



**IFAR 2008 Professional Development Program
Completion Report**
[800 words]

Instructions:

Please submit the completion report by email, using this form, through the sponsoring CGIAR Center to ifar@ifar4dev.org within three months after the completion of the fellowship.

Please check if Thalwitz Scholarship

Yes

Name of Applicant **Shokalu Olumide**

Sponsoring CGIAR Center: International Institute for Tropical Agriculture (IITA)
Ibadan, Nigeria.

I. Work Program goals achieved (maximum length: 200 words)

All soybean varieties grown in Nigeria are rust-susceptible that is why for the least 10 years, soybean faced the ravages of rust disease. IITA identified TGx 1835-10E, a rust-resistant experimental breeding line, in its previous studies. To facilitate the release of TGx 1835-10E, its performance was tested vis-à-vis the rust-susceptible released cultivar TGx 1485-1D. This was done in farmer-managed on-farm trials at 13 sites in eight states encompassing three agroecological zones. TGx 1835-10E was resistant to rust in all sites, whereas TGx 1805-1D nearly had 24% damaged leaf area on locations where rust was prevalent. Mean grain yield of TGx 1835-10E was about 25% more than TGx 1485-1D on sites where rust severity was high. TGx 1835-10E had better yield stability than the farmer grown cultivar while TGx 1835-10E. It retained its good properties even under rust disease pressure. Due to its superior yield and rust resistance, the Nigerian Plant Variety Release Committee (NPVRC) released it for general cultivation in Nigeria in December 2008. This was the first release of a rust-resistant soybean cultivar in West Africa.

In detached leaf assays, 14 elite breeding lines were highly resistant to *Phakopsora pachyrhizi* isolates collected from eight locations.

II. Plans for follow-up (maximum length: 200 words)

Selected soybean lines identified with high levels of rust resistance will be evaluated in multi-locational field trials during the 2009 cropping season in rust endemic locations across Nigeria. These trials would be carried out in collaboration with IITA. The varieties' resistance to isolates of *P. pachyrhizi* in different areas, reaction to other soybean diseases in the country (i.e., bacterial pustule, *Cercospora* leaf spot and bacterial blight), and adaptation in different agroecological zones found in the rust endemic areas will be tested. In the 2010 cropping season, two to three best lines will be evaluated on their good agronomic characters and resistance and tolerance to other pests and diseases in on-farm trials in soybean rust "hot-spot" zones. Confirmed superior lines from the on-farm trials will subsequently be nominated to the national varietal release committee for consideration for it to be officially released as a soybean variety in the country. Furthermore, seeds of these high-yielding and rust-resistant varieties would be multiplied and made available to farmers to enhance their farm income and improve family health through increased production of soybean and consumption of protein-rich soybean-based diets.

III. Report budget utilization including whether budget was spent as planned (maximum length: 100 words)

Budget was maximized to achieve the deliverables of the program. Expenses were incurred on chemicals and supplies, field trials, laboratory studies, travels to field sites, professional needs, and three-month accommodation and living expenses at IITA. Plant pathology books were also purchased from the professional needs allocation budget. These books will be helpful to me when I return to my work station. Everything else needed for the field and laboratory studies were provided in a timely manner.

IV. Assessment of the fellowship experience and general comments.**(maximum length: 300 words)**

The IFAR fellowship program encourages good scientific interaction between CGIAR and National Agricultural Research System (NARS) scientists. It is vital for the development of young national scientists to better equip them with knowledge for them to significantly contribute to agricultural development, and to open opportunities for them outside their respective fields.

Some limiting factors encountered by NARS scientists included working environment, materials and equipment, and other important resources. The IFAR fellowship program, administered through the coordinating CGIAR centers, provided an avenue for the recipient to overcome these obstacles and achieve the dream of working in an environment where "everything works".

Furthermore, a series of training were conducted for the recipients to further sharpen their skills and techniques for their professional development. In my case, I am privileged to work with a senior colleague, who gave committed attention to every detail involved in the study. His drive for excellence kept me focused on the expected deliverables.

I propose for a second grant of the fellowship program after assessment of achieved outputs outlined in the first grant. This will provide opportunities for follow-up studies arising from the first grant. I have greatly enjoyed the experience; and knowledge-gained in this program will surely help me in my contribution to my county's national agricultural development.