

# Sesame Business Network Newsletter



Issue 5 November 2014

## Field days: best sesame production technologies in northwest Ethiopia



Farmers and officials visiting demonstrations of improved sesame production technologies and crop rotation trials

The Sesame Business Network (SBN) Support Programme, in collaboration with Amhara and Tigray Region Agriculture Bureaus and Agriculture Research Institutions, is scaling out locally adapted and improved sesame production technologies across eight *woredas* and 92 *kebeles* in North-West Ethiopia. More than 20 partners, over 1000 development agents (DAs) and model farmers are working together in creating awareness of and access to sesame production technologies that are proven to double yields. Over 75,000 farmers across 500,000 hectares in the North Gondar and West Tigray zones are within reach of obtaining these improvements. Field days at farmer training centres (FTCs) and model farmer demonstration plots in this season are generating the awareness that yields can double, when applying the optimal sesame production technologies and practices. This edition of our newsletter provides some information about these field days. It will also provide some quick facts about the overall scaling out activities (see page 2 & 3).

### About this newsletter

The purpose of the SBN newsletter is to provide relevant and timely information about the overall activities of the SBN and its support programme.

In this issue we would like to highlight the major activities that have taken place between August and November 2014

### Inside this issue

Crop-rotation trial .....	2
Quick facts about the roll-out activities.....	2
Sesame field days.....	3
Sesame cuisine : Asia .....	4
Labour study.....	5
Sesame marketing research .....	5
Mersha Awoke's profile.....	6
HuARC to release new sesame seed variety .....	7
GARC works to increase sesame production and productivity.....	7
Three DAs awarded.....	7
HuARC demonstrates precision row planter.....	8
Upcoming activities. ....	8



## Crop rotation trial in progress

The practice of planting sesame on the same plot year after year, also known as monocropping, has become one of the major causes for soil fertility depletion. It is also the cause for harmful disease and pest infestation; it decreases biodiversity of the area, and makes farmers economically dependent on one commodity.

In an attempt to address this problem, crop rotation experimental trails have been conducted on 18 Farmer Training Centers in all the SBN *woredas*. The trials have been conducted to find out the best precursor crop for sesame. Four crops that potentially can rotate with sesame have been look at: sorghum, cotton, soybean and mung bean. The results of the trial will give farmers the opportunity to have alternative commercial crops that can fetch additional income as well as serve for food security.

In explaining the importance of the crop rotation practice, Dr. Bulcha Weyessa, a consultant from Holeta Agricultural Research Centre, said: "Most sesame farmers are following a traditional farming practice that does not take the agro-ecology of the area into account. They often stick to growing sesame, a cash crop. Planting sesame time after time is just like putting all eggs in one basket. If the basket falls down, all the eggs will be



Crop rotation trials in Adebay farmer training center, western Tigray

broken. Just like the eggs, the farming system is delicate."

In all 18 Farmer Training Centres, these crops have been planted in three replications. After harvesting this season's product, the area in which these crops are planted will be marked and maintained. Next year sesame will be planted to determine which crop is the best for intercropping with sesame.

Preliminary data collection has been done and the results show that the progress in 18 experiment sites is very good. Further laboratory data recording will also be carried out after the sesame is harvested. However, to

know the best precursor crop, measuring data from more than one season is desirable and it is after the next cropping season that the result will be known.

Upon completion, it is expected that the experiment will provide important findings pertaining to the use of crop diversity for sustainable farming in northwest Ethiopia.

The trials are conducted by the SBN Support Programme, in collaboration with the 2SCALE project, *Woreda* Offices of Agriculture and Gondar and Humera Agricultural Research Centres.

### Quick facts about the roll-out activities

- ◆ Roll-out of improved sesame production practices in 3 *woredas* of West Tigray (Kafta Humera, Welkayiet, and Tsegedie), and 5 *woredas* of North Gondar (Metema, Quara, Tach Armachiho, Mirab Armachiho and Tegedie)
- ◆ 100,000 copies of the "20 Important Steps to Double Yields and Improve Quality of Sesame" guide have been published and distributed to farmers and other stakeholders.
- ◆ 793 model farmers & 291 development agents (1084 in total) have been trained as trainers of the application of improved sesame production technologies
- ◆ Improved sesame technologies were demonstrated on 916 plots in northwest Ethiopia; 502 in West Tigray and 414 in North Gondar
- ◆ 823 demo plots were conducted in the fields of model farmers and 93 were at Farmer Training Centres
- ◆ Over 75,000 farmers were targeted; most farmers have received the manual and at least 50,000 have visited field days
- ◆ Throughout the season, an average of two field days were organised in each demo plot during different stages in the maturation and management of sesame

## Sesame field days: best sesame production technologies in northwest Ethiopia

More than 700 people attended the sesame field days held from October 7-9 at Tach Armachiho, West Armachiho, Tegede, Tsegede and Kafta Humera *woredas*.

