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COMPRO II PROJECT

# Quality & Yield

Supporting smallholder farmers' decisions on top quality commercial products

## IN THIS ISSUE

# A word from the project leader

> “...Sustain the momentum we have created for regulatory authorities to begin to update, refine, improve and even develop policies and guidelines...”

By July 2013, all six focus countries had convened their first stakeholders’ workshop for regulatory authorities. The stage now is set for increased activity towards focussing attention on regulatory mechanisms for commercial products. We have also published the first general brief that highlights the key issues, challenges and key recommended actions that will move countries on a progressive path towards institutionalization of quality control mechanisms for bio-fertilizers, bio-pesticides and related commercial products.

In the coming weeks, countries will work towards refining the generic messages contained in this first brief into country-specific policy messages that take into account the unique circumstances that define regulation issues for commercial products.

Our work in objective 3 on regulation of commercial products has taught us quite a few lessons.

In effect, most of the regulatory environment challenges cited in the policy brief referred to above (you can read it at *www.compro2.org*) have been played out during our own efforts to undertake activities in objective 1 and 2 on dissemination and product screening and testing respectively.

We note for instance that in situations where regulatory agencies are involved from the outset in discussions about candidate products for screening like in Nigeria, COMPRO II teams working in product screening and testing have had an easier time undertaking their activities.

We hope to replicate these lessons in the other countries in the coming months.

Our new programme officer at Bill & Melinda Gates Foundation, Vasey Mwaja, made a timely observation during his recent meeting with COMPRO II team members in Nairobi.

I was particularly alert to his advice to intensify our interactions with countries on regulatory issues. He believes strongly that we must sustain the momentum we have created for regulatory authorities to begin to update, refine, improve and even develop policies and guidelines for bio-fertilizers, bio-pesticides and related commercial products where they do not exist.

In the next few months, we look forward to very exciting interactions with county teams as they take a closer look at the regulatory instruments that exist for commercial products. In effect, the regulatory bodies in the six project countries are reviewing a draft regulatory guideline for bio-fertilizers that has recently been circulated for stakeholder inputs.

As you read this issue of our Quality & Yield I invite you to share with the team some of your experiences with COMPRO II work in your country.

*Dr. Cargele Masso (IITA) – Project Leader*

# COMPRO II welcomes Vasey Mwaja

COMPRO II has a new point of contact at the Bill & Melinda Gates Foundation. Everyone is happy to welcome Dr. Vasey Mwaja, the new programme officer in charge of COMPROII project activities at the Foundation. He takes the reins from Dr. Prem Warrior who had overseen the projects work at the Foundation for the last few years. We would also like to take this opportunity to gratefully thank Dr. Prem Warrior for his invaluable contribution to the COMPRO II progress before he assumed his new responsibilities; the COMPRO II project team wishes him all success.

Speaking at a project team at IITA offices in Nairobi on 22 and 23 August, Vasey Mwaja, noted the remarkable progress that the project had made in all the five objectives despite the challenges of implementation.

"We need to make progress in supporting countries to strengthen their regulatory environments for commercial products as a critical mission of this project," he emphasised. Dr. Mwaja noted that a lot of progress can be made across the other objectives if particular attention was paid to ensuring country-level improvements in regulatory infrastructure for commercial products. "Our work in product screening, testing, capacity building and dissemination will be made a lot easier if we progressively move the countries along the regulatory path" He concluded. He reaffirmed the Foundation's commitment to improving livelihoods of farmers.

Dr. Masso Cargele, COMPRO II project leader, was enthusiastic about the arrival of the new programme officer. "I believe that Vasey Mwaja is bringing new energy to the work of the COMPRO II project. The progress we are reporting today can only experience an upward improvement. He cited Dr. Mwaja's vast experience that strategically covered both, regulation of commercial products as well as private sector skills. "We have with us someone who has a particularly well-rounded view of this sector and we look forward to benefiting from his guidance," he noted.

The project meeting was attended by country representatives from Kenya, Uganda, Nigeria, Ghana, and Ethiopia. Lead agencies for objectives 2-5 were also represented including, CIAT, AATF, IITA, and CABI. Each of the participating teams gave a progress report highlighting key milestone activities and challenges in implementation.

