



A trader in Tanzania sorting groundnuts, a practice known to minimize aflatoxin contamination © PACA

Upcoming events

- Second Partnership Platform Meeting of PACA, Dakar, Senegal, 2-4 October 2018
- Second International Conference for Food Safety and Security, Pretoria, South Africa, 15-17 October 2018

Vision

An Africa free from the harmful effects of aflatoxins.

Contact

The PACA Secretariat
PACA-DREA, AUC
PO Box 3234, Addis Ababa
Tel: (251) 115517700 ext. 4571
Email: paca@africa-union.org

In this issue

- 2 Letter from the PACA Program Manager
- 3 African Union calls for a coordinated response to food safety
- 5 PACA and the Global Food Safety Partnership promote the food safety agenda
- 7 PACA's achievements recognized by AU ambassadors
- 9 Third PACA partnership platform meeting
- 11 PACA Steering Committee meets in Malawi
- 12 A charter on mycotoxins
- 13 Farmer-to-farmer training videos for aflatoxin mitigation
- 15 Ugandan food commodity traders test for aflatoxins
- 16 Women's role in mitigating aflatoxins
- 17 Commercialising Aflasafe™ to combat aflatoxins in Africa – ATTC's journey so far
- 19 African Food Safety Workshop: 4-8 June 2018 in Pretoria, South Africa

Dear PACA community members

First of all, I am pleased to report the completion of the Country-led Situational Analysis and Action Planning (C-SAAP) for six African countries. The completion of national plans developed based on the evidence generated by the C-SAAPs, the endorsement of the plans by stakeholders and their inclusion in national strategies marks the end of the first half of the C-SAAPs. The next and most important half of the C-SAAP process is the implementation of the evidence-based plans at country level. The C-SAAP, which is the hallmark of the country plan approach that PACA promotes to help countries deal with the aflatoxin challenge in a sustainable and effective manner, has already shown value in promoting country ownership and enhanced investment in aflatoxin control in the countries involved. In Africa, where cereals and legumes constitute the lion's share of the food consumed by its population, the burden of mycotoxin exposure on human health will remain high unless the problem is adequately prioritized. Generating locally relevant and credible data will be important to inform policies and interventions in Africa. PACA intends to extend the country plan approach to all African countries at the upcoming Third Partnership Platform Meeting of PACA and other ongoing mechanisms. Please read the policy recommendations that are extracted from the C-SAAP reports on the PACA website (a French version for Senegal will be available soon).

The PACA Secretariat completed the baseline survey for PACA phase II with the support of a consultancy team from Khulisa Management Services. The Secretariat also developed the Communication Strategy and Knowledge Management Strategy which will guide the implementation of these two major components of PACA II. We appreciate all those involved in the expert review meeting for their support in refining the strategies.

This year has already seen a marked progress in food safety and aflatoxin control in Africa. Food safety is receiving the focus it deserves by the African Union (AU). The highest AU policy organ, the AU Assembly of Heads of State and Government, received a report on food safety and aflatoxin control as part of the *Annual Report on the Activities of the AU and its Organs*. The AU Permanent Representatives Committee, the forum of Member State Ambassadors, also received the First Progress Report of the Chairperson of the Commission on Food Safety and deliberated on the topic and affirmed their commitment to help prioritize and finance food safety in their respective countries. Read more in this issue of the newsletter.

Thank you for your support to aflatoxin control in Africa.

Amare Ayalew (PhD)

Program Manager, PACA, AUC

African Union calls for a coordinated response to food safety



Assembly of the 30th Ordinary Session of the African Union © AUC

PACA's contribution to food safety on the African continent was acknowledged at the 30th Ordinary Session of the AU Summit on 22-29 January 2018, amidst the calls for a continental mechanism that will provide coordination and leadership in the control and safety of food systems in Africa.

In the AU's [*Annual Report on the Activities of the African Union and its Organs*](#) at the Summit of the Heads of State and Governments in Addis Ababa, Ethiopia, the AU Commission Chairperson made remarks on food safety which are summarized below:

"The issues of food safety, nutrition and food security are inextricably linked, not only to each other but also to human health and trade. Unsafe food creates a vicious cycle of disease and malnutrition, particularly affecting infants, young children, the elderly and the sick. Foodborne diseases impede socio-economic development by straining healthcare systems, and harming national economies, tourism and trade.

Unfortunately, not many studies have estimated the cost of foodborne disease outbreaks in Africa, in order to fully understand the magnitude of the loss as a proportion of national gross domestic product. According to FAO, a single food safety challenge, such as aflatoxins, is estimated to be responsible for damaging up to 25% of the world's food crops, resulting in large economic losses in many developing countries, as well as contributing to human and animal diseases. Aflatoxins are also reported to be responsible for Africa's loss of over US\$670 million in export trade earnings due to contamination in cereals, dried fruits and nuts.

