

# Bean Breeding by the Pan African Bean Research Alliance: Trainer explanations of Training Results

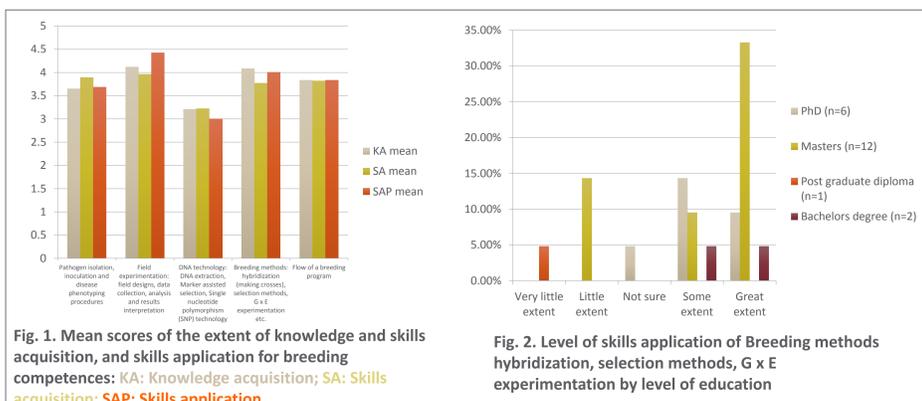
Miir Richard<sup>1</sup>, Muthoni-Andriatsitohaina. Rachel<sup>2</sup>, and Mukankusi Claire<sup>2</sup>

<sup>1</sup>School of Agricultural Sciences, Makerere University, Uganda, <sup>2</sup>International Centre for Tropical Agriculture (CIAT), Kawanda, Uganda, We acknowledge funding from The Department of Foreign Affairs and Trade (DFATD) -Canada and the Swiss Agency for Development and Cooperation (SDC) to PABRA.

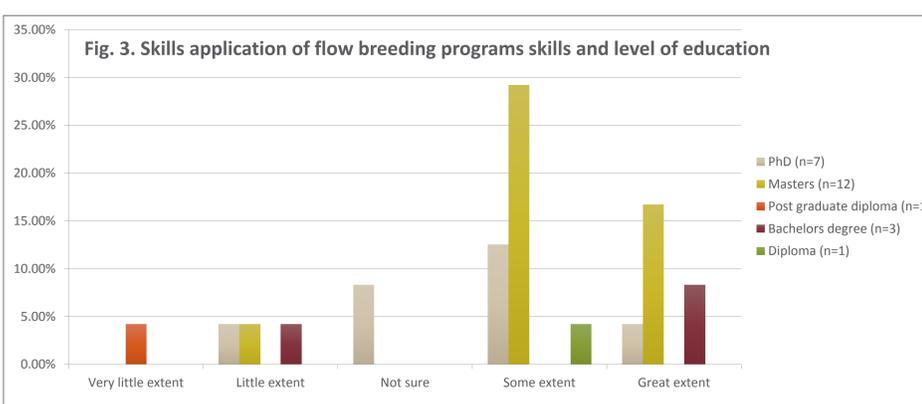
**INTRODUCTION** – Millions of US Dollars are spent annually to improve the skills of bean breeders in Africa through training. PABRA specifically invests finance, human resource and time in ensuring that the continents breeders are up to date and relevant with the breeding skills in order to meet the continents food and income needs through crop improvement. However, little to no research has been done to verify the extent of application of what is taught, what enhances application from trainers views. This study focuses on trainer explanations of the variations in breeding knowledge and skills acquisition, as well as application following training.

**METHODS** - An online cross sectional study with a convenience sample of 391 subjects from 4 trainings including breeding was conducted. With a response rate of 38%, 33 breeders responded to the survey, and one expert breeder/trainer gave views of the levels of breeding knowledge and skills acquisition, as well as breeding skills application.