Dr. Angaw Tsigie, Soil Microbiologist at EIAR standing next to a new Autoclave machine at the laboratory in Holetta research centre that was bought with support from COMPRO II

# Geared to increase soybean yields through inoculation

ETHIOPIA

"Our farmers in key soybean producing areas in Ethiopia are now fully convinced about the value and profitability of inoculating their soybean with rhizobium inoculants at planting," asserts Dr. Negash Damissie, a Senior Soil Science researcher at the Ethiopian Institute of Agricultural research (EIAR).

This follows months of dedicated work by the teams at EIAR, in screening, testing and promotion of both local and some imported rhizobium strains.

A lot of the work on product screening, isolation and production of inoculants has been directly supported by the COMPRO II project.

"I agree that we have successfully created demand for rhizobium inoculant especially for soybean in such areas as Jimma to the west of Addis Ababa and other parts of the country" confirms Dr. Angaw Tsigie, a soil microbiologist based at the Holetta research centre of the EIAR.

Getahun Mitiku, who is a researcher at the EIAR directly involved in COMPRO II project activities said the COMPRO II project had significantly contributed to this success through supporting work on, training of laboratory staff, product screening, testing and even inoculant production.

"This larger autoclave machine for instance was procured through the support of the COMPROII project to help increase our capacity to produce inoculant for our trials sites as well as promotion among small holder farmers," he explained.

Two strains of rhizobium namely MAR1495 and SB12 have done particularly well in parts of Jimma and other areas and the Institute is working with Ministry of Agriculture on a plan to scale these out to more than nine thousand small holder farmers in the next few months. Ethiopia is involved in research on a variety of legumes, including, soybean, faba bean, chickpea, field pea and common bean.

**Model farmer around Jimma displays a nodulated soybean plant at one of the field sites**

> “...Naturally the rising demand for inoculant now presents new challenges for Ethiopia especially because inoculant production capacity in Ethiopia is still very low for bulk quantities...”

“Naturally the rising demand for inoculant now presents new challenges for Ethiopia especially because inoculant production capacity in Ethiopia is still very low for bulk quantities,” notes Dr. Negash.

Dr. Cargele Masso, COMPRO II project leader, louds the progress in Ethiopia noting that the project is happy to be involved in supporting countries such as Ethiopia to improve the regulatory environments for commercial products that will allow greater involvement of other players such as the private sector to increase capacity for production, and distribution of inoculant to our small holder farmers. “With good regulatory framework in place, we will see more up-take of commercial products such as rhizobium inoculant, to improve smallholder farmer’s productivity,” he notes.

*The highlights from Ethiopia were documented in September 2013 during a visit to Ethiopia by the Objective 4 representative from CABI, Mr. James Watiti. CABI is the lead agency supporting communication objectives of the COMPRO II project.*

## Tikur Medhanit

*Tikur Medhanit* is Amharic for 'black medicine' - a local reference to the color of inoculant used on faba bean.

ETHIOPIA

Addis Alem smalll town 70 km west of Addis Ababa, in the Oromia Region, Sitting at an altitude of 2,360 meters above sea level, this area is one of the many that are conducive for Faba bean/Vicia faba/ production in Ethiopia.

"We have quite a number of demonstration farms for faba bean production in this area," confirms Getahun Mitiku from the Ethiopian Institute of Agricultural Research (EIAR).

The Addis Alem community is one of many benefiting communities from the promotion of Rhizobia inoculants in the Ejerie District. The farmers over there receive inoculant from the Holetta Agricultural Research Center of EIAR. Faba bean/vicia faba is one of the major large seeded bean crop for inoculation research in the country. According, Dr. Angaw Tsigie, a soil Microbiologist at Holetta research centre the inoculum research facility you saw at Holetta, covers this and many other demonstration sites.

Model farmers Nasiru Musa and Wondasa Huletahu (35 years) were not at home. We proceeded to visit their farms.

As we approached the farm of the Wondasa family, we noticed a young man working in the teff field close to the faba bean field we were visiting. He was the 19 year-old first son of Wondasa Huletahu who has taken to farming too - Defera Wondasa. The family has about 0.5 ha under faba beans. Visually one half was doing better than the other.