Inaction on the part of governments to assert food control can therefore lead to devastating trade implications. A single event of a foodborne disease outbreak can have unimaginable economic consequences, including loss of reputation and export markets, with knock-on negative effects on employment and livelihoods.

The AU target of tripling intra-regional trade in agricultural commodities by 2025 will be difficult

to realize as long as there are no structured continental, regional and national mechanisms providing coordination and leadership on food systems control in Africa. Furthermore, food supply chains now cross multiple national borders. Unfortunately, AU member states have different food control regimes, which do not achieve a consistent level of protection, thus stifling intra-regional trade. Good collaboration between governments, producers and consumers is essential to ensure food safety across Africa.

In 2012, the AU Commission launched the Partnership for Aflatoxin Control in Africa (PACA), an initiative that aims to coordinate and support aflatoxin mitigation across the health, agriculture and trade sectors in Africa. PACA, which currently operates in six pilot countries, has made significant progress in aflatoxin control through generating locally relevant data, building human and laboratory capacity for aflatoxin testing, supporting the development of national and regional strategies, and facilitating resource mobilization for their implementation. The AU Commission Chairperson recognized that several Regional Economic Communities (RECs) and member states have commenced the implementation of regional and national programs to build sanitary and phytosanitary

capacity, in particular in relation to food safety. However, these programs are proceeding at different paces. Furthermore, the RECs have not been able to develop a critical mass of technical capacity to provide the necessary leadership to catalyze the substantive continent-wide reforms needed to address the challenges of food safety.

Against this backdrop, it is critical to ensure a uniform approach to food safety standards across the continent, as well as to increase support to member states to better coordinate all food safety issues in Africa. Not only will this save lives and improve the health of African people, it will also enhance the continent's capacity to participate effectively in international trade and raise overall living standards. Building an effective food safety and quality regime throughout Africa is, therefore, an urgent necessity. Consequently, the AU Commission has proposed to host, in collaboration with WHO and FAO, the International Food Safety Conference in 2019, to further garner political support for the establishment of a continental food safety structure. The AU Commission Chairperson stressed the Union's commitment to engage relevant stakeholders in member states, as well as partners, to further food safety on the continent.

PACA and the Global Food Safety Partnership joined hands to promote the food safety agenda



Participants at the food safety side event at the 14th CAADP Partnership Platform © PACA

On 25 April 2018, PACA and the [Global Food Safety Partnership \(GFSP\)](#) jointly organized a side event at the 14th Comprehensive Africa Agriculture Development Programme (CAADP) Partnership Platform in Libreville, Gabon, as part of a consultative process to promote the food safety agenda on the continent, in alignment with the [Malabo Declaration](#). The event's theme was, 'Food safety coordination and tracking for boosting implementation of National Agricultural Investment Plans (NAIPs) towards the Malabo Declaration goals and targets.'

The Malabo Declaration was adopted in June 2014 by the AU Heads of State and Governments to accelerate agricultural growth and transformation across the continent. The AU Commission subsequently developed and presented the [Inaugural Biennial Review Report](#), reviewing progress on the implementation of the Malabo Declaration by AU Member States, at the 30th Ordinary Session of the AU Summit of Heads of State and Government in January 2018. The report findings were based on 43 indicators packaged as the Africa Agricultural Transformation Scorecard. However, food safety was not adequately captured among these indicators. The side event therefore sought to bring food safety to the forefront of the AU's agricultural transformation agenda as envisioned under the Malabo Declaration.

The side event was held during the CAADP Partnership Platform and was attended by over 80 participants from the RECs and AU Member States. Other participants included policy-makers, researchers and experts in health, trade, food security and food safety. Dr Amare Ayalew, PACA Program Manager, highlighted in his presentation

that unsafe and contaminated foods could adversely affect food security, undermine income generation and aggravate poverty, cause more health-related problems, and thereby derail the achievement of the Malabo commitments.

Dr Ayalew emphasized that aflatoxins are one of the most pervasive food safety problems in Africa, with a severe impact on health (accounting for 30% of liver cancer cases) and trade (responsible for US\$670 million in lost export trade annually). These figures illustrate the urgent need to prioritize food safety in the continent. Inclusion of indicators to track food safety through the AU Malabo Biennial Review will prompt the governments of AU member states to give adequate attention to food safety and benefit from improved food control systems in their respective countries.

Dr. Delia Grace Randolph, Program Manager for Animal and Human Health at the International Livestock Research Institute (ILRI), gave a brief account of a GFSP-sponsored Food Safety Mapping Report. The key findings of the report show under-investment in food safety on the continent, with annual investment in Africa at around US\$30 million a year – compared to the annual investment in malaria, HIV/AIDs and tuberculosis at US\$2.4 billion. These investment figures ignore the fact that the burdens of these diseases and food safety are comparable.

