Taking Aflasafe from Science to Scale

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Importance of aflatoxins

Aspergillus

Aflatoxin B1

Occurrence

40% of commodities in local markets exceed ML

Susceptible crops

Maize, groundnuts, sorghum, cottonseed, chili, millet, figs, melon seed, ginger, sesame, cassava, almond, pistachio...

Liver cancer

Death

GrOndnut exports in metric tons

99.59% decrease

51,450

48.23% decrease

28,635

Groundnut exports in metric tons

Up to US$ 670 million are lost from exports
Biocontrol is a **simple** field intervention that **effectively** reduces aflatoxin contamination from farms until consumption.

**Aflasafe**

- Constituent: mixture of 4 native non-toxic *Aspergillus* strains
- Reduces aflatoxin in maize and groundnut by >80%
- One application per season
- Multi-crop & multi-season benefit
- Application rate: 10 kg/ha
- Cost: $12-19/ha
- Willingness to pay: $11-19/ha
Proof of Concept

- 32 agribusinesses
- 49,500 farmers
- 63,000 ha maize grown
- 600 tons Aflasafe purchased
- 194,310 tons of grains harvested
  - 57% aggregated for sale
  - 27% consumed at home
  - 16% sold in local market

Productivity: 3.1 tons/ha compared to 1.5 tons/ha national average

Grain lots (n = 2,362) with aflatoxin concentration

<table>
<thead>
<tr>
<th>Aflatoxin Concentration</th>
<th>%</th>
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<tbody>
<tr>
<td>&lt;4 ppb</td>
<td>90%</td>
</tr>
<tr>
<td>&lt;10 ppb</td>
<td>94%</td>
</tr>
<tr>
<td>&lt;20 ppb</td>
<td>96%</td>
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Meets international standards

More income

More trade

Better health

- 10.7% premium in the market over normal maize
- $1.491 million in net earning from premium
Commercialization Path

YEAR 1

1- Design of Commercialization Strategy
- Complete Market analysis
- Complete manufacturing / distribution feasibility studies
- Identify enabling interventions
- Sequence of interventions
- Develop long list of investors

2- Investors Mobilization and selection
- Organize Investors Forum
- Call for Expression of Interest
- Conduct Investor due diligence
- Develop short list of investors
- Facilitate Business plan development and submission

YEAR 2-3

3- Implementation of the Strategy and investor Business plan
- Negotiate binding commercial agreements
- Finalize Technology Transfer and Licensing Agreement (TTLA)
- Support last mile distribution and testing solutions
- Prepare and share product and education materials
- Demonstrate the effectiveness of the product
- Organize trainings on the use of the product
- Monitor progress
- Share best practices and lessons learned with investors
- Adjust country and portfolio strategies as necessary to achieve targets

Cross-cutting: Awareness raising + Advocacy for regulations enforcement + Strategic partnerships with downstream actors
WHERE ARE WE WITH AFLASAFE IN AFRICA?

**SENEGAL**
- Aflasafe SN01 launched Mar 2017
- Manufacturer/Distributor: BAMTAARE
- Distribution points: Tanbacounda, Kaffrine, Kaolack, Sedhiou and Fatick
- Aflasafe-protected hectares: 24,800*

**THE GAMBIA**
- Aflasafe SN01 launched Mar 2017
- Manufacturer/Distributor: BAMTAARE
- Aflasafe-protected hectares: 11,000*
- Distribution points: Banjul, North Bank, Central River, West Coast, Lower River Region

**GHANA**
- Aflasafe GH02 launched June 2018
- Manufacturer/Distributor: Macrofert Ghana Limited
- Distribution points: Accra, Tamale
- Aflasafe-protected hectares: 2,000*

**BURKINA FASO**
- Aflasafe BF01 launched Jun 2018
- Distributor: Éléphant Vert
- Distribution points: Bobo DioulASSO, Ouagadougou
- Aflasafe-protected hectares: 1,000*

**KENYA**
- Aflasafe KE01 launched Oct 2016
- Manufacturer/Distributor: KALRO
- Distribution point: Machakos
- Aflasafe-protected hectares: 14,600*

**NIGERIA**
- 2013: Aflasafe™ commercialisation begins
- Manufacturer/Distributor: Harvestfield Industries Ltd
- Distribution points: Ekiti, Niger, Ondo, Abuja FCT, Osun, Kano, Oyo, Jigawa, Ogun, Kaduna, Edo, Katsina, Anambra, Zamfara, Imo, Sokoto, Kwara, Gombe, Kebbi, Bauchi
- Aflasafe-protected hectares: 92,400*

Aflatoxins test results were below 4 parts per billion in all commercialisation countries

*As of July 2018
WHAT HAVE WE LEARNED?

- This “Invisible problem” requires significant investment on public awareness and the enforcement of appropriate policies.

- The proof of concept in one country is essential but not sufficient to demonstrate the value of the product in all countries.

- Timing of the investors forum: The demonstration at national level and the development of the Business cases earlier in year 1 may positively affect the success of investors mobilization.

- Ownership of the Business planning by the investor: From the strategy to the Business plan.

QUESTIONS?

Management of the commercialization process: What is the right balance between the Business Development and the scientific work?

How should business development approach differ between publicly funded innovations with public health benefits and privately funded innovations?

What kind of institutional set up is required to sustain the gains and expand to other products?