Defera showed us that this season, this year alone he put Rhizobium inoculum sachets of 125 gram weight to inoculate faba bean seeds to be planted on a quarter hectare of land in addition with 25 kg of DAP (Di-Ammonium Phosphate), While the other half land was planted with faba bean seeds without inoculation, the later one with poor performance and crop stand. Defera shared his observations with us saying the inoculum treated half although planted a day after the non-treated, flowered ten days before the other; they stand taller and have more flowers and more pods formed.

Although more labour was used in planting because the seeds had to be buried in rows, it was later easier to weed through them than the broadcasted ones.

So will you use the tikur medanit next season? We ask young Wondasa.

"*Awo, lehulum*" was his answer meaning "yes, on the whole field."

He confirms that his father had told a number of his friends about the *tikur medhanit* and others have being visiting the field to see its performance. Although this is the first season the Wondasa family is using the *tikur medhanit*, what remains to know is if they, like many other 699 families trying it in the District, are ready to pay an amount for the Rhizobia inoculants in the near future.

**"Yes, I would plant the whole field next season using the 'Tikur Medanit," asserts young Defera Wondasa**

Getahun Mitiku and Dr. Angaw Tsigie, who are both involved in COMPRO II-supported research activities around legume inoculation, confirm that Wondasa household is a part of the larger demo site for inoculation of faba bean. "We are looking at achieving results similar to what we have achieved with soybean inoculation in Jimma and other parts of the country," said Getahun.

*Story shared by Dr. Victor Clottey (CABI)*

Tanzania, like other target countries in COMPRO II continues to put in place systems to enable us attain our milestone objectives under the project. We have encountered a few challenges, but these have only helped us get clearer about our goals.

We expect to soon equip the lab at Sokoine University of Agriculture (SUA) with new equipment including, compound microscope, compound microscope camera, dissecting microscope, lamina flow, counter and a refrigerator (-20°C). These facilities are critical to the screening work in our work plan.

A lot of work is already ongoing on validation of rhizobium on inoculated common bean. We have however been slowed down by the fact that the laborartoy at SUA does not have facilities for conducting

# Product trials continue despite challenges

molecular biology confirmation. Work is now in progress to instal a new greenhouse that will speed up product screening work. Nonetheless, validation trails for one of the COMPRO II candidate products Legumefix were initiated at ARI-Maruku and ARI-Ilonga. Reports of the two trials are available and you can read a brief highlight of the Ilonga trials elsewhere in this newsletter.

Our team has also generated a comprehensive list of commercial products in the Tanzanian market that will serve as a baseline and inventory for our work. Sixteen of the products in the list have been sent to SUA for evaluation in the screen-house and later in field trials.

The product testing is based on ther following three categories:

- Category I are the rhizobium inoculants; (e.g., LegumeFix, Biofix and Nitro SUA)
- Category II are the microbiological products other than rhizobial inoculants (e.g., mycorrhizal bio-fertilizers)
- Category III are the non-microbiological products (e.g., teprosyn and chemical fortified formulations)

We also enrolled two MSc and one PhD students at SUA. The MSc students already attended a course on data analysis and experimental design organized by IITA in June 2013. Our students have developed research projects on various themes under the COMPRO II projects.

These cover effectiveness of rhizobium inoculants commercial products on growth and yields of soybeans and common bean, effects of rhizo-microorganisms and commercialized chemical products on maize growth, nutrient uptake and yields, and efficacy and quality of bio-pesticides available in the market for improvement of crop yields and food security of smallholder farmers in Tanzania.

We have learnt some lessons as went along. For instance we believe that the sustainability of our work will depend a lot on the

TANZANIA

**Dr. Kalumuna at ARI-Mlingano laboratories**

> “ ..we believe that the sustainability of our work will depend a lot on the partnerships... ”

partnerships we establish and maintain. We are actively engaging the following partners; government institutions, NARS (ARI Mlingano and Ilonga), universities (SUA), regulatory authorities (TFRA & TPRI), private seed and fertilizer companies (YARA), policy makers, and farmer organizations.