This was followed by a panel discussion, including Mr David Wafula, Agricultural Specialist at the East African Community; Mr Malefetsane Nchaka, Principal Secretary of the Ministry of Agriculture and Food Security in Lesotho; Dr Isaiah Okeyo Onyango, Director of the Ministry of Agriculture

in Kenya; Dr Chris Muyunda, Chairman of the Governing Council of CAADP Non State Actors Coalition; and Dr Rose Omari of the Council for Scientific and Industrial Research in Ghana.

The participants reached a consensus on the following:

1. The need to holistically address the tripartite challenges of food safety in Africa: economic (trade), food security (agriculture) and nutrition (health);
2. The need to develop systems to track the unsafe food that is being produced and sold in informal markets;
3. The need to support regulatory bodies, in terms of human resources and logistics, to inspect and enforce food standards that are safe for people;
4. The need to improve funding for research on food safety, dissemination of outcomes and adoption of interventions;

5. The need to improve advocacy by stakeholders through effective engagement with the private sector to ensure that they are purchasing, producing, and supplying safe foods;
6. Food safety to be mainstreamed into the NAIPs developed by each of the member countries as part of the Malabo Declaration to revolutionize agriculture;
7. The RECs need to further prioritize food safety in their respective regional agendas; and
8. The need for the development of indicators to track food safety progress in the AU Malabo *Biennial Review*.

The participants concluded with suggestions for further consultations in order to develop suitable food safety indicators for inclusion in the *2nd Biennial Review Report*.



PACA's achievements recognized by AU ambassadors

PACA took center stage when the Department of Rural Economy and Agriculture (DREA) of the AUC took its turn to present the Chairperson's report on food safety to members of the [Permanent Representative Committee](#) (PRC) of the AU in Addis Ababa on 15 May 2018. The PRC consists of ambassadors from African states appointed to the AU by their respective countries with the responsibility to conduct the day-to-day business of the AU on behalf of the Assembly and Executive Council.

Dr Godfrey Bahiigwa, Director of DREA, presented the [First Progress Report of the Chairperson on Food Safety](#), which focused on the food safety challenges in Africa; the impact of aflatoxins; AU efforts to support Member States and RECs to improve food safety; and steps to improve food safety. He stated that Africa is recognized as one of the most food insecure continents in the world, and suffers from a heavy burden of foodborne diseases. He quoted a WHO report, which indicated that 91 million people in Africa fall ill and 137,000 die each year due to foodborne diseases. The latter represents one-third of the global death toll for foodborne diseases.

Dr. Bahiigwa added that food safety challenges also pose a risk to the competitiveness of African agricultural products, as meeting food safety standards has become an important requirement for accessing global food markets.

Dr Bahiigwa also explained that given the wide array of food safety challenges on the continent, the AU Commission had initially focused on aflatoxin control because it is one of the most pervasive food safety problems in Africa. He acknowledged that since its establishment, PACA has distinguished itself as a center of expertise for aflatoxin control by generating evidence-based data, which has been used to develop national aflatoxin mitigation plans for six countries: namely Malawi, Nigeria, Senegal, Tanzania, the Gambia and Uganda. PACA has gone further to support these countries by mobilizing resources for the implementation of their mitigation plans. PACA has also undertaken a series of advocacy campaigns at



Scene from the PRC meeting at the AUC in May 2018 © PACA



Dr. Bahiigwa (second from left) making the presentation to the PRC © PACA

both continental and regional levels in partnership with diverse partners, including RECs.

In his presentation, Dr Bahiigwa highlighted the following recommendations to address food safety:

- The inclusion of a food safety indicator in the AU Malabo Biennial Review, which tracks progress towards attaining the objectives of the Malabo Declaration. Inclusion of food safety indicators in the report will compel African countries to pay attention to this issue;
- Adoption of PACA's approach for aflatoxin control as a starting point for addressing food safety challenges on the continent;

- Enhanced collaboration on food safety with major development partners.

Dr. Bahiigwa concluded by suggesting that PACA is mainstreamed as a specialized technical organization focusing on food safety and nutrition under DREA.

The Chairperson of the PRC, Mrs Hope Tumukunde Gasatura, said Dr Bahiigwa's report was a clear demonstration of the tangible work that the AU Commission was doing to address food safety through the PACA initiative.