The field days were organised to demonstrate the effectiveness of the recommended best sesame production technologies and practices to farmers, professionals and higher officials. In addition, the crop rotation trials, which have been run in Farmer Training Centers (FTCs) since June 2014 in the eight *woredas* of the Sesame Business Network, were shown.

Attendees visited demonstration plots of improved sesame production technologies in five model farmers' fields and crop rotation trials in five FTCs. Participants were representing the Ethiopian Agricultural Research Institute (EARI), Amhara and Tigray regional Agricultural Research Institutes, zone and *woreda* Offices of Agriculture, 2SCALE project, ECX, AGP, ISSD project and other government and private organisations. Selected farmers also joined the field visit in their localities.

Higher officials, including Mr. Martin Koper and Dr. Worku Tessema from the Netherlands Embassy at Addis Ababa, Dr. Adugna Wakjira, deputy director of Ethiopian Agricultural Research Institute, and Ted Schrader, coordinator of the SBN Support Programme from CDI, Wageningen University, the Netherlands attended the three day field visits.

Dr. Adugna Wakjira, deputy director of EARI, said that: "Sesame is the second most important crop that brings foreign currency to the country, after coffee. We have seen important results that will increase the



Dr. Adugna, speaking to farmers about the results of the demo plots

productivity and quality of sesame." He attributed the results achieved in the scaling out of sesame technologies to the combined efforts of all stakeholders in the sesame sector, from farmers to administrators, agricultural research centres, and Offices of Agriculture.



Left Dr. Worku Tessema, right Mr. Martin Koper attending field days

Mr. Koper from the Netherlands embassy said: "The field days are an eye opener for me. Sesame is a big operation in Ethiopia. It is an important part of the economy, the export of Ethiopia. It should be given all the attention it deserves. The Sesame Business Network is very important. They have been very instrumental in getting people together, improving the technology and working together with farmers and all other stakeholders to boost the farmers' income." He added, "The next step is to get a better price when selling sesame to the buyers. I think SBN will pay attention to that part of the sesame value chain."

Ted Schrader, SBN Support Programme coordinator, reflected on the brochure '20 Important Steps to Double Yield and Improve Quality of Sesame' that was produced by SBN Support programme and its partners. "If we improve productivity of sesame with 50%, the country can earn 4 billion ETB every year".



Mr. Ted Schrader reflecting on the 20 steps production guide

Prior to these field days, a number of other field days have been organised in many demonstration sites. The field days have revealed to farmers the actual impacts of using improved sesame production technologies. It is as the idiom goes: "seeing is believing". Apart from facilitating a learning visit, field days have also been used as important platforms for farmers, *woreda* administrators and experts at different levels (*woreda*, zone region and federal level) for sharing and learning from field results.

Field days organised at *woreda* level have given farmers the chance to talk to one another and to share their success and failure stories. Most feedback that was given during the field days was positive. Farmers compare the sesame in the demonstration plots with other sesame fields, including their own, and are convinced of the benefits of applying improved technologies.

Farmers were also confronted with challenges when applying the production technology package, such as pest and disease problems, high labour costs, high costs of agricultural credit, lack of quality seed varieties that are pest and disease tolerant, lack of farm machineries, fertiliser recommendation for different areas, and lack of markets for relatively new rotational crops. Professionals from the two regions and the federal Agriculture Research Institutes promised farmers that they will do all their best to search for solutions for the challenges raised.

The field days were organised by the SBN Support Programme, North Gondar and West Tigray zone and *woreda* offices of Agriculture and Humera and Gondar Agricultural Research Centres.

## Sesame cuisine around the world: Asia

In this column we highlight the consumption and use of sesame cuisine in the different continents of the world. This edition focuses on Asia. For thousands of years, sesame seeds have been a source of food and oil. Sesame plays an important role in different cuisines all over the world. The seed is very nutritious and healthy, and as a nutty flavour that is unique in taste and aroma. It is also rich in proteins, carbohydrates, fatty acids, amino-acids, vitamins, fibre, and anti-oxidants, and is proved to work against diabetes, high-blood pressure, and other diseases.