Our partnership with farmer field schools is helping us conduct trials successfully. We anticipate that best performing commercial products will be scaled out in villages where the baseline surveys are being conducted.

*Dr. Susan Ikerra, the COMPRO II country representative for Tanzania, shares the progress highlights for Tanzania in the last half year. the trials were conducted in collaboration with Dr. M. Kalumuna and C. Z. Mkangwa of ARI-Mlingano and Ilonga, respectively.*

Soybean plants inoculated with LegumeFix (A)

# Legume inoculation validation trails

LegumeFix was evaluated Ethiopia, Kenya, and Nigeria during the first phase of the COMPRO project. It is currently being disseminated to soybean farmers in Ethiopia and Nigeria. It is also being used in Kenya in the randomized control trials to evaluate the ability of smallholder farmers to learn from demonstration trials with and without the facilitation of crop advisors (extension agents or smallholder farmers). The product is now being used in confirmation trials in Ghana, Tanzania, and Uganda - the preliminary results are very encouraging. The soybean plants inoculated with LegumeFix show a significant level of nodulation (A), while uninoculated stands are apparently not nodulated (B). The main objectives of the trials were to evaluate the performance of LegumeFix in the new countries to verify whether the

Uninoculated soybean (B)

product performance is affected by the agro-climatic conditions and to demonstrate the effects of this product to farmer groups and obtain their feedback. So far, smallholder farmers are able to witness the efficacy of LegumeFix and now want to know where they can buy the project for the next seasons. Hence, the challenge is to get the product registered in the various countries to facilitate its legally marketing and selling. We think that a regulatory framework will be in place shortly (early 2014) to facilitate the registration process of profitable technologies so that farmers could have access to innovative technologies to improve crop yield and food security.

N2Africa held a project closure stakeholders meeting in Nairobi from 4-6 November 2013. The event brought together diverse stakeholders to celebrate the project experience of N2Africa phase 1, but also gain insights into the planned priority areas for the second phase of the project that is anticipated to begin in the course of 2014.

Speaking during the plenary sessions of the event, Dr. Masso Cargele the COMPRO II project leader lauded the achievements of N2Africa in the last few years. He specifically referred to the rich experience in the area of improving legume production with inoculation technologies.

"We see a lot of complementarity in the work of N2Africa and the COMPRO II project. Most of the successes in promoting the use of

# Regulatory environments complement N2Africa

rhizobium inoculants achieved by N2Africa will immediately benefit from the work that COMPRO II is undertaking in streamlining regulatory environments for commercial products such as rhizobium inoculants," explained Dr. Masso.

COMPRO II objective 3 activities are aimed at working with countries to address the policy and regulatory challenges to effective, product screening, testing and promotion for commercial products such as bio-fertilizers and bio-pesticides.

Rhizobium inoculants are one of the priority products that the COMPRO II project has been working with countries to mainstream screening and testing processes, capacity and regulations. The potential for scale out of rhizobium inoculants for staple and commercial legumes in sub-Saharan Africa remains immense, as countries work to identify effective strains for a variety of legumes including soybean, faba bean, cowpea and chick pea.

The COMPRO II project has published its first policy that seeks to highlight the regional and country contexts on regulation of commercial products. Read the policy brief on our website *(www.compro2.org)*.

KENYA

In January 2013, COMPRO II began a partnership with the Paris School of Economics to conduct joint Randomized Controlled Trials (RCT) aimed at learning lessons on adoption of technologies by farmers. The pilot RCT was undertaken in Wagai Division, Siaya County in Kenya.

Specifically the trials aimed to document farmers learning through experimentation, and its implications for technology adoption and agricultural productivity. Other objectives include learning about the heterogeneity in input quality (Bio fertilizers) and how they can be incorporated into ISFM practices in different soil characteristics to optimize recommendations. The study will also document the extent the results obtained in agronomic research are similar to the ones obtained in the conditions faced by the smallholder farms.

## Documenting factors affecting adoption

"This is a very useful lesson-learning opportunity to complement our dissemination activities," explains Dr. Cargele Masso, Project leader COMPRO II. The COMPRO II project is keen to document the key factors that drive and sustain adoption of some of these technologies in addition to the traditional focus on the scientific aspects such as crop-response.