Members of the PRC collectively made the following observations:

- There is a need for an integrated approach towards aflatoxin control for meaningful impact;
- PACA could be used to improve the coordination of food safety activities across AU Commission departments;

- PACA should make more information publicly available;

- Farmers must be involved in addressing aflatoxin contamination through the engagement of ministries of agriculture and relevant agencies;

- Indigenous solutions for aflatoxin control should be explored;

- There is a need for effective collaboration among related AU agencies, such as the Inter-African Phytosanitary Council (IAPSC) and the African Union Inter-African Bureau for Animal Resources (AU-IBAR);

- There is a need to work with RECs to enhance food safety interventions at the country level.

For more information, read the [First Progress Report of the Chairperson of the Commission on Food Safety](#).

A charter on mycotoxins

A new charter on mycotoxins, [Increasing Awareness of, and Concerted Action for, Minimizing Mycotoxin Exposure Worldwide](#), has been published (Toxins 10(4). doi:10.3390/toxins10040149) as part of an effort to advocate for global harmonization of mycotoxin legislation and policies, in order to minimize human and animal exposure in countries that lack effective legislation.

The development of the charter forms part of the EU-funded project, MycoKey, which advocates

for the right to safe food through mycotoxin management strategies and regulation, among other activities. Actors in the food supply chain – such as farmers, consumers, researchers, and civil society groups – will be encouraged to sign the charter, which is jointly authored by 18 scholars from a diverse range of institutions.

For further information contact MycoKey Lead and the corresponding author, Dr. Antonio Logrieco.

Third PACA partnership platform meeting



His Excellency, President Yoweri Museveni of Uganda addressing the PACA PPM II in October 2016 © PACA

The 3rd PACA Partnership Platform Meeting (PPM III) is scheduled to take place in Dakar, Senegal on 2-4 October 2018 with the theme, 'Scaling-up Country-led Approaches for Sustainable Aflatoxin Mitigation in Africa.' The PACA PPM is an innovative biennial forum of diverse partners and stakeholders working towards aflatoxin control in Africa. The forum offers participants the opportunity to share information and lessons related to addressing the challenges in aflatoxin mitigation and control efforts, as well as chart effective solutions to advance these efforts on the continent.

PACA PPM I

The first PACA PPM was held in Addis Ababa in 2014 under the theme "Working together to accelerate actions to reduce the harmful effects of aflatoxin in Africa". The forum brought together more than 200 stakeholders from various countries and organizations, who reviewed various proposals for reducing aflatoxin contamination on the continent. The following were some of the major outcomes of PACA PPM I:

- The value of experience sharing – PACA PPM I confirmed the need for a continental platform to share experiences and discuss the implementation status of aflatoxin mitigation measures and related issues on the continent.

The PPM also guided the strategic direction of the secretariat for the mid-term (2016-19), which reinforced the country plan approach.

- Conception of the Africa Aflatoxin Information Management System (AfricaAIMS) – the forum identified the lack of data on aflatoxins as one of the biggest constraints facing the continent and justified the establishment of AfricaAIMS.
- Scoping studies on the capacities of laboratories – the PPM identified the need for regional scoping studies to assess human and laboratory capacities for aflatoxin mitigation in African countries. This led to two regional scoping studies in COMESA and ECOWAS, which identified gaps in capacities for appropriate interventions.

PACA PPM II

PACA PPM II was held on 11-13 October 2016 in Entebbe, Uganda and was convened under the theme "Tracking commitments, sustaining implementation for results and impact" where implementation progress in Pilot countries was assessed and ways forward recommended. It was attended by about 270 stakeholders from across Africa and beyond, including His Excellency President Yoweri Museveni of Uganda, ministers

and other senior government officials from AU Member States, senior REC commissioners, representatives of farmer organizations, consumer associations, large and small business sector representatives, civil society organizations, academics and development partners.

Participants exchanged information about ongoing aflatoxin mitigation efforts, interventions and approaches for scaling up the PACA model. Key challenges to the implementation of these interventions and ways forward were identified to guide the aflatoxin mitigation efforts continentally for the next two years.

The following were some of the major outputs and outcomes of PACA PPM II also marking the conclusion of PACA Phase I from 2013-2016 and endorsing the approaches for PACA Phase II:

- Two-year (2014-2016) country work plans were developed by all countries represented at the meeting;
- Information was exchanged on ongoing aflatoxin mitigation efforts for further actions on the ground and aligning to various themes including partnerships, private sector engagements, biocontrol activities, and country-planning model;
- Interventions and approaches for scaling up the PACA model were identified;
- Key challenges of implementation and next steps were identified;
- Stakeholder efforts and aflatoxin champions were celebrated with awards;

- Peer review and peer learning was promoted for improved accountability in implementing committed actions for aflatoxin mitigation;
- Instruments and mechanisms for accountability, M&E and reporting for PACA stakeholders were discussed and next steps agreed upon.

