



Partnership  
for Aflatoxin  
Control in Africa

Partenariat pour  
la lutte contre  
l'aflatoxine en Afrique

Parceria para o  
Controle da  
Aflatoxina em África

الشراكة من أجل مكافحة  
الافلاتوكسين في أفريقيا



# PACA

## Partnership for Aflatoxin Control in Africa

Aflatoxins are poisons which contaminate key African staple crops such as groundnuts and maize. They are produced by a group of soil fungi that infect growing crops, particularly when the plants are stressed by heat and drought. The toxins also accumulate during postharvest storage and handling of produce with higher, unsafe moisture levels. In 2004, it was estimated that more than 4.5 billion people worldwide are chronically exposed to aflatoxins through dietary sources. These poisons cause liver cancer and death, and have been linked to stunted growth in children and immune suppression. Aflatoxins are likely to be a contributing factor in the 4.5 million deaths of children under 5 in sub-Saharan Africa. In Europe and North America, extensive regulations limit dissemination of products that may contain these toxins through market channels for consumer protection. This results in high trade losses for African countries in key exports such as groundnuts and maize.

The Partnership for Aflatoxin Control in Africa (PACA) envisions "an Africa free from the harmful effects of aflatoxins". Its mission supports agricultural development, safeguards consumer health and facilitates markets and trade. The strategic leadership of PACA, hosted by the Africa Union Commission (AUC), catalyzes, coordinates and increases effective aflatoxin control, implemented by national governments and regional organizations along agricultural value chains in Africa.

Supported by 54 African Governments, this innovative partnership unites more than 50 organizations across the continent in the complex multi-sectoral fight against aflatoxins. Comprised of Regional Economic Communities (RECS), government ministries, research institutions, national and multinational companies, Non-Government Organizations (NGOs) and universities; PACA unites the array of players needed for a comprehensive and cohesive response. PACA's coordination and knowledge management generate evidence-based comprehensive actions for aflatoxin control, which are supported by resource mobilization to facilitate their implementation. These actions include policy and regulatory design, effective control technologies and testing protocols, a comprehensive information management system to support consumer health, markets and trade, and training for all players in agricultural value chains and food systems.

Based at the African Union Headquarters in Addis Ababa, the PACA Secretariat spearheads and coordinates Africa's fight against aflatoxins. This strategic position gives the Secretariat greater influence over aflatoxin policies in Regional Economic Communities (RECs) and African Governments. The Bill & Melinda Gates Foundation (BMGF), United States Agency for International Development (USAID), and The Department for International Development for the United Kingdom (DFID/UKAID) have all contributed to the development of PACA.



**Impact on Health:** Exposure to aflatoxins has devastating health effects in humans and animals. Its ingestion at very high levels can result in acute aflatoxicosis, which is often fatal. In 2004, Kenya tragically saw 125 deaths from 317 cases of aflatoxicosis, from a single outbreak in the country. Classified as a human carcinogen by the International Agency for Research on Cancer, aflatoxin is a primary cause of liver cancer. Chronic exposures have been established in countries in West, Central, Eastern and Southern Africa, and are associated with stunting and wasting in children, liver cancer, immune suppression and increased susceptibility to diseases such as HIV and malaria. Aflatoxins can also interfere with nutrient metabolism and assimilation leading to gut dysfunction and under nutrition. At infancy, exposure is progressive; first through mother-to-child mediated channels such as trans-placental transmission, then via breast milk and subsequently by weaning foods often dominated by aflatoxin susceptible crops. This leads to a future generation of malnourished children with poor growth and development. About 11% of GDP is lost annually due to stunting alone in Africa. Estimated 5-30% of all liver cancer cases globally are due to aflatoxin exposures, with the highest incidence (40%) occurring in Africa, making aflatoxins one of the leading causes of death from cancer cases in the continent. Respiratory exposures also occur mainly through occupational means. In relation to animal health, aflatoxins cause feed refusal, target organ toxicities, decreased product yield and even death. Aflatoxins could be residual in some animal products thus re-entering the human food chain.



## PACA's ongoing Initiatives

PACA is actively working with Governments in six pilot countries (Gambia, Malawi, Nigeria, Senegal, Tanzania and Uganda) to generate empirical evidence on the current aflatoxin situation, develop and support implementation of comprehensive yet feasible Aflatoxin Country Action Plans. These plans take the multi-sectoral approach and aim at empowering and protecting consumers from devastating effects of aflatoxins both within Africa and beyond, resulting in economic gains, smallholder incomes and reduced poverty.

PACA has launched a unique "one-stop shop for aflatoxin information in Africa"-- Africa Aflatoxin Information Management System (AfricaAIMS). AfricaAIMS will provide information ranging from aflatoxin levels in key crops in different countries to testing methods, data on trade volumes, losses and rejections, and aflatoxin related exposure and cancer incidences. This unique resource will support governments in policy and regulation and foster investment in agriculture and food systems in Africa, which is key to increasing national GNP in most countries.

Reducing aflatoxin levels in African food chains is a complex task. Policy and regulation in-country need a level of uniformity, as different regulation levels across countries would impose high costs on food processors and traders, particularly in regional and international trade. Actions are needed across multiple sectors from agriculture to trade to health. In many countries, the technical knowledge base with regard to testing, monitoring, and enforcing aflatoxin limits is scarce. PACA therefore provides the strategic leadership necessary to realize a continent free of the harmful effects of aflatoxins.

**Impact on Trade:** Africa loses about \$450 million USD annually due to aflatoxin contamination. Aflatoxin contamination prevents export commodities such as maize, groundnuts and sorghum from meeting local, regional and international regulations and standards governing agricultural trade and food safety, so farmers and other value chain players miss out on export opportunities. Economic losses due to aflatoxins could be from local trade losses, price differences at foreign markets, costs accruing from rejected contaminated consignments, reduced return tax payments from traders who experienced trade losses and costs of testing and meeting standards . Aflatoxin contamination also undermines local purchase programmes by development partners and access to other markets. Strong, consistent and enforced standards will unlock huge markets inaccessible to African farmers due to aflatoxins thus supporting economic growth, employment creation and the fight against poverty.

### **Impact on Agriculture and Food and Nutrition Security:**

Aflatoxin contamination directly impacts household food and nutrition security, and disproportionately affects the poor. Women farmers are least able to control aflatoxin contamination in the field due to their reduced access to and control of resources. Due to poor drying and storage facilities and practices predominant in many rural settings, aflatoxin levels in harvested crops (e.g. maize and groundnuts) increase tremendously when stored. So women farmers in particular, who have worked so hard to achieve food security for their families, feed them with contaminated grains and nuts contributing to morbidity and stunting of their children. Withdrawal of contaminated food from the supply chain in the case of "obvious" contamination of grains targeted at local market or rejected commodities at international trade zones, reduces food availability thus impacting negatively on food security. It also hinders investments in seeds, tools and fertilizers, intended to boost household income and nutrition. Through contaminated feed, animal nutrition and health is compromised and leads to decrease in milk and egg yields, or loss of livestock and reduced incomes.

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