Moses Thuita, a post-doctoral, team member on the COMPRO II project directly involved with trials notes. "Quite often we miss out on this type of soft information while conducting our trials, and yet a lot can be learned on why farmers will adopt one technology and not the other."

In November 2013, a team from COMPRO II and a representative from Paris School of Economics visited the RCT pilot sites in Ng'iya and Akala of Wagai Division, Siaya County. The team constituted Dr. Masso Cargele, Moses Thuita and Rachid Laajaj. The visit was aimed at assessing the progress in establishing the trials as well as capturing some of the early lessons.

Moses Thuita explains the trials set up. "It was agreed that we start with a pilot study targeting 60 farmers during the short rains of 2013. The full pilot will be implemented at the beginning of the long rains in 2014 with half of the farmers who are about two hundred and twenty five. The other half of the farmers will be part of the short rains of 2014". The trials used three cropping systems were established with mono soybean, mono maize and an intercrop of soybean and maize.

The team observed that generally the crops were well weeded and no incidences of diseases or pests were seen to have adversely affected any of the trials sites visited. The soybean was showing very good response either as a monocrop or intercrop and inspection showed good nodulation in both Biofix and legumefix inoculated plots and no nodulation either in the control plots or those that received mineral nitrogen.


**Soybean-maize intercrop with *Striga* and nitrogen deficiency on maize visible in the trials and farmers' fields.**

*A-Control; B-Minjingu+CAN fertilizer; C- LegumeFix +Minjingu; D- Biofix +Minjingu*

There was a good pod load and no nitrogen deficiency was visible in the inoculated plots. Maize either as monocrop or intercrop did not show an impressive response due to two main factors: presence of striga weed in most of the fields and symptoms of nitrogen deficiency and its was therefore agreed that the use of striga resistant IR maize will be adopted while nitrogen will be applied to the maize in the intercrop to boost the early growth of maize before topdressing. Either germination of the local variety maize used was low compared to the improved hybrid variety.

It was agreed therefore that a strategy to help improve germination rates will be employed during the RCT.

A new green house under construction, and laboratory equipment upgrades are just a few of the reasons Prof. Robert Abaidoo at Kwame Nkrumah University of Science and Technology (KNUST) is a proud country representative for COMPRO II in Ghana.

"It is a lot of work, we are engaged in various projects; however it is rewarding" he said during a field visit by the COMPRO II team in September this year. "We are leveraging quite lot resources here and making significant progress in setting up these facilities," he said when the team visited the laboratory facility and the greenhouses under construction.

The KNUST soil microbiology laboratory that will be used for screening new products has been refurbished and is now ready to

# Product screening: Quality control and efficacy testing

implement the regulatory quality control requirements. New equipment purchased from the COMPRO II contribution include: Laminar flow, front open autoclave, centrifuge, balance, micro-pipettes of different volumes, water bath, hot air oven, incubator, refrigerators, colony counter and different volumes of conical flasks and volumetric flasks among others. In addition, the laboratory has in its store different chemicals and laboratory media for undertaking basic routine microbiology procedures in support of some of COMPRO II activities. In addition, draft standard operating procedures for *Rhizobium, Azotobacter, Azospirillum* and *Phosphate* solubilizing bacteria have been developed and implemented.

Refurbishment of the microbiology laboratory to accommodate the quality control of bio-fertilizers and bio-pesticides

Confirmation trials to evaluate the performance of commercial products found efficacious in Ethiopia, Kenya, or Nigeria during the first phase of the project (e.g., Treposyn, Legumefix) have been undertaken in three different agro-ecological zones of Ghana across the three northern regions of Ghana; Upper East region (Manga, Lamboya, Tilli-Azupupunea 1 and Tilli-Azupupunea 2), Upper West region (Zinye, Tuori, Sapare, Malagu, Nagarayiri and Kpongu) and Northern region (Akukayili, Kpalsogu, Gbauluga, Cheshugu plus an on-station at SARI). Poor and degraded sites as well as extremely fertile land were avoided. Test crops being under the farmer managed trials are soybean (Jenguma) and maize (Dorke).