The PPM III comes at a critical time when the continent and the international community are advocating for increased food safety measures to protect human lives and increase intra-Africa and international trade of agricultural commodities. The PPM's main objectives are to:

- Present the country planning approach and the final findings in six pilot countries;
- Critically assess the results and impacts of the country planning process/piloting;
- Share the piloting experience of the six pilot countries;
- Ignite/encourage scaling up of the PACA approach in non-pilot countries;
- Track progress of implementation in pilot countries and Regional Economic Communities;
- Celebrate Champions of change in food safety/aflatoxin control.

Participants will soon be contacted by the PACA organizing committee.

PACA Steering Committee meets in Malawi



A group picture of the members of the Steering Committee and observers © PACA

The PACA Steering Committee, which meets twice each year, is the highest decision making organ of PACA, chaired by Dr Godfrey Bahigwa, Director of the DREA of the AU Commission. The 12th meeting of the Steering Committee took place in Lilongwe, Malawi on 11-12 April 2018. The committee discussed major operational and technical PACA programs for the year 2018, offering guidance and actionable directives where deemed necessary. Present at the meeting were observers from the United States Department of Agriculture (USDA), Foreign Agricultural Services and from Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

The following key decisions were made at the Steering Committee meeting:

- The PACA Secretariat should continue to concentrate on the deliverables of PACA Phase II, as contained in the results framework, but should also begin to focus on the broader context of advancing food safety in Africa;
- The theme and approach for PACA PPM III, scheduled from 2-4 October 2018 in Dakar, Senegal was approved. The upcoming PPM will focus on scaling the country plan approach for aflatoxin control beyond the six pilot countries;

- Engage with partners to implement PACA's planned activities to support market linkages and incentivize clean supply chains;
- Aim to mobilize resources to support work on the [nixtamalization](#) effect on bio-fortified maize using the approved fundraising concept note;
- Work towards the inclusion of food safety indicators into the AU Malabo *Biennial Review*;
- Work with Steering Committee members in advance to support advocacy and fundraising efforts;

Approval of 2018 and draft 2019 work plans and budget.

Reflecting PACA's policy of engaging with host country stakeholders, a delegation led by Dr Bahigwa met with the USAID Deputy Head of Mission and the Feed the Future Team Leader for Malawi, in order to explore areas for collaboration. The PACA Secretariat also held separate meetings with the Permanent Secretary of Trade, and the Director of Trade of the Ministry of Trade and Industry of Malawi.

Farmer-to-farmer training videos for aflatoxin mitigation

Video has been established as one of the multimedia technologies that is helping to meet the challenges of farmer extension, as well as disseminate information to farmers and marginalized groups – including women. As a tool for disseminating agricultural information, video presents a host of benefits to farmers: in raising awareness, stimulating demand for farmer support, farmer-to-farmer extension, training in agricultural innovations, accurate and precise documentation, and monitoring and evaluation.

There is evidence which points to video's unique proficiency in explaining abstract concepts, and in assisting information recall. A [study](#) examining the role of video in agricultural extension work, found the following:

- Farmers in 19 rice farming communities in Benin could remember the contents of rice videos 5 years after viewing them and had consequently taken technical and institutional action (e.g. contacting extension agents to request rice seed);
- Women's groups in Benin that watched videos were more innovative and encouraged their groups to produce and sell parboiled rice;
- Ghanaian cocoa farmers trained through video viewing clubs had significantly improved knowledge of technical topics compared to a control group;
- Video is highly scalable even across regions and cultures;
- At local level, farmers will often show videos on their own initiative.

[Access Agriculture](#) – an international NGO headquartered in Nairobi, Kenya – has developed one of the largest online agricultural video repositories. Farmers are able to stream Access Agriculture's training videos online in their local languages, download them or order DVD copies.

Video on groundnuts and aflatoxins

[Agro-Insight](#), one of the key sponsors of Access Agriculture, produced a farmer-to-farmer training

[video](#) in the Aymara language of Bolivia as part of efforts to contribute to the aflatoxin mitigation effort. Funded by the McKnight Foundation, the video seeks to provide farmers with information about pre-harvesting and post-handling practices to avoid aflatoxin contamination.

For Africa this is a significant intervention because groundnut production is of central economic importance to millions of smallholders. The wider groundnut value chain is also a major source of employment, income generation, and foreign exchange earnings for many African countries. It generates 60% of the rural cash income and accounts for about 70% of the rural labor force [in Senegal and The Gambia](#). However, the threat of aflatoxin contamination of groundnut produce, and the consequent health hazards faced by consumers, present a barrier to the trade of groundnuts in international markets.