### Sesame consumption

Asia is the largest consumer of sesame in the world. Sesame has traditionally been valued as a health food throughout the continent. Since thousands of years, people in India and China used sesame for preserving health, preventing disease and promoting general wellbeing. In most of Asia, the primary use of sesame is as cooking oil. In Japan the seed is toasted prior to oil extraction, resulting in toasted oil that is extremely stable and provides flavour to the foods.

Sesame is also used as whole seed in Asia. The seed is used as a garnish with black sesame decorating light foods such as fish, and whitish sesame decorating dark foods. In Japan, sesame seeds are sprinkled onto sushi, found in salads and baked snacks. Sesame also sits on most tables and is used as a flavouring. The sesame is ground on to the food right at the table. In Korea, whole seed is added to many sauces used in daily meals, and is used to marinate meat and vegetables.

In India, sesame is used to make candy, and is used in religious ceremonies and festivals. In the Sandarn Koil Tapasu Festival, sesame seeds are cooked very slowly, creating a sugar coating around the individual seed. The treat is then given to friends and relatives to bring luck in the next year. Sesame is also used for making traditional medicines in India and other parts of East Asia.

Chinese cuisine use sesame seeds and oil in some dishes, such as dim sum, sesame seed balls, and the Vietnamese Banh ran. In China sesame is sprinkled over rice and red beans and served at the exchange of wedding presents. Black sesame paste, eaten at breakfast, lunch and dinner, is a popular snack among many southern Chinese people. It is made by mixing roast and ground sesame seeds with sesame oil; a sweeter version can be made by adding sugar or honey. Sesame is also used as high-protein feed for poultry.

### Implications for trade

Asia is not only the largest sesame consumer, but also the largest producer in the world. India, Burma (Myanmar) and China form the top three in the world (Ethiopia follows on fourth position). Together these three Asian countries account for nearly 70% of the world production.

To ensure a good price for sesame and to enhance the market share through exports, particularly in Asia, product image (quality perception) is important. Most importers only want to purchase scientifically treated, properly cleaned, washed, dried, colour-sorted, size-graded and impurity-free seeds of given minimum oil content (not less than 40 percent) packed according to international standards.

China and Japan are biggest importers of sesame, not only in Asia, but in the world. Because of quality problems in the past, Ethiopia could not be an important exporter for Japan. The biggest buyer of Ethiopian sesame though is China. China has made a shift from major exporter to major importer. An increase in the import of Ethiopian sesame into China has led to an interdependency between the two countries.

### Sesame recipe: Chicken sesame noodles

Ingredients	Directions
6 oz. skinless and boneless chicken thigh or leg meat, cut into small pieces  10 oz. fresh egg noodles 3 tablespoons cooking oil 2 cloves garlic, minced 1/2 cup shredded cabbage 1/4 cup shredded carrot 1 tablespoon soy sauce 2 tablespoons water  <b>Marinade:</b> 1/2 tablespoon soy sauce 3 dashes white pepper 1 teaspoon sugar 1/2 teaspoon sesame oil  <b>Garnishing:</b> Sesame seeds Scallion, sliced diagonally	Rinse the fresh egg noodles with cold water, drain the excess water and set aside. In a small mixing bowl, marinate the chicken with all the seasonings in the Marinade, for 15 minutes.  Heat up a wok with 1 tablespoon of the cooking oil. When the wok is heated, add the chicken into the wok and pan-fry the chicken until slightly charred and blackened on both sides. Remove the chicken from the wok and into a bowl. Set aside.  Clean the wok and heat it up with the remaining 2 tablespoons of oil. Add in the minced garlic and stir-fry until light brown or aromatic. Add the shredded cabbage and carrot into the wok and do a few quick stirs. Stir in the noodles, soy sauce, oyster sauce, and water. Continue to stir fry until the noodles are well blended with the seasonings and completely cooked through. Dish out and transfer into two serving bowls. Top the chicken noodles with the chicken (and its juice), garnish with the sesame seeds and scallion. Serve immediately.



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## Sesame marketing research in progress

Cooperatives for Change (C4C), Agriterra and the SBN Support Programme are conducting a research on marketing chains of sesame in northwest Ethiopia. The study is led by Girar Development Consult PLC.

The main objective of the study is to gain a better understanding of the sesame marketing, transaction risks and structural arrangements with special emphasis on farmers, their unions and cooperative organisations.