Some new commercial agricultural products are currently being tested under field conditions in two different agro-ecological zones in Ghana. These products include:

- *Eco-Rhiz-Soy* (bacterial inoculant containing Bradyrhizobium japonicum strain WB74 for fixing nitrogen in the root nodules of soybeans)
- *Eco-T* which contains the fungus Trichoderma harzianum, which helps control root diseases and enhances the growth of plants

**COMPRO II MSc student, Mr Gideon Asamoah, assessing the situation in his soybean trial. Behind the soybean trial is his maize trial**

- *Enrich,* a plant growth promoting inoculant designed for increased nitrogen and phosphate efficiency, improved fertilizer uptake, improved plant structure and increased yields. The product contains the active ingredients Herbaspirillum seropedicae and Bacillus subtilis, and
- *Yara Milla* which is a complex fertilizer which contains a comprehensive range of the most essential plant nutrients – nitrogen (N), phosphorus (P) and potassium (K) designed to maximize crop yield and quality. It also contains essential nutrients from magnesium (Mg) and sulfur (S) to manganese (Mn) and zinc (Zn) with a unique phosphate formulation for easier absorption and ensures efficient nutrient release.

Based on visual observations a positive response to treatment is observed, but still has to be confirmed by yield data. A profitability analysis will be conducted at later date to determine which technologies are more relevant to resource-disadvantaged smallholder farmers.

"Benue state is one of the main soybean producing states of Nigeria," says Innocent Okuku of Notore Chemicals Industries Ltd.

Notore Chemicals Industries Ltd, the COMPRO II dissemination partner in Nigeria is conducting dissemination activities in 4 states of Nigeria (i.e. Benue, Kaduna, Kano, and Niger).

Using their well-developed and strong network of village promoters (VPs), a lot of dissemination work is ongoing for LegumeFix (a rhizobium inoculant for soybean) alongside other agro-inputs. Encouraged by the results the found in 2012 in demonstration trials where in some cases, soybean yield increased from 1 tonne per hectare to approximately 4 tonnes per hectare, Notore have decided to scale up LegumeFix to Benue state based on the potential demand.

## Raising farmers' awareness on benefits of inoculation

This decision by Notore has been very appreciated by the smallholder framers in the state, majority of who are organized in farmer associations. "The fact that they are organized in associations provides a good opportunity for scale up and also diffusion of this technology to larger numbers," confirms Innocent Okuku.

"Of course our newest challenge is to meet the demand for LegumeFix inoculant among the farmers, who are enthusiastic to scale up," he explains. Notore observes that most farmers who participated in testing the product this year are very keen to try again next year.

Dr Ado Yusuf (the COMPRO II partner for Objectives 2 and 5) from of the Institute of Agricultural Research/Ahmadu Bello University (IAR/ABU) wondered whether the farmers could explain why the biomass of soybean in the plot treated by the fertilizer and LegumeFix was visually better than in other plots. "We are not sure why, but they are certainly, better than the other plots," answered one farmer.

To explain the difference, Dr Ado then pulled a few plants from each plot to show to them the reason why soybean treated with LegumeFix grows better as a result of biological nitrogen fixation (BNF).

The visit to Benue state threw up a number of challenges and lessons. It was clear that the team in Nigeria now needs to focus attention on improving communication with small holder's farmers as they move into awareness raising and scale up.

Useful information that can help farmers recall details about the types of treatments that were applied to the various plots as well as the names of products used are crucial for supporting future decisions.

The team plans to invest some time in developing appropriate materials for framer during the next season. This might include simple leaflets and other print materials as well as simple manuals to support extension teams.


**Dr Ado Yusuf used the difference in the level of nodulation to explain the difference in the visual plant biomass. Hence, the high biomass (based on farmers' rating) was found in the treatment of P fertilizer and LegumeFix because of the high level of nodulation. Looking on is Innocent Okuku of Notore**

Other approaches will include organizing field days during the active vegetative growth (e.g., 50% podding for soybean) when most of visual symptoms of nutrient deficiencies are obvious to further show specific evidence to farmers. One other critical step will be to have the farmers participate the monitoring of the demonstration trials from planting to harvesting. This will not only help build support but also improve their understanding of the treatments and crop response which will ultimately support adoption.