In order to make this video relevant to the African continent, Access Agriculture translated the video into English and French. More importantly, the video has also been translated into nine languages spoken in over 10 African countries, including Aymara, Bambara, Bemba, Chichewa, Gourmantche, Hausa, Quechua, Tumbuka, and Zarma. The McKnight Foundation supported translation of the video into five dialects spoken in six West African countries (Benin, Burkina Faso, Mali, Niger, Nigeria, and Togo). Similarly, the Platform for African European Partnership on Agricultural Research for Development and the Food, Agriculture and Natural Resources Policy Analysis Network funded translations into dialects spoken in the Southern Africa region (Malawi, Tanzania, Zambia, and Zimbabwe).

The video was viewed or downloaded most in Benin, Cameroon, Ethiopia, Malawi, Mali, Nigeria and Uganda. Incidentally, the countries with the greatest viewership were among the top 20 groundnut producing countries in Africa ([FAOSTAT, 2018](#)). Interested partners, like the McKnight Foundation's Collaborative Crop Research Program, have voluntarily reposted the video to YouTube, prompting further views and downloads. So far, YouTube statistics indicate

that between February 2017 and May 2018 the video had 945 views for the English version, 212 views for the French version, and 218 views for the Spanish version. These statistics pertain only to initial downloads and do not take into account the subsequent sharing of the videos among local communities. Potential chain, multiplier, and ripple effects from the secondary and tertiary distribution of downloaded videos by third parties can facilitate accelerated mass outreach.

As demonstrated by the groundnut video, it is possible to quickly and effectively promote

technologies, facilitate capacity development and raise awareness for aflatoxin mitigation on a large scale through farmer-to-farmer training videos, delivered in local languages. Access Agriculture encourages partnerships with key stakeholders and development practitioners to produce more aflatoxin-related farmer-to-farmer training videos, translate these videos in local African languages, and widely disseminate them among farmers.

For more information contact:

info@accessagriculture.org



A screen shot of the video showing how to dry groundnuts

Ugandan food commodity traders test for aflatoxins

Traders of food commodities in Uganda have started adopting measures to help control the levels of aflatoxin contamination in their goods. These include both private industrial merchants and small-scale traders.

One such industrial-scale company is the Afri-KAI, a major grain processor and exporter and member of the Grain Council of Uganda (TGPU). The company administers grain quality tests at its processing plant in Kampala before committing to processing and bagging for domestic or export markets.

Every new consignment of grains is subjected to two tests before being cleared for further processing and packaging. These checks are performed in two stages:

Stage 1: Preliminary tests at the company's trading point

- Moisture content test; any consignment with more than 13.5% moisture is dried again in the



A trader sorting groundnuts at a market in Uganda © PACA

bins until the recommended moisture content is attained;

- Color and odor test; grains that are off-color or have odor are rejected.

Stage 2: The grains are then subjected to aflatoxin analysis at the company's laboratory.

Grains that pass these 2-stage tests are processed and packaged for both domestic and foreign markets.

It is also a common sight to see women and small-scale traders, especially in the grain market at Nakawa in Kampala, sorting grains before they put them out for sale.

Market trader Namono Natukund reports that since she began sorting her groundnuts for the market, she has gained a 50% profit increase.

Grace Akao, PACA Country Officer for Uganda, attributed this development to the aflatoxin awareness campaigns initiated in recent years by stakeholders in the country.



Afri-KAI maize processing © PACA

Women's role in mitigating aflatoxins



Women in Africa play an important role in food safety © SPUTNIK

This is an op-ed by Abby Taka Mgugu Mhene, Director General, Women and Resources in Eastern and Southern Africa (WARESA) and Kudzanai Chimhanda, Research Assistant, Barefoot Education for Afrika Trust (BEAT)

Agriculture in Africa wears the face of rural women, thanks to the central role they play throughout the food value chain – from cultivation and processing, to transportation and selling produce at market. More importantly, as wives and mothers, women ensure that their families receive a balanced and nutritious diet.

WARESA is a regional organization based in Zambia that works with women farmers in agriculture, and food and nutrition security. Teaching African women about the various routes by which aflatoxins can enter the value chain is key, particularly in light of the fact that women are so well-placed to utilize that knowledge in the food value chain.

A significant quantity of aflatoxin contaminated foods are major African staples, including maize and groundnuts, which are consumed in most homes across the continent. Unfortunately, the majority of rural women have a limited understanding of aflatoxins, especially their implications. However, they do display an awareness of the symptoms of aflatoxin contamination. For example, most rural women know that discolored grains have to be sorted before consumption because they could be

harmful to human health. This is where the indigenous knowledge (IK) of African women can help to mitigate the effects of aflatoxins on nutritional health.