There is a national emphasis on marketing export commodities through the cooperative structure, meaning

that unions through cooperatives (and hence producers) can directly export. Yet, only less than 3% of the total sesame production has been channelled through the cooperative chain. This and other challenges in the cooperative structure, has led to this study.

The study will help to understand the major successes and constraints in sesame marketing and it will give important recommendations on how to move forward to better market the sesame on the local and international market.

The study includes various stakeholders in the sesame value chain, such as farmers, federal and regional cooperative agency, banks, micro-finance institutions, saving and credit cooperatives, Ethiopian Commodity Exchange, Agricultural Transformation Agency, Ethiopian Producers Oil Seed and Pulses Export Association and private sector and Agricultural Growth Programme- Agricultural Marketing and Development.

Upon completion, the results of the study will be communicated to the various stakeholders.

## SBN Support Programme conducts labour study

Farmers, students, school drop outs and a number of people from different social groups from the highlands of Amhara and Tigray regions have been heading to the northwest Ethiopia mainly to work in the sesame fields as labourers. Some to make their living, while others to supplement their meager income that they get from other activities. It is believed that northwest Ethiopia hosts over 500,000 labourers during the sesame production season, which is mainly from end of June- October.

As value chain supporters, labourers have been playing a pivotal role in the sesame business network. In spite of the important contributions that they make to the sector, labourers do not attract the attention of researchers, and there is insufficient evidence on the subject.

The SBN Support programme, which is working to have inclusive sesame value chains, conducts a study to get a better understanding of the characteristics, dynamics, and conditions of the labour situation in the sesame sector in northwest Ethiopia. The study focuses on farmers' labour requirements, labour costs and labourers' capacities, conditions and income, in all the eight *woredas* of the SBN.



Labourers cooking their food

Most of the data has already been collected from labourers themselves, and from sesame farmers, governmental and non-governmental organisations such as research centers, bureau of agriculture; offices of labour and social affairs, land administration, health, security, and micro finance institutions.



Labourers while harvesting sesame

The output of the study will provide a better understanding of areas for improvement and can form the starting point for (co-) facilitating changes that could help improve the working and living condition of labourers.

## In the picture

*In the picture entertains the profile of individuals, cooperatives, unions, and/or any other service provider organisations in the sesame business clusters in northwest Ethiopia. For this edition we cover the profile of a young model farmer from Mogo kebele, Western Tigray Zone.*

### Mersha Awoke: a young model farmer who doubled his sesame yield

Mersha Awoke, 27, has been working as a farmer since 2007. He lives in Mogo kebele, Wolkaite woreda which is about 130 km far from the western Tigray zone Humera town. To make a living, Mersha has started a farming activity when he became strong enough to support himself. During the rainy season, Mersha usually produces sesame and sorghum in the land that he leases from other farmers, while in the dry season, he produces tomatoes through irrigation (together with some of his colleagues).

This production year, Mersha leased a total of seven and half hectare land for 15,000 ETB. Despite the heavy rain, Mersha has managed to harvest on average 7.4 quintal sesame per hectare from a total land of 5.5 ha. He is waiting for the harvesting time for sorghum. Because of the heavy rain, some of the farmers who used the traditional practices harvested between 0 and 2 quintals per hectare.

Mersha is very grateful for the support that he gets from the SBN-Support Programme and Woreda Office of Agriculture, as he has used the improved production techniques for higher sesame yields. He has used improved quality seed, fertilisers and chemicals as inputs. He also employed three times ploughing, three times weeding and row planting. He said, "Despite the high labour cost, I employed row planting because I am well informed about its importance; and the application of inputs in enhancing productivity and quality. I applied all the steps mentioned in the production guide." Mersha is one of the determined model farmers who has applied what he has got from the training on his farm.



Mersha Awoke, while visiting his farm in the flowering stage

Mersha runs his agricultural activity by his own capital, as there are no formal financial institutions in his area. He saved some money from his farming activities of the past six years, but this is not enough to expand his business as he would like to. He therefore borrowed some money from his relatives and friends. "In doing agriculture you spend money and you get it back later. Farmers' life is always a life of hope and trust. We spend too much for the farm, hoping that we will benefit later"

Regarding his achievements so far, Mersha said, "To be successful, one has to think about his life. Being poor by itself puts pressure on you not to lead your life in that state; most of us do not accept technology as fast as we can. I have been poor so far because I was not using improved technologies."

To change his life, Mersha reads an entrepreneurial book and prepares a written plan in which he gives much attention to sesame.

