“PACA”
Holistic Approach to Addressing the Aflatoxin Challenge in Africa

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Aflatoxins affect each of these elements
What are aflatoxins?

- Fungal metabolites (naturally occurring)
- Produced by strains of *Aspergillus flavus* and *A. parasiticus*
- Highly stable compounds, withstand normal food/feed processing procedures

www.ipm.iastate.edu
Aflatoxin contamination

- Could occur preharvest, harvest, handling and storage
- Maize, groundnut, cottonseed and byproducts are highly susceptible but occurs in diverse food and feed produce
- Aflatoxins could be carried over through milk, meat and egg of animals fed on contaminated feed
Effects of aflatoxins on health

- Fatal at high concentrations; e.g. in Kenya in 2004, 125 persons died due to aflatoxin poisoning (Probst et al., 2007)
- Linked to:
  - Liver cancer
  - Stunted growth and being underweight in children
  - Suppression of human immune system

4.5 billion people chronically exposed (WHO, 2004)
Aflatoxin impacts on trade

- Because of serious health hazards, importing countries regulate aflatoxins.
- Regulations directly impact regional and international trade.
- Lost trade affects economies such as traditional groundnut exporting countries of Africa and income and livelihood of farmers.
- Undermines efforts to streamline SPS issues continent-wide.
Aflatoxin impacts on agriculture

- When contaminated food is condemned unsafe for food, the supply is impacted (e.g. recently in east Africa, large quantities of maize was taken out of the food chain)
- Contaminated food is likely to be consumed by smallholder farmers and their families affecting food safety (food security)
- 25% of the world food supply is contaminated with aflatoxins (FAO, 2000)
Food and Nutrition Security
Food & Nutrition Security

Availability

Access

Safety
When components of F&NS are at optimum stability is at its best
When aflatoxins affect components of F&NS, “stability” is impacted.
Factors in the Aflatoxin Challenge in Africa:

- Conducive climatic conditions
- Traditional crop production practices
- Inadequate harvesting, drying and storage practices
- Policy and institutional capacity
- Lack of awareness
Aflatoxin contamination is a perennial risk between 40° N and 40° S of the equator, but is a global problem due to int. trade.
Aflatoxin control

- Aflatoxin contamination is a complex problem:
  - Hard to solve by a single actor/discipline
  - Requires multi-stakeholder actions
  - Need to focus on the cause rather than the symptoms
  - No single answer
- Integrated and coordinated actions needed
A ‘bag of tricks’ (integrated valid options) to address the complex aflatoxin problem:

- Regulation
- Technology solutions
- Policy and institutions

Photo credit: africabags.org
What is PACA?

- Innovative consortium aiming at coordinating aflatoxin mitigation and management across health, agriculture and trade sectors in Africa.
- Africa-based, Africa-led effort
- Aims to adapt proven solutions, and identify new ones, that will work for African situation.
## PACA Genesis

<table>
<thead>
<tr>
<th>Date and Location</th>
<th>Event</th>
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<tbody>
<tr>
<td>23 March 2011, Yaoundé, Cameroon</td>
<td>CAADP PP, asked AUC to explore establishment of PACA</td>
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<tr>
<td>3-4 October 2011, Nairobi, Kenya</td>
<td>PACA organizational planning meeting under the auspices of AUC</td>
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<td>1-2 March 2012, Maputo</td>
<td>PACA Interim Steering Committee meeting</td>
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<td>25-27 June 2012, Ibadan</td>
<td>PACA Interim Steering Committee meeting</td>
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<td>31 October 2012, Addis Ababa</td>
<td>PACA officially launched at AUC</td>
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<td>01 Nov. 2012, Addis Ababa</td>
<td>Steering Committee inauguration</td>
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<td>April 2013, Dar es Salam</td>
<td>PACA Strategy consultation workshop</td>
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<td>Since May/June 2013</td>
<td>PACA has developed frameworks and started sustained actions</td>
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PACA Comprehensive Program

Food Security | Trade | Health

Policy, standards and regulations

Testing (sampling; diagnostics)

Pre-harvest including beneficial fungi

Post-harvest drying, storage, handling

Market development: structured demand, alternative uses

Consumption

Training, communication, and capacity strengthening

Economic Assessments

Food Security Assessments

Health Assessments
PACA’s theory of change

Activities/Inputs:
- Coordination and information sharing
- Developing, testing and scaling up control activities
- Streamlining of funding and mobilization of financial support
- Awareness and capacity building activities

Necessary Preconditions:
- New and existing technologies available and utilized
- Policies, regulations and standards for aflatoxin prevention and control developed and enforced
- Domestic and international trade incentivizes aflatoxin control
- Sufficient capacity to inform decision making and implement management best practices
- The public and policy makers are aware of the impacts and solutions

Desired Change:
An Africa free from the impacts of aflatoxin
Conclusion

- Aflatoxins are insidious poisons that affect public health, trade and food security
- Aflatoxin is a complex problem that can be addressed through integrated measures and coordinated actions
- The competitiveness of the African continent is seriously undermined unless the aflatoxin problem is addressed proactively
- Member States, RECs and AUC are prioritizing aflatoxins, more needs to be done and concerted efforts pay
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