IK has evidently been able to stand the test of time, and African communities have survived various challenges – such as the threat of disease – by using IK systems. So far, however,

there has not been any serious, widespread commitment to involve women and IK in the aflatoxin-mitigation effort in Africa.

The strategic implementation of both approaches – IK and science – with the active support of women could prove a successful strategy for broadening aflatoxin mitigation efforts in Africa. It is important that science works closely with African women to understand how IK has been used over generations to achieve this goal so far.

Food security and safety for communities in the region is of the utmost importance to WARESA. The organization has therefore embarked on a study of indigenous adaptation strategies among women in the Kalomo and Choma Districts of southern Zambia. The study aims to better understand how women in the two districts are adapting their agricultural practices to climatic changes and how they are addressing food safety issues, including aflatoxin contamination. To further our research, we call for partnerships among stakeholders of locations in East Africa. Her leadership, as the Editor-in-Chief, has been key to the prioritization of aflatoxins in the journal, giving the topic the space and attention that it deserves.

For more information visit: www.waresa.org

Commercializing Aflasafe™ to combat aflatoxins in Africa – ATTC's journey so far



Woman applying Aflasafe™ © IITA

The Aflasafe Technology Transfer and Commercialization initiative (ATTC) of the IITA is one of PACA's continental partners in combating aflatoxins in Africa. Developed in Africa, with help from partners in the USA and Europe, Aflasafe™ is an environmentally friendly, natural solution for aflatoxin control. Aflasafe™ is made from a mixture of fungal strains that naturally grow in the local area and fight the growth of poisonous aflatoxins. When administered alongside good agricultural practices, Aflasafe™ has been shown to reduce aflatoxin contamination in groundnuts and maize by 80-100%.

Launched in December 2016, ATTC's goal is to commercialize Aflasafe™ in 11 target countries in Africa, and supply 500,000 ha of smallholder farmland within 5 years. At present, Aflasafe™ is already available in Burkina Faso, The Gambia, Ghana, Kenya, Nigeria and Senegal. Other countries targeted for commercialization are

Malawi, Mozambique, Tanzania, Uganda and Zambia; research for product development is also currently underway in Burundi, Cameroon, Ethiopia, Mali, Rwanda and Zimbabwe.

As a natural means of biological control, Aflasafe™ is a uniquely powerful tool against aflatoxin contamination. For this reason, ATTC wants to get Aflasafe™ into the hands of as many farmers as possible, and to increase consumer demand for aflatoxin-safe food. ATTC aims to ramp up the production of Aflasafe™, transfer the technology to companies and organizations in each country that it operates, and commercialize it in such a way that the manufacture and supply systems for Aflasafe™ are economically viable, sustainable, and financially independent for many years to come. By licensing a mixture of manufacturing, distribution and marketing roles to local partners, ATTC also leverages their expertise and networks to reach millions of farmers.

The exact approach to commercialization is carefully crafted to suit each country's circumstances, informed by a wide range of market, policy, and public health factors. Most of ATTC's partnerships are with private companies (see examples from The Gambia, Nigeria and Senegal), but we are also working with cooperatives, governments, and the non-profit sector. ATTC ensures successful technology transfer by:

- Pursuing registration with national authorities and supporting them through the process, which is particularly important since, as a biological rather than chemical product, Aflasafe™ is outside of the normal experience of many authorities;
- Creating detailed country strategies, based on specific local conditions and the expertise of the ATTC team;
- Developing manufacturing, distribution, and marketing partnerships with relevant companies and organizations on the ground. This will involve practical activities on the ground, such as supporting the construction and running of new production plants;
- Drawing up legal technology transfer agreements with our partners;
- Providing ongoing technical support and quality assurance.

Rather than tackling every country at once, taking

a staggered approach to the commercialization of Aflasafe™ allows ATTC to apply the lessons learned in earlier countries as the project is scaled out to new countries. This staggered approach will not only help to avoid wasting resources, but also focus support on individual countries.

ATTC has a productive relationship with PACA in the countries where its activities overlap. Collaboratively, PACA and ATTC undertake joint activities and share the information gathered – ATTC, for example, benefit from PACA's situational analysis country reports. ATTC partners with PACA in areas such as awareness-raising; in-depth capacity-building and sensitization; research; and engagement with sub-regional and national authorities and actors on aflatoxin control.

Aflasafe™ is an attractive value proposition. It is cost-effective, offering an excellent return on investment for farmers and farm-based businesses. More than 450 t of Aflasafe™ was sold in 2014-2016, while demand for 2017 alone exceeded 1,000 t. Currently, the strongest drivers for Aflasafe™ adoption are premium markets (e.g. for exports, animal feed, and top-end domestic markets) and public health campaigns, particularly in Kenya. In the future, as more safe grain becomes available, we hope that regulatory enforcement and generalized consumer demand will help drive the routine use of Aflasafe™ across the continent.

