

## Working Together to Reduce Loss of Fresh Fruits and Vegetables

### *Roles and Responsibilities of Supply Chain Actors*

Notes and Key Takeaways

June 7, 2017 | Washington, DC

**Objective:** The Postharvest Loss Alliance for Nutrition (PLAN) hosted a learning call on June 7, 2017, the first of a series of learning activities by the Global Alliance for Improved Nutrition (GAIN) and their knowledge management partner, the Global Knowledge Initiative. The call brought together a diverse set of expert speakers and PLAN network members to discuss how the roles and incentives of various actors within the supply chain.

#### Presenters:

1. **Duza Baba**, COO, Tomato Jos
2. **Don Durm**, VP of Customer Solutions, PLM Trailer Leasing
3. **Rusty Eason**, CEO, Chelsea International Cold Storage
4. **Duro Kuteyi**, CEO, Betamark Industries Ltd.

**Discussion:** As Roberta Lauretti Bernhard of GAIN noted, robust supply chains require collaboration, competitiveness, and coordination in order to respond to market demands. From this starting point Dr. Augustine Okoruwa of PLAN Nigeria facilitated a discussion with the experts present to give listeners a sense of how these roles contribute to the supply chain and what they want from those they partner with.

#### **1. Duza Baba of Tomato Jos, representing the role of producers, shared the following:**

- Most important thing is to get quality inputs. Garbage in = garbage out.
- Need the right seeds to get the right product. But to do this Tomato Jos tests various seeds.
- One innovative model Tomato Jos uses is that a target yield per hectare is agreed to prior to the purchase of inputs. If this target isn't reached the suppliers of inputs provide a subsidy. This helps them to expand at the right speed.
- This reliability is paramount for producers.

#### **2. Don Durm of PLM, representing the role of distributor, shared the following:**

- Distributors handle the product at its most critical point. A farmer can do everything right but if it is not handled well throughout the distribution aspects of the supply chain than the produce will have a shorter life, and a shorter life = less profits.
- Refrigeration is the best technology for doing this. In India refrigeration reduced losses by 76% and extended the shelf life of mandarin oranges from the growing season of 2 months to 5 months. This means longer time to sell and more profits.
- Distributors need to work with a variety of people—shippers, loaders, carriers, and receivers.



- Key to delivering the product is knowing what the product is and the environment it is best suited for. Produce ripens and rots when it gives off ethylene. The temperature and airflow are critical to this process. Packing produce as tight as it will fit reduces airflow and thus speeds up the rotting process.

**3. Rusty Eason of Chelsea International, representing the role of warehouse, shared the following:**

- Warehouse fill the gap in the management of the flow of goods for their clients, providing expertise on storage and logistics.
- But for a seller, if produce is being touched more than 3 times in the transport process than it is the most expensive part of supply chain. This is the value warehouses add.
- Warehouses require large capital investments. Making this investment requires economies of scale, which typically requires a large anchor client.
- And the warehouse will need to know the optimal conditions for the goods being stored, which should be provided by the client.

**4. Duro Kuteyi of Betamark, representing the role of processors, shared:**

- Processors generate value in the supply chain, adding shelf life to goods either through processing or packaging.
- But they need to work with everyone—farmers, transporters, warehouse, and middle men—to get the goods to their factory.
- One of the biggest challenges in working together is finances, the supplier will want their money immediately upon handover of the product, while the processor will want credit to account for the time between the initial transaction and the sale of the processed good.

**Conclusion and Key Takeaways:**

The call concluded with a discussion amongst participants. Some of the key takeaways from this were:

- Most important thing for improving shelf life is to get the temperature down quickly. Temperature down = profits up. Airflow is a critical element of doing this. Cramming all of the produce into a small area will reduce airflow and lead to higher temperatures and food spoilage.
- Lines of communication and establishing agreements prior to doing business so that issues can be addressed transparently. Supply chain are made of links. Broken links = weak chains. Communication and collaboration are needed to bring goods to market and improve profits.
- Processing needs to be developed. It is one of the keys to reducing losses. It will also provide opportunities to develop more warehouses.
- The retailers are ultimately the ones selling the profit. They need to make upstream investments and put in place the monitoring and procedures that will help to extend shelf life.



## The Importance and Benefits of Food Safety Best Practices

### *for Fresh Fruits and Vegetables*

Notes and Key Takeaways

August 8, 2017 | Washington, DC

**Objective:** The Postharvest Loss Alliance for Nutrition (PLAN) hosted a learning call on August 8, 2017, the third installment of a series of learning activities by the Global Alliance for Improved Nutrition (GAIN) and their knowledge management partner, the Global Knowledge Initiative (GKI). The call brought together a diverse set of expert speakers and PLAN network members to discuss: the importance of food safety and how it impacts businesses; how to improve food safety with limited financial resources and without significantly increasing expenses; and how implementing food safety best practices can open new doors to new markets and ultimately increase profits.

