



**IFAR 2005 Professional Development Program
Completion Report**

Please check if Thalwitz Scholarship

Yes

Name of Applicant

Mr B.A. Niango Malick

Sponsoring CGIAR Center

IITA

Project Title

Combination of host plant resistance and neem seed extract spraying for the control of the cowpea key insect pests in central Burkina Faso

I. Work Program goals achieved

The main goal of this work was to provide farmers with more sustainable plant health management options. The proposed work aimed to release, in farmers fields, an IPM technology combining resistant varieties to the pod sucking bug (*C. tomentosicollis*) and ethanol extract of neem seed spraying for the flower thrips, *M. sjostedti* control. The experimentation was conducted at two sites with local farmers associations, "Donsin" in Central Burkina Faso, and "Tenkodogo" in Centre-eastern Burkina Faso. The results showed that the flower thrips population in the resistant lines sprayed with neem seed extract was similar to the check variety sprayed with conventional insecticide. The percentage of damage of pod sucking bugs on some resistant lines was less than on the resistant check variety and the susceptible check variety sprayed with conventional insecticide. Three of the 15 resistant lines had a grain yield similar to the check variety sprayed with conventional insecticide with up to 1500 kg per ha. It appears clearly that the spraying of neem seed ethanol extract on the resistant lines could be used as alternative method for the control of insect pest of cowpea crop. During this work, farmers were involved at each step of the activity through a participatory approach. Farmers learnt more about insect pest, the damage it can do and its economic importance. Farmers were also trained on the preparation technique of neem seed extract.

II. Plans for follow-up

Three of the 15 improved varieties performed very well. The follow-up of this activity would focus on extending the technology. But before this step, we need to discuss with the breeder about the opportunities to completely release the material. Some varieties are still in disjunction and we need the breeder to advance the generation of the lines. After that, we would record the farmers' s perception about the other characteristics of the varieties (grain colour, grain size, grain cooking and taste). We will release foundation seed to seed producers who will multiply the seed and make it available for farmers. After that we would extend the technology through NGOs and the Farmer Field Fora of the PRONAF, the cowpea project for Africa. We expect that farmers will adopt at least three improved varieties in each location and we will also enhance them to use neem seed extract.

III. Report budget utilization including whether budget was spent as planned

See separate financial report.

IV. Assessment of the fellowship experience and general comments

The technology I proposed to release at farmer level aimed at solving the problem of insect pests constraining cowpea production in Burkina Faso. The participatory approach and the technology I proposed were well appreciated by farmers. During discussions, it appears obviously that farmers were interested in the cheapest technologies. Farmers were already aware of the insecticide activity of neem extract even if most of them did not use that technology. Releasing of a new resistant material associated to neem seed extract spraying appeared affordable to farmers. But the main concern for farmers is the cost and unavailability of alcohol. It was suggested that farmers could order alcohol through their association. Alternatively, farmers could simply use aqueous neem seed water extract. But in this case, farmers should spray more. Some variety performed well; these varieties had a good level of resistance and high grain yield. But farmers were also interested about other characteristics such as cooking, taste, etc.

It was a good experience to conduct this activity with a multidisciplinary team of researchers including a breeder, plant pathologist, and socio-economist. Unfortunately the socioeconomic researchers of IITA did not succeed to pay us a visit. Farmers from the central eastern region were less familiar with this kind of activity. So they were very happy to discuss with the researchers of INERA. This experience was my first personal activity at farmers' level. It was a great challenge for me and I was very delighted to conduct it. I learnt more about farmers' perceptions and I shared a good experience with them. The two associations at the two sites were interested about the follow-up of the activity. It was suggested that we should extend our findings through the local NGOs operating in the sector.