

BRAINSTORMING SESSION

Group A

Moderated by Jonathan Crouch

Feedback from Group A on Genetic and Genomic Resources and Capacity Building

Participants in breakout group:

Katherina, Wheat genomics

Tiegang Lu, CAAS, Rice and wheat, molecular biology, mutant libraries, Chips

Pretoria, plant pathologist cereal, gene isolation, genetic

Plant physiologist, root morpho maize,

Richard adema, amnanet, mas background virology

Wolfgang, cip, sweet potato breeder, quantitative genetics.

Claire Billot, population genetics,

Fred van eij, WUR, statistical genetics

Genetic and genomic resources

Orphan crops: start with genotyping + phenotyping. Stress out the phenotyping evidences first and then compare between crops. If there are evidences of comparable mechanisms, then GCP should provide the genomic resources...

Exhaustive list ?

Markers (left to the crp specifications, SNPs, SSR, COS, Dart chips...), allele mining ?

Genomics resources

BAC libraries ? BiBAC library or Tac Library to be used for functional genomics ?

Mutant libraries ? available for the different advanced major crops...

mutant network to exchange material. GCP should establish a mutant network to promote exchanges of information. Responsibility of sub program leaders.

Not support any initiative on the creation library unless there is no resource from a closely related ...

Tilling... still pending

Sweet potato, hexaploid, 90 chromosomes, 43 SSR markers, severe need of markers !!! will not start to do anything with mapping... AFLP already exist, but not very useful. (see ornamental, with different nb of chromosomes), crosses easy to make. Need to make more SSR markers (genomic libraries, EST). Very drought and salinity tolerant, thus a good reservoir of genes. (culture of sweet potato important for Peru). Breeding ? quality (Vit A + high dry matter), drought tolerance comes with it. What traits make it more tolerant ? disease resistance in America and Asia, pest pb in Africa.

GCP should have a strong focus in orphan crops but development of markers should insert the mean to have a comparability between crops... then provided that, development of basic genetic resources are left to commissioned projects, while competitive are more integrative, whatever suitable, but be able to link to other major crops.

No conclusion on composite collection seed ... depend on the species...

Capacity building

Must include individual training (fellowship), group training (within one week), and email discussion better than online for a (depends on the internet access). Stress out the endusers.

Training in traditional and MAS (biotechnology and quantitative level).

Training in design and analysis of experiment (QTL mapping and association analysis).

Training in plant ontology (morphology...)

Training in proper phenotyping (including mutant variation), should be inserted into projects in relation with SP5 (fellowship)

Training in proposal writing.