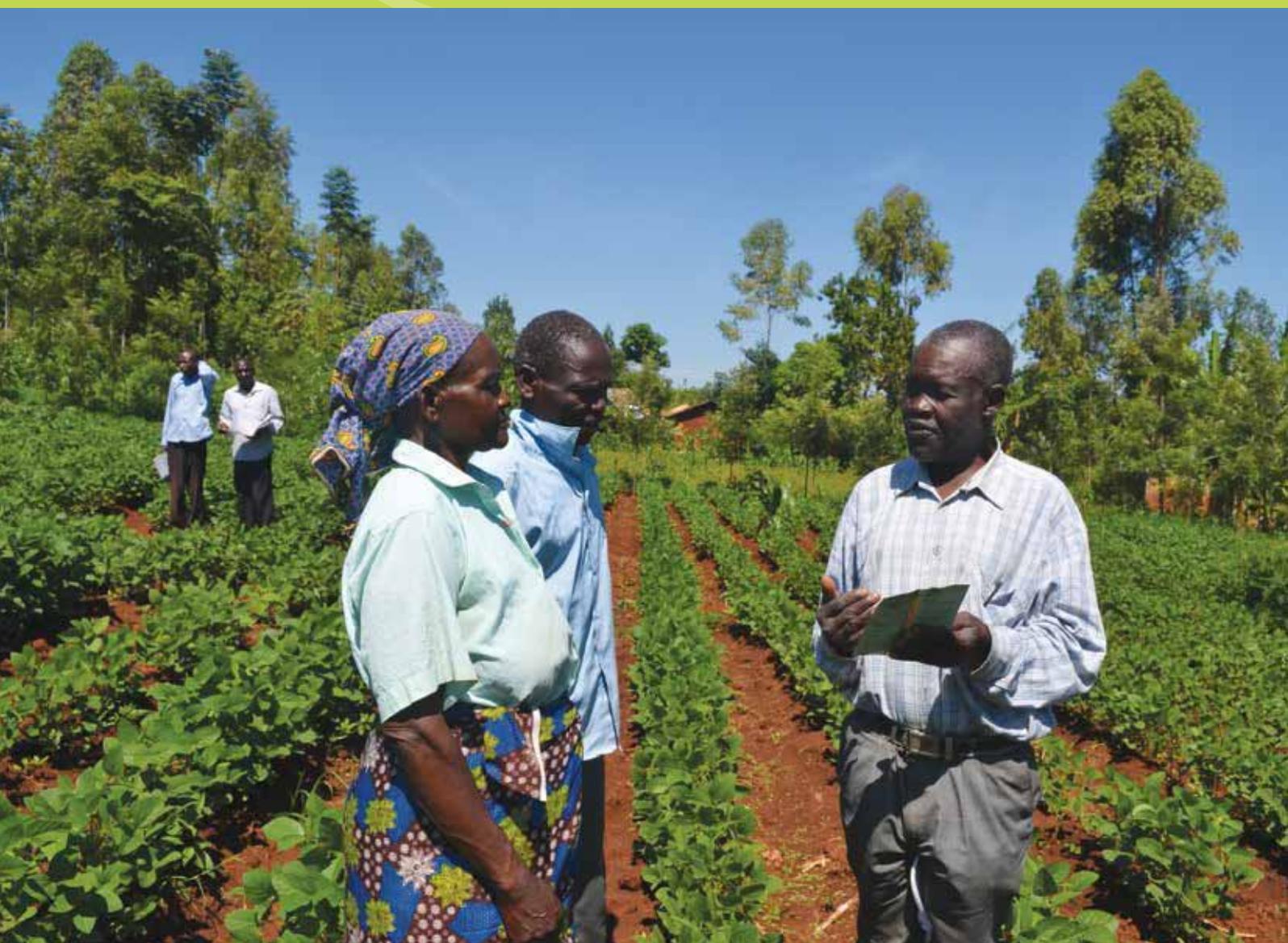


# Quality & Yield

Supporting smallholder farmers' decisions on top quality commercial products



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# A word from the project leader



## Word from the Project leader

Dear reader,

I would like to invite you to reflect with us on the year 2014!

