



The Nigeria Aflasafe™ Challenge Project: Competitor Perspectives

Introduction

The AgResults Nigeria Aflasafe™ Challenge Project was the first Pay-for-Results (PfR) prize competition developed under AgResults, and has completed its fourth out of five competition years. Under the Challenge, private sector competitors promote the use of Aflasafe™, a biocontrol agent for a set of deadly toxins known as aflatoxins, to smallholder farmers as part of the Challenge's objective to create a sustained market for Aflasafe™-treated maize. The Challenge pays an annual incentive based on the total amount of Aflasafe™-treated maize that each participating private sector maize aggregator, or competitor, buys from smallholder farmers. Using vigorous testing, an independent verifier ensures that maize has been treated with Aflasafe™.

In early 2018, AgResults met with eight competitors to learn more about their experience participating in the Challenge. AgResults asked competitors to discuss how the Challenge's incentive has impacted their business models and their relationships with farmers; the obstacles they have encountered; and the benefits of participation in the contest. The information received in these interviews informed the insights presented below.

Overall, despite initial product acceptance and finance challenges, the Challenge significantly impacted competitor business models and their relationships with farmers. From the outset, AgResults designed the Challenge to illustrate that Aflasafe™ could be profitably

sold to farmers at scale (i.e., tens of thousands) and that those farmers could consistently and effectively use the biocontrol agent to produce aflatoxin-free maize. These dual goals have been achieved. With an effective prevention product now commercially available through distributors in all of Nigeria’s main maize growing states, regulators can now test for aflatoxins without being accused of penalizing farmers for a previously unavoidable problem. In fact, further broad uptake of Aflasafe™ beyond just farmer participation in premium value chains depends on significant expansion of such regulator testing.

Insight #1: Competitors and farmers were skeptical of Aflasafe™ and its ease of use.

At the time of Challenge design, the International Institute for Tropical Agriculture (IITA) and other partners had already developed and field-tested a version of Aflasafe™ that targeted the specific strains of aflatoxin native to Nigeria. The Challenge design took advantage of this tested product, theorizing that the incentive and IITA-provided technical assistance on product use and benefits would be enough to motivate the private sector and their farmers to adopt Aflasafe™. Through adoption, the Challenge would also generate large-scale data on Aflasafe™’s efficacy. However, the product and Challenge were approached cautiously because although competitors understood the product’s benefits, they were not fully convinced of its ease of use.

AgResults provided annual technical trainings to competitors and farmers on the proper use of Aflasafe™ and its benefits, with the idea to expand trainings each year based on total number of farmers. Not only did the Country Challenge Manager and IITA hold annual training

Eight prize competitors participated in these interviews: Albarka Seed, Agbelere Farms, Babban Gona, Tukwuyan Gwari, Agri Supplies, KIFFCO, Alaya, and Ahalson Enterprises.

sessions in Northern and Southern Nigeria for the new competitors and farmers, but they also allowed returning competitors and farmers to join to refresh their training. Competitors valued these annual training sessions for new and old participants, which reduced some of the training burden placed on the competitors as they worked with new farmers. Likewise, farmers gained confidence in the product’s potential through the training, eventually leading to increased Aflasafe™ maize aggregated by competitors.

Despite the training, competitors were not convinced that farmers could achieve the same results applying it on their own farms and felt pressure to retest the product to prove its efficacy to farmers. After producing the same results as the IITA demonstration plots, competitors were more willing to promote Aflasafe™ to farmers. Farmers, like the competitors, were also reluctant to adopt Aflasafe™ right away. The need for other inputs was a higher priority for them. Gradually, as farmers saw results due to Aflasafe™ and other inputs, and began to see price premiums for treated maize, they were more willing to expand and increase their use of the product.

