

UCF White Sorghum Project:

The UCF is running a project where we provide rural poor smallholder farmers in Kamuli and Buyende, eastern Uganda, with free white sorghum seed and agronomic training. We are working with a major brewery that has accepted to buy this sorghum. At harvest, the UCF gathers all our farmers' sorghum and ferries it to the brewery in Kampala. Here below is a description of the work we will do with ~400 farmers if you helped us raise support.

Overview:

Because of its industrial use in the production of beer, white sorghum is one of the only crops that currently have a ready market in Uganda, and is therefore on a high demand from all the major local breweries operating in Uganda. The 3 major brewers that use white sorghum for beer production, and which are therefore the envisaged market for our produce are: Nile Breweries (subsidiary of AB InBev), Uganda Breweries Limited (or Diageo), and Heineken.

Presently, the UCF has been accepted by Uganda Breweries Limited (UBL) as one of the farmers' groups that supply them with white sorghum. All UBL sorghum farmers procure their sorghum seed from only one approved seed supplier (a separate company named GrainPulse), and that is from where the UCF currently gets our seed.

We aim to provide each farmer with 10kg of seed (for 2 acres) in a season. This costs \$30.25 per farmer (\$3.025/kg). Because this seed is imported, the cost of a kg of seed is 10 times the price farmers get per kg of sorghum at harvest, which is \$0.2. But each kg of seed can yield up to 100kg. So, every 10kg will yield ~1,000kg. The number of farmers interested in participating in our project is increasing every season, as more farmers learn from their peers who are already growing the sorghum. Our current goal is to secure 4,000 kg of seed each season, enough for 400 farmers.

In addition, we aim to provide each beginning farmer with free inputs for the first three planting seasons. From the 4th planting cycle onward, each farmer will have to buy their own inputs using incomes from the previous seasons.

Implementation Plan:

- a) **Securing seed:** we begin each planting season by procuring new seed from GrainPulse. UBL requires that all their participating sorghum farmers secure new seed each season, even if seed from the previous season is still in place (i.e. even if farmers still have seed that wasn't used up in the previous season).
- b) **Farmer orientation/training & planting:** we train and re-orientate all our farmers every planting cycle; visit each farmer to ensure their land is ready for planting, and then give out seed. Daily field visits then begin, to ensure farmers follow the right crop management and soil enhancement practices, till harvest.
- c) **Harvesting & Marketing:** at harvest, we use the UCF's dump truck to gather our farmers' produce from villages to the UCF storehouse (at our office), from where it is then taken to UBL in Kampala by the UCF.
- d) **Project Timeline:** From the time funding is secured, the total timeline from farmer orientation to planting and harvest is six months. We have two major planting cycles, that is January -June, and July-December.

Budget Breakdown:

a). Seed procurement: \$12,100 for 4,000 kg of seed.

b). Farmer orientation/training and ongoing follow-up (includes fuel for distributing seed at planting, fuel for daily field visits, and basic allowances for an outreach team of five people) for a period of 6 months: \$4,500 (i.e. \$750 a month, of which \$400 is monthly fuel, and \$350 is monthly allowances for our outreach team).

c). 200 tarpaulins (two neighboring farmers share one) for clean post-harvest handling: \$8,400 (\$42 each).

d). Gathering & delivering our produce to UBL: \$12,000, in fuel costs. Depending on weather & other factors, we expect up to 600 tons from 400 farmers (1.5 ton/farmer). This costs a lot of fuel in gathering that sorghum from farmers, and 150 round trips to deliver it to UBL in Kampala (using the UCF's own 4-ton dump truck).

e). One truck of organic wastes per farmer (i.e. animal dung or residues from Kamuli sugar factory) as natural fertilizers) to enhance soils. The UCF has its own 4-ton dump truck. Costs associated with providing our farmers with organic fertilizers only include fuel, and in some cases paying for dung, but the sugar factory manure is free.

To enhance the size/quality of the grain, UBL urges all their participating sorghum farmers to apply fertilizers two times in a planting season. That's what all UBL sorghum farmers in northern Uganda currently do. In our own region (in Kamuli), sorghum growing for beer production is being introduced for the first time by the UCF.

And so, to ensure that our project performs to the same standards as UBL's pre-existing sorghum farmers in northern Uganda, our farmers too must use fertilizers. Our experience thus far, from the application of organic fertilizers i.e. animal dung at the UCF's own demonstration garden (at our project office), is that the size of the sorghum grain is far bigger than that of farmers who are not using any fertilizers. And that's what UBL is after.

UBL recommends farmers to either use the artificial fertilizers NPK and DAP (at 50kg/acre), or organic fertilizers like cow dung. We prefer the latter, because it is cheaper, and its organic matter content lasts longer in the soil.

Nonetheless, to bring our budget down, we are not including the costs for providing fertilizers to farmers in this budget. Farmers who are able to cover fuel costs will use the UCF truck free of charge, to help with this. The cost for providing each of the 400 farmers with one truck of organic fertilizers would have been \$16,800 (\$42/truck).

f). Spray pumps. In our first planting cycle in 2019, some of our farmers had cases of pests and disease infestations in their sorghum. We have already received several technical training materials from UBL's agribusiness manager, Joseph Kawuki, about this. We are also making a field trip to Northern Uganda in January 2020, to transfer hands-on knowledge from farmers who have been growing this sorghum (and supplying it to UBL) for years— in regard to the common diseases they encounter in their sorghum fields, and how they manage them, e.g. the pesticides they use.

For now, the information we have thus far means our farmers need to spray their sorghum in all subsequent seasons. Most of our farmers have said they will be able to buy pesticides on their own, but are not able to buy spray pumps. Our goal is to procure these pumps and cluster every 5 neighboring farmers to share one pump. As such, We need 80 pumps for 400 farmers, costing \$4,000 (i.e. \$50 each). This money, too, isn't included in the budget in this document.

Total: \$37,000 (this will implement the above work for only one planting season). If the costs for providing farmers with organic fertilizers and spray pumps are included, the total is \$57,800 for one planting season.

If you are able to support this work, please let us know on: info@Tugandafarm.org. (updated Feb 5, 2020).

Anthony Kalulu — Founder , UCF.