

Minutes from Dr. Camille George's Trip to Mali

Saturday, June 14, 2008

Meeting with Eva Weltzien, Principal Investigator ICRISAT

The meeting was set up by Bert Rivers from CTI. Eva Weltzien is in the last stages of planning a Gates foundation grant which she will manage through ICRISAT. Her grant is to increase consumption of pearl millet and sorghum. Her grant will focus on creating new varieties, increase consumption of these grains in urban areas and subsequently increase income on the village level. She has been working with grains (she is a plant breeder (pathologist) by training) for over 20 years. Her grant is interested in creating more market opportunities for millet and sorghum. In particular, create opportunities at the village level to process and sell grains and processed or pre-processed foods, improve the demand for high quality grains and improve the marketing of higher quality products.

Quality at the very least would be pearl millet and sorghum without sand or pebbles. Her grant is aimed at several levels of production. First there is the farmer level and households of 40-80 people. In general farmers do not sell their grain but keep it in storage between 1-3 years. Farmers always save their grain because 1 of every 3rd year is usually bad. Farmers keep their grains as security against a drought. Men grow millet & sorghum but women are responsible for transporting and processing the grains. Many women however do grow sorghum and use it as a 4th meal for children (this is in southern Mali). Husbands don't provide the grain for this extra meal. Both pearl millet and sorghum are crucial for survival. Millet grain is stored unthreshed, as entire panicles (on rachis (stalks)). A rich household is one that has many (stalks in their) granaries. Eva was very interested in the simple CTI technologies for pearl millet threshing. Threshing and processing pearl millet is a job done by women on a daily basis. Shortening the threshing and processing time would give women extra time to pursue other activities. Part of the Gates foundation emphasis is to provide benefits for women. Extra time could be used in producing something that could generate an income for women. She believed that the CTI technology would fit well with the grant emphasis. She believed that reactions from women about the technology could be done in the first year. She has many connections through Global 2000 and agriculture extension NGO's working over many countries in Sahelian Africa.

A second level of the grant is aimed at farmer unions and large commercial processing. Here larger machines would be used for threshing and processing, but she felt there may be a gap between the two levels. She believed there may be a role for UST in examining the various technologies as they relate to scale. Here the university would be in an exploratory role examining the technology continuum from subsistence farmer to commercial processor.

Another part of her grant deals with creating new varieties of grain, variety trials and training, and adoption of improved varieties. She will be working with various NGO's specializing in agricultural extension services to reach a large region. Finally she is interested in training farmers to produce seeds.

C. George explained the potato seed production project she was exploring with the Malian Network mentored by Montana State University, UST, UC Riverside & Chief Dull Knife College. We discussed that perhaps UST students could participate in gathering data about pearl millet production when they were working in Borko, a farming village in the Dogon area of Mali. She said Borko was a good location to try the millet processing technology because Borko had water and the residents of Borko were established farmers. It would be an ideal place to obtain user feedback. She explained that currently the glumes from pearl millet can irritate people. Thus most millet processing is done away from the homes. She was interested in where the CTI technology would be used, would the women still process the millet away from their homes? Processing is currently done by 2-3 people working together. A change in behavior would have to be examined. Perhaps the processing could be done close to the homes and only the separation needed to be done at a physically isolated location. She believed that the CTI technology would be excellent to try on the small farmer scale and agreed to write CTI into the project.

She was also interested in creating more market opportunities for processed grains. Here she was interested in the role that CTI could play in creating millet or sorghum snacks for urban customers. Perhaps there could be a cooperative level where women would process the millet or sorghum to an acceptable pre-processed food to be sold to urban consumers. Again there is a continuum for food processing technology between the village and the city. At the conclusion of the meeting she was very enthusiastic about exploring a role for both CTI and UST engineering. She believed having women student engineers spend time with village women processing millet would be extremely beneficial in developing the technology because of the gender segregation in Malian society.

Action: E. Weltzien will email CTI to continue the discussion of adapting the pearl millet technology

Meeting with farmers in Borko

Aissata Thera explained the goal of the visit, to speak about seed potato production, to introduce the possibility of a new pearl millet processing, and to discuss a nutritious baby food project. She spoke in Bambara which was then translated to Dogon and then to English.

Potato

The farmers were interested in seed potatoes and agreed that the chief and mayor's staff would pick the seed potato storage and seed potato plot location. They were interested in seed potatoes both for food and for cash. Currently they were growing garlic and onions as their cash crops. If seed potatoes would be profitable, they were willing to stop growing other vegetables. One farmer voiced the concern that potatoes were difficult to store, especially in hot climates. The farmers were very enthusiastic if we were to find a storage solution. They were ready to work hard and we could count on them to do their part in making the project a success.

One elder remembered that farmers in Borko used to grow potatoes and wheat during the time of French colonization. They grew potatoes from October to February. We asked how they stored potatoes in the old days. The farmer replied that they did not store them. The white people brought in the potatoes for planting and took out the potatoes after harvest.

Aissata said that it would be important that the Borko farmers organize themselves into a cooperative. To be successful they would need to be recognized as a seed potato organization that would supply other Malian farmers.

Pearl Millet

C. George showed the hand-stripping pearl millet device. It worked very well. The heat of the day had melted the glue that held the wooded handles, but the device worked well without the wooden pieces. They were interested in the possibility of new varieties of pearl millet, especially millet with a shorter growing cycle. Camille asked if irritation from the pearl millet glumes was a problem. The farmers stated that it was not a problem and they washed their hands with soap after handling the stalks. It should be noted that all but one participant in the meeting was a man. Camille asked if inhalation of the glumes was a problem. The village health person said that some people did come in with respiratory irritation after working with pearl millet. C. George said that perhaps wearing cotton gloves would decrease the possibility of reaction. It should be noted that C. George's hand became very irritated after handling just 3 millet stalks. The irritation did not go away for about 12 hours, despite washing her hands with soap. It felt very much like the irritation one gets after handling insulation.

Meeting with women in Sendégué

In the late afternoon many women gathered in the chief's courtyard for a holistic conversation. Sidy Ba explained that we wanted to ask the women about a device that would make pearl millet processing easier and we wanted to ask if they wanted to discuss any other issues.

Pearl Millet

Sidy Ba demonstrated the pearl millet hand-stripping device. The women were genuinely interested and the demonstration yielded many approving gestures. We told them a second device would remove the florets and finalize the threshing (decorticate= removing the outer layer the millet). One woman asked why the design had two steps. She suggested that the second device receive a broken up stalk. That would eliminate handing the stalk and transferring the millet. Another woman agreed that a one step device would be preferential to a two step machine. In general they would be interested in being part of a larger trial. One woman also commented that she processes millet to make a living. Her livelihood would be eliminated by an easier pearl millet processor.