## RESULTS



- Fig. 1 Levels of application are high, except for DNA technology
  - Fig. 2 M.Sc. Perceived to have applied more of breeding methods
  - Fig. 3 M.Sc. Perceived to have applied more of flow of breeding
- Trainer's explanation of the results**
- High application due to active breeding, national & PABRA support
  - M.Sc.s apply more because they are the majority in most country breeding teams; the less role of PhDs in flow of breeding programs point to a capacity gap, as they would be most suited to guide this
  - The difficulties with the DNA topic are likely due to lack of facilities & lack of follow up by the trainers



## RESULTS continued:

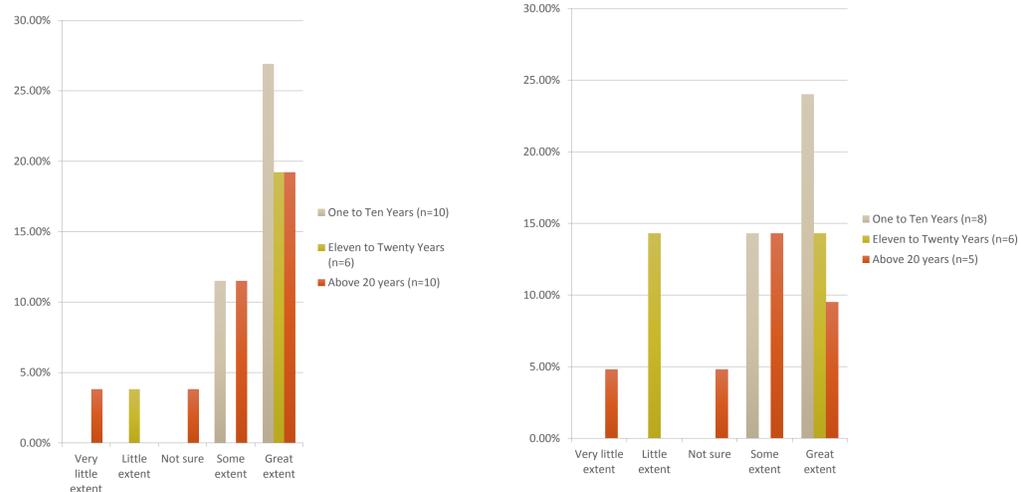
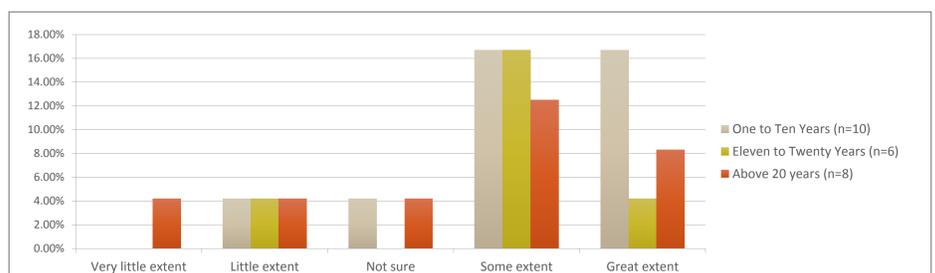


Fig. 4. Skills application in field experimentation by working experience

Fig. 5. Skills application in breeding methods hybridization, selection methods, G x E by working experience

Fig. 6. Skills application of flow breeding programs by working experience



- Fig. 4.- Fig. 6 The less experienced and moderately experienced applied more of the field experimentation skills, breeding methods and flow of breeding.

## Trainers' explanation of results

- Usually the less experienced who are often new recruits are often involved in these activities.
- Expected the more experienced to apply more of the flow of breeding programs, but suspects it is due to the less rigorous training applied to this.

## CONCLUSION

1. There is a high level of training application of breeding skills received in training due to the active national breeding programs and to selecting the right trainees
2. M.Sc. & less experienced workers seem to apply more since they are most involved as is the practice of engaging new recruits.
3. A capacity gap exists as far as applying flow of breeding programs, more PhDs in plant breeding need to be trained.
4. Limited DNA technology application points to need for serious follow up by trainers and capacitating the laboratories
5. A needs assessment is important so that those who know are not subjected to training which is more suited for others

**Contact:** Richard Miir,  
Department of Extension & Innovation Studies, SAS, Makerere University, P.O. Box 7062, Kampala; [rfmiir@gmail.com](mailto:rfmiir@gmail.com), +256-772-378185



**CIAT**  
International Center for Tropical Agriculture  
Since 1967 / Science to cultivate change



Produced for the  
**Pan-African Grain Legume & World Cowpea Conference**