One of Mersha's future plans is to use a tractor and other modern machineries by the coming year. He hopes that he gets support from the woreda officials. He said, if he has a support letter from the woreda administration office, he can get a tractor from Bisheftu Defense Engineering by paying thirty percent of the price first.

Apart from sesame production, Mersha has a plan to become a sesame and sorghum trader. He already got his permit and will start this year. He has also a plan to produce onions and mangos in the coming dry season, and to fatten cattle.

Mersha seems to have found his niche in the agriculture sector. He is on the right track to get out from the grip of poverty.

## GARC works to increase sesame production and productivity

Gondar Agricultural Research Center (GARC) is conducting different researches to increase the production and productivity of sesame, sorghum, ground nut and other low land crops.

In the 2014 production season, the center has been working to develop and adapt stable, high yielding, pests and stress-resistant lowland oil crop varieties that fulfill market standards. The researches have taken into account the different agro-ecological zones of the northwest Ethiopia.

The specific researches that the center has been running focuses on sesame regional variety trials and the effects of fertiliser rates on the yield

and oil content of sesame. In addition, it has measured seed rates for optimum sesame stand establishment, and pesticides for the management of sesame seed bugs.

The center has also been multiplying quality sesame seed varieties, such as Abasena, Humera-1 and Setit-1. In the 2013 production season, GARC produced 45 quintals of improved sesame seed varieties. This has made the center a source of improved sesame seed varieties for different stakeholders.



Drying sesame in bags for the regional variety trials

The center has been doing these research and seed multiplication activities with the financial support of the SBN Support Programme.

## HuARC to release new sesame seed variety

HuARC has been doing a research activity to generate a blight tolerant candidate sesame seed variety that will be called 'Setit- 2'.

The center was previously adopting seed varieties which were generated in other research centers. But, recently, HuARC has moved from seed adoption to seed generation. In the previous years, two sesame improved variety seeds, Setit 1 and Humera-1,

have been released from the center and are used by many farmers to boost production and improve the quality of the sesame. The third sesame variety, which is blight tolerant, will be released in due time. This is important, as bacterial blight is one of the main problems in sesame production.

Apart from this, HuARC has been doing different research activities on sesame, sorghum and other crops. The center is

conducting improved variety trials of sorghum by taking about 500 seed varieties.

In order to search for a solution for the Striga, a weed problem that attacks sorghum, the research center has been doing experiments to generate a Striga resistant sorghum seed variety. This trial also takes the maturity period of the sorghum into account.

## Tach Armachiho WoA gives awards for three Development Agents

Tach Armachiho Woreda Office of Agriculture (WOA) has given awards for three well-performing development agents (DAs) from the 2014 production season.

Molla Alebachew, Challachew Derso and Jejaw Habtemariam are the three DAs from Sanja and Ashere clusters who were given the award and certificate of appreciation.

The three DAs are awarded for their outstanding performance in supporting model farmers to be successful in the application of the recommended best sesame production technologies.

Molla Alebachew, who stood first in the woredas evaluation, said "I feel



From the left, Challachew Derso, Jejaw Habtemariam, and Molla Alebachew

good because the woreda gives recognition to our work. I have been working in 11 demonstration plots (10 model farmers and one Farmer Training Center. Nine of the plots

became successful. The remaining two are at the medium level. The award will make me ready to work very hard in the future."

## HuARC demonstrates precision row planter

The Humera Agricultural Research Centre (HuARC), in collaboration with Hiwot Mechanisation and the SBN support programme, demonstrated the use of a precision row planter to large scale sesame farmers in July 2014.

The demonstration of the precision row planter introduced mechanisation to large scale farmers so that they can improve the production and productivity of sesame, sorghum and other crops.

The mechanisation trial has been conducted in HuARCs compound and in the fields of a number of investor farmers. About 30 hectare of land was ploughed by the precision row planter. Sesame was planted using the full improved sesame production technology package.

Field days have been organised in the different stages of the sesame and more than 400 farmers have visited the farm in the different maturity stages.



Planting sesame using precision row planter

## Upcoming activities of the SBN Support Programme

- New cluster case description and establishments
- action planning for the new clusters
- Evaluating the result of the scaling out activities
- Recording and analyzing sesame market prices
- Finalising marketing and labour studies
- Organising marketing training together with concerned stakeholders
- Organising regional workshops

### Contact us :

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More information about the SBN and its support programme can also be found on the SBN website:

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