It has been a challenging but very productive year across all five objectives of the project.

The level of awareness by smallholder farmers on commercial products such as rhizobium inoculum is on the increase in Kenya, Nigeria and Ethiopia. This is evident from the media presence that we have achieved in Kenya on this technology as the year closed. In addition the media presence, a manual to support extension work to smallholder farmers has been successfully developed.

Our partners Africa 2000 Network Uganda, Notore in Nigeria and Ethiopian Institute of Agricultural Research have spearheaded content adaptation of the manual. Similar work is in the pipeline in Kenya and Tanzania.

Read a few of the media stories that were published in Kenya in this issue of our newsletter to get a sense of the farmers testimonies on some commercial products.

It has been a good year for regulatory work as well as we previously highlighted in the past issue. From the initial regional survey in 2013 that our partner Africa Agricultural Technology Foundation (AATF) conducted, we are witnessing movement from a lot of fragmentation of regulatory processes and environments, to a gradual recognition of the need for reforms in regulatory laws, guidelines and frameworks. We must complement Ghana, Nigeria, Tanzania and Kenya for the successful effort in this line.

In 2015, we are looking at kicking off the year with our Scientific Advisory Committee meeting in Ethiopia; to repeat the experience of Kenya (2013) and Ghana (2014).. This will set the pace for the annual work plans across all five objectives based on a critical reflection on the lessons gathered so far.

Join me in thanking all our partners for a very engaging year in 2014. I wish you a happy new year 2015!

Dr. Cargele Masso  
**Project Leader**

“ It has been a challenging but very productive year across all five objectives of the project ”



*Researchers and extension staff at a Faba bean field in Ethiopia*

## Rhizobium inoculation now Manuals ready for use by extension team in Ethiopia and Uganda

Small holder farmers in Uganda and Ethiopia can now access accurate information on the correct use of rhizobium inoculation for their chosen legume crops.

Intensive work on production of extension manuals and communication materials began in early 2014, resulting in at least two completed manuals and communications materials for Uganda and Ethiopia.

Uganda's Africa 2000 Network (A2N-Uganda) plans to distribute the manual to its cadre of community Based Facilitators in four districts as part of their toolkit for educating farmers.



*Dr. Christopher Kyeswa - A2N - Uganda Director*

Dr. Christopher Kyeswa, the Executive Director for A2N says "As the awareness of farmers increases about this technology, we need to equip our extension teams with a toolkit that enable them to give farmers accurate advice on how to adopt and scale up inoculation. This manual and extension support communication materials is a very important part of how



*A2N Uganda - Team in 2014*

we intend to support adoption of this technology in a number of district where we work”.

The Ethiopian Institute of Agricultural Research (EIAR), has launched plans to translate the manual into three local languages (Amharic, Oromifa and Tigrinya), in order to make it more relevant and useful by the ministry cadre of Development Agents (DAs).

“We would like this manual to be well targeted especially for the high potential pulse growing areas in Ethiopia”. Explains Dr. Tesfaye of EIAR.

The same manual is currently being adopted for Ghana, Nigeria, Kenya and Tanzania for use by extension teams working with legume farmers in these countries.



*FIPS extension staff explaining how Biofix works for Soybean*

## COMPROII work with Soybean in the News in Kenya

At the end of 2014, COMPROII activities in Kenya received some welcome mainstream mass media attention. Working with FIPs as the lead dissemination partner, we documented a number of experiences in the field on farmers experiences with use of Rhizobium inoculum to grow soybean. The stories demonstrate a number of important dimensions in the work of COMPROII including, existing promising commercial products in the Kenyan market, farmers experimentation on product efficacy, and the role of regulatory institutions. Links to the stories also available on our website but below we reproduce one of the stories with the authors permission.

