlight Risk assessment data on zoonoses affecting Southern Africa

Sources of information

FAO Food Chain Crisis - <http://www.fao.org/food-chain-crisis/home/en/>

FAO in Emergencies - <http://www.fao.org/emergencies/en/>

FAO EMPRES Plant Pest and Disease - http://www.fao.org/agriculture/crops/news-events-bulletins/detail/en/item/8765/icode/5/?no_cache=1

FAO Emergency Prevention System for Food Safety (EMPRES Food Safety) - <http://www.fao.org/food/food-safety-quality/empres-food-safety/en/>

FAO Emergency Prevention System for Animal Health (EMPRESS-AH) - <http://www.fao.org/ag/againfo/programmes/en/empres/home.asp>

FAO Crisis Management Centre – *Animal Health* - <http://www.fao.org/emergencies/how-we-work/prepare-and-respond/cmc-animal-health/en/>

Network of expertise on animal influenza - <http://www.offlu.net/>

World Organization for Animal Health - <http://www.oie.int/en/>

First Report of Outbreaks of the Fall Armyworm *Spodoptera frugiperda* (J E Smith) (Lepidoptera, Noctuidae), a New Alien Invasive Pest in West and Central Africa - <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0165632>



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