Download the ATTC brochure [here](#).

African Food Safety Workshop: 4-8 June 2018 in Pretoria, South Africa



In recent years there has been a growing recognition that the quantity of food alone neither guarantees food security nor assures adequate nutrition. Embedding nutrition and food safety into agricultural priorities is receiving increasing attention. Africa, more than anywhere else in the world, currently bears a greater burden of food borne hazards, whose risks significantly impact public health and trade. Food safety is therefore a greater concern and it requires more concerted efforts by multiple stakeholders. Initiatives to cultivate partnerships are required and a good example is the recent workshop convened in Pretoria, South Africa, on 4-8 June 2018. This 'African Food Safety Workshop to Promote Standards, Reliable Methods of Analysis and Inter-institutional Cooperation, for Better Control of Mycotoxins and Related Contaminants' with the aim of contributing to improved food safety control systems in Africa.

The International Atomic Energy Agency (IAEA), through its Food and Environmental Protection Sub-programme of the Joint FAO/IAEA Division for Nuclear Techniques in Food Agriculture and the Technical Cooperation Division for Africa (TCAF) partnered with the National Metrology Institute of South Africa to organize the event, under the framework of The African Food Safety Network (AFoSaN). Other key partners included the FAO Rome, the National Institute of Metrology of China, the International Bureau for Weights and Measures, the South African Department of Agriculture, Forestry and Fisheries and the United States Department of Agriculture.

The workshop brought together about 240 participants from 54 countries, 38 of which

were African. Experts in the areas of mycotoxins, veterinary drug and pesticide residues and microbiological food safety, from non-profit organizations, technical institutions, government regulators, commercial testing and research institutions and professional associations, as well as the private sector, participated in the workshop.

The workshop had a broad scope, covering analysis and control of mycotoxins; veterinary drugs and pesticide residues; food microbiology, including linkage to antimicrobial use, residues and resistance, as well as food traceability and authenticity. It placed particular emphasis on strengthening capacity development for food safety testing and control in Africa with participants gaining insight into new developments in analysis and control of mycotoxin and agrochemical contaminants, as well as measurement standards and regulations. Participants were also given advice on how to address skills gaps needed to obtain and maintain international accreditation for testing, calibration and sampling, as well as general quality management systems. New developments in the analysis of bound contaminants (such as but not limited to masked mycotoxins) and rapid testing techniques were also addressed. In addition, the workshop stressed the importance of food traceability and the comparative advantage this has for trading produce.

The first two days of the workshop were dedicated to 'Measurement Science for Mycotoxins in support of Food Safety', which shed light on different aspects of analysis and the management of mycotoxins – among the

most widespread food contaminants in Africa. The workshop attracted renowned speakers from Africa, Asia, Europe and the United States. The PACA Secretariat, while actively representing the AU, shared the country plan approach for aflatoxin control in Africa, which is proving instrumental in mainstreaming aflatoxin control with increased investments and actions aimed at mitigating the aflatoxin menace.

The workshop recognized the role of partnerships in addressing the complex challenges of food safety and updates on the AFoSaN, established through IAEA's support, were presented. Follow-up discussions stressed the need to include wide stakeholder interests outside testing laboratories and to enable regular measurement methodology exchange among food safety testing laboratories on the continent. Participants committed to conducting workshops in their institutions and countries upon return, and to disseminating the latest advances in measurement standards, reference materials and measurement methods for analysis of mycotoxin, veterinary drug and pesticide residues, and food pathogens. Moreover, cooperative arrangements were initiated to fill the immediate needs of analytical laboratories in different parts of the continent in order to strengthen the infrastructure for technical measurement and in order to improve knowledge and experience sharing among sister countries and institutions.

Analytical capacity-building will ultimately contribute to the mutual recognition and free trade of agricultural commodities in the region.

Africa's analytical capacity should be tapped through the creation of regional centers of excellence that can provide tests that unequivocally confirm the presence of food hazards, quality assurance schemes and training of analysts to lift the quality of testing for diverse food safety hazards across the continent. Customs barriers to transporting samples within the continent were pinpointed as a major bottleneck to inter-laboratory collaboration.

The workshop created an opportunity for increased understanding of food safety needs on the continent and how food safety control, including traceability and authenticity, are effectively implemented in other continents. The workshop has certainly enhanced collaboration/networking among African countries and advanced discussions on mechanisms to improve measurement and standards of infrastructure in Africa, thus contributing to better food safety on the continent. Participants appreciated the role IAEA has played in the Joint FAO/IAEA and TCAF project to enhance food safety control on the continent and there is more room to explore the AU-IAEA (Joint FAO/IAEA; TCAF) partnership.