### How we make our beans yield double

Guest Feature from Saturday Nation November 29, 2014.

**Saturday, November 29, 2014**

**By Isaiah Esipisu**

On a sunny Tuesday morning, Lucas Malubi, a village-based agricultural advisor in Mungoye village in Vihiga county, visits Margaret Ngota and her husband Moses Ngota on their small farm to check on their soybean crop.

This crop is special because it was planted using Biofix, a product that helps legumes fix nitrogen in the soil.



*A farmer in western Kenya tends her neat soybean farm*

“Use of organic fertiliser is a totally new concept in this area. But two years after we introduced it, you can see that it has become popular,” said Malubi, who offers extension services on behalf of Farm Input Promotions Africa, a not-for-profit company committed to improving productivity of small-scale farmers.

“We did not know much about soybeans,” said Margaret. “But after the crop was introduced on a trial basis by farm inputs, we realised that it could easily complement ordinary beans, which are often affected by too much rainfall that is prevalent in this area,” said the mother of eight.

The Biofix contains cultures of rhizobium bacteria that help in nitrogen fixation in the soil.

“Nitrogen is usually the most limiting nutrient in crop production in many countries including Kenya, and it is commonly boosted using chemical fertilisers such as Di-Ammonium Phosphate, Calcium Ammonium Nitrates or urea,” says Nancy Mungai, Associate Professor of Soil Sciences at Egerton University.

“Use of rhizobia inoculants is therefore an alternative approach to improving nitrogen content in the soil,” she told the Seeds of Gold.

### **SOYBEANS’ RESILIENCE**

The don explains that rhizobia inoculants are live bacteria cultures that are applied on seeds or roots of young plants to help them make their own nitrogen through nitrogen fixation.



*Health experts say soybeans are very nutritious as they contain protein, carbohydrate and fat as well as vitamins and minerals, including calcium, folic acid and iron. FILE PHOTO*

Biofix is a brand of commercial rhizobia inoculants currently manufactured by MEA East Africa in partnership with the University of Nairobi. It is sold across the country through agrochemical dealers.

After successful trials at household level, farmers realised the resilience of soybeans to unfavourable climatic conditions, the importance of using inputs, and their market potential.

As a result, Ben Maniaji, the FIPS Africa coordinator in western and Nyanza regions, reports that some 57,000 households in the area are now cultivating soybeans using Biofix and other necessary farm inputs.

“Through our village-based advisors and agricultural extension service providers from the government, we identified a number of farmers at village level and distributed free kits containing soybean seed, a packet of Biofix, and chemical fertilisers,” said Maniaji.

Each farmer would then set aside a small piece of land (five metres by five metres) for trial at home. “Just as it is done by researchers, we asked the farmers to plant a few lines using seed that has been inoculated with Biofix with basal phosphorous fertilisers, and a control line without any input,” said Maniaji.

### **PLANT HEALTH DIFFERENCE**

This was to help the farmer see the difference in plant health and yield when using inoculated seeds and planting without.



*A woman in western Kenya scooping soybean powder*

Inoculated seeds yielded twice as much, giving farmers “the appetite to plant more,” said Maniaji.

Thomas Otieno, a smallholder farmer in Siaya county, says after his first trial in 2012, he increased acreage to a quarter-acre last year and harvested 400kg. Now he has about half-an acre under soybeans.

“Most of us sold the beans to a local organisation that makes flour for porridge fed to people living with HIV,” he said.

“It is a fresh crop, with fresh technology, bringing us a fresh opportunity in the wake of climate change,” said Elizabeth Baraza from Sibale village in Bungoma County.

The mother of five, who is growing the inoculated crop for the second time, says ordinary beans have failed to perform well following heavy rains. “But soybeans are more resilient,” she said.

Benta Ekudo, a mother of four from Edama village in Busia county, says ever since doctors advised her to avoid tea leaves, she has turned to soybean flour to make her beverage, which she says has a pleasant taste.