"I think the Nigeria team has done a commendable job in successfully launching these trials with the farmers."

We will be happy to also link them up to existing resources for supporting farmers' knowledge including the range of farmer-friendly materials produced by the Africa Soil Health Consortium Project in collaboration with partners in the region. These include materials and messages on soybean production with inoculation technologies," explains Dr. Cargele Masso, COMPRO II project leader.

Partners involved in extension support and promotion of good soybean agronomic practices and inoculant use can now benefit from an array of communications materials produced by the Africa Soil Health Consortium and its partners in the region.The materials, which range from pamphlets, flipcharts, and booklets, are part a series of exemplar extension support communications materials on good agronomic practices and the appropriate application of rhizobium inoculant for better soybean yields and improved soil fertility management.

James Watiti, Senior Communications Manager at the CABI-Managed Africa Soil Health Consortium project (ASHC) said "Over the last two years, the ASHC project has engaged more than

# ASHC extension materials available to COMPRO II

fifteen partner institutions across six countries in East and Southern Africa to produce a set of extension support materials on soybean production. This represents rich compendia of materials that can be readily adopted for use by existing soybean promoting initiatives such as the COMPRO II project. The rich diversity of partners involved in the production of these materials means that local adaptation of the key messages for projects will be made easier by the good representation of the main agro-ecological zones in the countries that were covered. Some of the countries covered with the soybean production materials includes, Kenya, Uganda, Rwanda, Ghana, Malawi, Ethiopia, and Nigeria. The materials have benefitted the extensive expertise and experience of N2Africa project teams working in most of the COMPRO II target countries.

"These materials represent a ready resource for our promotion teams within the COMPRO II project. There is no need to re-invent the wheel here" pointed Dr. Cargele Masso, Project Leader for COMPRO II. "We just need to look at how the messages can be refined for the specific target farmer populations in line with their agro-ecological realities and local context." Produced under a creative commons agreement, the content and messages of the materials can be adopted by partners with acknowledgement of the originators of the materials.

Dr. George Oduor, Project Manager of ASHC explains "Our project was set with the support of the Bill & Melinda Gates Foundation to promote information on integrated soil fertility management, and therefore we encourage partners to freely adopt key messages and information to increase the outreach of our work. This is also a key partnership commitment that already exists between the ASHC and the COMPRO II project." The materials were produced in collaboration with N2Africa, IITA, CIAT, AGRA, CSIR-Ghana, SARI-Tanzania, Clinton Hunter Initiative, Rwanda, Millennium Villages, Uganda, Kenya Agricultural Research Institute (KARI) and Zambia Agricultural Research Institute.

*The materials are available at www.cabi.org/ashc*

Between January and June 2013, our team at Makerere University has conducted a good number of activities under our main theme for objective 2 on Screening and evaluation of new products.

Laboratory and field screening of commercial products commenced although work on confirmatory trials for COMPRO I products such namely Legumefix, Biofix and Teprosyn, was held back by government regulatory requirements that require certain permissions to obtain and use commercial products in the country.

We are happy however that the COMPRO II project through IITA and AATF are taking measures to streamline the operational procedures between the university and ministry for a smooth screening of

# Making progress in product screening and evaluation

commercial products. These are very useful lessons for the Ugandan and even other country contexts, which clearly demonstrate the much-needed streamlining of regulatory processes for commercial products in countries.

That said, we have also made progress in a number of other areas. For instance, dissemination of MAKBIOFIXER (a rhizobium inoculant from Makerere University) started in Tororo and Bukedea in partnership with NASECO seed company (providing soybean seed). Over 3,000 demos and 100 trials were established.

Work continued with strengthening infrastructural capacity of the laboratories where procurement processes are in place to acquire some critical equipment. This process is also being supported with co-funding from N2Africa project to enable procurement of some basic equipment to support screening for regulatory purposes. This will also involve the construction a new greenhouse.