Competitor Aggregation Growth by Year

Competitor Name	Year 0 (Testing)	Year 1	Year 2	Year 3	Totals
Agbelere Integrated Farms	-	26	1,050	2,962	4,038
Agri Supplies	-	-	211	494	705
Ahalson General Enterprises	-	305	709	1,549	2,563
Alaya	-	-	-	1,144	1,144
Albarka Mega Seeds	-	92	137	72	301
Babban Gona	780	3,883	4,955	13,223	22,842
Kiffco	-	-	-	1,307	1,307
Tukwuyan Gwari	-	761	625	11,395	12,782
Totals	780 MT	5,067 MT	7,687 MT	32,146 MT	45,682 MT

Insight #2: Competitors, including those that may have been bypassed by traditional aid programs, employed diverse approaches to innovating and scaling business models in response to the incentive.

Not all competitors joined the Challenge with relationships with farmers, let alone a model that fit within the prize structure of providing farmers with training and inputs as well as a market for maize. Four of the eight competitors interviewed brought existing relationships with farmers. Two of the eight provided supplies and feed to fish and poultry farmers, and two were commodity trading firms. Despite differences, the incentive was enough to compel these firms to join and achieve some success in scaling up, as shown by the table. One competitor noted that unlike traditional donor grant programs, the AgResults model encouraged varied private sector participation and many of these firms would otherwise not have been considered for donor-driven intervention.

The Challenge's requirements were such that all competitors regardless of prior experience with farmers had to adapt their business models to achieve success. To qualify for the prize, competitors had to aggregate Aflasafe™ treated maize for the Challenge to verify a 70% or higher Aflasafe™ prevalence. For competitors already providing farmers with training and inputs, the Challenge requirement to purchase treated maize was the biggest hurdle. For grain processors and competitors with no experience providing farmers with inputs or training, building those relationships was the challenge. The boxes throughout the article profile each competitor's response to the Challenge's requirements.

Albarka Mega Seeds

- **Original business model:** Seed sales to farmers
- **Services now provided to farmers:** Training on Aflasafe™ use, inputs (Aflasafe™ and other inputs)
- **End-point sales:** Government school feeding program. Would sell to local market but no premium.
- **Use of prize funds:** Subsidize cost of Aflasafe™
- **Post-Challenge plans:** Continue working with farmers if market awareness increases and Aflasafe™ does not rise in price

Babban Gona

- **Original business model:** For profit, socially-focused enterprise with a franchise model of comprehensive services to farmer groups
- **Services now provided to farmers:** Aflasafe™ now included in inputs package. No change in model otherwise.
- **End-point sales:** Nestle and other international buyers; local markets
- **Use of prize funds:** Prize has proven value of treated maize and unlocked market premiums.
- **Post-Challenge plans:** Conduct own tests of treated maize; continue to franchise and expand market

“With the cost of Aflasafe™ rising I had to cut most of my farmers. Without timely incentive payments I cannot fund the Aflasafe™ required by my farmers.”

—Alaya Limited

Alaya

- **Original business model:** Commodity trading and small-scale integrated farming
- **Services now provided to farmers:** Subsidized fertilizer, Aflasafe™, training, market (partner SHF now provide maize for resale instead of grain traders)
- **End-point sales:** Large millers and poultry farmers
- **Use of prize funds:** Covers Aflasafe™ cost
- **Post-Challenge plans:** Uncertain as they have major challenges with accessing finance

One common lesson that competitors learned was that providing Aflasafe™ alone was not enough to incentivize farmers to change cropping practices, as most farmers would not use it without other yield-increasing inputs. Although more costly, competitors providing other inputs as a larger package may have helped with Aflasafe™ uptake, as it provided farmers with a tangible yield increase.

Insight #3: The timing of incentive payments, while unavoidable, hindered scale.

Pay-for-results prize competitions require competitors to incur upfront financial risks as they work towards a potential prize. Competitors expressed varying opinions regarding their ability to access finance to provide inputs to farmers and aggregate maize to meet the Challenge requirements. In addition to Aflasafe™, competitors had to provide farmers with improved seeds, fertilizers, and other inputs needed to increase yields. These demands increased the competitors' need for early season financing.