## IMPROVED SOIL FERTILITY

The farmers also say they have been able to improve soil fertility and have realised good returns after planting maize on land formerly used for growing soybeans.

“I will increase my acreage next season,” said Everline Juma, a mother of seven who has already uprooted sugarcane and is growing soybeans on 1.5 acres in Bungoma.

“The sky is the limit. If I get the market, I will be more than willing to lease more land to grow this new crop using this new technology of Biofix,” she said

Health experts say soybeans are very nutritious as they contain all the three macro-nutrients — protein, carbohydrate and fat — as well as vitamins and minerals, including calcium, folic acid and iron.

*Think story has was first published in the Daily Nation newspaper on 29 November 2014. It is reproduced here with authors permission.*



*Youth in a viewing session in Northern Nigeria*

## Reach Nigerian Youths and reduce cost

As part of efforts to increase the awareness of farmers on the use of inoculants to improve soybean production in Nigeria, Notore Chemical Industries produced a short video showing the use and benefits of inoculants, which has recently been deployed to farming communities in Niger, Kaduna, Kano and Benue states of Nigeria. Since producing the video in May 2014 with the technical support of the Africa Soil Health Consortium project by CABI, the level of its use had been limited by the high cost of equipment.

To implement a viewing session, a Village Promoter requires at least a video player, a projector, an audio device such as a set of loudspeakers and a small generator (since most of the target villages lack regular public electricity). All this costs approximately \$700 in addition to the need to move them from one village to another thereby exposing them to quick damage. To overcome this challenge, Notore decided to leverage on existing rural video viewing centers in many of the target communities thereby reducing the cost of reaching farmers with the video.

Commercial Rural video viewing centers, popularly referred to as *Gidan-Kalo* (a Hausa word for viewing place) have become quite common in Northern Nigeria villages where they serve as the major recreation location for the youths. A typical video viewing center is equipped with an average size television with connection to satellite services, a video player, a set of loudspeakers and a small generator, all organized in a room that sits between 30 and 100 people (over 80% of the audience are usually youths between ages of 12 to 25). The most popular shows presented by the viewing centers are international soccer games followed by action movies. To see a show, each viewer is charged a small fee. 'The amount we pay for a 2 hour show varies from N50-N100 (\$0.3-\$0.6) depending on the show, with football matches involving popular European League teams such as Chelsea and Arsenal sometimes costing N150 (\$0.9)' said Musa, a 18 years old farmer in Kudna Village of Niger State.

To enable the viewing at these viewing centers to see the soybean inoculation video, Notore Village Promoters negotiate with the owners of the viewing centers to show the short videos during the 15 minutes break between the two half-times of popular soccer matches, usually for N1000 (\$6.0) per session reaching over 30 persons. "This approach has helped us to reach over 3000 youths at little or no cost" says Innocent Okuku, the lead person for COMPRO II dissemination activities in Nigeria.

As Notore plans for 2015, it intends to train operators of *Gidan-Kalos* as well as expand the use of their facilities. This will ensure that they are able to continue to spread the good message even when a Village Promoter is not available.

# Strengthening Mycorrhizal research Techniques in Nigeria

From Dec 19th – 24th, 2014, the institute for Agricultural Research, Ahmadu Bello University, Zaria, Nigeria under the COMPROII project conducted a regional on-site training course on mycorrhizal techniques. Dr. Abdelgadir, who leads the COMPROII product screening and evaluation activities for graduate students and in-service professionals in West Africa (see photo below), point out that this training will go a long way in equipping local researchers with skills in mycorrhizal research and contribute to their capacity to confidently participate in product screening and evaluation for mycorrhiza-based commercial products.



*FILE PHOTOS*

**NIGERIA**

‘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](mailto:C.Masso@cgiar.org) and [J.Watiti@cabi.org](mailto:J.Watiti@cabi.org)  
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