Laboratory screening and field-testing of category II B products manufactured locally in Uganda, with mandate from the regulatory agency also started during this period. Our objective was to verify the label-specified microbial contents and their concentration in the products and whether there were any contaminants.

A number of products used by the sugar industry were screened. The target organism was *Azospirillum sp* and *Azotobacter* in samples of bio-fertilizers used in the sugar industry. The results of this work have been documented.

We also conducted a series of multi-locational field trials on soils of strong to moderate acidity, low nitrogen and low phosphorous status with aim of assessing the response of maize to the bio-fertilizers.

We are also building human capacity with the recruitment of a new


**A field trial site for of bio-fertilizers at Jinja, Uganda**

> “...We are happy however that the COMPRO II project through IITA and AATF are taking measures to streamline the operational procedures between the university and ministry for a smooth screening of commercial products...”

PhD student who will start working on her research proposal in the course of the year. We have learned a lot as we implemented various activities. It is imperative to cultivate and obtain the buy-in and support of regulatory authorities. This should include joint planning and monitoring activities. We also see the crucial of sensitization of private sector in order to align the project objectives with some of their priorities.

They must be convinced that quality improvement in the commercial product market is good for business.

*In this report, Prof. Peter Ebanyat, from Makerere University, who is the country representative for COMPRO II activities in Uganda, highlights some key milestone activities conducted during the first half of 2013.*

ANNOUNCEMENT

## *Scientific Advisory Committee Meeting set for January 2014*

The COMPRO II Scientific Advisory Committee (SAC) meeting will take place in Kumasi, Ghana from 21-23 January 2014.

The meeting has lined up a busy agenda that includes; providing an update of the project progress in general and on a country basis; discussing the pros and cons of an harmonized regulatory framework for bio-fertilizers and bio-pesticides; getting feedback from the SAC about COMPRO II progress and guidance on the potential correction plan. Importantly, the meeting will also see the team develop a 2014 action-plan based on the lessons learned and recommendation solutions.

Dr. Cargele Masso, notes that the 2014 SAC, is crucial to informing the projects priorities for the next year. "We are keen to see how the lessons gathered for instance on the regulatory aspects can inform our programming for 2014." The COMPRO II project is actually providing leadership in the area of commercial products regulation that will directly impact the work of other partners in the regions such as the work of N2Africa on legumes," he emphasized.

Prof. Robert Abaidoo, is excited about hosting the next SAC in Ghana. "Apart from the teams sharing lessons, we are also hoping to showcase some of the work that is ongoing in Ghana on COMPRO II," he explained.

## *Partnerships within COMPRO II*

Partnership is a key principle and strength of the COMPRO II project. The Bill & Melinda Gates Foundation provides the financial support to the project while four sub-Saharan-based organizations lead various objectives of the project (IITA - objective 2 and 5, FIPS Africa - objective 1, CABI - objective 4, and AATF - objective 3). Other collaborating agencies bring in a rich mix of skills and field experience to ensure successful implementation. Selected COMPRO II partners are listed below (this is not a comprehensive list); for instance, partner collaborators are not listed:

- Plant protection and regulatory services directorate (Ghana)
- Institute of Agricultural Research of Ahmadu Bello University, Zaria, Nigeria
- National Agency for Food and Drug Administration and Control (NAFDAC), Nigeria
- Kenya Plant Health Inspectorate (KEPHIS)
- Ethiopian Institute of Agricultural Research (EIAR), Ethiopia
- Makerere University (Uganda)
- Egerton University (Kenya)
- Kwame Nkrumah University of Science and Technology, Ghana
- Tanzania Fertilizer Regulatory Authority
- CIAT-TSBF
- Department of Crop Protection - Ministry of agriculture, Animal Industry and Fisheries, Uganda

Additional partners in each of the project countries will be considered shortly to facilitate and expedite implementation of dissemination activities.

'Quality & Yield' is the newsletter of the COMPRO II project. It is a quarterly publication that highlights key activities and experiences of the project. 'Quality & Yield' is produced and designed by CABI. We welcome short and medium length articles by project partners.
Send your comments and articles to C.Masso@cgiar.org and J.Watiti@cabi.org
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