As previously discussed, the lack of access to finance hindered competitor ability to expand efforts to more farmers. In addition to this issue, competitors discussed the timing of award payments as a hindrance to scale. To qualify for the prize, aggregated maize must be thoroughly tested. The verification scheme designed by IITA and The United States Department of Agriculture (USDA) is thorough on purpose, as one of the goals of the Challenge is to verify Aflasafe™ as an effective product across many geographies and user bases. However, the testing is time intensive so in most seasons, the prizes came only after the beginning of the subsequent maize cropping season.

Kiffco

- **Original business model:** Agriculture consultancy organizing cocoa and cassava farmers into outgrower scheme
- **Services now provided to farmers:** Added maize to portfolio, organized into clusters of farmers to provide training and inputs
- **End-point sales:** Large maize miller and poultry feed producer
- **Use of rize funds:** Expand and increase training as well as portion to farmers
- **Post-Challenge plans:** Continue with focus on increased awareness of nutritional benefits

Ahalson General Enterprises

- **Original business model:** Commodity exchange
- **Services now provided to farmers:** Inputs on credit, training
- **End-point sales:** Millers, livestock producers
- **Use of prize funds:** Profit, offer input loans to farmers, encourage scale
- **Post-Challenge plans:** Will continue but future doubtful if no policy in place to require low aflatoxin (i.e. no market awareness/premium)

“We use the incentive to provide farmers with inputs to increase yields and as a guarantee to improve access to finance.”

—Ahalson General Enterprises

The verification process begins with competitors providing the verifier with maize samples after harvest, from November through April. Testing and resulting payments are conducted on a rolling basis from June to October. This incentive payment was not coordinated with competitor finance needs, as their preparations for the growing season, including advance purchase of costly Aflasafe™, begin as early as April. Without the ability to invest prize money at the beginning of the following season, some competitors struggled to increase the number of farmers they worked with each season. The Challenge has responded by paying incentives earlier, but the volume of aggregation in recent years means that testing cannot finish before the beginning of the next planting season.

Competitors have mitigated the payments timing issue by using the previous year's prizes to offer new financing options for their farmers. Some competitors have also leveraged past participation into bank financing. Tukwuyan Gwari, for example, leveraged its past prize payouts into a loan that helped them expand Challenge activities to an additional 10,000 hectares. Ahalson has also used their steady growth to unlock offers of financing from banks.

Insight #4: End-market premiums are still elusive for some competitors.

The pay-for-results mechanism uses the prospect of prizes to catalyze adoption of Aflasafe™ by the private sector, leading to sustainable market relationships that last beyond the term of the Challenge. This means that we hope to see market premiums for Aflasafe™-treated maize before the contest ends, which would indicate market awareness for this improved product. However, although some competitors reported obtaining market premiums that encourage them to continue using Aflasafe™, others doubt they will be able to promote its use beyond the final year of the Challenge.

Some competitors had relationships with potential buyers before entering the Challenge, but many established new relationships with buyers through connections made by the Challenge Manager. Each year, the Challenge recruits new competitors to participate, and at the annual induction meeting the Challenge Manager invites prospective maize buyers to connect with competitors. These meetings allowed Competitors to meet with big domestic buyers (i.e., Nestle, Olam, and Grand Cereal) and fish/poultry feed producers to establish relationships.

Larger buyers have paid market premiums, but the general market and smaller buyers are still not willing to pay a premium for Aflasafe™-treated maize because they are not sure of the benefits. While the market awareness and differentiation of what we consider a premium product is still lacking, even within sectors like poultry where some buyers pay premiums and some still do not, competitors have seen the benefit of expanding linkages with farmers in terms of increased yields.

“The poultry industry is not willing to pay more for treated maize so the only way [farmers] will increase their income is by increasing yields.”

—Agri Supplies

Agbelere Integrated Farms

- **Original business model:** Parent company is maize-based fish feed producer and supplier. Created Agbelere to participate in Challenge.
- **Services now provided to farmers:** Inputs (seed, fertilizer, Aflasafe™), land preparation
- **End-point sales:** Poultry and fish feed providers
- **Use of prize funds:** Subsidize inputs and scale up
- **Post-Challenge plans:** Continue to use Aflasafe. Real value in fish feed as aflatoxin-free feed does not sink, allowing fish farmers to better monitor feed consumption.