#### Discussants:

5. **Dr. Ahmed Kablan**, International Nutrition and Public Health Advisor at USAID Bureau for Food Security
6. **Vivian Maduekeh**, Managing Principal/Founder of Food Health Systems Advisory Limited (FHS Africa)
7. **Dr. Dike Ukuku**, Food Safety Researcher for US Department of Agriculture, Agriculture Research Service

**Discussion:** Roberta Lauretti-Bernhard of GAIN began the call by explaining that food safety is a corner stone of PLAN's efforts to increase access to safe and nutritious foods. From there Sara Farley of GKI facilitated a conversation between the expert discussants to give listeners a sense of how implementing food safety practices can benefit them and their businesses, and what some of their options are for doing so. The conversation flowed around some key questions:

#### **1. Why should agribusiness pay attention to food safety practices throughout the supply chain?**

- Postharvest loss is not just quantity loss, there is also quality loss, such as bacterial contamination.
- Once confidence in product quality is improved than there will be more demand for that food.
- The processes that go into growing food and getting it to market, from harvest to handling, are all a part of the product.
- Food safety practices will lead to less wastage.
- Traceability is important. If an agribusiness can trace their product to market, and from the market back to the business, it will make them more effective and efficient.
- Overall, there is evidence that consumers will pay premiums for safer foods.

#### **2. What are the links between food safety best practices and nutritional quality?**

- We should always begin by thinking about what it is that food is for. It should be a source of nourishment, not contamination.
- This comes down to handling—starting in pre-harvest and going through transport and storage.



- Temperature and humidity pose a greater risk of contamination, and reduced nutrient quality.
- Best practices from drying or storage, or appropriate harvesting and transport, ensures the quality of the nutrients.
- We also need to think about the type of chemicals and pesticides that are introduced into the food value chain.

### **3. What actions and interventions yield the highest return on investment in food safety?**

- There are 3 key areas: temperate storage, relative humidity, and presence of gas. Creating the exact environment to maintain the safety and nutritional quality of food.
- We also have to pay particular attention to the visual appeal of the produce. Even if it's safe, it still has to look good to consumers.
- Training is something we can't do without. Food safety has to be demand driven, so consumers need to be trained just as much as producers do, just as much as transporters do.
- Transporters can use hot water treatment to sanitize their trucks and the storage environment.
- Good hygienic and production principals are a quick win that is good at reducing microbial load and doesn't cost much money. Use a dedicated area to go to the bathroom and wash hands before picking.

### **4. Where can Nigeria improve enforcement?**

- This is a very big challenge in Nigeria. What we see there is, to some extent, demand from consumers.
- Improving enforcement would require an overhaul of the governance system. The system is not built for consistency in terms of enforcement.
- The best thing to do, in the near term, is to increase consumer pressure/demand for higher quality and safer foods.
- If the government will not act than it may be, at least in part, up to the private sector and civil society to enforce food safety.

### **5. Question from PLAN member via the PLAN Facebook Group: What do you advise a mini pack house in a rural area of Nigeria without electricity? How can cheap and affordable renewable energy solutions enhance the cold chain in these areas where most farms are situated?**

- There are innovations in the market. Out of UC Davis they have made a solar powered food box. Other like liquid nitrogen or coolbots can be used for cooling.
- There are practices that do not require electricity, such as hygienic treatments like washing fruits, removing damaged fruits from the storage area, or using chemicals and hot water to sanitize the area.
- Two spoonfuls of bleach in a tray of water can decontaminate produce surfaces and reduce microflora and bacteria. Once its dried you can take it to the nearest point of sale for distribution.



### Conclusion and Key Takeaways:

The call concluded with a discussion amongst participants. Some of the key takeaways from this were:

- Food safety is an intricate part of the food chain—consumers want to eat fresh food, so everyone from producers to retailers need to pay attention to treatment, processing, handling, and harvesting to not lose nutrient quality and food safety.
- Temperature and humidity pose a risk for product contamination, as well as nutrient quality.
- There are lots of little things that businesses can do throughout the supply chain to reduce microbial load and improve product quality. Some quick wins include hygiene at the farm level and sanitizing storage areas on farm or in transit,
- While better enforcement is needed, in the near-term aiming to influence consumers so they will demand better quality and safer foods will reap more benefits.
- While cold chain is an important part of food safety, farmers or agribusinesses who do not have reliable access to electricity can still do implement practices that will improve the safety of their products.

