

Bambara groundnut workshop 24 September 2013

Group discussion points on agronomy, crop physiology, crop breeding and genetics

Issues/ questions and concerns

1. Using genomics to disentangle adaptation of Bambara groundnut
 - Since the species variability is huge collecting genomic information on the species is very necessary
 - Learn how to sustainably characterize available germplasm and address the variability
 - (Characteristics of collections)
 - Use old accessions to get more traits (evaluate landraces)
 - Enough genotypes can be found if there many partners on developing and breeding Bambara groundnut – able to propagate good quality material that will give good results
2. Large field trials in 6 location (3 in South East Asia and 3 in Africa) - ongoing projects
 - In South East Asia (Malaysia, Indonesia and Thailand) and 3 in Africa (Ghana, South Africa and Botswana), allows for simultaneous studies in 6 agro ecosystem locations
 - Can and will be using a variety of landraces and accessions that will enable researchers to confirm how each of the landraces response to stress conditions (drought, heat) parallel to better understanding of factors that could improve overall yield of the crop
3. Do participatory research with emphasis on farmers contribution that feeds back to the breeding activities
 - Gather information on what farmers prefer, give them feedback, try to fulfil their expectations
 - We need to make sure that the variety / breed we are developing is what the farmers want, or they will not grow it in their fields. There is no point in developing a hybrid or new variety is no one wants to use it.
 - Identify materials that are preferred by both consumers and farmers: Colour and size of seeds. For example: Bambara groundnut plants that yield cream colour seeds are highly sought after in comparison to brown & red seed varieties
4. Descriptors and nomenclature of Bambara nut landraces. There needs to be a standard nomenclature for Bambara groundnut. For example, the landrace Uniswa is used to denominate landrace from Swaziland. However, genotypes from Swaziland are also referred to as Uniswa. Hence this makes genetic studies more challenging
5. Baseline data needed from farmers
 - Purify old materials (landraces) and it's also important to assess the evolutionary process this species
 - Collaborate with breeders in order to get improved landraces
6. Identify good landraces for the large-scale field trials
7. In some countries, we see a decline in cultivation e.g Malawi
8. Are there on-going breeding programs in your respective countries?
 - In South Africa there are no breeding programs and/or funding on Bambara groundnut

- In Egypt, crop is not well known. Possible to import Bambara nut for cultivation to Egypt
9. Fingerprint Bambara for its good traits for comparison with major crops such as drought tolerance
- 10. Funding remains major issue**
- breeders not involved in breeding programmes because there is no funding for such endeavours
 - how can we market Bambara to our respective governments and show it is a good crop for food security as well as its importance to socio economic aspect in Africa, especially to women?
11. Problems associated with Bambara groundnut
- Is not an oil crop therefore its role as a cash crop for food security has not been propagated
 - highly nutritious but still does not attract scientists therefore, limited funding
 - therefore, there is a need to combine not only hard science but also socio economic and user driven research so we can see the importance of this legume
12. Bambara groundnut sells more than other legumes – this indicates its consumption and usage is at a good level
13. Policy makers should include Bambara groundnut
- As a food security crop with high nutritional value, the crop deserves to be promoted
14. Agronomic interventions to increase yields- target Bambara groundnut growers
- Work toward improving yield, and use of simple technologies. For example, research had shown that pre-soaking the Bambara seeds 24 hours before sowing improves germination. This has been adopted by many farmers and has resulted in increased yield
15. Do a comparison study of Bambara nut versus other major food legumes (drought tolerant)
- In South Africa ongoing comparative study on Bambara versus cowpea
 - Doku' field trial showed that Bambara groundnut yields better than other legumes
 - Bambara grown mainly by female farmers (65%)
 - Bambara groundnut grown throughout Africa, even in South East Asia, and South America
 - Do global work on farmers' fields
16. Do research not for the sake of science but to promote the crop to the consumers, to help farmers improve yields
17. Other constraints
- Anti-nutritional factors
 - Dehulling