“[We sell] Aflasafe™ treated maize at a 20-30% premium as fish feed... fish farmers say [aflatoxin-free] feed floats and so they can see if their fish are eating or not.”

—Agbelere Integrated Farms

Agri Supplies

- **Original business model:** Poultry farming equipment sales
- **Services now provided to farmers:** Inputs, use of heavy equipment, Aflasafe™ training
- **End-point sales:** Feed to poultry farmers
- **Use of prize funds:** Reinvest to grow company
- **Post-Challenge plans:** Uncertain, as current feed buyers do not pay premium for Aflasafe™-treated feed (conscious choice to not increase price yet). Once poultry farmers are convinced of increase in egg productivity, price can increase.



Insight #5: Nigeria's enabling environment is a roadblock to true market acceptance of Aflasafe™.

Competitors seem to agree that it will be difficult to continue to scale their results and see market premiums without enabling environment support. There are no local or national government regulations on aflatoxin levels, which has limited awareness of aflatoxins and their negative health effects. With this low local awareness, government extension agents do not typically teach farmers about aflatoxins and available methods to control their growth. Low national awareness also affects commodity markets, where Aflasafe™-treated maize remains an undifferentiated product when compared to untreated maize. The contest has spurred action on this front: Nine competitors in Northern Nigeria, led by Tukwuyan Gwari, have united to lobby the governor to establish government-mandated aflatoxin levels in all maize sold on the local market. Competitors now realize that without government regulations and an improved enabling environment for treated maize, market premiums for the product will remain low or nonexistent, disincentivizing the continued growth of Aflasafe™.

“Aflatoxin reduction is important, but without the government mandating aflatoxin control, adoption of Aflasafe™ will be slow.”

—Tukwuyan Gwari

Tukwuyan Gwari

- **Original business model:** Farmer-driven maize producer
- **Services now provided to farmers:** Training on Aflasafe™, post-harvest storage banks, cleaning of maize, market linkages
- **End-point sales:** Nestle, Olam, poultry farmers
- **Use of prize funds:** Access finance to expand production area, payment to company and farmers
- **Post-Challenge plans:** Continue use of Aflasafe™ with farmers. Lobby for government requirement for low aflatoxin prevalence. Expand model to give disruptive herders access to land and opportunity.

Conclusion

The varied approaches to adopting and scaling the use of Aflasafe™ indicate fundamental changes in competitor-smallholder farmer relationships that can potentially last beyond the timeline of the Challenge. The Challenge has shown that donor-funded PfR prize competitions can incentivize private sector actors, including those that are not traditional donor targets, to innovate and find solutions to a problematic agricultural market failure.

Competitors have also found ways to work around Challenge-mandated verification, which delayed prize payments, to scale activities to more farmers. Competitors have accessed financing from banks and have developed improved loan schemes to provide inputs on credit to their farmers.

In the absence of food safety and regulatory improvements in the enabling environment to require aflatoxin-free maize for human consumption, and the accompanying increased awareness such policies bring, it is unclear if competitors will see net premiums in the short term after the contest ends.

Competitors have begun to engage with government and advocate for aflatoxin-control mandates outside the bounds of any AgResults activity. This unintended output spurred by the Challenge may be the foundation for sustained aflatoxin awareness and control.

About AgResults

AgResults is a \$147 million collaborative initiative between the governments of Australia, Canada, the United Kingdom, the United States, and the Bill & Melinda Gates Foundation to incentivize the private sector to overcome market barriers and develop solutions to food security and agricultural challenges that disproportionately affect people living in poverty. The initiative designs and implements agricultural development prize competitions, also referred to as pay-for-results or pull mechanisms, which are innovative development finance programs that incentivize the private sector to work towards a defined goal to receive a monetary award.

About AgResults Lessons Learned Series

One of the primary objectives of AgResults is to better understand how well pay-for-results prize competitions work to overcome market failures in agricultural development. The lessons learned series explores AgResults' experience designing and implementing agricultural-focused pay-for-results prize competitions, with the goal of providing key lessons and recommendations that development practitioners should take into account when designing similar programs.



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